Annual Drinking Water Quality Report for 2022
Town of Guilderland Public Water Supply
6011 State Farm Rd. Guilderland, NY 12084
Public Water Supply ID# NY0100205

INTRODUCTION

To comply with State regulations, Guilderland Public Water Supply, will be annually issuing a report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and awareness of the need to protect our drinking water sources. This report provides an overview of last year's water quality. Included are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact William Bremigen, Water Superintendent, 518-456-6474, or Dean Sim, Water Treatment Plant Senior Operator, 518-861-6510. We want you to be informed about your drinking water. If you would like to learn more, you can also reach our personnel via email by navigating to the Water/Wastewater Dept. on the Town's website www.townofguilderland.org

WHERE DOES OUR WATER COME FROM?

In general, 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 the 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 activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Our primary water source is the Watervliet Reservoir, a surface water reservoir in Guilderland Center, NY. The reservoir is owned by the City of Watervliet. The Town of Guilderland is permitted to use up to 5 MGD from the reservoir. Guilderland also owns 3 groundwater wells located on Rte. 155 near the intersection of 155 and Nott Rd. The town currently has the wells offline until planning for a future filtration system is completed and implemented. Guilderland supplements our water supply by purchasing fully treated water from the neighboring Town of Rotterdam and the City of Albany during high demand periods and/or potential water emergencies. During 2022, our system did not experience any restriction of our water source.

The primary source water is pumped to the Guilderland Water Treatment Plant, located in the Northeast Industrial Park, Guilderland Ctr. NY. The plant is a fully automated facility. As the water enters the plant, Polyaluminum Chloride (PACl) is injected as a primary coagulant. Flocculation takes place equally within 6 large treatment trains. Sedimentation (or the "settling stage") lets the larger, heavier particles settle, followed by the water then going through a large multi mixed-media filter bed. It is then pumped through a series of Activated Carbon vessels for further organic adsorption and filtration. Final treatment of filtered water includes disinfection with chlorine, a pH adjustment for corrosion control, and finally the addition of Sodium Fluoride for dental benefit. Parents should advise their dentists and pediatricians that our water is fluoridated.

SOURCE WATER ASSESSMENT SUMMARY

The NYS DOH has completed a Source Water Assessment for the Watervliet Reservoir and Guilderland's well. The assessments are summarized below. The assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how likely contaminants could enter the reservoir or the well's aquifer. The susceptibility rating is an estimate of the potential for contamination.

Wells

The potential impact of a chemical or microbes on a well (Susceptibility) is based on aquifer characteristics, proximity of potential contaminant sources and chemical and biological characteristics of the contaminant. The assessment has determined that Well's # 1 & 2 are susceptible to nitrates. In the past, levels of nitrates in these two wells have been very low to non-detectable. Well # 3 is located in a more remote area. Due to this, the assessment has determined that this well has low susceptibility to all contaminant types. Guilderland did not use the wells in 2022, and will be offline until further notice, as we are in the strategic planning phase of possibly implementing a filtration system.

Watervliet Reservoir

The assessment found the amount of agricultural lands in our Reservoir assessment area results in a potential for protozoa contamination. Other facilities such as landfills and golf courses could release other contaminants, such as pesticides and phosphorus. Guilderland's water treatment plant performs multi level treatment to ensure you receive safe drinking water. Additionally, as the annual report shows, your water is routinely monitored for a great number of potential contaminants.

FACTS AND FIGURES

In 2022, Guilderland Water system served approximately 27,692 people through 9,913 service connections. The total water produced in 2022 was 1,076,607,500. The daily average of water treated and pumped into the distribution system was 2,949,600 gallons per day. Our highest single day was 6,085,000 gallons). The amount of water delivered to customers was 971,084,117 gallons. An additional amount of 85,800,000 was used and accounted for. This leaves an unaccounted for total of 19,723,383 gallons. This water used to flush mains, fight fires and leakage, accounts for the remaining 19.7 million gallons (1.8% of the total amount produced). In 2022, water customers were charged $1.50 to $2.50 per 1,000 gallons during the winter cycle, and $1.50 to $5.50 per 1,000 gallons during the summer cycle. A typical home in Guilderland uses about 90,000 gallons annually. The Ad Valorem Tax is 0.7418 per $1,000 of assessed evaluation. Based on the average assessment of $240,000 for a single family home, the average annual cost for water is about $358.00.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

