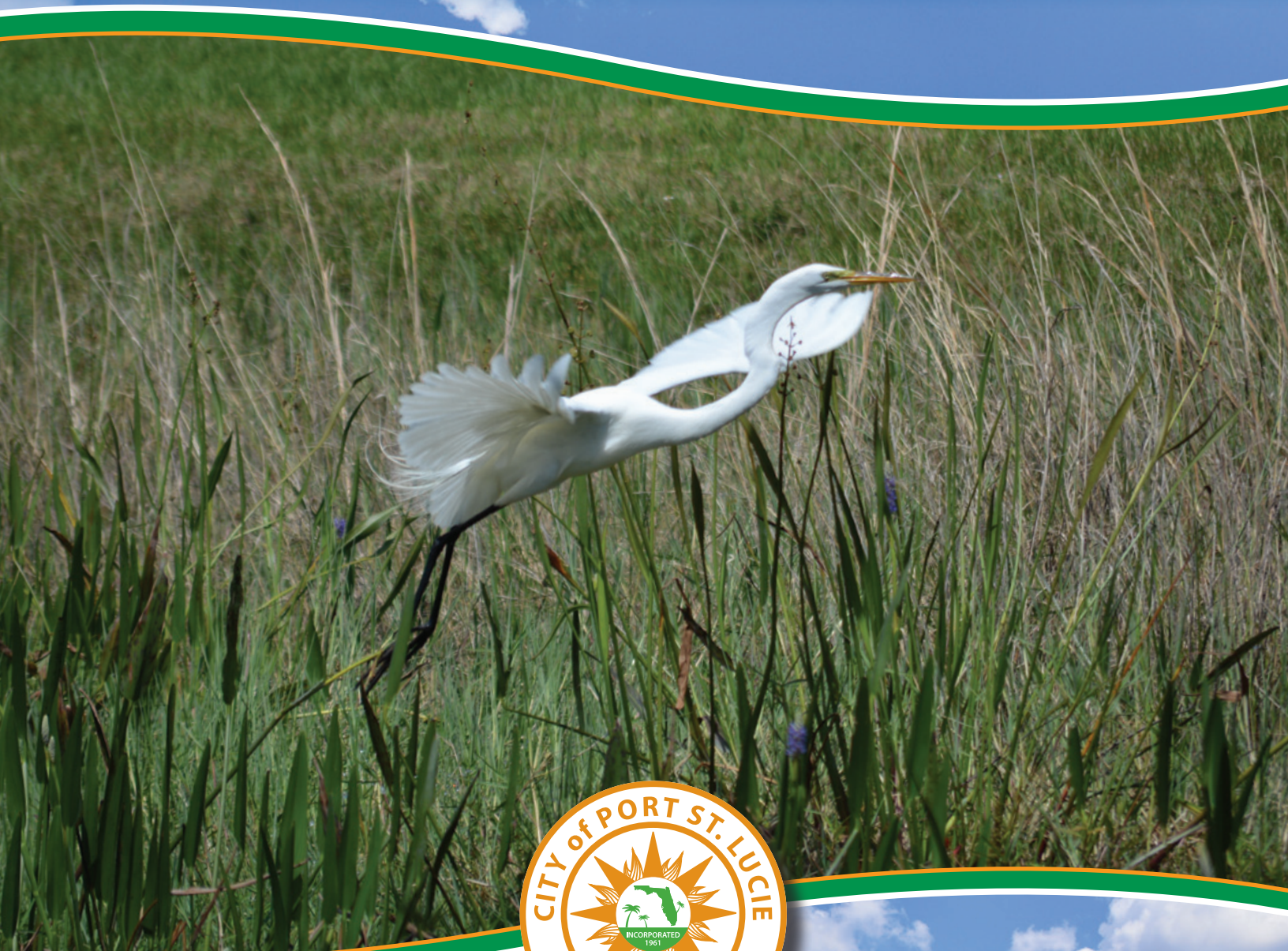


City of Port St. Lucie • Utility Systems Department
2017 Water Quality Report



A MESSAGE FROM THE DIRECTOR



We are pleased to again provide you an opportunity to review our annual Consumer Confidence Report (CCR) which offers details about the quality of this utility's potable water. This report is published in compliance with Federal legislation and for the most part reflects results of the sampling and testing we conducted between January 1, 2017 and December 31, 2017.

Port St. Lucie's Utility Systems Department is committed to dependably providing a supply of clean, safe, and great tasting drinking water to each of our more than 71,000 customers. However, the most important message in this document is the fact that the drinking water provided by the Port St. Lucie Utility Systems Department continues to meet all Federal and State requirements!

