



SUGAR LAND 2017 WATER QUALITY REPORT



CITY OF SUGAR LAND
Public Works

Main System - PWS 0790005

RiverPark System - PWS 0790354

New Territory System - PWS 0790253

Greatwood System - PWS 0790296

DIRECTOR'S MESSAGE

The City of Sugar Land Public Works Water Utilities Division takes pride in maintaining a tradition of producing superior quality water, vigilantly maintaining water and wastewater infrastructure and providing responsive and efficient customer-oriented service in a cost-effective and innovative manner, emphasizing responsible environmental stewardship and compliance with all regulatory requirements.

Este reporte incluye información importante sobre el agua para tomar.

Para asistencia en español, favor de llamar al teléfono **281-275-2900** o **311**.



On behalf of the City of Sugar Land's 71 water professionals, I proudly present the 2017 Water Quality Report, which documents the high quality of the drinking water we deliver to our customers every day. The City of Sugar Land's drinking water exceeds the water quality standards set by the U.S. Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ).

This Water Quality Report provides information on drinking water quality standards as well as results from drinking water samples collected during 2017. Daily samples were taken from various locations throughout the City's water production and distribution systems and tested for chemical, bacteriological and other contaminants.

The City continues planning to assure sufficient water supplies to meet future water demands. In 2017, we launched the development of an Integrated Water Resource Plan (IWRP). An IWRP takes water supply planning beyond the traditional approach of cost/yield analysis and incorporates social and environmental aspects of water resource management. A citizen task force was created to assist in the project. The IWRP will recommend policies, programs and capital improvement projects to ensure sufficient water supplies and responsible management of those supplies for the City. The IWRP will be completed in late 2018.

Calendar year 2017 was eventful for our community. Our team successfully navigated Hurricane Harvey and the annexation of Greatwood and New Territory. We are working hard to ensure 2018 is just as successful. The information contained in this report demonstrates our team's commitment to providing utility services to our customers that consistently exceeded all water quality standards and citizen expectations. Feel free to call us with any questions at 281-275-2900 or 311.

A handwritten signature in black ink, appearing to read 'R. Valenzuela', written over a white background.

Robert Valenzuela, CFM, P.E.
Director of Public Works



WHAT IS A WATER QUALITY REPORT?

A Water Quality Report, also known as a Consumer Confidence Report (CCR), is an annual report that presents the water quality of a city's drinking water. Water Quality Reports are required by the EPA and the TCEQ. The report summarizes data collected on drinking water during a calendar year. Water samples are taken daily and tested for chemical, bacteriological and disinfectant residual contaminants. The samples are taken from various locations throughout the water plant's production and distribution system. The report also documents any monitoring or testing violations of drinking water standards set by the EPA and the TCEQ.

SUGAR LAND'S WATER SOURCES

With the annexation of Greatwood and New Territory, the City of Sugar Land operates four independent potable water systems. The Main System serves the 28,482 metered connections in the city limits east of the Brazos River, and the RiverPark System serves 1,327 metered connections in the RiverPark subdivision. Greatwood and New Territory are served by their own systems with 4,623 and 4,817 connections.

The City's Main System is supplied from both groundwater and surface water. Groundwater is supplied from 14 wells at six separate groundwater plants. These wells, with an average depth of greater than 1,200 feet, pump water from the Chicot and Evangeline aquifers. Surface water from the Brazos River through the Oyster Creek canal system supplies roughly 40 percent of the Main System's water demand. Raw surface water is treated at the City's Surface Water Treatment Plant then blended with groundwater at two groundwater plants before entering the distribution lines in the Main System.

The RiverPark System's two deep groundwater wells pull water from the Chico and Evangeline aquifers. The groundwater is treated at the City's RiverPark groundwater plant and then distributed to customers. Greatwood and New Territory receive water from the Chicot and Evangeline aquifers. Greatwood has four wells and two groundwater plants, and New Territory has three wells and three groundwater plants.

SOURCE WATER ASSESSMENT REPORTS

The TCEQ completed an assessment of Sugar Land's source water and results indicate that some sources are susceptible to certain contaminants. The sampling requirements for the City's water systems are based on this susceptibility and previous sample data. Any detection of these contaminants may be found in this Consumer Confidence Report. Source water assessments are available through the [Source Water Assessment Viewer](#) and [Drinking Water Watch](#). Call **281-275-2900** or **311** for more information on the City's source water protection efforts.

A MESSAGE TO INDIVIDUALS WITH A COMPROMISED IMMUNE SYSTEM FROM THE EPA

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants; some elderly or immunocompromised persons, such as those undergoing chemotherapy for cancer; those who have undergone organ transplants; those who are undergoing treatment with steroids; and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections. You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the **Safe Drinking Water Hotline at 800-426-4791**.

OPPORTUNITIES FOR PUBLIC COMMENT ON WATER PLANNING AND WATER QUALITY

For more information about this report or participating in public meetings concerning the City of Sugar Land's drinking water, call **281-275-2900** or **311**.



DISINFECTING SUGAR LAND'S WATER

The City of Sugar Land takes every precaution to ensure Sugar Land residents have safe, clean drinking water. Disinfectants protect the water against microbial contaminants as it travels through the many miles of pipes and pumps. Chlorine is added to the RiverPark, Greatwood and New Territory Systems, and chloramine is added to the Main System.

POSSIBLE CONTAMINANTS

Contaminants may be found in drinking water that may cause taste, color or odor problems. These types of problems are not necessarily causes for health concerns. Drinking water (both tap and bottled water) comes from rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over land or through the ground, it may pick up naturally occurring minerals, substances from animals or humans and even radioactive material.

Contaminants that may be present in drinking 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 storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming;
- pesticides and herbicides, which might have 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems; and
- radioactive contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

LEAD LEVEL CONCERNS

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 Sugar Land 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 two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may want 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** at **800-426-4791** or on the [EPA's website](#).

