City of Dalworthington Gardens

2016 Annual Drinking Water Quality Report

(Consumer Confidence Report)

City of Dalworthington Gardens
Water Department
817.274.7368
817.275.1234 after hours
Administrative Office:
City of Dalworthington Gardens City Hall
2600 Roosevelt Dr.

The Water Department is part of the City of Dalworthington Gardens city government. The City Council meets the third Thursday of each month. The meetings are at 7p.m. Check the website online to make sure a meeting is not cancelled or rescheduled.

Frequently asked questions about this report

Why am I receiving this report?

In 1996, Congress amended the Safe Drinking Water Act to include a requirement that water utilities annually notify customers about their drinking water quality.

The law is quite specific regarding what information must be included.

This report is intended to provide you with important information about you drinking water and the efforts made by the water system to provide safe drinking water.

For more information regarding this report contact Wade Calhoun, City Administrator or Mike Watkins, Public Works Director at 817.274.7368.

Este reporte incluye inforación importante sobre el agua para tomar. Para asistencia en español, favor de llamar al telefono 817.274.7368.

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Sources of Drinking Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminates. 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 EPAs Safe Drinking Water Hotline at 800.426.4791.

Contaminants that may be present in source water include:

-***Microbial contaminants***, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

-***Inorganic contaminants***, such as salts and metals, which can be naturally occurring or result from urban 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.

In order to ensure that tap water is safe to drink, EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water system. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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.

How is this report distributed?

The direct web address of the CCR Report will be listed on the monthly bill mailed to all utility accounts, posted on the city website: www.cityofdwg.net, and posted in the lobby of City Hall at 2600 Roosevelt Dr. The lobby area is open to the public 24 hours a day, 365 days a year.

Information for immunocompromised people

The following information is not meant to alarm or scare you. It is meant to make you aware. The exact wording shown below is required by state regulations.

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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. We are responsible for providing high quality drinking water, but we 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.

Source water assessments

The TCEQ completed an assessment of your source water and results indicate that some of your sources are susceptible to certain contaminants. The requirements for your water system are based on this susceptibility and previous sample data. Any detection of these contaminants may be found in this Consumer Confidence Report. For more information on source water assessments and protection efforts at our system, contact Wade Calhoun, City Administrator or Mike Watkins, Public Works Director at 817.274.7368.

For more information about your sources of water, please refer to the Source Water Assessment Viewer available at the following URL: http://www.tceq.texas.gov/gis/swaview.

Further details about sources and source water assessments are available in Drinking Water Watch at the following URL: http://dww.tceq.texas.gov/DWW/.

Where do we get our drinking water?

Dalworthington Gardens drinking water during 2016 consisted of approximately 1% ground and 99% surface water. Dalworthington Gardens has two wells that pull **ground** water from the Trinity and Paluxy aquifer. The wells are located at 3220 Roosevelt. The City discontinued pumping ground water in January 2016. Dalworthington Gardens purchases treated **surface** water from the City of Fort Worth and the City of Arlington. The Fort Worth main comes into the Dalworthington Gardens pump station located at 3214 Arkansas Lane. The Arlington main comes into the Dalworthington Gardens system on Pleasant Ridge Drive.

The City of Fort Worth Drinking Water Quality Report is included in this report. An electronic copy is available on the City of Fort Worth website:

http://fortworthtexas.gov/water/drinking-water/report/ .

The City of Arlington Drinking Water Quality Report is included in this report. An electronic copy is available on the City of Arlington website:

http://www.arlington-tx.gov/water/consumer-confidence-report/.

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Water quality test results

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

Avg: Regulatory compliance with some MCLs are based on running annual average of monthly samples

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 have been found in our water system.

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 E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

MCL – Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG – Maximum Contaminent Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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

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

MFL: Million fibers per liter (a measure of asbestos).

na: Not applicable.

mrem: millirems per year (a measure of radiation absorbed by the body).

NTU: Nephelometric turbidity units (a measure of turbidity).

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

ppb: Micrograms per liter or parts per billion – or one once in 7,350,000 gallons of water.

ppm: Milligrams per liter or parts per million – or one ounce in 7,350 gallons of water.

ppt: Parts per trillion, or nanograms per liter (ng/L).

ppq: Parts per quadrillion, or pictograms per liter (pg/L).

Treatment Technique or TT: A required process intended to reduce the level of a contaminant in drinking water.

City of Dalworthington Gardens Regulated Contaminants Detected

Inoganic Contaminants

Year	Contaminants	Highest Level Detected	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2014	Fluoride	1.75	1.75	1.75	4	4	ppm	N	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2016	Barium	0.016	0.016	0.016	2	2	ppm	N	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
2016	Chromium	2	2	2	100	100	ppb	N	Discharge from steel and pulp mills; Erosion of natural deposits.
2014	Cyanide	46.4	46.4	46.4	200	200	ppb	N	Discharge from plastic and fertilizer factories; Discharge from steel/metal factories.
2016	Nitrate Measured as Nitrogen	1	0.0725	0.768	10	10	ppm	N	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
2016	Selenium	1.2	1.2	1.2	50	50	ppb	N	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.

Disinfection Byproducts

Year	Contaminants	Highest Level Detected	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2016	Haloacetic Acids (HAA5)	10	7.8	10.3	60	No goal for the total	ppb	N	By-product of drinking water disinfection.
2016	Trihalomethanes (TTHM)	13	6.48	16.4	80	No goal for the total	ppb	N	By-product of drinking water disinfection.

Radioactive Contaminants

Year	Contaminants	Highest Level Detected	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Violation	Source of Contaminant
2015	Beta/photon emitters	4.7	4.7	4.7	50	0	pCi/L*	N	Decay of natural and man-made deposits

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

2015	Combined Radium 226/228	1.5	1.5	1.5	5	0	pCi/L	N	Erosion on natural deposits

Lead and Copper

Year	Contaminants		The 90th Percentile	Number of Sites Over All	Action Level	MCLG	Unit of Measure	Violation	Source of Contaminant
2014	Lead		2.6	0	15	0	ppb	N	Corosion of household plumbing systems; Erosion of natural deposits.
2014	Copper		0.607	0	1.3	1.3	ppm	N	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

Violations Table			
Consumer Confidence Rule	The Consumer Confidence Rule requires community water systems to prepare and provide to their customers annual consumer confidence reports on the quaility of the water delivered by the systems.		
Violation Type	**Violation Begin**	**Violation End**	**Violation Explanation**
CCR REPORT	7/1/2016	10/21/2016	We failed to provide to you, or drinking water customers, an annual report that informs you about the quality of our drinking water and characterizes the risks from exposure to contaminants detected in our drinking water.
Due to staff turnover, the deadline for the 2015 CCR reporting was missed. The City has implemented a calendar to ensure all deadlines are met in the future.			

