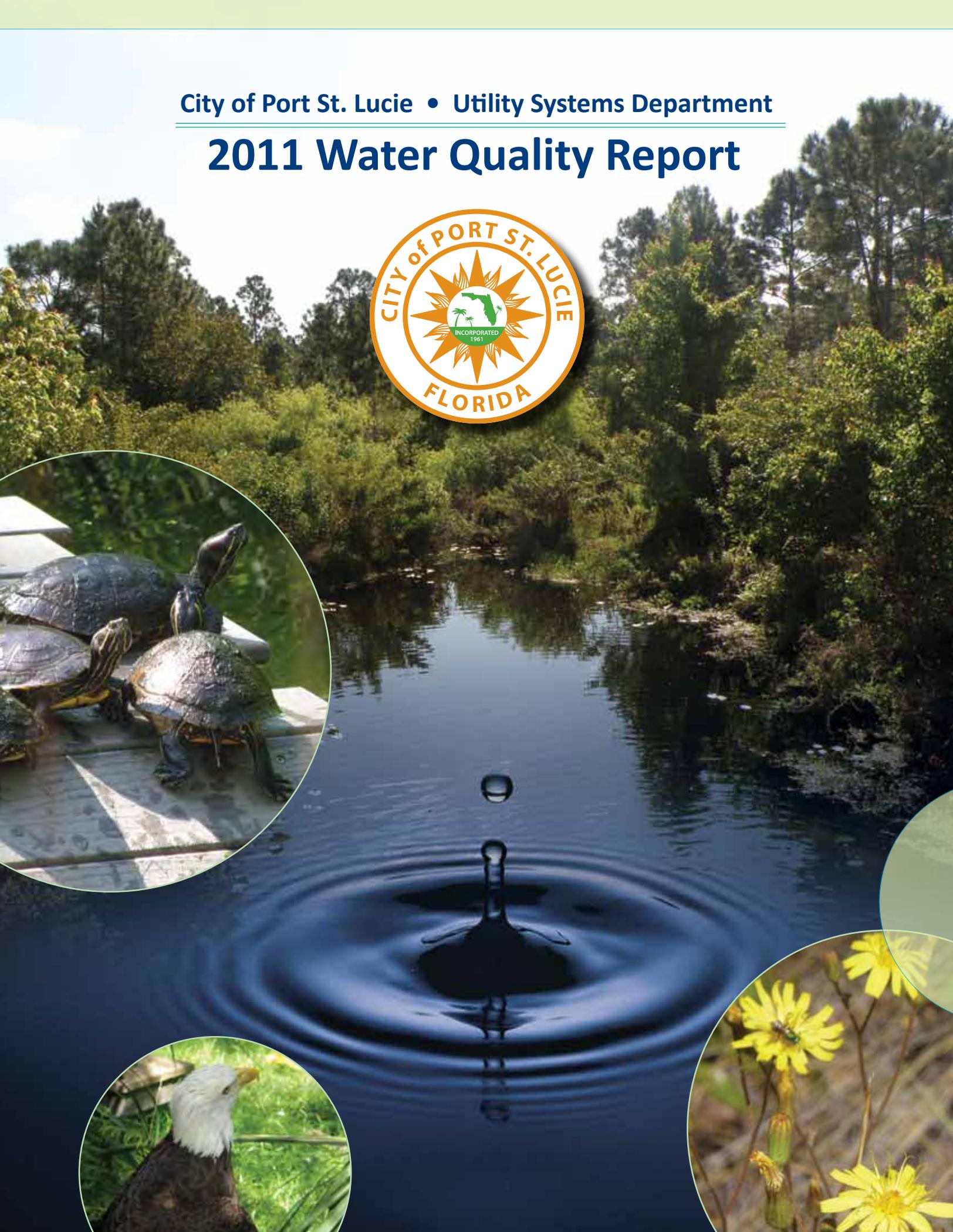


City of Port St. Lucie • Utility Systems Department

# 2011 Water Quality Report





## A MESSAGE FROM THE DIRECTOR

Clean, safe drinking water, that's what customers want and that's what the Port St. Lucie Utility Systems Department provides each and every day!

In compliance with Federal legislation commonly called the 1996 Safe Drinking Water Act Amendments water utilities throughout the nation, including ours, are required to provide customers an annual written report detailing the quality of water they produce. This year's report covers all of the water quality tests we performed between January and December 2011.

The Federal and State standards for water quality testing are set at very stringent levels. Allow me to say that the most important message in this entire report is the fact that the drinking water provided by the Port St. Lucie Utility Systems Department continues to meet all Federal and State water quality standards!