CRYPTOSPORIDIUM AND GIARDIA

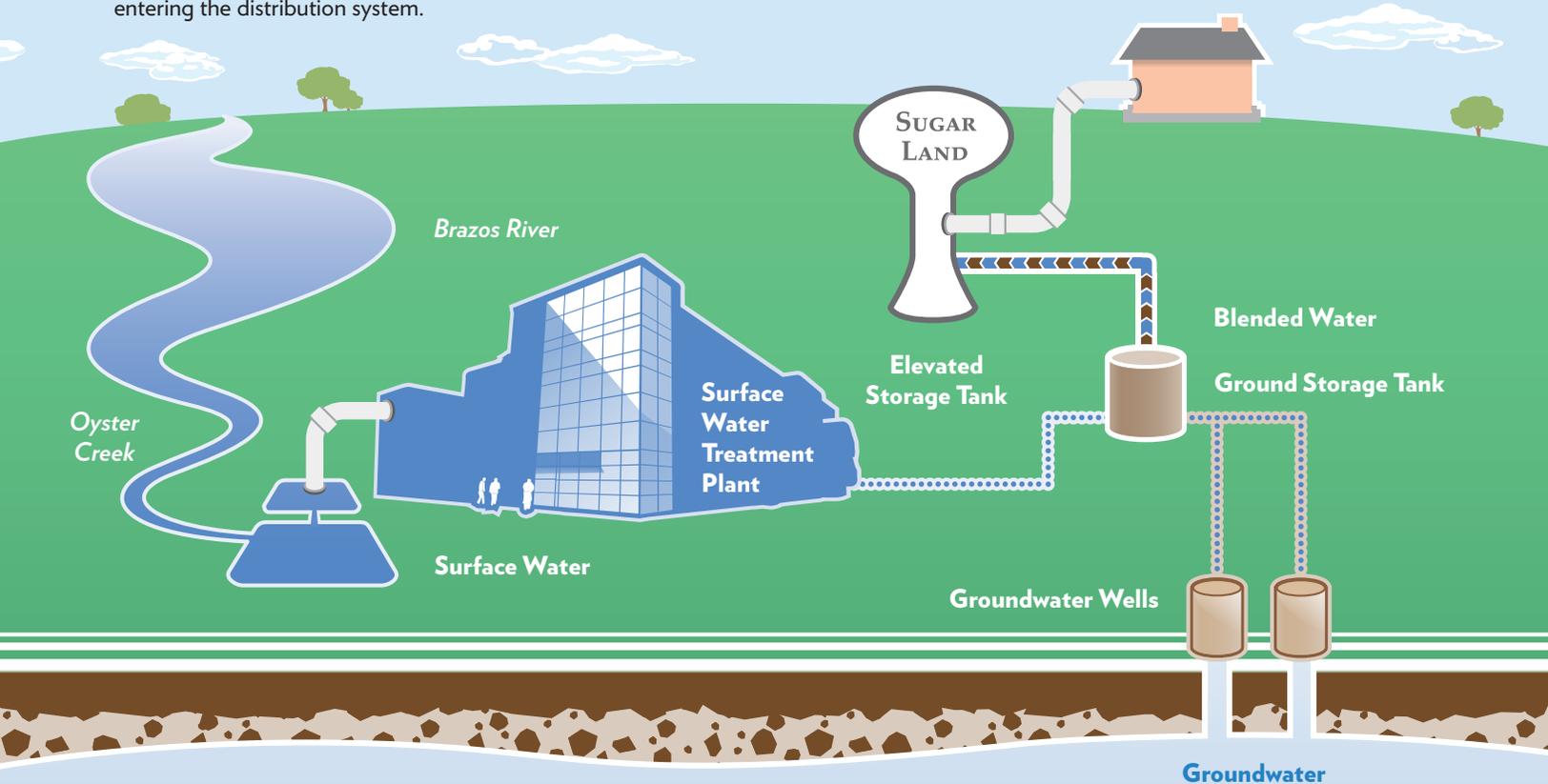
Cryptosporidium and *Giardia* are waterborne, pathogenic organisms. They can be passed into the environment through urban runoff or a sewage leak. Exposure to these organisms can lead to symptoms such as diarrhea, abdominal discomfort, fever, weight loss, malabsorption and anemia. Although not life-threatening to healthy adults, *Cryptosporidium* and *Giardia* can be fatal to infants, the elderly, pregnant women and people with a compromised immune system. (See the message from the EPA on page 2 if you may be at risk.)

Neither *Cryptosporidium* nor *Giardia* is found in groundwater, but they can be found in untreated surface water. In 2017, the City monitored for *Cryptosporidium* in Sugar Land's untreated surface water. *Cryptosporidium* was not detected in any of the twelve samples collected. Sugar Land's Surface Water Treatment Plant utilizes membrane filtration and post-filtration disinfection to remove waterborne organisms such as *Cryptosporidium* and *Giardia* from surface water before it enters the distribution system.



MAIN SYSTEM OVERVIEW

In the Main System, treated surface water that comes from the Surface Water Treatment Plant is blended with groundwater before entering the distribution system.



