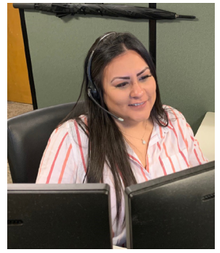
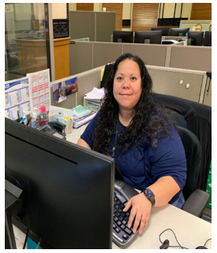
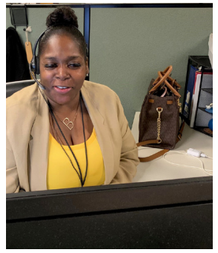
2019

Water Quality Report

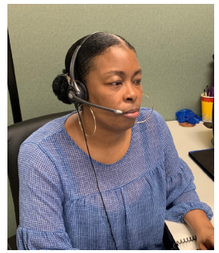
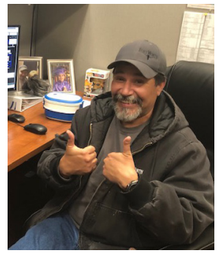
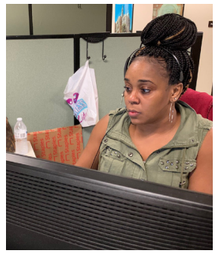
FORT WORTH®

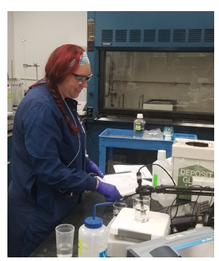
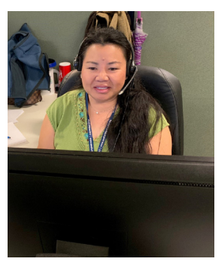
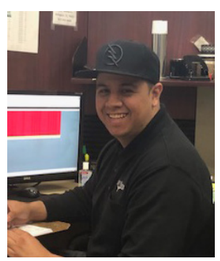


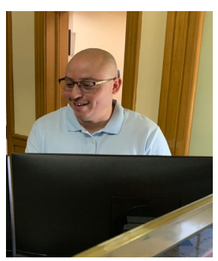









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Here For YOU!

Compromised immune systems may be more vulnerable

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.

On the cover: A view of our Westside Water Treatment Plant.

Message From the Director

As I write this message, we are in the midst of the COVID-19 pandemic. The current situation in our country is unprecedented and has impacted everyone to some degree.

It has also highlighted the critical work water and wastewater utilities perform every day in protecting public health. Drinking water regulations exist to prevent viruses and bacteria from causing waterborne illnesses.

Our top priority is providing a safe, reliable, and affordable supply of drinking water to our customers. This Water Quality Report provides a year-end summary of our drinking water quality during 2019. As you view the tables and data within the report, you will see that Fort Worth's water quality exceeds the minimum state and federal water quality standards.

I also want to recognize our dedicated water utility employees, who come to work each day to ensure our water and wastewater systems perform as they should.

Our focus is on keeping our employees safe and healthy so they can remain on the job for you. Water and wastewater treatment, distribution, and collection are essential services that allow health care facilities, businesses, and governmental agencies to function.

We hope you take the time to review this annual Water Quality Report. The requirements for providing this information do not always make it easy to read or understand, so please feel free to contact us at either 817-392-4477 or wpe@fortworthtexas.gov if you have questions.

We are proud of the drinking water quality we provide, and are committed to keeping our drinking water safe.

With kind regards,

Chris Harder, Director
Fort Worth Water

MyH2O Milestones

Implementing MyH2O, Fort Worth water utility's advanced metering infrastructure program, promotes greater water conservation measures and will have a significant impact in reducing water loss.

Through the program, more than 260,000 residential and commercial properties are in the process of receiving a new meter that is read remotely when connected to a radio transmitter.

The city has a network of 30 antennas, with two more on the way, to handle the remote reading. The data transmits by wireless technology.

Since 2016, new meters are installed as old meters need replacing or at new construction sites. These meters have the transmitter activated when crews are in those billing cycles exchanging other meters.