Port St. Lucie Utility Systems is truly "Connected to the Community" in that we are dedicated to meeting the City's water demands for decades to come and to maintaining the health of our natural water resources. As our population grows, so do our water needs. According to the most recent information from the U.S. Census Bureau, from 2000 to 2016, Port St. Lucie's population has increased by 107 percent, growing from 89,175 to 185,132. The world's population has grown exponentially as well, but the amount of water on Earth has not changed since the days of the dinosaurs.

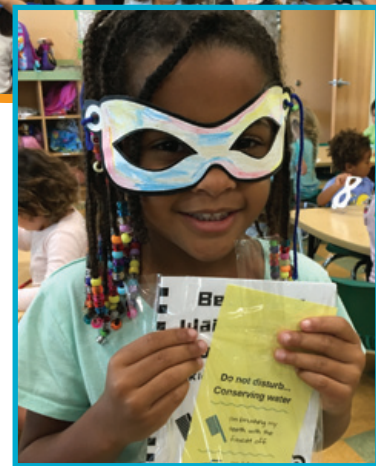
Nearly 70 percent of the Earth's surface is covered with water. Only 3 percent is freshwater, and two-thirds of that amount is frozen in glaciers and polar ice sheets, which mean humans, animals, and plants survive on 1 percent of the world's volume of water.

Only half of the world's people have piped water in their homes. People don't always live near drinking water sources, and transporting water can be very expensive. In Port St. Lucie, we have the infrastructure to tap into our underground water sources: the shallow aquifer and the deeper Floridan aquifer. To ensure that we are able to meet the needs of this growing community, our Master Water Supply Plan includes a future alternative water resource—a proposed surficial water treatment facility to be located at McCarty Ranch Preserve.

Even with these resources and plans in place, we must still be aware of how much water we are using. On average, a person uses 80 to 100 gallons of water a day. From brushing our teeth, to cooking, to watering the lawn, we are using water faster at times than it can be replenished, essentially shrinking our drinking water supply.

The water cycle allows for rain to fall, which recharges our surface and groundwater supplies. But, as we often experience in South Florida, our weather can change from deluge to drought very quickly. Efforts are made to reduce usage during times of drought, but it is important to overall decrease our daily use, rain or shine.

In 1746 Benjamin Franklin said, "When the well's dry, we know the worth of water." Port St. Lucie Utility Systems is committed to protecting and preserving our natural resources and has dedicated an education and outreach employee to give presentations year-round to school-aged children about the importance of water conservation and the many ways they can help.



Since the inception of our water conservation education program in 2016, we have reached more than 1,500 children in St. Lucie County by presenting in classrooms, at summer camps, and by giving tours of our facilities. Children can lead the way when they understand how their actions impact and influence those around them. To us, these kids are "Water Saver Superheroes" because they have the power to make a huge impact by making small changes in their water use.

We have made our educational materials, including videos, activity books, and water conservation tips, available on our website at utility.cityofpsl.com, to allow children and adults alike the opportunity to join in our water conservation efforts. Port St. Lucie Utility Systems also participates in school and community events to further extend our reach and offer our residents helpful information.

Water Conservation Month is acknowledged in April and Port St. Lucie Utility Systems celebrates in a number of ways. In conjunction with the Florida Section American Water Works Association (FSAWWA), we host the annual "Drop Savers" Water Conservation Poster Contest for students in Kindergarten through 12th grade, as well as the Best Tasting Drinking Water Contest for fellow utilities in our tri-county area. We also run a water conservation campaign and contest through social media to reward those in our community who save and to hopefully inspire others to do the same.

Water is essential for life and it is essential for this utility to continue to provide our customers with safe, clean, and great-tasting drinking water. So, by protecting our supply and using it wisely, we can all ensure that for now and for generations to come, everyone will be able to enjoy a cool glass of water.

If you need more information about this report or our services, please call (772) 873-6400.



Jesus A. Merejo
Director of Utility Systems and Special Projects

WHERE DOES OUR WATER COME FROM?

The City's 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 an 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 1350 feet deep, is treated by an 11.15 million gallon per day and a 22.5 million gallon per day reverse osmosis facilities. Both finished waters are blended, pH adjusted, disinfected, 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.



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 storm water 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 storm water 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 storm water runoff, and septic systems.

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

HOW SAFE IS OUR WATER?

In order 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.

In addition, 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. The City of Port St. Lucie Utility Systems Department 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/Centers for 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 at 1-800-426-4791.