WATER UTILITIES
ARLINGTON
THE AMERICAN DREAM CITY

2016

ARLINGTON WATER UTILITIES

Water Quality Report

Your water, our responsibility

Arlington Water Utilities takes pride in meeting or exceeding all federal and state guidelines. The water sent to Arlington residents, businesses and visitors is treated at the state-of-the-art Pierce-Burch and the John F. Kubala Water Treatment Plants.

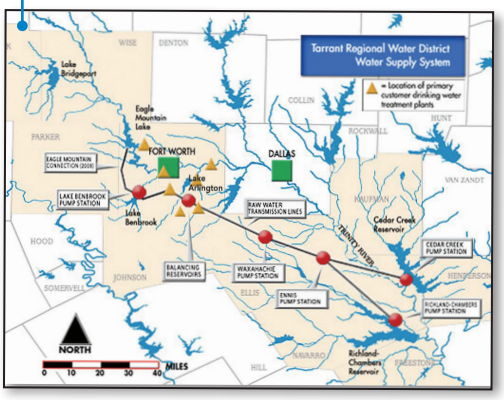
Ozone is used as the primary disinfectant. Aluminum sulfate and a cationic polymer are added to help dirt and other particles clump together and settle out during treatment. The water is then filtered through granular activated carbon beds to remove smaller particles and substances that are dissolved in the water. The water is treated with chloramine (chlorine and ammonia) as it enters the pipe system. Chloramine is a disinfectant that keeps the water safe on its way to your faucet.

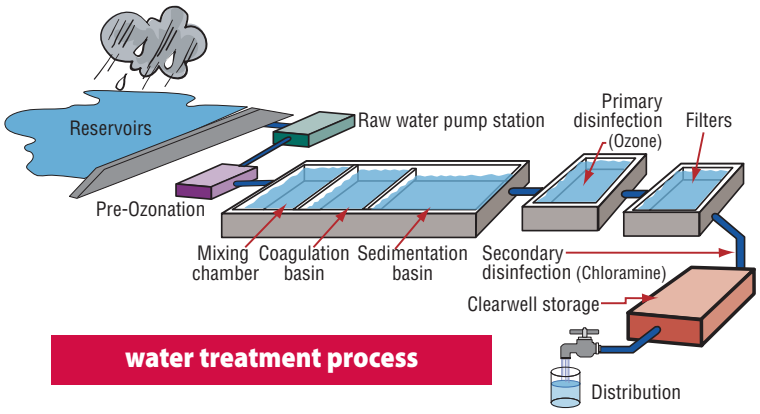
In 2015, the Arlington City Council approved an 18-month, $14 million equipment upgrade at the treatment plants. Replacing aged ozone generators and installing advanced control systems will make the plants more efficient and less costly to run.

Arlington Water Utilities tests drinking water at over 120 taps all over the city each month. In 2016, the laboratory collected about 5,000 samples and performed about 22,350 tests monitoring 144 analytes. This report contains data collected from Jan. 1, 2016 through Dec. 31, 2016, unless another time frame is noted.

Where does Arlington drinking water come from?

Arlington gets its water for treatment from the Tarrant Regional Water District. The water comes from four reservoirs - Cedar Creek, Richland-Chambers, Lake Arlington and Lake Benbrook.





water treatment process

Health information for Special Populations

You may be more vulnerable than the general population to certain microbial contaminants, such as Cryptosporidium, in drinking water. Infants, some elderly or immuno-compromised 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 health care provider. Additional guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791).

Este informe incluye información importante sobre su agua potable, si necesita ayuda para entender esta información por favor llame al 817-575-8984.

Ban bao cao nay bao gom nhung thong tin can biet ve nuoc uong. Moi chi tiet va thac mac xin lien lac 817-575-8984.

Table A. Regulated Substances.

These substances are regulated or are required to be monitored and were detected in Arlington tap water in 2016. None of the detected substances exceeded the regulated limits.

Substance	Units	Avg.	Min.	Max.	MCL	MCLG	Possible Source
Atrazine	ppb	0.10	ND	0.19	3	3	Runoff from herbicide used on row crops
Barium	ppm	0.158	0.032	0.267	2	2	Naturally present
Antimony	ppb	0.27	ND	0.27	6	6	Discharge from petroleum sources
Arsenic	ppb	0.7	ND	0.7	10	10	Naturally present & runoff from herbicides
Chromium	ppb	1	ND	1	100	100	Naturally present & industrial sources
Cyanide	ppb	8	ND	8	200	200	Discharge from metal/plastic/fertilizer factories
Bromate[3]	ppb	<5	<5	<5	10	10	Byproduct of drinking water disinfection
Chloramines[2]	ppm	3.5	3.4	3.6	MRDL=4	MRDLG=4	Water additive used to control microbes
Fluoride	ppm	0.57	0.47	0.8	4	4	Water additive promoting strong teeth
Nitrate as Nitrogen	ppm	0.765	0.21	1.940	10	10	Runoff from fertilizers
Nitrite as Nitrogen	ppm	0.055	ND	0.393	1	1	Runoff from fertilizers
Radioactive (2015)							
Radium 228	pCi/L	<1.0	<1.0	<1.0	5	NA	Decay of natural and man-made deposits
Beta/Photon Emitters	pCi/L	<4.0	<4.0	<4.0	50	NA	Decay of natural and man-made deposits
Gross Alpha Particle Activity	pCi/L	<2.0	<2.0	<2.0	15	NA	Decay of natural and man-made deposits
Simazine	ppb	0.09	ND	0.09	4	4	Runoff from herbicide used on row crops
Total Coliform[4,7]	%	NA	ND	1.00%	5%	NA	Naturally present in the environment
Total Organic Carbon (TOC)							Naturally present in the environment
PB Plant (raw)	ppm	5.5	4.7	6.4			(PB = Pierce-Burch Plant)
PB Plant (drinking)	ppm	2.9	2.6	3.3			
PB Removal ratio[5]	remov. ratio	1.3	1.1	1.6			
JK Plant (raw)	ppm	5.2	4.2	6.3			(JK = John F. Kubala Plant)
JK Plant (drinking)	ppm	2.5	1.9	2.9			
JK Removal ratio[5]	remov. ratio	1.5	1.1	1.7			
Total Trihalomethanes[2]	ppb	12.6	12.3	13.2	80	NA	By-product of drinking water chlorination
Haloacetic Acids (HAA5)[2]	ppb	7.7	6.7	9.2	60	NA	By-product of drinking water chlorination
Turbidity							
Highest single measurement % of samples < 0.3 NTU	NTU %	0.08 99.9%	0.03 99.9%	0.34 100%	TT = 1.0 TT = 95%	0 NA	Soil runoff

Substance	Units	Action Level	No. Sites > Action Level	90th %-tile	Range	Possible Source
Copper (2015)[1]	ppb	AL = 15	1	1.44	ND-46.8	Corrosion of household plumbing systems
Lead (2015)[1]	ppm	AL = 1.3	0	0.166	ND-0.49	Corrosion of household plumbing systems

[1]Instead of MCLs for lead and copper, EPA requires that 90 percent of water samples obtained from customers' taps contain less than the Action Level for each metal. Sampling is required every 3 years.