Citywide meter exchanges and activations began in earnest in Spring 2019. It will take through mid-2022 to complete the meter exchanges.

Key to the program is a web-based portal giving all customers the tools to monitor water use. The portal is expected to become available in Fall 2020, giving customers with activated new meters access to their water use data.

On the portal, customers can see their water use on an hourly basis. The data is not available in real time but will be available the following day. This information can help detect leaks, ensure lawn watering occurs on the correct days and detect possible theft if water is used at an unusual time of the day or at a location without an account.

Customers can pay their bills on the portal and find important and easy-to-use ways to conserve water in their homes and businesses.

Customers can also elect to receive alerts about potential leaks or set thresholds when water use reaches a certain level each month.

Advanced metering infrastructure is an asset management tool that enables data driven decision-making for utility operations and capital planning. It provides ways to optimize business operations. Fort Worth expects to glean vital information as the data starts flowing.

Drinking Water Quality Test Results

Compound	Measure	MCL	MCLG	Your water	Violation	Common Sources of Substance
Turbidity	NTU	TT=1 TT= **Lowest monthly % of samples ≤ 0.3 NTU**	N/A	0.5 99.9%	No	Soil runoff (Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system.)

Compound	MCL	MCLG	Your water	Range	Violation	Common Sources of Substance
Total Coliforms (including fecal coliform & E. coli)	TT = 5% of monthly samples are positive	0	1%	0 to 1%	No	Coliforms are naturally present in the environment as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.

Compound	Measure	MCL	MCLG	Your water	Range	Violation	Common Sources of Substance
Beta/photon emitters[1]	pCi/L	50	0	5.6	4.4 to 5.6	No	Decay of natural and man-made deposits
Combined Radium[1]	pCi/L	5	0	2.5	NA	No	Erosion of natural deposits
Uranium[1]	ppb	30	0	1.1	0 to 1.1	No	Erosion of natural deposits
Arsenic	ppb	10	0	1.50	0 to 1.50	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Atrazine	ppb	3	3	0.1	0 to 0.1	No	Runoff from herbicide used on row crops
Barium	ppm	2	2	0.06	0.05 to 0.06	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide	ppb	200	200	126	74.8 to 126	No	Discharge from plastic and fertilizer factories; discharge from steel and metal factories
Fluoride	ppm	4	4	0.54	0.15 to 0.54	No	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	ppm	10	10	0.58	0.18 to 0.58	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	ppm	1	1	0.02	0.01 to 0.02	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	0	4.35	0 to 14.8	No	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	N/A	13.9	3.5 to 12.9	No	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	N/A	19.0	2.44 to 29.2	No	By-product of drinking water disinfection

Compound	Measure	MRDL	MRDLG	Your water	Range	Violation	Common Sources of Substance
Chloramines	ppm	4	4	3.37	0.89 to 4.40	No	Water additive used to control microbes

Compound	MCL	MCLG	High	Low	Average	Violation	Common Sources of Substance
Total Organic Carbon	TT = % removal	N/A	1	1	1	No	Naturally occurring

It is used to determine disinfection by-product precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors. **A removal ratio of 1 in SUVA calculations is considered passing.**

[1] **Because Fort Worth historically has had low levels of radionuclides in its water, TCEQ requires this monitoring occur only once every six years. The test results shown above are from 2017. The next monitoring will occur in 2020.**

Information About Drinking Water

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. For more information on taste, odor, or color of drinking water, please contact customer service at 817-392-4477.

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.

Potential Raw Water Impurities

- 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, 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.

Secondary Constituents

These items do not relate to public health but rather to the aesthetic effects. These items are often important to industry.

