TOWN OF VIENNA

2017 ANNUAL WATER QUALITY REPORT

SUMMARIZING 2016 DRINKING WATER QUALITY TEST RESULTS

DEPARTMENT OF PUBLIC WORKS
127 CENTER STREET SOUTH
VIENNA, VIRGINIA 22180

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This **2017 Water Quality Report** is available online at **viennava.gov/Archive.aspx?AMID=47**

Town of Vienna PWSID#: 6059800

TOWN OF VIENNA CONTACT INFORMATION

Department of Public Works…….. 703-255-6380

Water and Sewer Department…… 703-319-8610

Vienna Non-Emergency Police……..… 703-255-6366

Water and Sewer Customer Service…….. 703-255-6385

Additional Contacts:

Virginia Office of Drinking Water
Culpeper Field Office……...….. 540-829-7340

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

EPA Region III
Drinking Water Branch……..…….. 215-814-2321

Vienna Town Green

IMPORTANT HEALTH INFORMATION

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Environmental Protection Agency / Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791.

This report contains important information about your drinking water. If you cannot read English, please have someone who understands this report translate it for you. For more information, contact Town of Vienna Water Quality Engineer Christine Horner by phone at 703-319-8630 or by email at christine.horner@viennava.gov.

El informe contiene información importante sobre la calidad del agua en su comunidad. Tradúzcalo o hable con alguien que lo entienda bien.

Newly restored Hunter's Branch in the Town of Vienna

YOUR DRINKING WATER QUALITY

In the following report you will find an overview of required and voluntary water testing programs undertaken by the Town of Vienna in order to protect and ensure the quality of our drinking water system. The data presented in this report has been collected in 2016 unless otherwise stated in the data tables.

As water travels over the surface of land or through the ground, it dissolves naturally occurring minerals and can pick up substances resulting from the presence of animals or human activity. Substances (referred to as contaminants) in source water may come from septic systems, discharges from domestic or industrial wastewater treatment facilities, agricultural and farming activities, urban storm water runoff, residential uses, and many other types of activities. Water from surface sources is treated to make it drinkable. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water.

More information can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 1-800-426-4791.

MESSAGE FROM THE TOWN MANAGER

This is the Town of Vienna's annual report to inform you about your drinking water quality. As part of the Safe Drinking Water Act of 1996, the U.S. Environmental Protection Agency (EPA) requires all water utilities across the nation to provide their customers with a Water Quality Report by July 1 every year. Our goal is to provide you with a safe and dependable supply of drinking water, and we want you to understand our efforts to protect your water supply.

The quality of your drinking water must meet state and federal requirements administered by the Virginia Department of Health and the EPA. We routinely monitor the water supply for various contaminants to ensure that we meet all regulatory requirements. The tables in this report list only those contaminants for which there was some level of detection. Vienna's water was analyzed for many other contaminants, but either they were not present or were below detection limits of the laboratory equipment. Water quality data is primarily from testing done in 2016; however, the Environmental Protection Agency allows us to monitor for some contaminants less than once a year because concentration of these contaminants changes infrequently.

Is your water safe to drink? Absolutely! We're proud to share our water quality test results with you. For further information, please call the contact number listed on page 1.

Sincerely,

Mercury Payton
Town Manager

GET INVOLVED – PUBLIC MEETINGS

Decisions concerning Vienna's water are made by Town Council. Regular Council meetings are normally held the first and third Monday of the month (except July and August) at 8 p.m. in Council Chambers at Town Hall.

The Town's meeting and event calendar is available for review at **viennava.gov/calendar.aspx.**

WHAT'S IN THE WATER?