[2]Compliance is based on a calculated annual average of all samples at routine sites.

[3]Compliance is based on a calculated running annual average of the quarterly averages.

[4]Coliform bacteria are used as indicators of microbial contamination of drinking water because they are easily detected and found in the digestive tract of warm blooded animals. While not themselves disease producers, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms. Therefore their absence from water is a good indication that the water is bacteriologically safe for human consumption.

[5]Removal ratio is the percent of TOC removed by the treatment process divided by the percent of TOC required by TCEQ to be removed. Based on running annual average of ratios.

[6]Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms, including bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

[7]In 2016, Tarrant Regional Water District analyzed all raw water sources for cryptosporidium and giardia each month. One of the samples, taken during 2016 contained 0.09 oocysts of cryptosporidium and two samples contained 0.17 and 0.09 organisms per liter for giardia. Cryptosporidium is a pathogen which may be found in water contaminated by feces. Although filtration removes cryptosporidium and giardia, it cannot guarantee 100% removal.

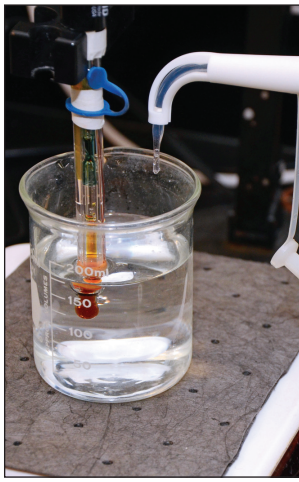


Table Definitions

Action Level (AL) The concentrati
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requirements which a water syst

< (xxx) less than the amount liste

≥ (xxx) equal to or greater than t

Maximum Contaminant Level Goa
a contaminant in drinking water
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margin of safety.

Maximum Contaminant Level (MC
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are set as close to the MCLGs as
available treatment technology.

Maximum Residual Disinfectant L
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reflect the benefits of the use of
microbial contamination.

Maximum Residual Disinfectant L
level of a disinfectant allowed in
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necessary for control of microbia

NA Not applicable

ND (Not Detected) No level of the
detected.

NE Not established

NTU (Nephelometric Turbidity Uni
measuring turbidity, a measure c
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pCi/L (picocuries per Liter) A meas
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ppb (parts per billion, ug/L) A uni
roughly equal to 1 drop in 100,0

ppm (parts per million, mg/L) A u
roughly equal to 1 drop in 100 g

TT (Treatment Technique) A requi
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Table B. Unregulated Substances.

These substances are not currently regulated by EPA . 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.

Substance	Units	Avg.	Min.	Max.	MCL	MCLG	Possible Source
Chloroform	ppb	4.3	3.6	5	Not Regulated	NE	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes.
Bromodichloromethane	ppb	3.9	3.8	4.2	Not Regulated	NE	
Chlorodibromomethane	ppb	3.6	3.3	4.2	Not Regulated	60	
Bromoform	ppb	0.7	0.4	1.3	Not Regulated	NE	
Dichloroacetic Acid	ppb	5.62	4.9	6.82	Not Regulated	NE	By-product of drinking water disinfection; not regulated individually; included in Haloacetic Acids.
Bromoacetic Acid	ppb	0.03	0	0.09	Not Regulated	NE	
Dibromoacetic Acid	ppb	0.72	0.4	1.04	Not Regulated	NE	
Chloroacetic Acid	ppb	0.61	0.14	1.34	Not Regulated	NE	
Trichloroacetic Acid	ppb	0.64	0.32	0.78	Not Regulated	300	

Other Substances of Interest

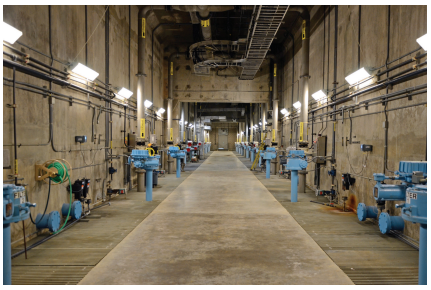
Substance	Units	Avg	Min	Max
Total:				
Alkalinity	ppm	90.9	38	119
Hardness	ppm	98.5	44	136
Hardness	grains/gal.	5.8	2.6	7.9
Calcium	ppm	30	14	46
Sodium	ppm	22.5	15.2	27.9
Magnesium	ppm	3.8	2.4	5.2
Chloride	ppm	16	6	21
pH	units	8.2	7.7	8.6

The Environmental Protection Agency (EPA) Safe Drinking Water Hotline

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some constituents. The presence of these constituents does not necessarily indicate that water poses a health risk. In order to ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain substances in water provided by public water systems.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 800-426-4791 or visiting the EPA website at www.epa.gov/safewater.

Of the 18,963,640,404 gallons of water treated by the City of Arlington in 2016, an estimated 1,711,641,201 gallons of water (9%) was lost due to a variety of reasons such as main line breaks, leaks, unauthorized consumption, etc.



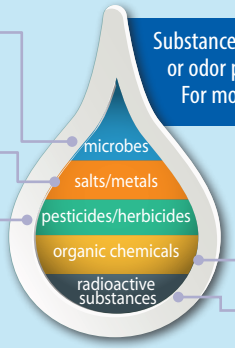
Substances Expected to be in Drinking Water

The City of Arlington and the State of Texas both analyze your drinking water. Any regulated substances that were detected during the last year are shown in Table A. As shown in the table, all are well below the established maximum contaminant levels. All water dissolves substances from the ground as it flows over and through it. Substances that may be present in raw water include such things as:

Microbes such as viruses and bacteria that come from septic systems, agricultural livestock operations and wildlife

Salts and metals that can be naturally occurring or the result of urban storm water runoff, industrial or domestic wastewater discharges or farming

Pesticides and herbicides that may come from a variety of sources such as agriculture, urban storm water runoff or residential uses



Substances may be found in drinking water that may cause taste, color, or odor problems but are not necessarily causes for health concerns. For more information, call Laboratory Services at 817-575-8984.

Organic chemical substances that include synthetic and volatile organic chemicals that are by-products of industrial processes and can also come from gas stations and urban storm water runoff

Radioactive substances that are naturally occurring

For more information:

Water Quality:.....817-575-8984

Laboratory Services water sample requests, water quality questions or water quality problems. If you have questions concerning this brochure, ask for the laboratory.