Compound	Measure	Your water
Bicarbonate	ppm	128 to 149
Calcium	ppm	42.4 to 60.7
Chloride	ppm	19.5 to 35.1
Conductivity	µmhos/cm	403 to 482
pH	units	8.1 to 8.4
Magnesium	ppm	4.64 to 8.30
Sodium	ppm	15.1 to 26.8
Sulfate	ppm	23.4 to 44.3
Total Alkalinity as $CaCO_3$	ppm	128 to 150
Total Dissolved Solids	ppm	192 to 266
Total Hardness as $CaCO_3$	ppm	138 to 178
Total Hardness in Grains	grains/gallon	8 to 10

Table Abbreviations

Maximum Contaminant Level (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 (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.

Maximum Residual Disinfectant Level (MRDL): the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG): the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A: not applicable/does not apply

Nephelometric Turbidity Unit (NTU): a measure of water turbidity or clarity

Picocuries per liter (pCi/L): a measure of radioactivity

Parts per billion (ppb): Or represented as micrograms per liter (µg/L)

Parts per million (ppm): Or represented as milligrams per liter (mg/L)

Treatment Technique (TT): a required process intended to reduce the level of a contaminant in drinking water

Level 1 assessment: A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria were found. Fort Worth was not required to conduct a Level 1 assessment in 2019.

Level 2 assessment: A Level 2 assessment is 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. Fort Worth was not required to conduct a Level 2 assessment in 2019.

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.

Compound	Measure	MRDL	MRDLG	Average	Range of Detects	Common Sources of Substance
Chloral Hydrate	ppb	Not regulated	N/A	0.33	0.23 to 0.43	By-product of drinking water disinfection
Bromoform	ppb	Not regulated	0	1.07	1.02 to 4.09	By-products of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	Not regulated	0	3.97	1.12 to 8.94	
Chloroform	ppb	Not regulated	70	3.68	1.32 to 8.11	
Dibromochloromethane	ppb	Not regulated	60	3.68	1.01 to 10.4	
Dibromoacetic Acid	ppb	Not regulated	N/A	1.41	1.00 to 3.20	By-products of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Dichloroacetic Acid	ppb	Not regulated	0	4.78	2.40 to 9.20	
Monobromoacetic Acid	ppb	Not regulated	N/A	0.02	1.00 to 1.00	
Monochloroacetic Acid	ppb	Not regulated	70	0.61	1.00 to 2.50	
Trichloroacetic Acid	ppb	Not regulated	20	0.09	1.00 to 2.00	

UCMR 4

Fort Worth's testing detected only four of the 30 compounds included in the fourth round of unregulated contaminant monitoring. The detections were one metal and the three haloacetic acid disinfection byproduct groups.

Compound	Measure	Average	Range of Detects	Common Sources of Substance
Manganese	ppb	0.93	0.40 to 4.19	Naturally occurring; used in drinking water and wastewater treatment; used in steel production, fertilizer, batteries and fireworks
HAA5	ppb	3.94	1.27 to 5.11	Byproducts of drinking water disinfection
HAA6Br	ppb	3.16	1.71 to 4.05	Byproducts of drinking water disinfection
HAA9	ppb	6.26	2.98 to 7.47	Byproducts of drinking water disinfection

Haloacetic Acid Groups

This table includes all of the compounds that comprise each of the haloacetic acid groups. Compounds that are not detected are usually not listed in the charts in this report; however, those undetected are listed below to provide complete information on the compounds that comprise each of the three groups in the table above.

Compound	Measure	Average	Your Water	Range of Detects	HAA5	HAA6Br	HAA9	Common Sources of Compound
Dichloroacetic Acid	ppb	3.10	0	1.27 to 4.91	HAA5		HAA9	By-products of drinking water disinfection
Monochloroacetic Acid	ppb	0	0	0 to 0	HAA5		HAA9	
Trichloroacetic Acid	ppb	0	0	0 to 0	HAA5		HAA9	
Monobromoacetic Acid	ppb	0	0	0 to 0	HAA5	HAA6Br	HAA9	
Dibromoacetic acid	ppb	0.84	0	0 to 1.75	HAA5	HAA6Br	HAA9	
Bromochloroacetic acid	ppb	2.32	0	1.71 to 2.76		HAA6Br	HAA9	
Bromodichloroacetic acid	ppb	0	0	0 to 0		HAA6Br	HAA9	
Chlorodibromoacetic acid	ppb	0	0	0 to 0		HAA6Br	HAA9	
Tribromoacetic acid	ppb	0	0	0 to 0		HAA6Br	HAA9	