Contaminants that may be in source water include:

Microbial Contaminants (Viruses and Bacteria)	Inorganic Contaminants (Salts and Metals)	Pesticides and Herbicides	Organic Chemical Contaminants	Radioactive Contaminants
•Sewage Treatment Plants •Septic Systems •Agricultural Livestock Operations •Wildlife	•Urban Stormwater Runoff •Industrial Wastewater Discharges •Oil and Gas Production •Mining or Farming	•Agriculture •Urban Stormwater Runoff •Residential Uses	•Industrial Processes and Petroleum Production •Gas Stations •Urban Stormwater Runoff •Septic Systems	•Oil and Gas •Mining Activities

The water treatment process removes contaminants, making the Town of Vienna's water safe to drink!

PROTECT YOUR SEWER PIPES!

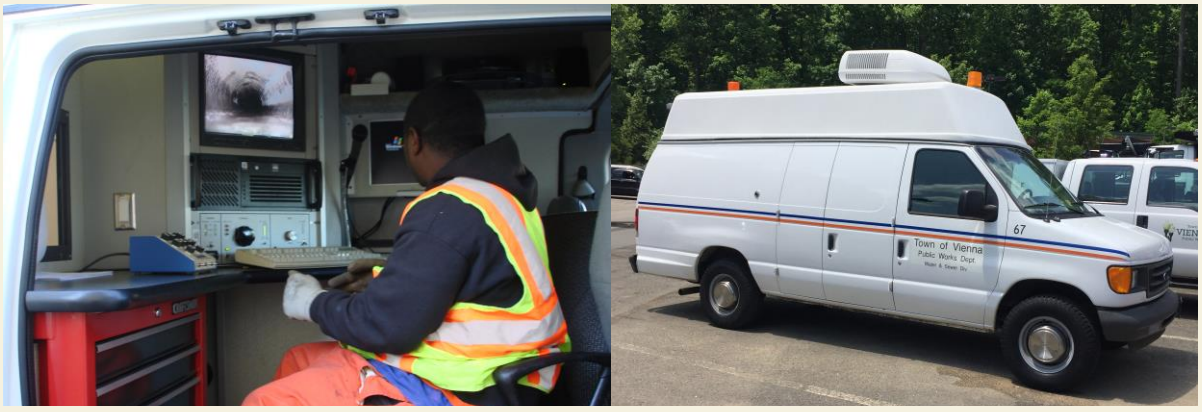
Fats, oils and grease, known collectively as FOG, represent a serious enemy to sewer lines in the Town of Vienna's sewage removal system. When not disposed of properly, FOG can build up and prevent the flow of water and eventually block pipes completely. These blockages often cause unsanitary conditions and expensive repairs to both public and private property. Sanitary sewer overflows can also pollute our streams, the Potomac River, and Chesapeake Bay.

Follow the **3 C's of sink safety** to protect your pipes:

1) **Cool**: Let grease cool and solidify in your cooking pot/pan.
2) **Contain**: Scrape FOG and excess food scraps into a secure, sealable container like a peanut butter jar. Before washing, wipe down pots and pans with a paper towel.
3) **Can/Compost**: Throw a full container of FOG and your paper towels into a trashcan. If possible in your home, start composting food and vegetable scraps (don't compost grease).

Examples of FOG include:

- Frying oil
- Salad oil
- Meat drippings
- Bacon fat
- Greasy leftovers
- Shortening or lard