As the State regulations require, we routinely test your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, haloacetic acids, radiological and synthetic organic compounds. The table presented below depicts which compounds were detected in your drinking water. The State allows us to test for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

It should be noted that all drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does

not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Albany County Health Department at (518) 447-4580

Water Treatment Plant

Volatile Organic Compounds (VOC/POC) (53 Solvents and Petroleum Products) tests were completed in the first quarter of 2022. All results were below the associated MCL's. All results were below the MCL's. Inorganic Compounds (IOC + Nitrate) analyses were completed in the first quarter of 2022 for NEIP. Synthetic Organic Chemical (SOC) analysis was completed in the second quarter of 2022. All results were below the MCLs. PFOA, PFOS and 1,4-Dioxane were not detected in the 3rd quarter of 2022. Radiological testing was completed in the 4th quarter of 2022

Well #1

Nitrate analysis was completed in the second quarter of 2022. All results were below the MCLs. Volatile Organic Compounds (VOC/POC) (53 Solvents and Petroleum Products) tests were completed in the third quarter of 2020. Synthetic Organic Chemical (SOC) analysis was completed in the second quarter of 2022. PFOA, PFOS and 1,4-Dioxane were not detected in the 3rd quarter of 2022. All results were below the associated MCL's.

Well # 2

Nitrate analysis was completed in the second quarter of 2022. Volatile Organic Compounds (VOC/POC) (53 Solvents and Petroleum Products) tests were completed in the third quarter of 2020. Synthetic Organic Chemical (SOC) analysis was completed in the second quarter of 2022. All results were below the associated MCL's. PFOA, PFOS and 1,4-Dioxane were not detected in the 3rd quarter of 2022.

Well # 3

Nitrate analysis was completed in the second quarter of 2022. Volatile Organic Compounds (VOC/POC) (53 Solvents and Petroleum Products) tests were completed in the second quarter of 2022. Synthetic Organic Chemical (SOC) analysis was completed in the second quarter of 2022. PFOA, PFOS and 1,4-Dioxane were not detected in the 3rd quarter of 2022. All results were below the associated MCL's.

Transmission and Distribution

Total Trihalomethane (TTHM) testing was done at 4 sites quarterly in 2022 Stage 2 Monitoring requires a Locational Running Annual Average (LRAA) to be calculated for each individual site. Haloacetic Acid (HAA5) testing was done at 4 sites quarterly in 2022. The test included average, high and low levels. Similarly, this is also Stage 2 Monitoring. The MCL was exceeded for the THMs at one site in the third quarter of 2022 while the HAA5 MCL was not exceeded at any sites in 2022. Analysis for (Total Coliform/ E. *coli*) was conducted on a weekly basis. We collect 30 samples per month. All samples were and negative in 2022. We had 1 positive total coliform and *E*. coli positive sample in February 2022. Resamples were collected the following day of the positive sample and shown to be negative for total coliform.

Albany Interconnect

The water purchased from the City of Albany is tested in accordance with Part 5, New York Sanitary Code. A summary of the Albany testing is available at the Guilderland Water Office and the Guilderland Public Library.

Unregulated Contaminant Monitoring 4 was conducted during 2018. This is a requirement of the 1996 Safe Drinking Water Act amendments. This monitoring provides a basis for future regulatory action to protect the public health. The number in parentheses refers to the number of measured for a total of 30 analytes. The breakdown of analytes is as follows: semi volatile organic chemicals (3), pesticides and pesticide manufacturing byproduct (9), metals (2), alcohols (3), cyanotoxin chemical contaminants (10), brominated haloacetic acid groups(3) and indicator compounds (2). We have listed those compounds that were detected in the table of Detected Contaminants for the Guilderland NEIP. There are no associated MCL's for these compounds at this time with the exception of Manganese.

Summary

During 2022 our system was in compliance with applicable state drinking water operating, monitoring and reporting requirements. Within the Guilderland Water District, all tests for compounds as required by Part 5, New York Sanitary Code and National Primary Drinking Water Regulations were completed although no compounds were above the MCLs.