Customer Care:.....817-275-5931

Open new or transfer account, billing inquiries, water conservation, water and sewer rates.

Emergency Water, and Sewer Services (24 hours):.....817-459-5900

Service interruptions, water leaks, sewer problems

Tarrant Regional Water District (TRWD): 817-335-2491

Texas Commission on Environmental Quality (TCEQ): 512-239-1000

To participate in decisions concerning water:

Attend the Arlington City Council meetings, held on the 2nd and 4th Tuesday nights each month at 6:30 p.m. in City Hall, 101 West Abram Street.

Meeting schedule is posted online at www.arlingtontx.gov/citycouncil/meeting-schedule/
To view City Council Agenda or to watch a City Council meeting webcast, please visit www.arlingtontx.gov/citycouncil/agendas/

Visit our website at:

www.ArlingtonTX.gov/water/CCR

Arlington Water Utilities Lab Staff

What is geosmin and why is it in my water? Geosmin is a compound found in algae that live in lakes, such as Lake Arlington, which provides water for the Pierce-Burch Treatment Plant. When algae die, often during changes in temperature, geosmin is released into water. It is not harmful to humans, but unfortunately, it can cause an unpleasant taste and odor, even at very low levels. Most people will begin to notice geosmin at about 15 parts per trillion. (A part per trillion is equivalent to a drop of water dissolved in 20 Olympic-size swimming pools.) Most years, Arlington Water is able to avoid any geosmin issues by operating only the John F. Kubala Treatment Plant, which gets water from East Texas reservoirs, during winter months.

What is AMI and what does it mean for my water bill? As part of its ongoing meter replacement program, Arlington Water Utilities is installing Advanced Metering Infrastructure throughout the city. The 10-year project started in late 2013. AMI meters measure the water traveling to a home or business in the same way as traditional meters. However, the AMI system can generate more in-depth data for customers and increase department efficiency because readings are transmitted remotely. By ordinance, all meters must meet the accuracy test guidelines of the American Water Works Association. As they age, small meters used for home service may become less accurate. New meters typically measure usage more accurately and this may result in a higher billed consumption.

Should I be worried about lead in my drinking water? 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 Arlington does not have any lead service lines (pipes carrying water to your home). The most common source of lead in drinking water is solder used to join copper pipes or faucets made of brass or chrome-plated brass. Older homes (built before 1930) are more likely to have plumbing fixtures containing lead. 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 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 www.epa.gov/safewater/lead.

Want to learn more about Arlington's water? Visit us at www.arlingtontx.gov/water or follow us on Facebook (www.facebook.com/arlingtonwater) or Twitter (@arlingtonwater). You can also find useful information about efficient water use at www. SaveArlingtonWater.com.

FORT WORTH®

Drinking Water Quality Report

Year 2016 Data

City of Fort Worth
Water Department

Water Customer Service: 817-392-4477

Speakers Bureau: 817-392-8206

wpe@FortWorthTexas.gov

www.FortWorthTexas.gov/water

www.SaveFortWorthWater.org

Facebook: Fort Worth Water

Twitter: @FWWater

Administrative Office:

Fort Worth City Hall, 2nd Floor, 200 Texas St. 76102

The Water Department is part of the Fort Worth city government. City Council meetings, which are open to the public, are conducted three times a month at 7 p.m. Tuesdays in the Council Chamber at City Hall, 200 Texas St., unless otherwise posted.

On the cover

At over 100 years old, the North Holly Water Plant is the oldest treatment plant in the Fort Worth system. The facility has seen numerous upgrades and expansions. Today it can treat up to 80 million gallons a day.

The plant was named for the original steam pumps used at the facility. The pumps were manufactured by the Holly Pump Company.

It was the only treatment plant in the system until 1953 when the South Holly plant was completed and put into service.

Fort Worth now has five drinking water plants with a combined capacity of 497 million gallons per day.

Lakes are our source for drinking water

Fort Worth uses surface water from Lake Worth, Eagle Mountain Lake, Lake Bridgeport, Richland Chambers Reservoir, Cedar Creek Lake, 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.

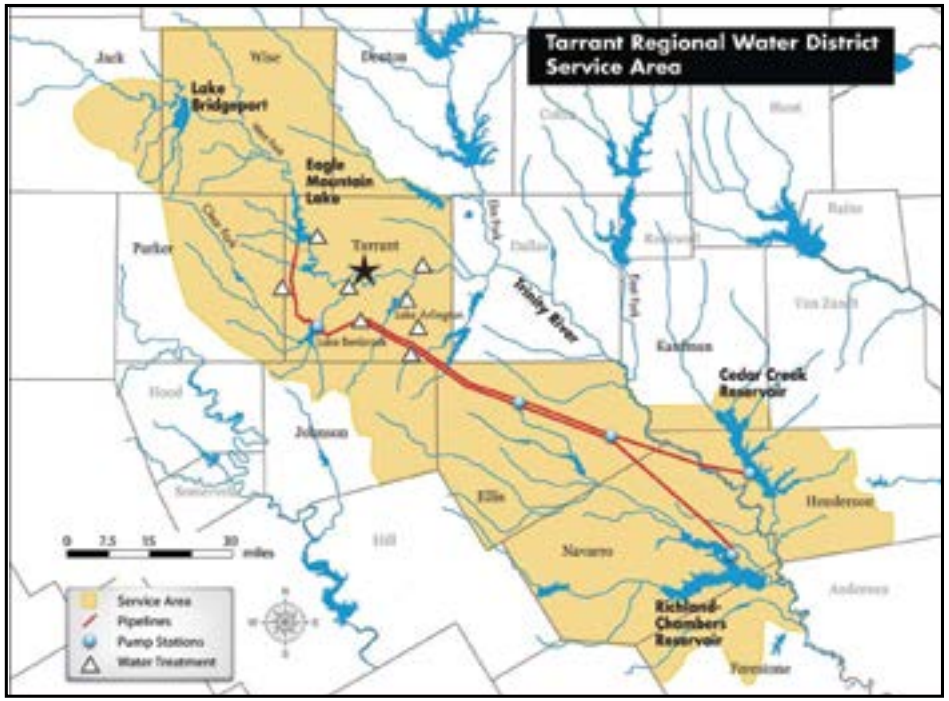
As water travels over the land or through the ground, it dissolves naturally occurring minerals and radioactive material. Water also can pick up substances resulting from animal waste or human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate the water poses a health risk.

Contaminants that may be in source water before treatment include microbes, inorganic contaminants, pesticides, herbicides, radioactive materials and organic chemical contaminants.

In addition, contaminants found in drinking water may cause taste, color or odor problems. These types of problems are not necessarily cause for health concerns. For more information on taste, odor or color of drinking water, please contact us at 817-392-4477 or wpe@fortworthtexas.gov.