In 2017 the Florida Department of Environmental Protection (FDEP) performed a source water assessment of the City's water supply system to identify any potential sources of contamination in the vicinity of our wells. Thirteen potential sources of contamination that were identified for this system have a low to moderate susceptibility level. It should be noted that the potential sources of contamination identified by this assessment are just that: potential sources. All of Port St. Lucie's water supply facilities are regulated, and operate under stringent construction and maintenance standards to protect both human health and the environment. The purpose of FDEP conducting the source water assessments was to determine if any actions are needed to reduce current risks to avoid future problems. No actions were recommended. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at <https://fldep.dep.state.fl.us/swapp/>.

WATER CONSERVATION TIPS

Conserving water not only helps you save money, but it also helps preserve our water resources for the use of generations to come. The power to conserve water continues to rest with each of us, young and old alike, so please share the following tips with your family members, friends, and neighbors.

- Avoid unnecessary toilet flushes. Dispose of tissues, insects, and other waste in the trash.
- Take a shower instead of a bath. You could save up to 25 gallons when taking a 10-min. shower with a low-flow shower head.
- Become a leak detective! Regularly check faucets, toilets, hose bibs and sprinklers for leaks and make necessary repairs. A slow drip can waste 20 or more gallons of water per day.
- Turn off the water while shaving, brushing your teeth, or washing your hands
- Soak dirty pots and pans instead of letting the water run while you scrape them.
- Get the most for your money and only run your automatic dishwasher when it's full. Dishwashers use about 15 gallons of water during every cycle, regardless of how many dishes and glasses are loaded into it.
- Use mulch in plant beds to retain moisture, reduce evaporation, and discourage weeds that compete with plants for water.
- Always follow the Water Use Restrictions imposed by South Florida Water Management District for landscape irrigation days and times.

CROSS CONNECTION CONTROL: Protecting our water

There are over 71,000 connections to our water distribution system. When connections are properly installed and maintained, the risks of contamination 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, it can also affect your health.

So, what can you do? Do not make or allow improper connections at your home. An unprotected garden hose lying in a puddle is a cross connection. The unprotected lawn sprinkler system 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 drinking water, call us at 1-772-873-6400 for further information about ways you can help.



Additional water conservation tips and information about the importance of water conservation can be found at the following sites:

cityofpsl.com

my.sfwmd.gov

epa.gov/watersense



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.

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

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 trihalo-

methanes (THM) and haloacetic acids (HAA). 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.

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.

TABLES

Lead and Copper Results							
These results are for the 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)	6/2017	N	0.13	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	6/2017	N	3.7	2	0	15	Corrosion of household plumbing systems; erosion of natural deposits

Disinfectants and Disinfection By-Products							
These results are for the 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)	1-12/2017	N	2.83	2.6 - 3.1	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	2, 5, 9, 11 2017	N	20.9 (highest LRAA at site 6)	1.1 - 24.7	N/A	MCL = 60	By-product of drinking water disinfection
TTHM (Total trihalo-methanes) (ppb)	2, 5, 9, 11 2017	N	48.6 (highest LRAA at site 6)	1.2 - 53.1	N/A	MCL = 80	By-product of drinking water disinfection

* 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 THM's and HAA's, the "level detected" is the highest locational running annual average for the year.

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
INORGANIC CONTAMINANTS							
Fluoride (ppm)	3/17	N	0.69	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
Sodium (ppm)	3/17	N	98.2	N/A	N/A	160	Salt water intrusion; leaching from soil
Arsenic (ppb)	3/17	N	0.53	N/A	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Nitrate	3/17	N	0.052	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
SYNTHETIC ORGANIC CONTAMINANTS							
bis(2-Ethylhexyl)phthalate**	3,7,9,11,12 2017	N	2.9	ND - 2.9	0	6	Discharge from rubber and chemical factories

**Last year the state issued an order requiring our system to monitor for bis(2-Ethylhexyl)phthalate a minimum of four quarters per year instead of annually. We were in violation of special monitoring requirements by missing the second quarterly monitoring and reporting date, but since then we have been in compliance. We do not believe that the missed testing and reporting has any adverse effect on public health. All samples collected since have resulted in non-detectable 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
RADIOACTIVE CONTAMINANTS							
Alpha emitters (pCi/L)	3/17	N	2.3	N/A	0	4	Erosion of natural deposits
INORGANIC CONTAMINANTS							
Fluoride (ppm)	3/17	N	0.69	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)	3/17	N	0.05	N/A	N/A	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Nitrite (ppm)	3/17	N	0.029	N/A	10	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.
Sodium (ppm)	3/17	N	117	N/A	N/A	160	Salt water intrusion; leaching from soil
Chromium (ppb)	3/17	N	2.8	N/A	100	100	Discharge from steel and pulp mills; 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 THM's and HAA5's, the "level detected" is the highest locational running annual average for the year.