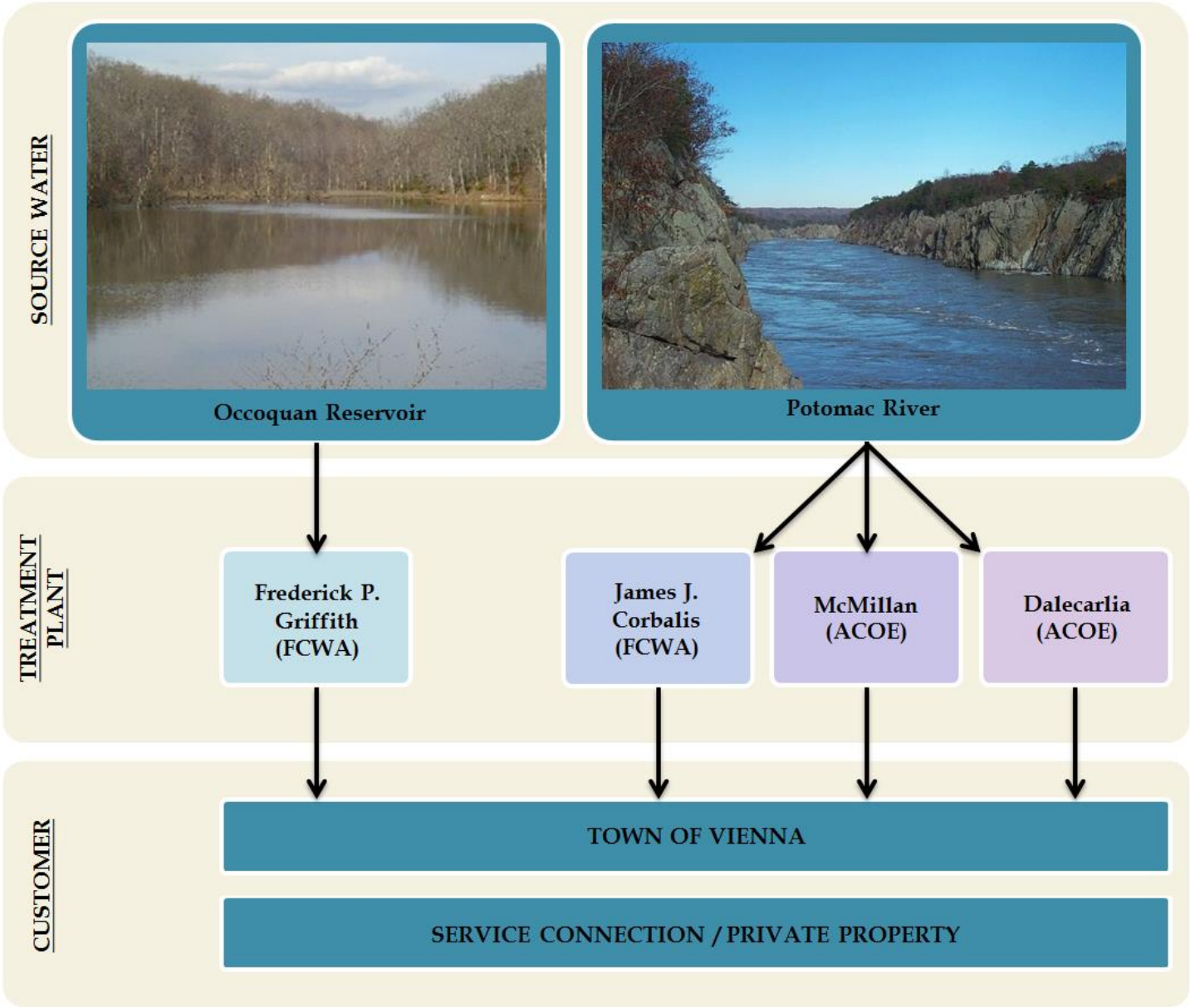
CCTV equipment is used by the Town of Vienna to inspect sewer pipes for FOG build up.

DRINKING WATER SOURCE

For the calendar year 2016, the Town of Vienna was supplied with treated surface water from the Potomac River and Occoquan Reservoir. This water is supplied by Fairfax County Water Authority (FCWA) and the Army Corp of Engineers (ACOE) at the Washington Aqueduct. The water is treated at the James J. Corbalis Jr. and Frederick P. Griffith plants operated by FCWA and the McMillan and Dalecarlia treatment plant operated by ACOE. Water goes through several treatment processes, including coagulation, flocculation, chlorination, sedimentation, and filtration. A corrosion inhibitor is added to help prevent leaching of lead and copper that might be present in household plumbing. Fluoride also is added to protect health. The treated water must meet state and federal requirements administered by the Virginia Department of Health (VDH).