To ensure tap water is safe to drink, the U.S. Environmental Protection Agency and the Texas Commission on Environmental Quality regulate the amount of certain contaminants in water provided by public systems.



Tarrant Regional Water District supplies Fort Worth with raw water.

Raw water quality monitored regularly

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

The 2016 sampling detected in some of our raw water sources *Cryptosporidium*, *Giardia Lamblia* and viruses.

Cryptosporidium and *Giardia Lamblia* monitoring is done monthly. Virus monitoring is performed four times a year in January, March, July and September.

Treatment processes are designed to kill or remove these contaminants. Viruses are treated through disinfection processes. *Cryptosporidium* and *Giardia Lamblia* are removed through disinfection and filtration.

TCEQ assesses risks to raw water supplies

The Texas Commission on Environmental Quality assessed the lakes and rivers that are the sources of Fort Worth's drinking water. TCEQ classified the risk to our source water as high for most contaminants.

High susceptibility means there are activities near the source water and/or watersheds that make it very likely that chemical constituents 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 raw 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 or Stacy.Walters@FortWorthTexas.gov.

More information about the source-water assessments is available online www.tceq.texas.gov/drinkingwater/SWAP/index_swa.html.

Information for people with weak immune systems

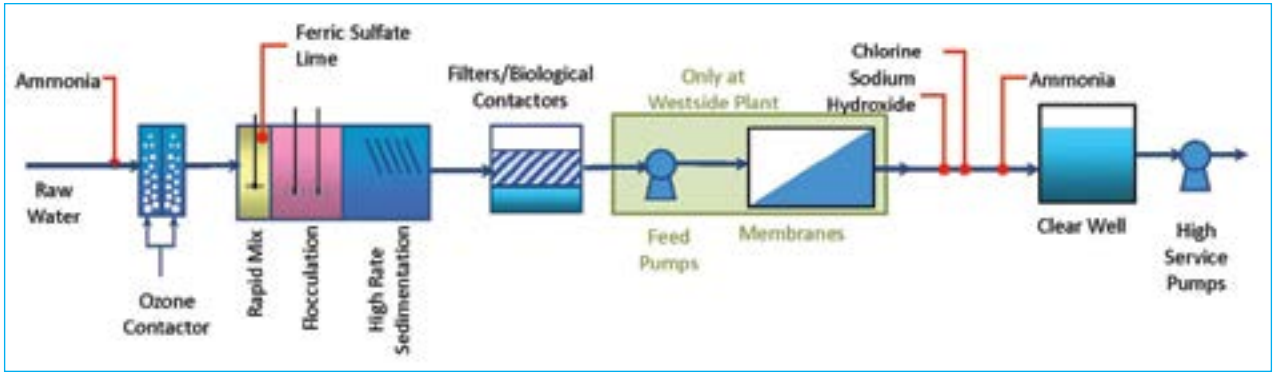
The exact wording shown below is required by state regulations. The information is not meant to alarm or scare you. It is meant to make you aware.

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 Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Intake location	*Giardia Lamblia*	*Cryptosporidium*	Adenovirus	Enterovirsus	Astrovirus	Rotavirus
Richland-Chambers Reservoir	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
Cedar Creek Lake	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
Lake Benbrook	August	Not detected	January	Not detected	Not detected	Not detected
Eagle Mountain Lake	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
Lake Worth	June	Not detected	January & September	Not detected	Not detected	Not detected
Clearfork of Trinity River	May, June, August, September, November	June & August	January & March	Not detected	Not detected	Not detected



Water treatment process protects public health

A multi-barrier approach is used in treating drinking water. The treatment process may vary between utilities based on source water quality.

In Fort Worth, the process starts with adding ozone to kill bacteria and viruses. Adding ammonia prior to ozonation decreases bromate formation. Bromate is a regulated contaminate formed when ozone combines with bromide in the source water, which can be a health concern.

Chemicals, called coagulants and polymers, are added to the water to cause small particles to adhere to each other, forming clumps. This process is called flocculation.

In the sedimentation basins, the particles, called floc, settle to the bottom of the basin and are removed. A small amount of fluoride is added to the amount naturally present for dental health.

Water is filtered through four feet of biologically active charcoal filters. At the Westside Water Treatment Plant, the water then passes through membrane filters, too.

Monochloramine is added to provide disinfection all the way to your faucet. The chlorine kills bacteria and viruses. Ammonia is added to increase how long the chlorine lasts, reduce the chlorine odor and reduce the amount of chlorine byproducts created, another health concern.

Water is stored at the plants in clear wells, before it is pumped to the public.

Fort Worth water is on social media

Follow us on twitter **@fwwater**

Like us on **Facebook** **Fort Worth Water**

Please help us improve by taking our brief survey

This is the 20th year for Fort Worth's annual water quality report. It is a state and federal requirement for water utilities to produce and distribute a water quality report every year.

While much of the information is required and some of the language is mandatory, Fort Worth has always tried to add other important information. The water department adds content to let customers know what it is doing to protect public health and the environment and be a good steward of resources.

We created a very short online survey to get your feedback. Please use the link below to take the survey.

www.surveymonkey.com/r/fwwqr2017

Only Tap Water **Delivers**

...public health protection
...fire protection
...support for the economy
...the overall quality of life we enjoy

American Water Works Association

Managing system water loss

Water loss control represents the efforts of water utilities to provide accountability in their operation by reliably auditing their water supplies and implementing controls to minimize system losses.

Water loss control programs can potentially defer, reduce or eliminate the need for a facility to expend resources on costly repairs, upgrades or expansions.

Many variables influence water loss, including meter inaccuracy, data discrepancies, reported breaks and leaks and unauthorized consumption (theft of water).

The utility's leak detection efforts are aimed at finding and repairing leaks before they turn onto main breaks.

In the water loss audit submitted to the Texas Water Development Board for calendar year 2016, the Fort Worth system lost an estimated 11,319,034,533 gallons of water from the almost 67 billion gallons of water purchased. Fort Worth has an Infrastructure Leakage Index of 7.09, which means, theoretically, the leakage could be reduced seven times before reaching the lowest possible value.

Fort Worth's Water Conservation Plan addresses water loss and has goals for lowering this over time. Customers are encouraged to report visual leakage by calling 817-392-4477.

If you have any questions about the water loss audit, please contact Water Conservation Manager Micah Reed at 817-392-8211 or Micah.Reed@FortWorthTexas.gov.

Drinking Water Quality Test Results

The tables list only those contaminants detected in Fort Worth's water. For a complete list of what is tested for in drinking water, visit www.epa.gov/dwstandardsregulations.

Contaminant	Measure	MCL	2016 Highest single result	Lowest monthly % of samples ≤ 0.3 NTU	MCLG	Common Sources of Substance
Turbidity	NTU	TT	0.36	99.7%	N/A	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.)