City of Port St. Lucie Utilities System Water Distribution Map

LEGEND

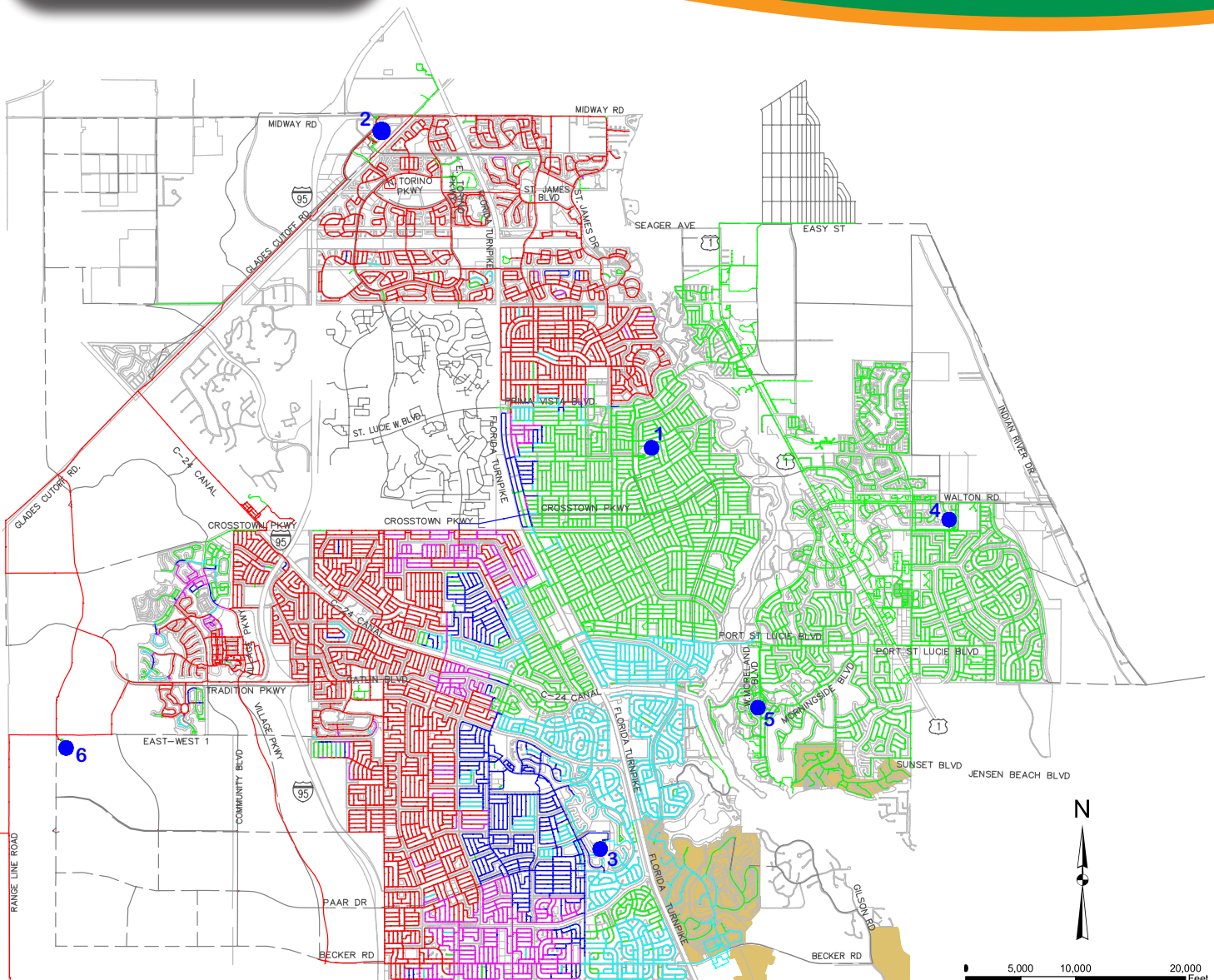
Water Source

- 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

Place
Stamp
Here



CITY OF PORT ST. LUCIE LEADERSHIP

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Stephanie Morgan
Councilwoman District 1

John Carvelli
Councilman District 2

Shannon M. Martin
Vice Mayor District 3

Jolien Caraballo
Councilwoman District 4

Russ Blackburn
City Manager

Jesus A. Merejo
Director of Utility Systems
and Special Projects