Source water assessments of Vienna's water sources determined that they may be vulnerable to contamination from agricultural activities, residential development, and industry. However, extensive treatment, provided by Fairfax Water and the Army Corps of Engineers, protects the water quality from contamination. As mentioned elsewhere in this report, the Town of Vienna's water quality continues to meet all federal and state requirements.

Water sample collection containers used by the Town of Vienna.



GET INVOLVED – PROTECT YOUR SOURCE

A watershed is an area of land that drains to a particular point along a stream of river. The best way to protect the Potomac River from contamination is to help protect the watershed. Here are several ways to help protect your drinking water supply:

- Prevent trash and debris from entering storm drains and catch basins. To report a clogged drain or basin, call 703-255-6380.
- Dispose of household waste, grease, and motor oil properly.
- Report spills that could potentially enter waterways by calling 703-255-6380. After regular business hours, call the Vienna Police non-emergency number at 703-255-6366.
- Do not flush pharmaceuticals down the toilet or drain. Find a drug take-back location or properly dispose of medication in the garbage.
- Always apply fertilizer, herbicides, and pesticides to your lawn in moderation.
- For more information on stormwater management within the Town, please visit **viennava.gov/index.aspx?nid=788**.

WHY IS CHLORINE USED FOR DISINFECTION?

Most of the year, the Town uses chloramine (chlorine + ammonia) for drinking water disinfection. For a short period each year, disinfection switches from chloramine to chlorine. This change is standard practice and is part of an annual program to clean water pipes and maintain water quality throughout the year. Public water systems use chlorine and chloramine to kill harmful bacteria and viruses that can make people sick. The level of chlorine used is safe for consumption, but you can reduce the chlorine smell and taste by placing an open pitcher of water in the fridge.