The Safe Drinking Water Act also requires us to include certain facts and data in the report that may contain abbreviations and terms that are unfamiliar to you. We cannot eliminate the use of those terms, but to help you better understand them, we have included a list of Important Definitions on page 6.

The service slogan of our organization states that we are, "Connected to Our Community", but our connection to the community goes far beyond having a catchy slogan. We connect to the community by providing the best possible water and wastewater service around-the-clock to our more than 65,000 water customers and more than 46,000 waste water customers. The Utility has streamlined our staffing levels and corresponding operating budgets, but I assure you the quality of service provided to our customers has not been sacrificed and it will not be.

The current economy and ways to save money are near the top of everyone's concerns. Conserving water use is a very good way to save money and help your budget. Please take a moment to read through and to practice the Water Conservation Tips that appear on page 4.

If you have questions about this report or about any of our services, please feel free to contact us by calling our switchboard that is operated by highly trained Utility employees who stand ready to assist you 24 hours a day. You can reach us at 772-873-6400 day or night.

**Jesus A. Merejo**  
**Utility Systems Director**

## WHERE DOES OUR WATER COME FROM?

Our water supply comes from two independent sources, the shallow aquifer and the deeper Floridan aquifer. Raw water from the shallow aquifer, which is about 100 feet deep, is treated by our 8.0 million gallon per day lime softening facility. This process is a combination of pH adjustments with lime, coagulation with a polymer, multi-media filtration, and disinfection with chloramines. The deeper Floridan aquifer, which is about 1,350 feet deep, is treated by our 11.15 million gallon per day and our 22.5 million gallon per day reverse osmosis facilities. Both finished waters are blended, pH adjusted, and fluoride is added.

The sources of drinking water (both tap water and bottled water) includes 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 human activity.



## HOW SAFE IS OUR WATER?

The City of Port St. Lucie's Utility Systems Department 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 to December 31, 2011. Data obtained before January 1, 2011, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.

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. 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.

In addition, if present, elevated levels of lead can cause serious health problems, especially for pregnant women and younger children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Port St. Lucie is 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 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>.

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 microbiological contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

In 2011 the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are ten potential sources of contamination identified for this system with low to moderate susceptibility levels. It should be noted that the potential sources of contamination identified by this assessment project are just that: potential sources. All of Port St. Lucie's facilities are regulated and operate under stringent construction and maintenance requirements designed to protect both human health and the environment. The purpose of conducting the source water assessments is to provide information that will lead to actions to reduce current risks or avoid future problems. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

## CONTAMINANTS THAT MAY BE PRESENT IN THE SOURCE WATER INCLUDE:

**Microbiological 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**, which 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

**Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.



## CROSS CONNECTION CONTROL: PROTECTING OUR WATER

There are over 65,000 connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. Also, residents in neighborhoods utilizing reclaimed water for irrigation must take precautions to prevent cross connections. Reclaimed water is not suitable for potable use and must not be connected to household plumbing. When the cross connection is allowed to exist at your home it will affect you and your family first. If you'd like to learn more about helping to protect the quality of our water, call us at 772-873-6400 for further information about ways you can help.

## WATER CONSERVATION TIPS

The power to conserve water rests with each one of us. Conserving water not only helps you save money, but it also helps preserve our water resources for the use of generations to come.

- Free and/or low cost water conservation tips include:
- Don't let water run while brushing your teeth or shaving.
- When buying new appliances or plumbing fixtures, look for the "WaterSense" label. Products bearing that label meet the EPA's criteria for water efficiency and performance.
- Repair or replace dripping and leaking faucets. A slow drip can waste 15-20 gallons of water per day.
- Make sure the rubber flapper in your toilet tank forms a tight seal that will keep water from leaking into the bowl. Replace toilets manufactured before 1994 with new water-efficient models. Remember to look for the "WaterSense" label.
- An automatic dishwasher uses about 15 gallons of water during every cycle, regardless of how many dishes and glasses are loaded into it. Get the most for your money and only run the dishwasher when it is fully loaded.
- If you have water level options on your washing machine, use the smallest amount of water necessary for a load. If your machine does not have water level options, get the most for your money by only washing full loads of laundry.
- Landscape with water-thrifty ornamental grasses, plants and trees. Group plants together according to similar water needs and mulch landscape beds to help retain moisture.
- Always follow the Water Use Restrictions imposed by South Florida Water Management District for landscape irrigation days and times.

