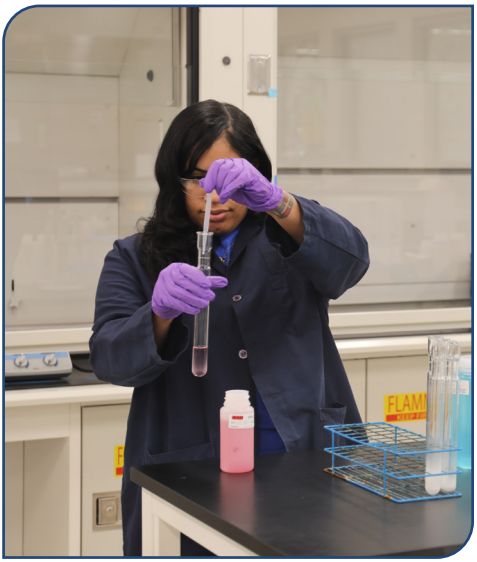
DEPARTMENT OF
PUBLIC
UTILITIES

2025 Consumer Confidence Report

Why We Report on Water Quality



The 1996 Safe Drinking Water Act requires water utilities to provide consumers with a yearly report on the source and quality of water they drink. You may also find this information posted on our website at www.rva.gov/public-utilities/water-utility

We are proud to report that during 2025 we were in 100% compliance with all federal and state Safe Drinking Water Act MCLs (Maximum Contaminant Levels). Last year DPU conducted over 55,000 tests on more than 14,000 water samples. The table lists all the substances that were detected in our drinking water during 2025. The presence of these substances in water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing performed January 1 through December 31, 2025.

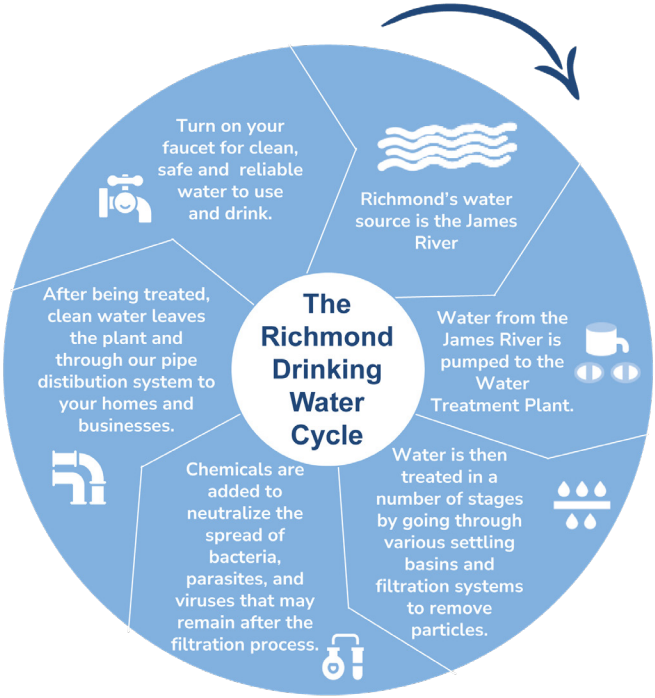
Richmond's Drinking Water: A History

Richmond's Water Treatment Plant was built on the banks of the James River in 1924. Before then, more than 300 years ago, Richmond's drinking water came from numerous springs and an open stream flowing from the Capitol across Main Street. Over the years, the plant has been upgraded and enlarged to meet growing demand.

Today Richmond's Department of Public Utilities (DPU) water plant can produce up to 132 million gallons per day (MGD). In 2025, DPU treated on average 64.2 MGD of water and distributed it to 75,000 residential, commercial, and industrial customers in the metro Richmond area. DPU provides water to parts of Henrico, Chesterfield, Hanover, Goochland and Powhatan counties through wholesale contracts.

DPU has invested millions of dollars to ensure it always meets or exceeds federal regulations as well as the increasing regional demand for reliable, high-quality drinking water. Water utility employees perform numerous water tests every day and maintain 1200 miles of water lines so when you turn on the tap your family will receive water that is clean and safe.