Town of Vienna storm drain marker on Church Street

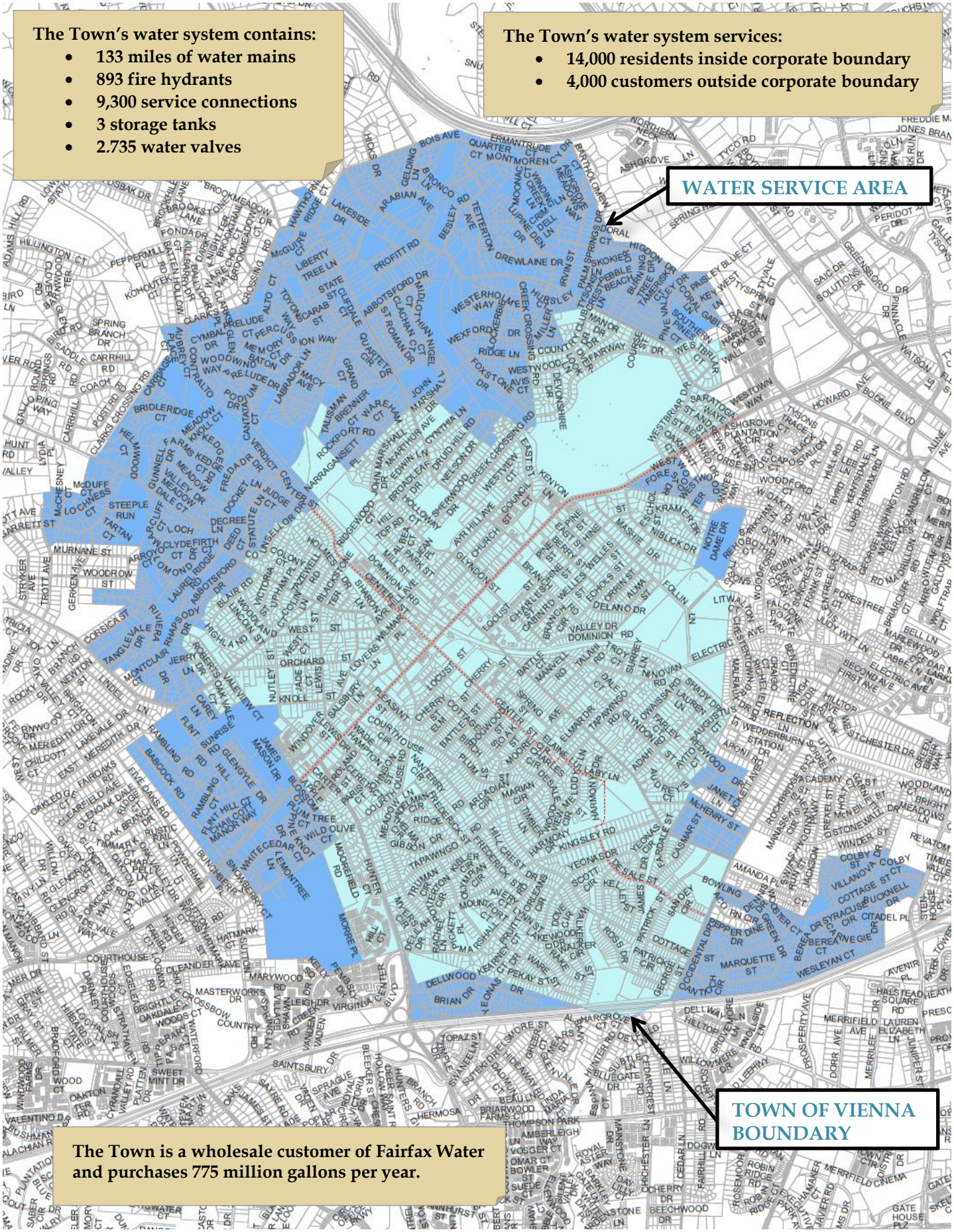
TOWN OF VIENNA WATER SERVICE AREA

The Town's water system contains:

- 133 miles of water mains
- 893 fire hydrants
- 9,300 service connections
- 3 storage tanks
- 2.735 water valves

The Town's water system services:

- 14,000 residents inside corporate boundary
- 4,000 customers outside corporate boundary



The Town is a wholesale customer of Fairfax Water and purchases 775 million gallons per year.

HOW TO READ ANALYSIS DATA

Town of Vienna water is tested to assure that it is safe and healthy. Contaminants in the drinking water are routinely monitored according to federal and state regulations. The tables contained in this report show the most recent results of our monitoring. "Major Source in Drinking Water" shows where this substance usually originates. The following definitions are provided to help you better understand terms and abbreviations.

Non-detects (ND) – *Laboratory analysis indicates that contaminant is not present.*

Parts per million (ppm) – *One part per million corresponds to one minute in two years or a single penny in $10,000.*

Parts per billion (ppb) – *One part per billion corresponds to half a teaspoon of water in an Olympic-sized swimming pool, one minute in 2,000 years, or one penny in $10 million.*

Picocuries per liter (pCi/L) – *A measure of radioactivity in water.*

Nephelometric Turbidity Unit (NTU) – *A measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the average person. Turbidity is monitored because it is a good indicator of the effectiveness of filtration systems.*

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

Treatment Technique (TT) – *A required process intended to reduce the level of a contaminant in drinking water.*

Maximum Contaminant Level (MCL) – *The highest level of a contaminant that is allowed in drinking water. MCLs are set at very stringent levels by the U.S. Environmental Protection Agency. In developing standards, EPA assumes that the average adult drinks two liters of water each day throughout a 70-year life span. EPA generally sets MCLs at levels that will result in no adverse health effects for some contaminants or a one-in-ten-thousand to one-in-one million chance of having the described health effect for other contaminants.*

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. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.*

Maximum Residual Disinfectant Level (MRDL) – *The maximum level of total chlorine allowable by regulation.*

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 use of disinfectants to control microbial contaminants.*

Level 1 Assessment - *A Level 1 Assessment is a study of the waterworks to identify potential problems and determine, if possible, why total coliform bacteria have been found in our waterworks.*

Level 2 Assessment - *A Level 2 Assessment is a very detailed study of*

Drinking water fountain along
Washington and Old Dominion Trail

GET INVOLVED – REDUCING EXPOSURE TO LEAD IN 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 Town of Vienna is responsible for providing high-quality drinking water, but cannot control the variety of materials used in private 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 (1-800-426-4791) or at **http://www.epa.gov/safewater/lead**.