UCMR 4 Compounds Not Detected

Cyanotoxins

Total misrocystin
microcystin-LA
microcystin-LF
microcystin-LR
microcystin-LY
microcystin-RR
microcystin-YR
nodularin
anatoxin-a
cylindrospermopsin

Metals

Germanium

Semi-Volatile Chemicals

butylated hydroxyanisole
o-toluidine
quinoline

Alcohols

1-butanol
2-methoxyethanol
2-propen-1-ol

Pesticides & Pesticide Manufacturing Byproduct

alpha-hexachlorocyclohexane
chlorpyrifos
dimethipin
ethoprop
oxyfluorfen
profenofos
tebuconazole
total permethrin (cis- & trans-)
tribufos

Emergency Interconnection

The Trinity River Authority of Texas-Tarrant Water Supply Project supplied water to Fort Worth through an emergency interconnection. The water was supplied from Jan. 15 through Jan. 18 and Feb. 26 through Feb. 28, as repayment for water supplied to TRA in a previous year for a pipeline rupture.

Customers that are interested in water quality information related to the water obtained from TRA can call 817-392-4477 or view it online as a PDF at www.fortworthtexas.gov/water/2019-TRA-WQR.pdf.

EPA Gathers Data to Decide if Future Regulation is Necessary

Water utilities in the United States monitor for more than 100 contaminants and must meet 91 regulations for water safety and quality.

Should other contaminants be regulated?

The 1996 Safe Drinking Water Act amendments require that once every five years EPA issue a new list of up to 30 unregulated contaminants to be monitored by public water systems.

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.

The fourth Unregulated Contaminant Monitoring Rule includes assessment for three brominated haloacetic acid groups, 10 cyanotoxins, two metals, three semi-volatile chemicals, three alcohols, eight pesticides and one pesticide manufacturing byproduct.

The rule requires testing for cyanotoxins in four consecutive months. Fort Worth tested from August through November. 2018.

As required by the rule, testing for the other compounds was done over four consecutive quarters. Fort Worth's testing period was from June 2018 through March 2019. The results shown on the opposite page are for the final quarter of sampling. The results for the first three quarters of sampling are in last year's annual water quality report.

Microorganism Testing Shows Low Detections in Raw Water

Tarrant Regional Water District monitors the raw water at all intake sites for *Cryptosporidium*, *Giardia Lamblia* and viruses. The source is human and animal fecal waste in the watershed.

The 2019 sampling showed low level detections of *Cryptosporidium*, *Giardia Lamblia* and viruses in some but not all of the water supply sources. Viruses, *Cryptosporidium* and *Giardia Lamblia* are removed through disinfection and/or filtration.

TCEQ Assesses Raw Water Supplies for Susceptibility

Fort Worth uses surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Reservoir, Lake Benbrook and the Clear Fork Trinity River. Fort Worth owns Lake Worth. The U.S. Army Corps of Engineers is responsible for Benbrook Lake. The other four lakes are owned and operated by Tarrant Regional Water District.

The Texas Commission on Environmental Quality completed an assessment of Fort Worth's source waters. TCEQ classified the risk to our source waters as high for most contaminants.

High susceptibility means there are activities near the source water a or watershed make it very likely that chemical constituents may come into contact with the source water. It does not mean that there are any health risks present.

Tarrant Regional Water District, from which Fort Worth purchases its water, received the assessment reports.

For more information on source water assessments and protection efforts at our system, contact Stacy Walters at 817-392-8203.

Further details about the source-water assessments are available in the Texas Commission on Environmental Quality's Drinking Water Watch database at https://bit.ly/TCEQDWW.