Our Treatment Process



Inside the Water Quality Report

This brochure is a snapshot of 2025 drinking water quality. Included is information about your water, what it contains and how it compares with standards mandated by the U.S. Environmental Protection Agency (EPA) and the Virginia Department of Health. This report is being sent to you to comply with the 1996 Safe Drinking Water Act. Landlords, businesses, and other property owners are encouraged to share this water quality report with tenants.

To save printing and mailing costs, the primary distribution of our annual report will be online. For free copies or more information about your water and this report, call the City of Richmond Department of Public Utilities (DPU): 804-646-7306 and leave your name and mailing address or email dpuc@rva.gov for a link to the online copy.

For information about public participation opportunities, visit our website at https://www.rva.gov/public-utilities/news

Microbial Contaminants

Substance	Likely Source	Richmond's Highest Monthly # of Positive Samples	Richmond's Highest Monthly % of Positive Samples	MCL	MGLG	Sample Date	Violation
Total Coliform (TC)	Naturally present in the environment	4	2.63%[1]	TT	N/A	Apr 2025	No
Escherichia Coli (EC)	Human and animal fecal waste	0	0.00%[1]	An E. coli-positive repeat sample following a total coliform-positive routine sample OR A total coliform-positive repeat sample following an E. coli-positive routine sample OR Failure to collect all require repeat samples following an E. coli-positive routine sample OR Failure to test for E. coli when any repeat sample is total coliform-positive.	0	2025	No[2]

Regulated Substances

Substance	Likely Source	Richmond's Results	Richmond's Range	MCL	MGLG	Sample Date	Violation
Fluoride (ppm)	Added to promote dental health	0.20	0 - 0.78	4	4	2025	No
Nitrate + Nitrite (ppm)	Fertilizer runoff, septic tank leakage, sewage, erosion of natural deposits	0.27			10	Jun 25	No
Total Organic Carbon Removal Ratio[3]	Naturally present in source water	1.2	-0.2 to 1.9	TT removal ratio ≥ 1.0		2025	No
Alpha Emitters (pCi/L)	Erosion of natural deposits	0.2		15	0	Sep 24	No
Beta Emitters (pCi/L)[4]	Erosion of natural deposits	2.6		4	0	Sep 24	No
Combined Radium (pCi/L)	Erosion of natural deposits	1.7		5	0	Sep 24	No
TTHMS (ppb) Total Trihalomethanes[5]	Byproduct of drinking water disinfection	39	13 - 59	80		2025	No
HAA5 (ppb) Haloacetic Acids[5]	Byproduct of drinking water disinfection	24	0 - 45	60		2025	No
Barium (ppm)	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	0.037		2		Jun 25	No

Disinfectant

Substance	Likely Source	Richmond's Results	Richmond's Range	MRDL	MRDLG	Sample Date	Violation
Chloramines (ppm)[6]	Disinfection	3.8	2.9 - 5.1	4	4	2025	No

Turbidity

Substance	Likely Source	Richmond's Results	Richmond's Range	MCL	MGLG	Sample Date	Violation
Turbidity (NTU)	Soil runoff	0.45, 100%[7]	0.15 - 2.00 NTU	TT 1.0 NTU, Max ≤0.3 (95% of the time)		5/27/2025	No

[1] If the highest monthly percentage of positive TC samples exceeds 5, Level 1 Assessment will be conducted to identify and correct sanitary defects.

[2] If the waterworks incurs an EC MCL violation, Level 2 assessment will be conducted to identify and correct sanitary defects.

The EPA has implemented the Stage 2 Disinfectants and Disinfection Byproduct Rule (Stage 2 DBPR) and the Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR). The Stage 2 DBP Rule provides increased protection against health effects associated with disinfection byproducts (DBPs). The LT2ESWTR further protects public health against Cryptosporidium and other microbial pathogens that may be present in drinking water.

[3] TOC Removal Ratio – Richmond's result shows the lowest RAA. Richmond's range extends from the lowest to the highest of the compliance removal ratios measured monthly during the calendar year.

[4] The MCL for beta particles is 4mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles.