The Town's drinking water does not have the same contamination risk as seen in Flint. To prevent lead from leaching into drinking water, a phosphate based corrosion inhibitor is added and water pH is adjusted by Fairfax Water. The Town's water distribution system does not contain lead pipes, and there are no identified lead service connections. As part of EPA-mandated lead testing, water is periodically tested from 30 houses constructed prior to 1986 in the Vienna water service area. These samples have consistently tested below the 0.015 parts per million lead action level as outlined by EPA's Lead and Copper Rule and therefore the Town is only required to test every three years. The next round of sampling is scheduled for 2019.

FAIRFAX WATER - FINISHED WATER CHARACTERISTICS

				Corbalis Water Treatment Plant			Griffith Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average**	**Minimum**	**Maximum**	**Average**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Alpha Emitters[2]	pCi/L	0	15	2.02	ND	3.01	---	---	---	Decay of natural and man-made deposits
Beta/photon emitters[1, 2]	pCi/L	0	50	3.09	ND	5.99	3.71	3.71	3.71	Decay of natural and man-made deposits
Barium	ppm	2	2	0.038	0.027	0.049	0.027	ND	0.037	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Fluoride	ppm	4	4	0.7	0.7	0.8	0.7	0.6	0.8	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	ppm	10	10	0.93	0.48	1.62	1.24	0.68	2.51	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion and natural deposits
Nitrite (as Nitrogen)	ppm	1	1	ND[4]	ND	0.02	ND[4]	ND	0.01	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Radium 226[2]	pCi/L[2]	0	5	0.182	ND	0.282	0.691	0.691	0.691	Decay of natural and man-made deposits
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)[3]**	**Highest Quarterly Running Annual Average[4]**		**Range of results for individual sites**	**Highest Quarterly Running Annual Average[4]**		**Range of results for individual sites**	
Bromate	ppb	0	10	0.5		ND - 6	0.4		ND - 5	By-product of drinking water disinfection

[1] The MCL for the Beta particles is written as 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for Beta particles.
[2] Corbalis 2014, pCi/L = picocuries per liter
[3] The MCL is based on the result of the Highest Quarterly Running Annual Average of all monitored sites.
[4] This result is a mathematical average and is below the detection level for any individual sample result. Nitrite (as Nitrogen) calculated numerical values are as follows:
Corbalis Water Treatment Plan: 0.006 mg/L, Griffith Water Treatment Plan: 0.003 mg/L
ND = Non detect, below detection level

FAIRFAX WATER - TESTING OF PROCESS WATER

				Corbalis Water Treatment Plant			Griffith Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Quarterly Average[6]**	**Minimum**	**Maximum**	**Quarterly Average[6]**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Total Organic Carbon	ratio	N/A	TT[5]	1.3	0.8	2.1	1.4	1.2	1.9	Naturally present in the environment

[5] TT = Treatment Technique
[6] Quarterly Running Annual Average (QRAA) of the monthly ratio of actual Total Organic Carbon removal versus required Total Organic Carbon removal between source and treated waters. QRAA is to be ≥ 1 to be in compliance.
N/A = non applicable

Total Organic Carbon has no health effects. However, it provides a medium for formation of disinfection by-products. These by-products include trihalomethanes and haloacetic acids. Compliance with treatment technique reduces formation of these disinfection by-products.

Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average Annual Turbidity**	**Highest Single Measure-ment**	**Lowest Monthly % Samples Meeting TT Turbidity Limit**	**Average Annual Turbidity**	**Highest Single Measure-ment**	**Lowest Monthly % Samples Meeting TT Turbidity Limit**	**Major Source in Drinking Water**
Turbidity	NTU[7]	N/A	TT[5]	0.04	0.25	100	0.03	0.13	100	Soil runoff

[5] TT = Treatment Technique
[7] Nephelometric Turbidity
N/A = non applicable

Turbidity levels are measured during the treatment process after the water has been filtered, but before disinfection. The turbidity level of filtered water shall be less than or equal to 0.3 NTU in at least 95% of measurements taken each month and shall at no time exceed 1 NTU.

WASHINGTON AQUEDUCT (ACOE) - FINISHED WATER CHARACTERISTICS

				Dalecarlia Water Treatment Plant			McMillan Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average**	**Minimum**	**Maximum**	**Average**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Antimony	ppb	6	6	ND	ND	0.4	ND	ND	0.3*	Discharge from metal refineries and industries
Arsenic	ppb	0	10	ND	ND	0.4*	ND	ND	0.3*	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Atrazine	ppb	3	3	ND	ND	0.1	ND	ND	0.2	Runoff from herbicide used on row crops
Barium	ppm	2	2	0.04	0.03	0.05	0.04	0.03	0.04	Discharge of drilling wastes; discharge from metal refineries; erosion from natural deposits
Dalapon	ppb	200	200	ND	ND	ND	ND	ND	1	Runoff from herbicide used on annual and perennial grasses
Fluoride	ppm	4.0	4.0	0.7	0.5	0.8	0.7	0.5	0.8	Water additive that promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Gross Alpha Particles [1]	pCi/L	0	15	ND	ND	9	ND	ND	3	Erosion of natural and man-made deposits
Nitrate (as Nitrogen)	ppm	10	10	1	0.2	2	1	0.3	2	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion and natural deposits
Nitrite (as Nitrogen)	ppm	1	1	0.01	ND	0.01	ND	ND	0.01	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Simazine	ppb	4	4	ND	ND	ND	ND	ND	0.07	Runoff from herbicide use

* These defects for antimony and arsenic were below minimum detection limits prescribed in the Consumer Confidence Rule as stated in 40 CFR 141.151 (d).
[1] Triennial radionuclide monitoring was performed in 2014.

WASHINGTON AQUEDUCT (ACOE) - TESTING OF PROCESS WATER

				Dalecarlia Water Treatment Plant			McMillan Water Treatment Plant			
Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Annual Average[3]**	**Minimum**	**Maximum**	**Annual Average[3]**	**Minimum**	**Maximum**	**Major Source in Drinking Water**
Total Organic Carbon	ratio	N/A	TT[2]	1.37	---	---	1.21	---	---	Naturally present in the environment

[2] TT = Treatment Technique
[3] Running annual average of the monthly ratio of actual Total Organic Carbon removal versus required Total Organic Carbon removal between source and treated waters. Running annual average removeal ratio is to be ≥ 1 to be in compliance.
N/A = non applicable

Total Organic Carbon has no health effects. However, it provides a medium for formation of disinfection by-products. These by-products include trihalomethanes and haloacetic acids. Compliance with treatment technique reduces formation of these disinfection by-products.

Components	**Unit**	**Goal (MCLG)**	**Max. Allowed (MCL)**	**Average Annual Turbidity**	**Highest Single Measurement**	**Lowest Monthly % Samples Meeting TT Turbidity Limit**	**Average Annual Turbidity**	**Highest Single Measurement**	**Lowest Monthly % Samples Meeting TT Turbidity Limit**	**Major Source in Drinking Water**
Turbidity	NTU[4]	N/A	TT[2]	---	0.2	100	---	0.08	100	Soil runoff

[2] TT = Treatment Technique
[4] Nephelometric Turbidity
N/A = non applicable

Turbidity levels are measured during the treatment process after the water has been filtered, but before difinfection. The turbidity level of filtered water shall be less than or equal to 0.3 NTU in at least 95% of measurements taken each month and shall at no time exceed 1 NTU.