Getting the Lead Out

Because Fort Worth Water cares about the health of our customers and their families, it started a lead service line identification and replacement program in April 2016. Over the past few years, 1,757 lead service lines have been found.

The city has replaced 1,177 of the lead service lines found on the city side of the meter. The goal is to replace all city-side lead service lines by the end of 2021.

Almost 80 percent of the 269,000 meter locations in the city have been field reviewed to determine service line material on both sides of the meter. The process is ongoing.

The service line is the pipe connecting homes and businesses to the water main. Ownership is shared between the property owner and the city. The city owns the portion that runs from the water main to the meter and the meter. The property owner is responsible for the portion from the meter to the point it enters the building.

Ten of the known lead service lines are on the customer side of the meter. The property owners and tenants are told of the lead service line, which is part of the private plumbing. Also, they are told about ways to reduce their exposure to lead contaminated water.

Lead is rarely found naturally in our source water or in the treated water flowing through the distribution system. More commonly, lead dissolves into water over time through corrosion – a dissolving or wearing of metal caused by a chemical reaction between water and your plumbing.

To meet the requirements of the Lead and Copper Rule, Fort Worth achieves corrosion control through pH adjustment. The treated water is monitored for temperature, pH, alkalinity, sulfides and calcium to ensure ongoing corrosion control is in place. Corrosion control is monitored twice a month with reports submitted to the Texas Commission on Environmental Quality every six months.

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.

Fort Worth 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 running your faucet for 30 seconds to two 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.

Fort Worth offers customers with known lead service lines are offered a free lab test. If you do not have known lead service lines, the cost is $15 per water sample. Call 817-392-4477 to make arrangements.

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.

More information about lead and Fort Worth's program is available at www.fortworthtexas.gov/water/lead.

Lead & Copper

Contaminant	Year of testing	Measure	90th percentile	# of sites exceeding action level	Action Level	Common Sources of Substance
Lead	2019	ppb	4.70	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Copper	2019	ppm	0.72	0	1.3	

90th Percentile Value:
90 percent of the samples were at or below this value. EPA considers the 90th percentile value the same as an "average" value for other contaminants. Lead and copper are regulated by a treatment technique that requires systems to control the corrosiveness of their water. If more than 10 percent of tap water samples exceed the action level, water systems must take additional steps.

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

Fort Worth Water Takes Flight!

Bob Dannewitz and Princilla Nutt, from Field Operations, testing out a drone.

Field operations' Bob Dannewitz and Princilla Nutt have put their hobby as commercial drone pilots to use for the water utility.

Coincidence may have played a role initially, but it's a significant move that will give the utility a better handle on asset management. In some cases, pipes located in remote locations are being looked for the first time in a long time.

After attending city meetings about how drones might help departments, Travis Andrews, field operations assistant director, wasn't quite sure about their use in water.

But after learning Dannewitz and Nutt have the requisite licenses, Andrews thought "it might be an opportunity for us."

Dannewitz is an assistant supervisor in preventative maintenance who now pilots fulltime. Nutt is a programmer analyst and helps out the drone program at least once a week.

Since last October, the two have flown the utility's DJI Phantom 4 on about 300 flights. The drone aids in inspecting sewer lines looking for missing manhole lids or damage. It is flies over creeks beds looking for erosion, exposed pipes and debris-prone aerial crossings.

The first big project was to inspect the massive sewer lines that run alongside the Trinity River from Gateway Park to the Village Creek Water Reclamation Facility. There, drone footage showed river bank erosion getting dangerously close to two 96-inch wastewater pipelines.

Bill Lundvall, water systems superintendent, said taking care of the issue now will save the utility money and from other possible environmental issues later.

Lundvall said he's impressed with Dannewitz's and Nutt's drone flying skills, adding that using the drone certainly has been a time-saver in manpower.

"To fly over a segment of line in 10-15 minutes versus several hours of staff stumbling, avoiding injuries and any kind of interaction with wildlife or the terrain … this process eliminates that," he said.

Mike Mainord, development project coordinator, also sees endless potential.