Additional water conservation tips and information about the importance of water conservation can be found at the following sites: [www.cityofpsl.com](http://www.cityofpsl.com), <http://my.sfwmd.gov>, or <http://www.epa.gov/watersense>.

## ENVIRONMENTAL PROTECTION: PREVENTING URBAN STORMWATER RUNOFF POLLUTION

- Use fertilizers sparingly and keep it off driveways, sidewalks, and roads.
- Never dump anything down the storm drains.
- Compost your yard waste.
- Avoid pesticides; learn about Integrated Pest Management. (IPM)
- Pick up after your pet

For more information of how you can minimize Urban Stormwater Runoff pollution, go to the following link. <http://www.cityofpsl.com/npdes/combating-pollution.html>

## TEST RESULTS TABLE For Prineville Water Treatment Plant

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
<b>INORGANIC CONTAMINANTS</b>							
Fluoride (ppm)	1/2011	N	0.74	N/A	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrate (ppm)	1/2011	N	0.14	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	1/2011	N	86.2	N/A	N/A	160	Salt water intrusion; leaching from soil
<b>RADIOLOGICAL CONTAMINANTS</b>							
Radium 226 (pCi/L)	4/2008	N	0.3	N/A	0	5	Erosion of natural deposits

### Lead and Copper Results

These results are for the entire distribution system

Contaminant and Unit of Measurement	Dates of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	# of Sites Exceeding the AL	MCLG	AL (action level)	Likely Source of Contamination
Copper (tap water) (ppm)	6/2011	N	0.052	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6/2011	N	3.1	2	0	15	Corrosion of household plumbing systems; erosion of natural deposits

### TTHMs and Stage 1 Disinfectant/Disinfection By-Product (D/DBP) Contaminants

These results are for the entire distribution system

Contaminant 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
Chloramines (ppm)	1-12/2011	N	3.5	3.1 - 3.6	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	1,4,7,10 2011	N	14.4	1.0 - 38.0	NA	MCL = 60	By-product of drinking water disinfection
TTHM (Total trihalo-methanes) (ppb)	1,4,7,10 2011	N	26.4	2.1 - 57.0	NA	MCL = 80	By-product of drinking water disinfection

### General Distribution Results

These results are for the entire distribution system

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
Asbestos (MFL)	10,11/2011	N	3.28	ND - 31.0	7	7	Decay of asbestos cement water mains; erosion of natural deposits

\*\* Results in the Level Detected column for radiological contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency. For contaminants such as HAA5s that were sampled more than once in 2011, the "level detected" will be the average of those results.

## TEST RESULTS TABLE

### For James E. Anderson Water Treatment Plant

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
<b>INORGANIC CONTAMINANTS</b>							
Fluoride (ppm)	1/2011	N	0.84	N/A	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nitrate (ppm)	1/2011	N	0.14	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	1/2011	N	85.4	N/A	N/A	160	Salt water intrusion; leaching from soil



## IMPORTANT DEFINITIONS

**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.

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

**Initial Distribution System Evaluation (IDSE):** An important part of the Stage 2 Disinfection Byproducts Rule (DBPR). The IDSE is a one-time study conducted by water systems to identify distribution system locations with high concentrations of trihalomethanes (THMs) and haloacetic acids (HAAs). Water systems will use results from the IDSE, in conjunction with their Stage 1 DBPR compliance monitoring data, to select compliance monitoring locations for the Stage 2 DBPR.

**Maximum residual disinfectant level or MRDL:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of disinfectant is necessary for control of microbial contaminants.

**Maximum residual disinfectant level goal or MRDLG:** The level of 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.