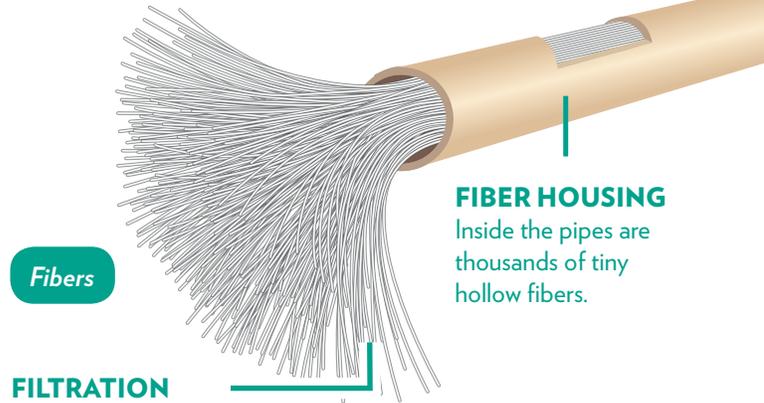
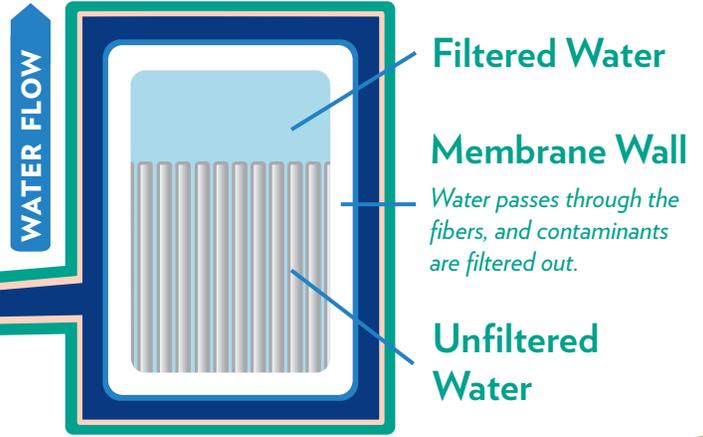
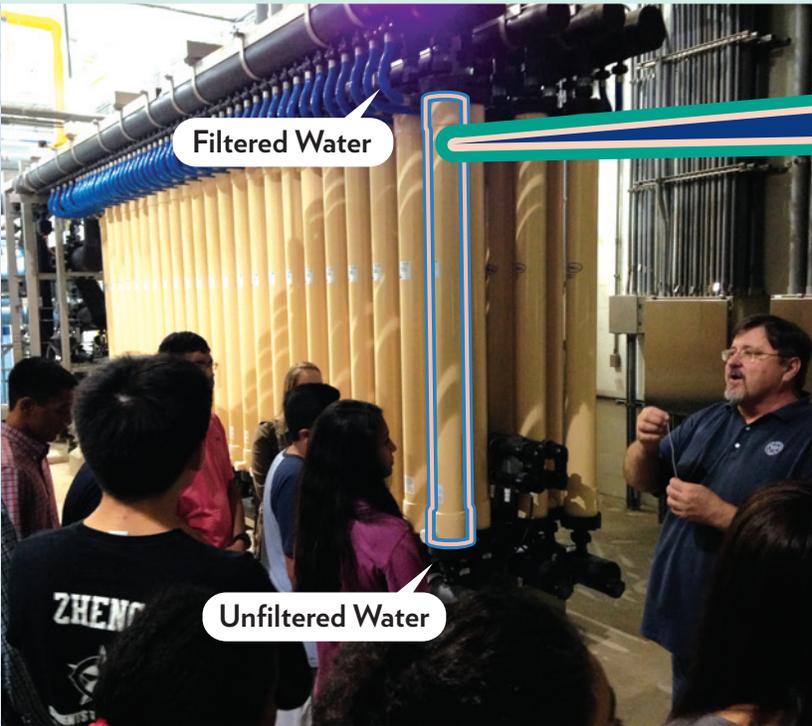
PRODUCTION AND DISTRIBUTION PROFILE

Two sources supply the City's Main System: surface water from Oyster Creek and the Brazos River treated at the City's Surface Water Treatment Plant and deep high quality groundwater wells. The RiverPark, Greatwood and New Territory systems retrieve water from groundwater wells and treats it in one of the City's groundwater plants. Even though Sugar Land's water is excellent quality, chlorine is added to the RiverPark, Greatwood and New Territory systems, and chloramine is added to the Main System to protect the finished water against microbial contaminants as it travels through the many miles of pipes and pumps before being delivered to customers. Fluoride is added to the Main and RiverPark systems to help prevent tooth decay. Corrosion inhibitors may also be added to reduce corrosion of metal components in the private plumbing systems in homes and buildings.

In 2017, the City's Surface Water Treatment Plant received the 2017 Outstanding Large Membrane Plant Award presented by the South Central Membrane Association.

After the water has been treated to meet federal and state standards, the water is delivered to homes and businesses. The City of Sugar Land is committed to providing high quality water. If you have any questions regarding the data in this report, contact the **Public Works Department** at **281-275-2900** or **311**.

SURFACE WATER FILTRATION PROCESS



FILTRATION

The hollow fibers absorb water, but particles that are larger than 0.1 micron cannot pass through the pores. Bacteria, parasites, sand, silt, clay and other contaminants that are too big to pass through are filtered out.

Potable Water Production and Distribution Profile

2017	Main System	RiverPark System	New Territory System	Greatwood System
Population	85,207	3,586	16,572	12,504
Groundwater Source	Chicot Aquifer and Evangeline Aquifer			
Surface Water Source (Main System)	Brazos River & Oyster Creek			
2017 Annual Demands (million gallons)	5,840	227.87	866.36	736.07
2017 System Capacity (million gallons/day)	62.07	3.38	11.07	9.22
2017 Daily Average Demands (million gallons)	16.097	0.624	2.374	2.017
2017 Daily Average Demand per Capita (gallons)	189	174	143	161
Number of Groundwater Wells	14	2	3	4
Average Well Depth (feet)	1,250	1,342	1,000	1,600
Well Production Capacity (million gallons/day)	51.64	3.38	11.07	9.22
Surface Water Plant Capacity (million gallons/day)	10.43			
Ground Storage (# of Tanks)	15	2	6	2
Ground Storage Tank Capacity (million gallons)	15.23	0.72	2.25	1.00
Elevated Storage Tanks (million gallons)	5			
Elevated Storage Tank Capacity (million gallons)	6			
Miles of Distribution Line	431	20	54	59
Number of Water Meters	28,482	1,327	4,817	4,623

WATER QUALITY DATA



The TCEQ's mission is to protect the public's health and Texas' natural resources. Like the TCEQ, the City's goal is to have clean air and water and to safely dispose of waste. The TCEQ monitors Sugar Land's water by collecting and analyzing water samples for metals, minerals, volatile and semi-volatile organic compounds, disinfectant byproduct compounds and radiological compounds. In addition to the tests that the TCEQ performs, the agency requires that the City of Sugar Land do testing in-house.