"The drone," he said, "can go under a pipe and around it and look at the joints and get real close to things out in the middle and see things we can't see from the banks."

For now, the drone is being used to inspect all 24-inch sewer lines and above, accounting for 286 miles of the 3,508-mile collection system. The footage will be linked to video from the cameras used to inspect inside the pipes.

The drone also is used sometimes in major rain events to search for sanitary sewer overflows.

Anatomy of a Main Break

Field Operations employees pump water out from the hole where a 63-year-old 24-inch cast iron water main broke.

Fort Worth Water replaces and repairs old water pipes throughout the year, but as the weather turns cold, the number of leaks and breaks can go from zero to more than ten in a single day.

"Our busiest times of the year are in January and February ," said Cesar Zavala, field operations water systems superintendent. "Water temperature inside the pipe plays a major role. We can expect a large number of breaks after water temperature drops to 42 degrees."

Hot dry conditions or wet saturated soil can also cause main breaks, as the ground movement puts external pressure on the pipe. Older and more brittle cast iron pipelines account for the majority of the main breaks in Fort Worth.

The utility's water main replacement program is slowly reducing the amount of cast iron pipe in the system, which aids in reducing the number of main breaks. In 2019, the utility had 24.6 main breaks per 100 miles of pipe, down from 42 breaks per 100 miles in 2018.

If job site conditions are good and the broken pipe is relatively small (six to eight inches), a typical water main break takes four to six hours to repair. Sixteen inch and larger breaks, can take anywhere from 12-hours to days to repair. Pipe size, pipe material and pipe depth all factor into how long the repair takes. The water utility has 3,629 miles of water pipe.

"During emergency conditions, our crews may be handling over 20 different water main breaks at one time," said Billy Coffelt, field operations supervisor.

In order to manage resources better, crews prioritize repairs based on severity, impact to customers and the environment, potential property damages and unsafe traffic conditions.

Water Main Break Procedure

- Customer services creates a work order when it receives a call of a possible main break or leak.
- Water dispatch send an investigator to the location. By law and before any excavation can begin, underground utility lines must be marked. This can take up to two hours.
- If a main break is confirmed, the investigator notifies water dispatch to request emergency locates of other utilities that may be buried in the area.
- If roads or sidewalks are damaged from the break, the area is closed and traffic is re-routed. In cold weather, additional measures are needed if the water has caused icy road conditions.
- Water service is re-routed by closing nearby valves, which stops the water flow to the broken pipe section.
- Dispatch sends a main break crew to the scene and conveys the investigator's findings.
- Excavations can be tricky, depending on what is underground. Crews may even need to dig by hand around gas or electric utility lines.
- After inspecting the break, a decision is made to either install a band or to cut the pipe and replace a portion of the main.
- Once repairs are complete, the valves are opened to reload the pipe with water and fire hydrants or service lines are opened to flush out the repaired section. Once field tests for disinfection show the water quality is good, the main is returned to service. This process can take one hour or many hours depending on the size of the pipe.
- If no other issues arise, crews focus on road and/or sidewalk repairs.

Anyone observing water running from streets or sidewalks is encouraged to report the leak to customer service at 817-392-4477.

Conservation First

In 2019 saved

51 million gallons

Per capita usage

▼11%

Free toilets distributed through SmartFlush

2,783

Residential irrigation evaluations performed

476

In 2019 Fort Worth Water's conservation programs saved about 51 million gallons of water, helping accomplish our conservation goals.

On average, residents used 147 gallons of water per day last year, a decline of 19 gallons a day from 163 gallons per resident per day recorded in 2018, partially due to a wetter summer in 2019. This 11 percent drop moves the city closer to its 2024 conservation goal of 140 gallons per resident per day.

The SmartFlush program replaces low efficiency toilets with newer, higher efficiency models. In 2019, 2,783 toilets were distributed for an approximate water savings of 36 million gallons.

Weather can play a significant role in outdoor water use and making sure that residential irrigation systems are working at top efficiency helps. The Smart Irrigation Evaluation program, a partnership between Fort Worth Water and Tarrant Regional Water District, conducted 476 irrigation evaluations for residential homes in 2019.