**Million fibers per liter (MFL):** measure of the presence of asbestos fibers that are longer than 10 micrometers.

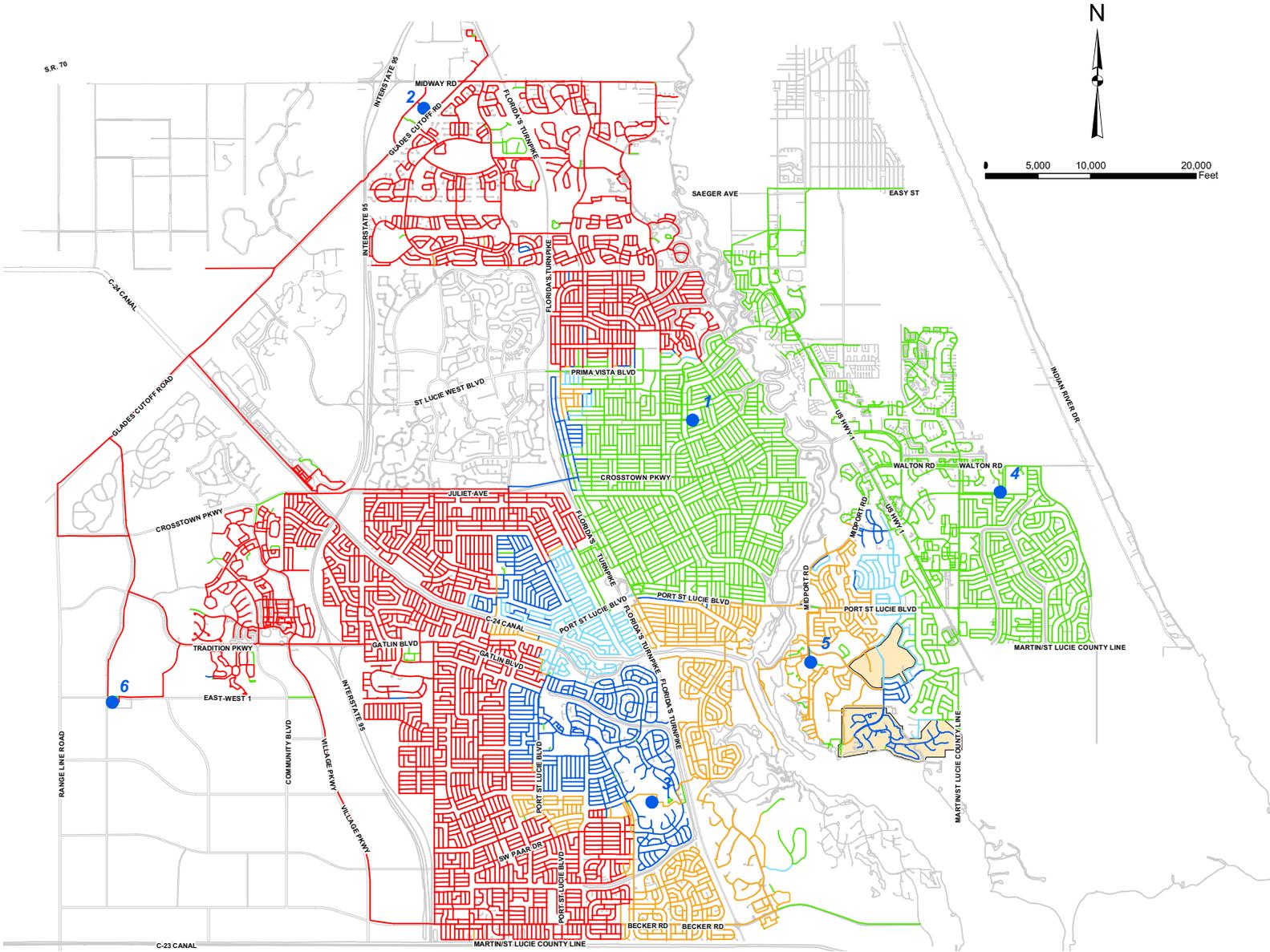
**“ND”** means not detected and indicates that the substance was not found by laboratory analysis.

**Parts per billion (ppb) or Micrograms per liter (ug/l):** one part by weight of analyte to 1 billion parts by weight of the water sample.

**Parts per million (ppm) or Milligrams per liter (mg/l):** one part by weight of analyte to 1 million parts by weight of the water sample.

**Picocurie per liter (pCi/l):** measure of the radioactivity in water.

# City of Port St. Lucie Utilities System Water Distribution Map



## LEGEND

### Water Source

- 1 - Prineville WTP
- 2 - JEA WTP
- 3 - Westport Repump
- 4 - Midport Repump
- 5 - Southport Repump
- 6 - Rangeline Repump

### % JEA Water

- 0 - 20
- 20 - 40
- 40 - 60
- 60 - 80
- 80 - 100

Existing Reclaimed Water Service Area





**City of Port St. Lucie**  
Utility Systems Department  
900 S.E. Ogden Ln  
Port St. Lucie, FL 34983

PRESORTED  
STANDARD  
U.S. POSTAGE  
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PERMIT #8678



## **CITY OF PORT ST. LUCIE LEADERSHIP**

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Linda Bartz  
**Vice Mayor District 1**

Michelle Lee Berger  
**Councilwoman District 2**

Shannon M. Martin  
**Councilwoman District 3**

Jack Kelly  
**Councilman District 4**

Greg Oravec  
**City Manager**

Jesus A. Merejo  
**Utility Systems Director**