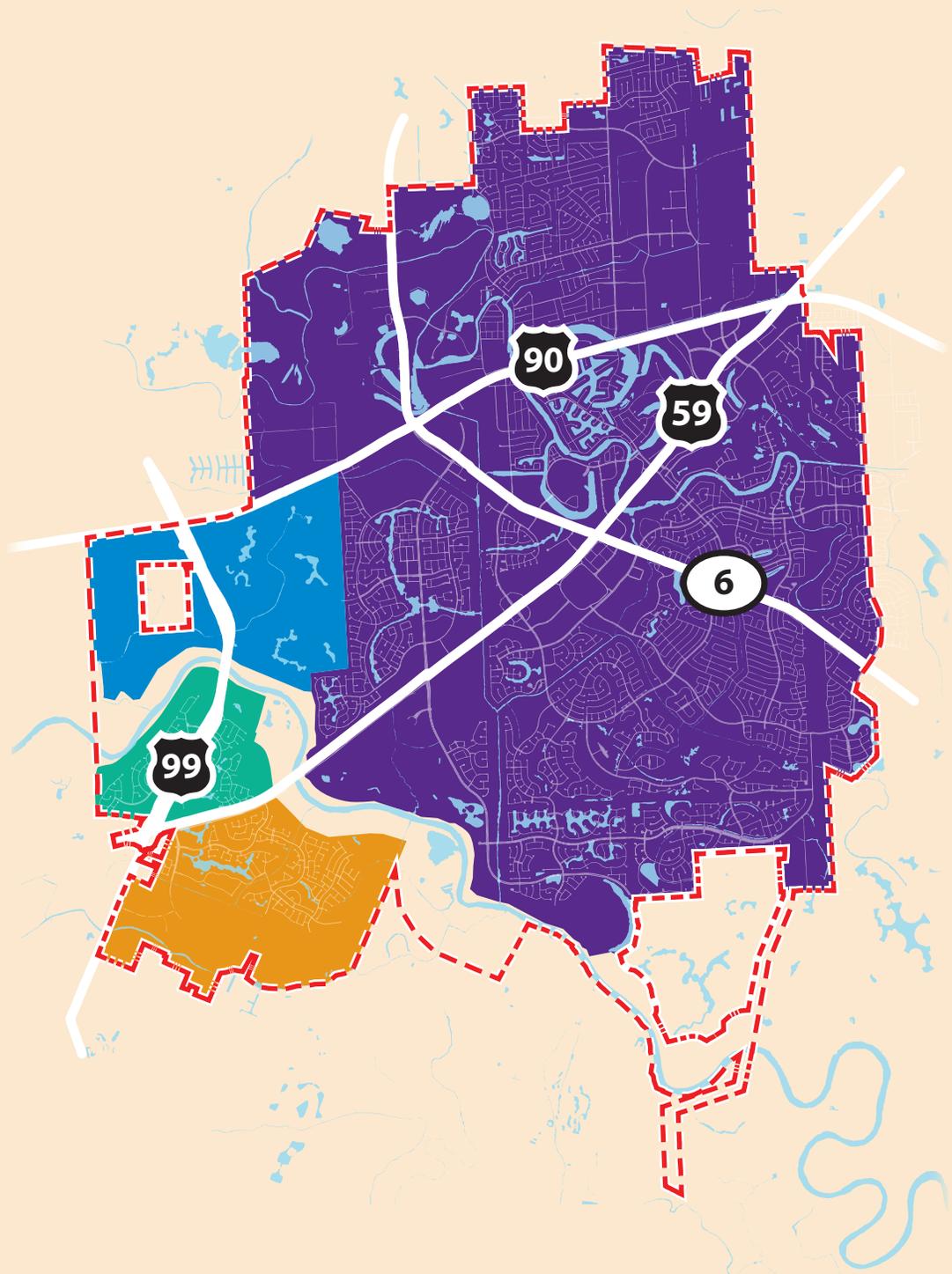
In 2017, Water Utilities staff performed over 90 bacteriological tests each month from samples taken from the Main System as well as five tests each month from samples from the RiverPark System. The City also collected quality assurance and quality control samples at least once per week at 13 locations in the distribution systems. Bacteriological sampling was also performed for the Municipal Utility Districts within the Greatwood and New Territory communities.

In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that 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 water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's **Safe Drinking Water Hotline** at **800-426-4791**.

SUGAR LAND'S PUBLIC WATER SYSTEMS

The City of Sugar Land operates four independent public water systems (PWS) within the corporate limits of the city. The Main System (PWS 0790005) serves the City east of the Brazos River and the RiverPark System (PWS 0790354) serves the subdivision west of the Brazos River. The two systems are not connected; therefore, water quality data for both systems is presented separately in this report.

On December 12, 2017 the City annexed Greatwood and New Territory. Upon annexation, TCEQ consolidated the individual MUDs into one public water system for Greatwood (PWS 0790296) and one public water system for New Territory (PWS 0790253). Most of the sampling completed in 2017 was prior to these mergers, so water quality data is presented separately for each MUD in this report.



-  **MAIN SYSTEM**
-  **RIVERPARK SYSTEM**
-  **NEW TERRITORY SYSTEM**
-  **GREATWOOD SYSTEM**
-  **CITY LIMITS**



DEFINITIONS

The following tables contain scientific terms and measures, some of which may require explanation.

ACTION LEVEL (AL)

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

AVERAGE LEVEL OF QUARTERLY DATA (AVG)

Regulatory compliance with some Maximum Contaminant Levels are based on running annual average of monthly samples.

CONSTITUENT

Federally regulated or monitored analyte.