In the SmartWater Assessment program, commercial customers participate in facility water audits to identify areas of high water use and provide suggestions to improve water efficiency. The SmartWater Assessment program contributed another 15 million gallons of water saved in 2019.

Industrial and commercial conservation practices contribute more than 2 billion gallons more in water savings through reuse practices, including plant wash down and industrial reuse.

Cleaning a Water Tank

Inside look at the Crumb Elevated water tank

Tank maintenance is crucial to a healthy water distribution system. For Fort Worth, that includes 12 elevated storage tanks, 16 ground storage reservoirs and a standpipe.

The Texas Commission on Environmental Quality requires annual tank inspections. Fort Worth goes one step further by also cleaning each tank every year.

Performing the annual cleaning and inspection requires taking individual tanks out of service and draining them completely on a scheduled basis. This normally occurs during the low-usage winter months. Prior to taking the scheduled tank out of service, operators lower the tank level to lessen the amount of water to drain.

Once drained, staff clean and pressure wash the tank interior floor and walls, inspect the protective coating for rust, corrosion or coating defects, and inspect tank hatches, ladders, manways and vents to ensure proper working condition and for compliance with TCEQ requirements.

The exterior coating is examined for rust, pitting, corrosion or coating failure. Staff check for low spots on the roof that could lead to ponding water or holes along the seams.

Staff document the cleaning and inspection activities with photos and by completing the cleaning and inspection logs, which may include recommendations for future maintenance activities.

Once the inspection is complete, the tank is disinfected and refilled. Staff sends water samples to the lab to insure the water quality is good before the tank is returned to service.

The department's oldest tanks have been in service since the 1940s.

Water Loss Prevention Activities Increasing

Reducing water loss in the distribution system conserves a vital resource. It also can reduce the purchased amounts of raw water, treatment chemicals and electricity.

Fort Worth's water loss in 2019 was 9,176,504,593 gallons. That number includes losses from main breaks and leaks, service line leaks, theft of water and meter inaccuracies.

Fort Worth recently completed a study that produced a Real Water Loss Management Plan. The plan is a 5-year road map for implementing or modifying water loss monitoring and control programs.

The recommendations with a staged implementation over the next five years include increasing leak detection activities, establishing district metered areas and increasing transient pressure monitoring.

Recently, the process for in-house leak detection changed to increase the amount of miles of water mains evaluated. The new goal is to evaluate 750 miles of pipe a year using in-house staff.

In addition, the water utility will seek proposals this summer for using an outside contractor to supplement the in-house leak detection efforts. The goal is to perform leak detection activities on an additional 750 miles of pipe in 2021.

Want to Know More About Water?

Fort Worth Water has employees who volunteer to talk at Career Day presentations as well as work events for the department, city and community. The H2O Heroes talk about a typical work day, education training requirements and what students need to focus on in studies to have a career with the water department.

If you are interested in a school or community group presentation, email: wpe@FortWorthTexas.gov

Contact Us

Water Customer Service
817-392-4477
7 a.m. — 7 p.m. Monday—Friday
24-Hour Emergencies select Option 1

Online Water Bill Payments:
www.fortworthtexas.gov/paywaterbill

Water Department Administrative Office
Fort Worth City Hall
200 Texas Street, 2nd floor
Fort Worth, TX 76102
www.FortWorthTexas.gov/water
www.SaveFortWorthWater.org

The Water Department is part of the City of Fort Worth, Texas. Council meetings are open to the public and take place three times a month, on Tuesdays, in the council chambers at City Hall. See the City Calendar for meeting dates and times.
www.fortworthtexas.gov/calendar/council

Other Resources
Environmental Protection Agency
www.epa.gov
Texas Commission on Environmental Quality
www.tceq.texas.gov
Texas Water Development Board
www.twdb.texas.gov
American Water Works Association
www.awwa.org
Drink Tap
www.drinktap.org

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