[5] TTHMs and HAA5s – Richmond's result shows the highest LRAA. Richmond's range extends from the lowest to the highest of the compliance sample results measured quarterly during the calendar year.

[6] Chloramines – Richmond's result shows the highest RAA. Richmond's range extends from the lowest to the highest of the residual disinfectant levels measured monthly during the calendar year.

[7] Turbidity – Highest single measurement and the lowest monthly percentage of samples meeting monthly turbidity limits.

Lead and Copper

Substance	Likely Source	Richmond's Results (90th Percentile)[1]	Richmond's Range of Results	Richmond's Range	MCL	MCLG	Sample Date	Violation
Copper (ppm)	Corrosion of household plumbing; leaching from wood preservatives	0.109	0.0028 - 2.56	No results exceeded action level	Action Level = 1.3	1.3	2025	No
Lead (ppm)	Corrosion of household plumbing; erosion of natural deposits	0.004	<0.001 - 3.06	No results exceeded action level	Action Level = 0.015	0	2025	No

[1]90th Percentile – The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90 percent of our lead and copper detections.

Unregulated Substances

Substance	Likely Source	Richmond's Results	MCL	Sample Date	Unit
Aluminum	Erosion of natural deposits; addition of water treatment substances	<0.05		2025	ppm
Manganese	Naturally present in the environment	<0.01		2025	ppm
Nickel	Corrosion of household plumbing	<0.01		2025	ppm
Sodium	Naturally present in the environment; addition of water treatment substances	14.3	*	2025	ppm
Sulfate	Naturally present in the environment; addition of water treatment substances	42.7		2025	ppm

*State and federal agencies recommend sodium levels in water not exceed 20 milligrams per liter (mg/L) for people on very low sodium diets and 270 mg/L for people on moderately restricted sodium diets.

Other Information

Substance	Richmond's Results	EPA's Suggested Limit	Sample Date	Unit
Alkalinity	51.9		2025	ppm
Chloride	15.2	250	2025	ppm
Hardness	81		2025	ppm
pH (acidity)	7.79	6.5 - 8.5	2025	su
Total Dissolved Solids	149	500	2025	ppm

Dedicated to Drinking Water Quality

The City of Richmond Department of Public Utilities is a member of the American Water Works Association, the American Water Works Association Research Foundation, and the Association of Metropolitan Water Agencies. These organizations are dedicated to furthering knowledge and research on safe drinking water.

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

More information about substances and potential health effects may be obtained by calling the EPA's Safe Drinking Water Hotline (1-800-426-4791).

Health Information

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

Substances Expected To Be In Drinking Water

As water travels over land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material. Water can pick up substances resulting from the presence of animals or human activity. Substances that may be present in source water include:

- Microbial substances, such as viruses and bacteria which may come from domestic animals, wildlife, septic systems, livestock and sewage treatment plants.
- Inorganic substances, 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 stormwater runoff and residential uses.
- Organic chemicals, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can come from gas stations, urban stormwater runoff and septic systems.
- Radioactive substances which can be naturally occurring or be the result of oil and gas production and mining activities.

Water treatment significantly reduces the level of these substances in drinking water. In order to ensure that tap water is safe to drink, Environmental Protection Agency (EPA) regulations limit the amount of certain substances in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for substances in bottled water, which must provide the same protection for public health.

Lead

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 Richmond is responsible for providing high quality drinking water and removing lead pipes but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, call 804-646-8701 or visit us on the Web at: https://www.rva.gov/public-utilities/leadfreewater

Information on lead in drinking water, testing materials, and steps you can take to minimize exposure is available at https://www.epa.gov/safewater/lead

To address lead in drinking water, public water systems were required to develop and maintain an inventory of service line materials by October 16, 2024. Developing an inventory and identifying the location of lead service lines (LSL) is the first step for beginning LSL replacement and protecting public health. Our City of Richmond lead service inventory map may be accessed at https://www.rva.gov/public-utilities/leadfreewater. Please contact us if you would like more information about the inventory or any lead sampling that have been done.