INORGANIC CONTAMINANTS

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.

LEVEL 1 ASSESSMENT

A study of the water system to identify potential problems and determine, if possible, why total coliform bacteria were found.

LEVEL 2 ASSESSMENT

A very detailed study of the water system to identify potential problems and determine, if possible, why an Escherichia coli (E. coli) maximum contaminant level (MCL) violation has occurred and/or why total coliform bacteria were found on multiple occasions.

MAXIMUM CONTAMINANT LEVEL (MCL)

The highest permissible level of a contaminant 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 level of a contaminant in drinking water below which there is no known or expected health risk. MCLGs allow for a margin of safety.

MAXIMUM RESIDUAL DISINFECTANT LEVEL (MRDL)

The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminant.



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 contamination.

MICROBIAL CONTAMINANTS

Viruses and bacteria which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

ORGANIC CHEMICAL CONTAMINANTS

Synthetic and volatile organic chemicals which are by-products of industrial processes and petroleum production; can also come from gas stations, urban storm water runoff and septic systems.

PESTICIDES AND HERBICIDES

These may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

RADIOACTIVE CONTAMINANTS

Naturally occurring or the result of oil and gas production and mining activities.

TREATMENT TECHNIQUE (TT)

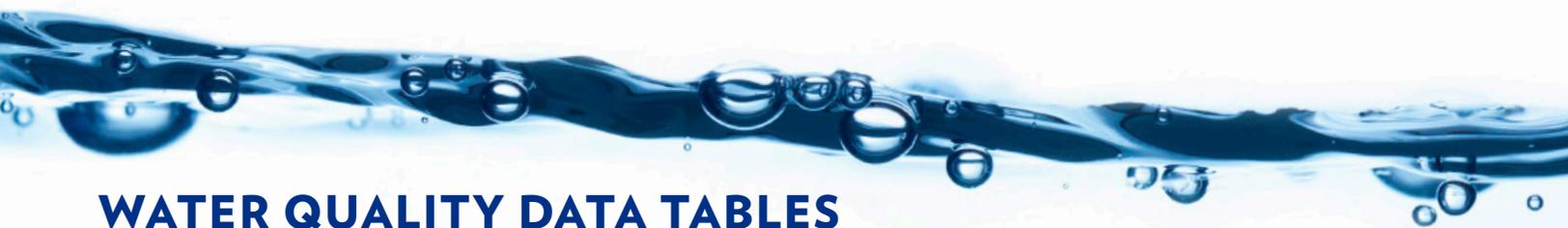
A required process intended to reduce the level of a contaminant in drinking water.

TTHM

Total Trihalomethanes

TURBIDITY

A measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.



WATER QUALITY DATA TABLES

An important component of water treatment and distribution is compliance with the many state and federal laws and regulations that govern public water systems. The City's groundwater treatment plants and the SWTP are monitored daily, and monthly reports are submitted to the TCEQ. The data presented in this report is from the most recent testing done in accordance with the regulations. The EPA and the State of Texas require the City of Sugar Land to monitor for certain contaminants less than once per year because the concentrations do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. Unless otherwise noted, the data presented in this report is from testing done in 2017.

ABBREVIATIONS

N/A: Not Applicable	pCi/L: pico Curies per Liter; measure of radioactivity
ND: None Detected	ppm: parts per million or milligrams per liter (mg/L)
NTU: Nephelometric Turbidity Units (a measure of turbidity)	ppb: parts per billion, or micrograms per liter (µg/L)

MAIN SYSTEM - 0790005

Bacteria

Contaminant	Year	MCLG	Total Coliform MCL	Highest # of Positive	Fecal Coliform or E Coli MCL	Total # of Positive E Coli or Fecal Coliform Samples	Violation (Yes/No)	Likely Source of Contamination
Coliform Bacteria	2017	0	TT	1.1%	Routine and repeat samples are total coliform-positive and either is E. coli-positive	0	No	Naturally present in the environment.

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2017	1.3	1.3	0.2567	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2017	0	15	4.9	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Radioactive Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Beta/photon emitters*	2017	6.3	0	6.3	0	50*	pCi/L	No	Decay of natural and man-made deposits.
Gross Alpha (excluding Radon & Uranium)	2017	9	0	9	0	15	pCi/L	No	Erosion of natural deposits.
Combined Radium 226/228	2017	1.54	0	1.54	0	5	pCi/L	No	Erosion of natural deposits.
Uranium	2017	8.3	1.5	8.3	0	30	ppb	No	Erosion of natural deposits.

* EPA considers 50 pCi/L to be the level of concern for beta particles.



Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chloramines (Chlorine Residual, Total)	2017	2.74	0.75	3.73	4	4	ppm	No	Water additive used to control microbes.
Chlorine Dioxide	2017	48	0	210	800	800	ppb	No	Water additive used to control microbes.
Contaminant	Year	Highest Average Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Haloacetic acids (HAA5)	2017	6.3	0.0	9.9	No Goal for the total	60	ppb	No	By-product of drinking water disinfection.
TTHMs (Total trihalomethanes)	2017	4.4	0.0	5.7	No Goal for the total	80	ppb	No	By-product of drinking water disinfection.
Chlorite	2017	0.763	0.0	0.763	0.8	1	ppm	No	By-product of drinking water disinfection.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Arsenic	2017	3.6	0	3.6	0	10	ppb	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2017	0.218	0.129	0.218	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cyanide	2017	130	0	130	200	200	ppb	No	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.
Fluoride	2017	0.72	0.21	0.72	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	2017	2.42	0.01	2.42	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Selenium	2017	10.9	0	10.9	50	50	ppb	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.



Volatile Organic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Xylenes	2017	0.0012	0	0.0012	10	10	ppm	No	Discharge from petroleum factories; discharge from chemical factories

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Atrazine	2017	0.19	0	0.19	3	3	ppb	No	Runoff from herbicide used on row crops.