New York State has adopted the first in the nation drinking water standard for 1,4-Dioxane along with one of the lowest maximum contaminant levels for PFOA and PFOS. Public Water Supplies in NYS are required to test for PFOA, PFOS and 1,4-Dioxane. PFOA and PFOS have Maximum Contaminant Levels (MCL) of 10 parts per trillion each while 1,4-Dioxane has an MCL of 1.0 parts per billion.

A complete set of analytical tests performed in 2022 can also be reviewed at the Guilderland Water Office, or by email request. Thank you for allowing us to continue providing your family with clean, quality water this year. We ask that all our customers help us protect our water system.
For further information, contact the Guilderland Water Office (456-6474), or the Albany County Department of Health (447-4625).

Summary of Water Quality Analytical Testing

A summary of each analytical test performed in 2022 is attached and can also be reviewed at the Guilderland Water Office or by email request. For further information, contact the Guilderland Water Office (456-6474), the Albany County Department of Health (447-4625), or the EPA Hotline (800-426-4791).

In the tables you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Parts per trillion (ppt) (ng/l) corresponds to one part of liquid to one trillion parts of liquid

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

90th Percentile Value- The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system.

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

Treatment Technique (TT) -A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

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

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

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

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

Locational Running Annual Average (LRAA): The RAA is calculated each quarter by taking the average of the four most recent samples collected at each sample site.

N/A-not applicable

HEALTH EFFECTS INFORMATION

Additionally, we are a required to furnish the following information:

THM Health Effects
Some studies suggest that people who drink chlorinated water (which contains trihalomethanes) or water containing elevated levels of trihalomethanes for long periods of time may have an increased risk for certain health effects. For example, some studies of people who drank chlorinated drinking water for 20 to 30 years show that long term exposure to disinfection by-products (including trihalomethanes) is associated with an increased risk for certain types of cancer. A few studies of women who drank water containing trihalomethanes during pregnancy show an association between exposure to elevated levels of trihalomethanes and small increased risks for low birth weights, miscarriages and birth defects. However, in each of the studies, how long and how frequently people actually drank the water, as well as how much trihalomethanes the water contained is not known for certain. Therefore, we do not know for sure if the observed increases in risk for cancer and other health effects are due to trihalomethanes or some other factor. The individual trihalomethanes chloroform, bromodichloromethane and dibromochloromethane cause cancer in laboratory animals exposed to high levels over their lifetimes. Chloroform, bromodichloromethane and dibromochloromethane are also known to cause effects in laboratory animals after high levels of exposure, primarily on the liver, kidney, nervous system and on their ability to bear healthy offspring. Chemicals that cause adverse health effects in laboratory animals after high levels of exposure may pose a risk for adverse health effects in humans exposed to lower levels over long periods of time.

We have learned through our monitoring and testing that some contaminants have been detected; however, these compounds were detected below New York State requirements. MCL's are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily pose a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426-4791) or the Albany County Health Department at (518) 447-4620.

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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbiological pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at an optimal range from 0.7 to 1.0 mg/l (parts per million). To ensure that the fluoride supplement in your water provides optimal dental protection, the State Department of Health requires that we monitor fluoride levels on a daily basis.

The NYSDOH has recommended the optimal concentration for fluoride has been lowered to 0.7 mg/l. No operating range was suggested. During 2018 monitoring showed fluoride levels in your water were in the optimal range 100 % of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride

Although our water system was in compliance with the lead and copper regulation, we are required to furnish the following information: 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 Guilderland is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 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*

The City of Albany's water source is the Alcove Reservoir that is located on the Hannacroix Creek. Albany also has the Basic Creek Reservoir that serves as a secondary source. Treatment of Albany's water includes coagulation, sedimentation, pH, alkalinity adjustment and filtration at the Albany Filtration Plant. Chlorine is added at the Albany plant as a residual disinfectant to maintain microbiological quality throughout the distribution system. Albany does not add fluoride to its water supply. To view their report go to; http://www.albanyny.org/Government/Departments/WaterAndWaterSupply/WaterQualityReport.aspx