Contaminant	Measure	MCL	2016 Level	Range	MCLG	Common Sources of Substance
Total Coliforms (including fecal coliform & E. coli)	% positive samples	Presence in 5% or less of monthly samples	Presence in 2.3% of monthly samples	0.4 to 2.3%	0	Coliforms are naturally present in the environment as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.

Contaminant	Measure	MCL	2016 Level	Range	MCLG	Common Sources of Substance
Alpha particles[1]	pCi/L	15	2	2 to 2	N/A	Erosion of natural deposits of certain minerals that are radioactive and may emit forms of radiation known as alpha radiation
Beta particles & photon emitters[1]	pCi/L	50	5.6	4 to 5.6	N/A	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Arsenic	ppb	10	1.40	0 to 1.40	0	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	ppm	2	0.06	0.05 to 0.06	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chromium (Total)	ppb	100	0.73	0 to 0.73	100	Discharge from steel and pulp mills, erosion of natural deposits
Cyanide	ppb	200	80.3	0 to 80.3	200	Discharge from plastic and fertilizer factories; discharge from steel and metal factories
Fluoride	ppm	4	0.50	0.23 to 0.50	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.66	0.26 to 0.66	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (measured as Nitrogen)	ppm	1	0.03	0.01 to 0.03	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	5.50	0 to 10.4	0	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	8.35	0 to 15.9	N/A	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	17.5	2.19 to 25	N/A	By-product of drinking water disinfection

[1] *Because of historically low levels of radionuclides in its water, TCEQ has Fort Worth on a reduced monitoring schedule. The test results shown are from 2013 and 2014.*

Contaminant	Measure	MRDL	2016 Level	Range	MCLG	Common Sources of Substance
Chloramines	ppm	4	4.40	0.63-4.40	4	Water additive used to control microbes

Contaminant	High	Low	Averafge	MCL	MCLG	Common Sources of Substance
Total Organic Carbon	1	1	1	TT= % removal	N/A	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.

Unregulated Contaminants

[4] 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.

Contaminant	Measure	Range of Detects	2016 Level	MCL	MCLG	Common Sources of Substance
Chloral Hydrate	ppb	0 to 0.93	0.55	Not regulated	None	By-product of drinking water disinfection
Bromoform	ppb	0 to 4.16	4.16	Not regulated	None	By-products of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Bromodichloromethane	ppb	0 to 7.26	7.26	Not regulated	None	
Chloroform	ppb	0 to 13	13.0	Not regulated	None	
Dibromochloromethane	ppb	0 to 10.2	10.2	Not regulated	None	
Monochloroacetic Acid	ppb	0 to 3.0	3.0	Not regulated	None	By-products of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Dichloroacetic Acid	ppb	2.3 to 11.8	11.8	Not regulated	None	
Trichloroacetic Acid	ppb	0 to 1.5	1.5	Not regulated	None	
Monobromoacetic Acid	ppb	0 to 2.2	2.2	Not regulated	None	
Dibromoacetic Acid	ppb	0 to 5.1	5.1	Not regulated	None	

Secondary Constituents

These items do not relate to public health but rather to the aesthetic qualities of water. These items are often important to industries.

Item	Measure	2016 Range
Bicarbonate	ppm	112 to 145
Calcium	ppm	41.1 to 58
Chloride	ppm	15.8 to 20.2
Conductivity	µmhos/cm	322 to 396
pH	units	8.1 to 8.4
Magnesium	ppm	4.63 to 5.86
Sodium	ppm	15.1 to 17.8
Sulfate	ppm	15.8 to 29.9
Total Alkalinity as $CaCO_3$	ppm	112 to 145
Total Dissolved Solids	ppm	180 to 227
Total Hardness as $CaCO_3$	ppm	126 to 164
Total Hardness in Grains	grains/gallon	7 to 10

Abbreviations used in tables

MCL: Maximum Contaminant Level – the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG: Maximum Contaminant Level Goal – the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

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

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

NTU – Nephelometric Turbidity Unit; a measure of water turbidity or clarity

pCi/L – Picocuries per liter; a measure of radioactivity

ppb – Parts per billion or micrograms per liter (µg/L)

ppm – Parts per million or milligrams per liter (mg/L)

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

Other explanations

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.

Level 1 Assessment conducted

Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct an assessment to identify problems and to correct any problems that were found during these assessments.

During the past year we were required to conduct one Level 1 assessment. One was completed. There was not a required corrective action, but the assessment revealed the need for a convenience store to install a backflow prevention device, which was done.

What you should know about lead in drinking water

If present, elevated lead levels can cause serious health problems, especially for pregnant women and young children. Fort Worth's drinking water does not contain lead when it leaves the treatment plant.

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.

Contaminant	Year of testing	Measure	90th percentile	# of sites exceeding action level	Action Level	Common Sources of Substance
Lead	2016	ppb	3.2	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Copper	2016	ppm	0.6	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% 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.

When your water has been sitting for several hours, you can minimize the potential for lead exposure by running or flushing your tap for 30 seconds to two minutes before using the tap water for drinking or cooking.

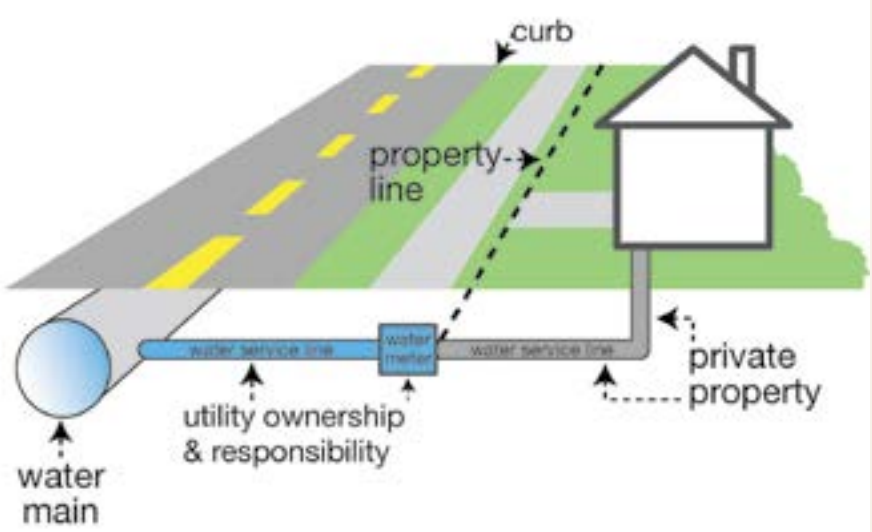
If you are concerned about lead in your water, the Fort Worth Water Department Laboratory offers testing to our customers. The cost is $15 per sample. Call 817-392-4477 to make the arrangements.