Total Organic Carbon

Total organic carbon has no adverse health effects. Total organic carbon provides a medium for the formation of disinfection byproducts when water is disinfected. Disinfection is necessary to ensure that water does not have unacceptable levels of pathogens. Byproducts of disinfection include trihalomethanes (THMs) and haloacetic acids (HAAs) which are reported on elsewhere in this report.

Constituent	Average	Minimum	Maximum	MCLG	MCL	Unit of Measure	Likely Source of Contamination
TOC- Source Water	6.1	4.53	9.5	n/a	TT	ppm	Naturally present in the environment.
TOC- Drinking Water	2.5	1.4	3.9	n/a	TT	ppm	Naturally present in the environment.
TOC % Removal	56.1	31.4	77.9	n/a	TT	%	n/a



Turbidity

Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration.	Limit (Treatment Technique)	Level Detected	Violation	Likely Source of Contamination
Highest single measurement	1.0 NTU	0.07	N	Soil runoff
Lowest monthly % meeting limit	0.3 NTU	100%	N	Soil runoff

Unregulated Contaminants

Unregulated contaminants are those for which EPA has not established drinking water standards. 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. For additional information and data, visit [EPA's website](#) or call the **Safe Drinking Water Hotline** at **800-426-4791**.

Contaminant	Year	Average Level Detected	Minimum Level Detected	Maximum Level Detected	Unit of Measure	Likely Source of Contamination
Chloroform	2017	1.5	0	1.5	ppb	By-product of drinking water disinfection.

Secondary Constituents

Contaminant	Year	Average Level Detected	Minimum Level Detected	Maximum Level Detected	Unit of Measure	Secondary MCL
Calcium	2017	45.7	29.3	59.2	ppm	no MCL
Chloride	2017	54	40	73	ppm	250
Copper	2017	0.0011	0	0.0041	ppm	1
Fluoride	2017	0.36	0.21	0.72	ppm	2
Iron	2017	75	0	274	ppb	300
Magnesium	2017	9.1	7.3	11.8	ppm	no MCL
Manganese	2017	13	1	43	ppb	50
Nickel	2017	0.4	0	2.4	ppb	100
pH	2017	8.1	8.0	8.1	units	> 7
Sodium	2017	57.4	45.3	69.8	ppm	no MCL
Sulfate	2017	22.5	14	43	ppm	300
Total Alkalinity	2017	178	161	203	ppm	no MCL
Total Dissolved Solids	2017	326	291	382	ppm	1000
Total Hardness as CaCO ₃	2017	152	103	196	ppm	no MCL
Zinc	2017	0.0012	0	0.0073	ppm	5

NEW TERRITORY SYSTEM

Upon annexation, TCEQ consolidated the water systems within the community of New Territory into one system. MUDS 67, 68, 69, and 111 were merged with MUD 112 to create one public water system, New Territory - PWS 0790253.

FORT BEND COUNTY MUD 112 - 0790253

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2017	1.3	1.3	0.282	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2017	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.21	0.53	1.82	4	4	ppm	No	Water additive used to control microbes.
Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
TTHMs (Total trihalomethanes)	2017	2.0	2.0	2.0	No Goal for the total	80	ppb	No	By-product of drinking water disinfection.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Barium	2017	0.192	0.192	0.192	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2017	0.57	0.24	0.57	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	2017	0.13	0.02	0.13	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Beta/photon emitters*	2015	4.5	0	4.5	0	50*	pCi/L	No	Decay of natural and man-made deposits.
Gross Alpha (excluding Radon & Uranium)	2015	6	2	6	0	15	pCi/L	No	Erosion of natural deposits.
Combined Radium 226 /228	2015	2.4	2.4	2.4	0	5	pCi/L	No	Erosion of natural deposits.
Uranium	2015	2.8	0	2.8	0	30	ppb	No	Erosion of natural deposits.

Secondary Constituents

Contaminant	Year	Average Level Detected	Minimum Level Detected	Maximum Level Detected	Unit of Measure	Secondary MCL
Calcium	2017	14.5	14.5	14.5	ppm	no MCL
Chloride	2017	43	42	45	ppm	250
Fluoride	2017	0.37	0.24	0.57	ppm	2
Iron	2017	75	75	75	ppb	300
Magnesium	2017	3.9	3.9	3.9	ppm	no MCL
Manganese	2017	11.7	11.7	11.7	ppb	50
pH	2017	7.8	7.5	8.1	units	> 7
Sodium	2017	93.9	93.9	93.9	ppm	no MCL
Sulfate	2017	14	14	15	ppm	300
Total Alkalinity	2017	186	181	193	ppm	no MCL
Total Dissolved Solids	2017	305	300	313	ppm	1000
Total Hardness as CaCO₃	2017	52.3	52.3	52.3	ppm	no MCL



FORT BEND COUNTY MUD 67 - 0790252

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2016	1.3	1.3	0.13	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.25	0.88	2.30	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.08	0.08	0.08	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

FORT BEND COUNTY MUD 68 - 0790262

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2015	1.3	1.3	0.28	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2015	0	15	1.7	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.30	0.56	1.76	4	4	ppm	No	Water additive used to control microbes.
Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
TTHMs (Total trihalomethanes)	2017	2.4	2.4	2.4	No Goal for the total	80	ppb	No	By-product of drinking water disinfection.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.02	0.02	0.02	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.



FORT BEND COUNTY MUD 69 - 0790325

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2017	1.3	1.3	0.258	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2017	0	15	0	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.21	0.72	1.87	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.06	0.06	0.06	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

FORT BEND COUNTY MUD 111 - 0790317

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2016	1.3	1.3	0.315	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	1	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.18	0.31	1.69	4	4	ppm	No	Water additive used to control microbes.