TOWN OF VIENNA_ - MICROBIAL INDICATORS

Components	Unit	Goal (MCLG)	Max. Allowed (MCL)	Monthly Minimum	Monthly Maximum	Violation	Major Source in Drinking Water
Total Coliform Bacteria	% of total- coliform-positive samples	0	5% (max)[1]	0	0	NO	Naturally present in the environment
Fecal Coliform or E.coli Bacteria	Number of positive samples	0	0	0	0	NO	Human and animal fecal waste

[1] Positive samples not to exceed 5% of monthly total. Effective April 1, 2017, positive samples will trigger additional assessments.

The Town of Vienna had no detections of positive total coliform samples out of the 372 total samples collected throughout 2016. The percentage of positive samples is below the maximum 5% percent allowed under the Total Coliform Rule. Since the Revised Total Coliform Rule became effective on April 1, 2016, no samples detected positive for total coliform or E.coli. No Level 1 or Level 2 assessment was triggered in 2016.

TOWN OF VIENNA - LEAD AND COPPER

Components	Unit	Goal (MCLG)	Action Level	Results of Samples from 90th Percentile Value	Action Level Exceedance?	# of Sites Exceeding Action Level	Use or Environmental Source*
Lead	ppb	0	15	0.56	NO	0	Corrosion of household plumbing systems; erosion of natural deposits
Copper	ppm	1.3	1.3	0.17	NO	0	

Copper and lead results are based on testing performed in 2016. Due to observed low levels of lead and copper, the Town of Vienna is on a reduced monitoring schedule, which requires monitoring only every three years. The next triennial monitoring period is 2019.

TOWN OF VIENNA - DISINFECTANTS

Components	Unit	Goal (MRDLG)[1]	Max. Allowed (MRDL)[2]	Highest Quarterly Average	System Range (Individual Results)	Violation	Major Source in Drinking Water
Total Chlorine	ppm	4	4	2.6	2.0 – 2.8	NO	Water additive used to control microbes

[1] Maximum Residual Disinfectant Level Goal
[2] Maximum Residual Disinfectant Level

TOWN OF VIENNA – DISINFECTANT BYPRODUCTS

Components	Unit	Goal (MCLG)	Max. Allowed (MCL)	Highest Locational Running Annual Average	System Range (Individual Results)	Violation	Major Source in Drinking Water
Total Trihalomethanes	ppb	0	80	44.7	7.9 – 77.4	NO	By-product of drinking water disinfection
Haloacetic Acids 5	ppb	0	60	25.2	3.3 – 45.7	NO	By-product of drinking water disinfection

What is Cyptosporidium?

Cryptosporidium is a microbial pathogen found in most surface water in the United States. The Army Corps of Engineers and Fairfax Water monitor for cryptosporidium in the Potomac River and Occoquan Reservoir every month. Cryptosporidium oocysts were detected in two samples collected from the Potomac River in April and May 2016 with concentrations ranging from 0.200 to 0.300 oocysts/L. The water treatment process is designed to remove cryptosporidium by providing a multiple-barrier approach to chemically treat, filter, and disinfect source water and minimize the risk to public health.

Ingesting cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. The Town of Vienna encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to avoid infection and viruses that can make people sick.

What is Giardia?

Giardia is a microscopic parasite that causes an intestinal illness known as giardiasis. The Army Corps of Engineers monitors for giardia lamblia cysts in the Potomac River every month. Giardia lamblia cysts were detected in eleven samples collected in 2016 with concentrations ranging from 0.095 to 0.837 cysts/L. The water treatment process is designed to remove giardia by providing a multiple-barrier approach to chemically treat, filter, and disinfect source water and minimize the risk to public health.