Information on lead in drinking water, testing methods and steps you can take to minimize your exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at www.epa.gov/safewater/lead.

Fort Worth has been on reduced monitoring for lead and copper, meaning we sample 50 homes every three years. In 2009, we were asked by the regulatory agency to add one apartment complex, one day care and one school to the sampling.

Compliance sampling was performed in 2016 and will be conducted again in 2019.

Eliminating lead plumbing is a shared responsibility



EPA defines the service line as from the main to the point it enters the home. There is a shared ownership.

The utility owns the portion from the main to the meter, including the meter.

The property owner is responsible for the line exiting the meter and all plumbing and fixtures inside the home.

Fort Worth working to eliminate city-owned lead service lines

The Fort Worth Water Department's goal is to eliminate all city-owned lead service lines, but it will take many years to achieve.

In April 2016, the water department began obtaining GPS coordinates for every water meter and recording the service line material on both sides of the meter.

About one-third of the meters have been checked so far. The water department is systematically using billing cycles and routes to ensure every meter is touched.

The priority is to complete the meters within Loop 820 first because these older areas are where lead service lines are more likely to be found. Homes built after 1988 would not have lead service lines. As of May 16, about 26 percent of the meters in the entire city and 35 percent inside Loop 820 have been checked.

So far 435 lead service lines have been found on the city side of the meter and eight on the customer side. Lead has not been found in any location on both sides of the meter.

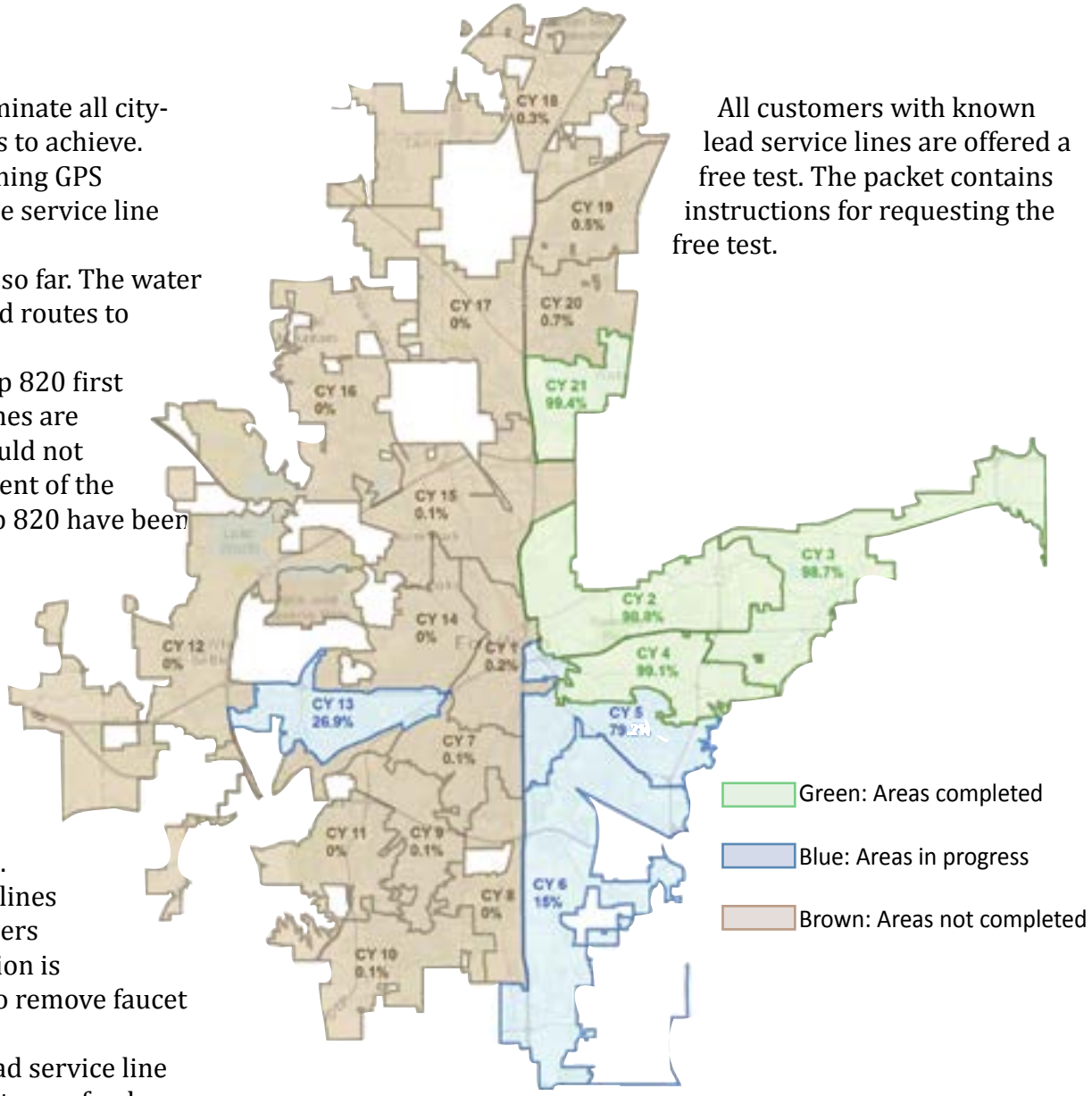
Property owners and tenants, where applicable, are being notified by letter when a lead service line is found.

The Water Department is striving to have 50 percent of the meters inventoried by Sept. 30, 2017.

In addition, field crews are replacing lead service lines found in the course of maintenance work. If customers are home, contact is made and a packet of information is provided. The crew also works with the customer to remove faucet aerators and run the taps for a few minutes.

If the customer is not home, information that a lead service line was replaced is left along with instructions on how to run fresh water through their taps.

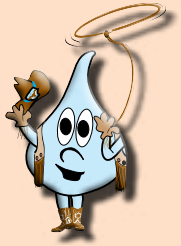
All customers with known lead service lines are offered a free test. The packet contains instructions for requesting the free test.



Learn more at: www.FortWorthTexas.gov/water/lead

Other resources

Learn more about water by visiting the following websites. Many of these sites offer resources for teachers and children.