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
TTHMs (Total trihalomethanes)	2017	6.0	6.0	6.0	No Goal for the total	80	ppb	No	By-product of drinking water disinfection.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.08	0.08	0.08	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

RIVERPARK SYSTEM - 0790354

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2015	1.3	1.3	0.1313	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2015	0	15	1.9	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.46	0.92	2.05	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Barium	2016	0.151	0.151	0.151	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2017	0.75	0.75	0.75	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	2017	0.03	0.03	0.03	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Gross Alpha (excluding Radon & Uranium)	2014	2	2	2	0	15	pCi/L	No	Erosion of natural deposits.
Combined Radium 226 /228	2014	2.9	2.9	2.9	0	5	pCi/L	No	Erosion of natural deposits.
Uranium	2014	1.2	1.2	1.2	0	30	ppb	No	Erosion of natural deposits.

Secondary Constituents

Contaminant	Year	Average Level Detected	Minimum Level Detected	Maximum Level Detected	Unit of Measure	Secondary MCL
Calcium	2016	33.9	33.9	33.9	ppm	no MCL
Chloride	2017	47	47	47	ppm	250
Fluoride	2017	0.75	0.75	0.75	ppm	2
Iron	2016	47	47	47	ppb	300
Magnesium	2016	5.95	5.95	5.95	ppm	no MCL
Manganese	2016	5.7	5.7	5.7	ppb	50
pH	2017	8.1	8.1	8.1	units	> 7
Sodium	2016	69.5	69.5	69.5	ppm	no MCL
Sulfate	2017	9	9	9	ppm	300
Total Alkalinity	2017	197	197	197	ppm	no MCL
Total Dissolved Solids	2017	307	307	307	ppm	1000
Total Hardness as CaCO₃	2016	109	109	109	ppm	no MCL

GREATWOOD SYSTEM

Upon annexation, TCEQ consolidated the water systems within the community of Greatwood into one system. MUDS 108, 109, and 116 were merged with MUD 106 to create one public water system: Greatwood- PWS 0790296.

From January 26 to June 27, 2017 the Greatwood System (Fort Bend MUD 106) received treated water from Fort Bend County MUD 116 and Plantation MUD to augment supplies while the system's groundwater well was being rehabbed. The Source water for MUD 116 is groundwater from Evangeline Aquifer. Plantation MUD pumps groundwater from the Chicot Aquifer. Water quality information for MUD 116 or Plantation MUD is available on TCEQ's Drinking Water Watch or from their operator, Si Environmental at 832-490-1635 or 832-490-1500.

FORT BEND COUNTY MUD 106 - 0790296

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2016	1.3	1.3	0.14	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	1.3	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.26	0.68	2.28	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Arsenic	2015	4.6	0	4.6	0	10	ppb	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium	2015	0.181	0.155	0.181	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Fluoride	2016	0.86	0.51	0.86	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate (as Nitrogen)	2017	0.04	0.01	0.04	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radioactive Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Beta/photon emitters*	2015	4.5	0	4.5	0	50*	pCi/L	No	Decay of natural and man-made deposits.
Gross Alpha (excluding Radon & Uranium)	2015	7.8	5	7.8	0	15	pCi/L	No	Erosion of natural deposits.
Combined Radium 226/228	2015	2.5	0	2.5	0	5	pCi/L	No	Erosion of natural deposits.
Uranium	2015	4.3	2.9	4.3	0	30	ppb	No	Erosion of natural deposits.

Volatile Organic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Xylenes	2017	0.0019	0	0.0019	10	10	ppm	No	Discharge from petroleum factories; discharge from chemical factories.

Secondary Constituents

Contaminant	Year	Average Level Detected	Minimum Level Detected	Maximum Level Detected	Unit of Measure	Secondary MCL
Calcium	2015	38.3	32.7	43.9	ppm	no MCL
Chloride	2016	60	49	70	ppm	250
Copper	2016	0.069	0.039	0.099	ppm	1
Fluoride	2016	0.69	0.51	0.86	ppm	2
Iron	2015	39	24	54	ppb	300
Magnesium	2015	6.97	6.27	7.66	ppm	no MCL
Manganese	2015	3.5	2.4	4.6	ppb	50
pH	2017	8	7.9	8	units	> 7
Sodium	2015	80.6	54.2	107	ppm	no MCL
Sulfate	2016	11	11	11	ppm	300
Total Alkalinity	2016	214	204	224	ppm	no MCL
Total Dissolved Solids	2016	348	315	380	ppm	1000
Total Hardness as CaCO₃	2015	124	107	141	ppm	no MCL



FORT BEND COUNTY MUD 108 - 0790297

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2015	1.3	1.3	0.11	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2015	0	15	2.4	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.31	0.65	2.30	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.04	0.04	0.04	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

FORT BEND COUNTY MUD 109 - 0790298

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2016	1.3	1.3	0.167	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2016	0	15	5	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.30	0.50	1.72	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.04	0.04	0.04	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

FORT BEND COUNTY MUD 117 - 0790375

Copper and Lead

Contaminant	Date Sampled	MCLG	Action Level (AL)	90th Percentile	# Sites Over AL	Units	Violation (Yes/No)	Likely Source of Contamination
Copper	2015	1.3	1.3	0.23	0	ppm	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
Lead	2015	0	15	2.5	0	ppb	No	Corrosion of household plumbing systems; Erosion of natural deposits.

Disinfectants and Disinfection By-Products

Contaminant	Year	Average Level of Quarterly Data	Lowest Result of a Single Sample	Highest Result of a Single Sample	MRDLG	MRDL	Unit of Measure	Violation (Yes/No)	Likely Source of Contamination
Chlorine Residual, Free	2017	1.28	0.50	1.85	4	4	ppm	No	Water additive used to control microbes.

Inorganic Contaminants

Contaminant	Year	Highest Level Detected	Minimum Level Detected	Maximum Level Detected	MCLG	MCL	Unit of Measure	Violation (Yes/No)	Major Sources in Drinking Water
Nitrate (as Nitrogen)	2017	0.01	0.01	0.01	10	10	ppm	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.