Cryptosporidium

Cryptosporidium is a microbial parasite found in surface water throughout the United States. Filtration methods cannot guarantee 100 percent removal, and current test methods are unable to determine if the organisms are dead or capable of causing disease. Cryptosporidium must be ingested to cause illness, and it may be spread through means other than drinking water. Symptoms include nausea, diarrhea, and abdominal cramps. Healthy individuals usually overcome the illness within a few weeks. However, immunocompromised people, infants, and small children, and the elderly are at a greater risk of developing life-threatening illness. We encourage immunocompromised individuals to consult their doctor regarding appropriate precautions to take to avoid illness. Sampling was not required in 2025 as our last sampling found an average of 5.4 Oocysts/100L. This is less than the Action Level of 7.5 Oocysts/100L.

UCMR 5

EPA requires our water system to collect data on unregulated contaminants every five years as part of the Unregulated Contaminant Monitoring Rule (UCMR). UCMR 5 sampling benefits the environment and public health by providing EPA with data on the occurrence of contaminants suspected to be in drinking water. EPA uses this data to develop regulatory decisions for emerging contaminants. Under UCMR5, utilities are required to monitor for a list of target chemicals in a 12-month period between January 2023 and December 2025. UCMR 5 specifies monitoring 29 per-and polyfluoroalkyl substances (PFAS) and lithium. Our system participated in the 5th UCMR sampling in 2024, results for all compounds analyzed were “non-detect” for our water system, call 804-646-8701 for further information.

If you would like more information on the U. S. EPA’s Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at 1-800-426-4791 or visit EPA’s UCMR web page www.epa.gov/dwucmr

Water Quality Information

The State allows us to monitor some substances less than once per year because the concentration of these substances do not change frequently.

The Virginia Department of Health conducted a source water assessment of our system during 2002. The Richmond Water Treatment Plant was determined to be of high susceptibility to contamination, using criteria developed by the state in its EPA-approved Source Water Assessment Program. The assessment report consists of maps showing the source water assessment area, an inventory of known land use activities of concern, and documentation of any known contamination within the last five years from the date of assessment. This report is available by contacting the Department of Public Utilities at 804-646-7306.

The City of Richmond monitors the James River continuously throughout the year for various substances. We will continue to monitor our source of water to enhance the water treatment process and to ensure the highest quality finished water is provided to our customers.

For More Information

For more information about Richmond’s water quality, call 804-646-8701 or visit us on the web at: https://www.rva.gov/public-utilities/water-utility

For more general information about drinking water, visit the U.S. Environmental Protection Agency’s Web site at: www.epa.gov/safewater; or Virginia Department of Health (Drinking Water) at: www.vdh.virginia.gov

Definitions

AL – Action Level:
The concentration of a substance which, when exceeded, triggers treatment or other requirements.

LRAA – Locational Running Annual Average:
The average of analytical results of compliance samples taken at each monitoring location during the previous four calendar quarters.

MCL - Maximum Contaminant Level:
The highest level allowed by regulation. MCLs are set as close to the MCLGs as feasible using the best treatment technology.

MCLG - Maximum Contaminant Level Goal:
The level of contaminant below which there is no known or suspected health risk.

MRDL – Maximum Residual Disinfectant Level:
The highest level of a disinfectant allowed in drinking water.

MRDLG – Maximum Residual Disinfectant Level Goal:
The level of a drinking water disinfectant below which there is no known or expected risk to health.

MREM – Millirem:
A unit of measure that estimates the damage radiation does to human tissue.

NA – Not applicable.

ND – Not detected.

NTU – Nephelometric Turbidity Unit:
A measure of turbidity; water cloudiness.

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).

RAA – Running Annual Average:
The average of analytical results of compliance samples taken during any consecutive four calendar quarters.

Removal ratio – A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

SMCL - Secondary Maximum Contaminant Level:
These standards are developed to protect aesthetic qualities of drinking water and are not health based.

su – Standard units. Used in pH measurements.

TT – Treatment Technique:
Process intended to reduce the level of a substance in drinking water.

Source water – Untreated water.

Finished water – Treated water.

Regulated Substances are regulated by the EPA and their concentration cannot be above the MCL.

Unregulated Substances are not regulated by the EPA, but they must be monitored so information about their presence in drinking water can be used to develop limits.

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