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
www.drinktap.org

Water Environment Federation
www.wef.org

National Sanitation Foundation
www.nsf.org

Texas Water Conservation Association
www.twca.org

Beware of scams: How to identify Fort Worth water employees

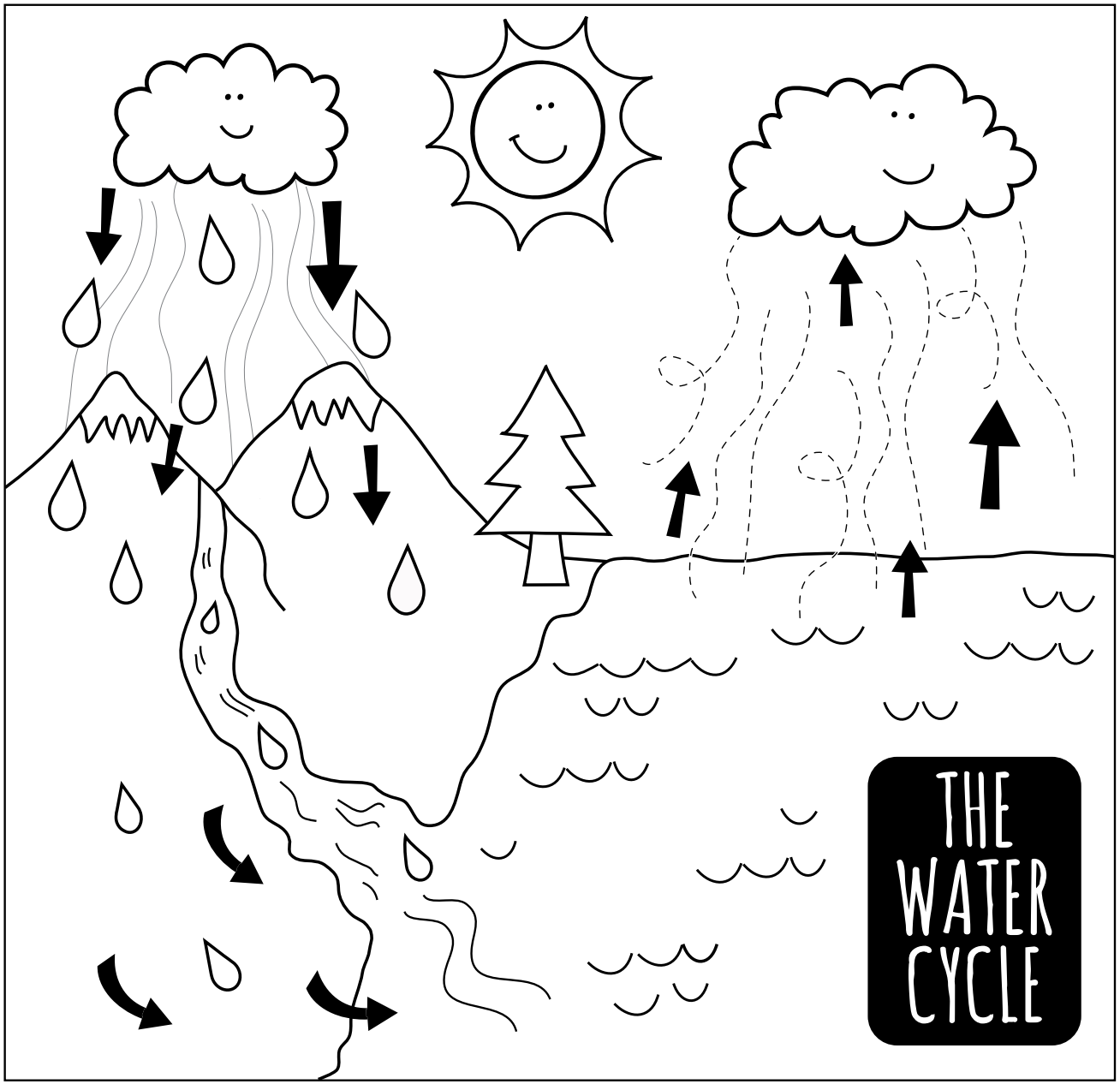
Unfortunately, there are people who pose as utility employees to gain access to your home. These imposters are usually checking to see if someone is home or studying the home for valuables to steal at a later date.

Here are things you need to know to protect yourself from imposters.

- A water department employee rarely needs to enter your home. Usually we only show up in response to a customer request. If you filed a water quality complaint, water samples are taken from an outside faucet.
- Water department employees never collect money in the field. Payments can be made online, by phone or in person at an approved payment location. Employees do not take your credit card information over the phone. You must use the automated system (817-392-4477) and enter your credit card or bank account information yourself.
- Ask for identification. All Fort Worth employees have badges with their photo, city logo and ID number. Additionally, most field staff wear uniforms with the city logo.

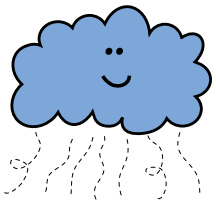
- Look for a vehicle with the city logo and department name. There is also a vehicle ID number on the rear of the vehicle. Usually you will see one on the street when employees are in the area.
- Call the police immediately if you think the person is an imposter. Then tell your neighbors and family.
- Call the water department at 817-392-4477 to report any concerns.

Use this coloring sheet to teach a child in your life about water.



DRINKING WATER WEEK

Water Vapor

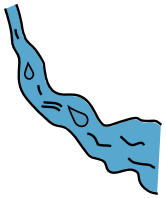


Water vapor is invisible in the air

Water Ice

Water freezes into ice and snow on mountains

Water Liquid



Water liquid can be found in rivers, oceans, and lakes

American Water Works Association

Water tanks are for more than storage

Water tanks come in varying shapes and sizes. There are elevated storage tanks and ground storage tanks. Some are made from steel and others from reinforced concrete. Some are made from both materials.

Water tanks have multiple purposes. The obvious purpose is to store water. Customers do not use water at the same rate throughout the day.

Water use goes up in the early morning hours when irrigation systems are running. It is also higher when people are getting ready for work or school.

Water use generally slows down around 9 a.m. It picks up again in the evening when people get home and are preparing meals, doing laundry and showering or bathing. Use falls off again around 9 p.m.

Another reason for storing water is to make sure it is available if a fire breaks out.

Tanks are also used to maintain and stabilize pressure in the water system. Elevated tanks always fill this role, but ground storage tanks sometimes can work like an elevated tank when it comes to maintaining pressure.

As an example, Fort Worth's Westland tank on the west side of the city is located on a high piece of ground. By being on ground higher than the homes and businesses served, the ground tank maintains system pressure to keep water flowing.

Tanks keep the water system pressurized and able to meet demands when main breaks occur.

The Fort Worth water system has 28 tanks with a total storage capacity of 93,463,000 gallons. That is just slightly more than half the average amount of water pumped in a day in 2016.

Twelve elevated tanks range in size from 500,000 to 2.2 million gallons. The 16 ground storage tanks range from 63,000 gallons to 5 million gallons.

Every tank is emptied, cleaned and inspected annually. That inspection determines when tanks need to be taken out of service for a few months for repairs and repainting. Ideally, this is done in the winter when water use is at its lowest.

Speakers Available

We welcome the opportunity to speak to neighborhood groups and civic organizations about our utility's services.

wpe@fortworthtexas.gov
817-392-8206