WATER LOSS

Each year the City is required to prepare and submit a water-loss audit to the Texas Water Development Board and report the system's water loss to our customers. A water-loss audit is a tool used by water utilities to assess the volume of water produced compared to the volumes of water sold to customers and used to maintain water quality. Water loss cannot be avoided, as line breaks, undetected leaks and line flushing occur throughout any water delivery system.

“We encourage Sugar Land citizens to contact us when they see a water leak,” said Joe Reyes, Public Works field operations manager. “Our customer service team investigates all water leak calls to the Public Works Department at 281-275-2900 or 311.”

In addition to the percentage of water loss, the City uses the Infrastructure Leakage Index (ILI) as a benchmark of leakage in the Main System. The ILI is a methodology developed by the International Water Association and adopted in 2002 by the American Water Works Association as a performance indicator for systems with more than 3,300 connections. The ILI is the ratio of real (actual) water loss versus unavoidable leakage or unavoidable real losses (UARL).

In 2017, water loss in the Main System was 9.85% of the 5,840 million gallons produced, which translates to an ILI of 2.86. RiverPark System produced 227 million gallons and experienced a loss of 3.10%. The RiverPark System has only 1,327 connections, therefore the ILI is not a valid indicator. Water loss calculated from available data for the two systems annexed in December 2017 was 9.33% in New Territory and 5.36% in Greatwood. The ILI was 2.73 for New Territory and .43 for Greatwood.

City staff strives to minimize water losses through timely response to all water calls, short time leak repair protocols, routine system maintenance, a robust meter replacement program and documenting water used for system maintenance and water quality.

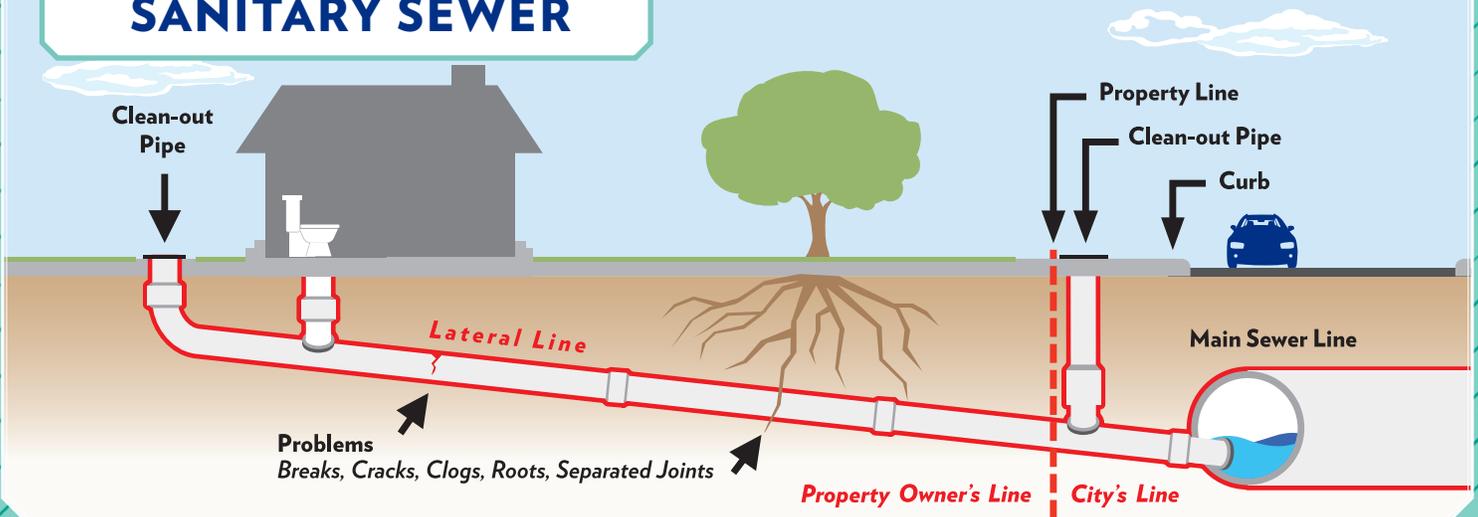


REPORT WATER LEAKS

If you see a water leak along a roadway or in a yard, please report it to the **Public Works Department**.

CALL 24/7: 281-275-2900 or 311

SANITARY SEWER



AVOID SANITARY SEWER BACK-UPS

In addition to leaks in the City's lines, leaks can occur in clogged sewer lines in homes and businesses. The City repairs stoppages in its collection system. Household clogs may require the resident to hire a plumber. Reyes says: "It is always good to call the City first. Hiring a plumber can be costly, and we do not reimburse homeowners for a plumber if the City was not called first."

Sewer lines can become clogged by fat, oil, grease and feminine hygiene products, among other things. To prevent sewer line stoppages, dispose of the following items in the trash, not in the drain, disposal or toilet.

- egg shells
- "flushable" wipes
- diapers
- fruit and vegetable peels
- hygiene products
- oil or grease

If water is flowing down a drain more slowly than usual or water backs up, report the problem to the City's **24-hour customer service line at 281-275-2900 or 311**. If necessary, a city employee will come to a home or business to investigate the problem and determine whether the clog is in the home's wastewater line or the City's collection pipe.



AVOIDANCE STRATEGIES

- scrape grease and fatty food scraps into the trash.
- collect cooking oil in container; then either recycle the oil or place the container in the garbage.
- never pour sauces down the drain, dispose in the trash.
- potato, vegetable, and egg shell peels belong in the trash or compost bin.
- only toilet tissue down the toilet; no "flushable" wipes or personal hygiene products.

COOKING OIL DROP-OFF CENTER

Public Works Service Center • 111 Gillingham Lane
Monday-Friday, 8 a.m.-5 p.m.

City residents may dispose of up to 10 gallons of liquid cooking oil per day at no charge at the Public Works Service Center. The cooking oil recycling center is for residential customers only and includes only liquid cooking grade fats, oils and grease, and not petroleum products. For more information, call 311.