The Town of Rotterdam is served by five drilled wells located off Rice Road. The permitted pumping capacity is 10,000,000 gpd; the maximum peak day averages 9,100,000 gallons. Pumping capacity is capable of providing up to 7,000 gallons per minute. Guilderland has an interconnect with the Town of Rotterdam to purchase water if needed.
To view their report go to; **htpp://www.rotterdamny.org**

TOWN OF GUILDERLAND WATER TREATMENT PLANT TABLE OF DETECTED CONTAMINANTS *
Public Water Supply Identification Number NY0100205

Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants							
Total Coliform	N	2/2/23	1 positive sample	N/A	0	TT=2[9]	Naturally present in the environment
E. coli	N	4/9/22	1 positive sample	N/A	0	Any positive sample[9]	Human and animal fecal waste
Turbidity [1] (Highest Turbidity)	N	4/9/22	0.04	NTU	N/A	TT=1 NTU	Soil runoff
Turbidity	N		100%			TT= 95% samples < 0.3	
Inorganic Contaminants							
Barium	N	3/16/22	17.3	µg/l	2000	MCL+2000	Naturally occurring
Copper (sample data from 6/23/20—8/11/20) Range of copper concentration	N	6/23/20—8/11/20	0.28[2] 0.01-1.15	mg/l	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Chloride	N	3/16/22	78.1	mg/l	N/A	MCL=250	Geology; Naturally occurring
Fluoride	N	3/16/22	0.77[3]	µg/l	N/A	MCL=2200	Water additive which promotes strong teeth; erosion of natural deposits
Lead (sample data from 6/23/20—8/11/20) Range of lead concentration	N	6/23/20—8/11/20	3[4] ND-3.04	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese	N	3/16/22	5.71	µg/l	N/A	MCL=300	
Nickel	N	3/16/22	0.7	ppb	N/A	N/A	Naturally occurring
Nitrate	N	3/16/22	0.302	mg/l	10	MCL=10	Runoff from fertilizer use, erosion of natural deposits
pH	N	3/16/22	7.46	units		6.5-8.5	
Sodium[5]	N	3/16/22	45.6	mg/l	N/A	N/A	Geology; Road Salt
Sulfate	N	3/16/22	14.2	mg/l	N/A	MCL=250	Naturally Occurring,
Synthetic Organic Chemicals							
PFBS	N	6/27/22	0.70	ng/l	N/A	MCL=10[10,11]	Released into the environment from widespread use in commercial and industrial applications.
PFBA			3.0				
PFHpA			0.77				
PFHxA			14				
PFOS			0.97				
PFOA			1.1				
PFPeA			1.4				
Radiological Contaminants							
Uranium	N	3/20/17	0.053	µg/l	0	MCL=30	Erosion of natural deposits
Stage 2 Disinfection Byproducts							
Haloacetic Acids (HAA5) [6] Range of HAA5s all sites	N	2/8/22 5/10/22 8/9/22 11/7/22	LRAA1 23.3 3.7-5.9 LRAA2 36.1 18.3-42.7 LRAA3 52.1 21.2-43.9 LRAA4 48.1 17.4-35.2	µg/l	N/A	MCL=60	By-product of drinking water chlorination
Trihalomethanes [TTHM] (LRAA)[6] Range of TTHMs all sites	N N **Y** N	2/8/22 5/10/22 8/9/22 11/7/22	LRAA1 49.2 14.2-27.4 LRAA2 73.6 31-82.2 LRAA3 **81.2** 31.8-88.8 LRAA4 67.4 27.6-63.6	µg/l	N/A	80	By-product of drinking water chlorination
Chlorine Range of chlorine residual	N		1.04 0.50-1.60	mg/l	MRDLG N/A	MRDL MCL=4	Used in the treatment and disinfection of drinking water

Total Organic Carbon[7] -Control of Disinfection Byproducts							
Total Organic Carbon Monthly Compliance Ratio	N	monthly samples from 2022	1.51-1.76	N/A	Compliance ratio>=1	TT[7]	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Unregulated Contaminant Monitoring Regulation 4							
Manganese (range of values for NEIP & Wells)	N	1/10/18 4/25/18 7/23/18 10/24/18	ND-191	µg/l	N/A	300	Naturally occurring
HAA9 range of values (sample dates sample as HAA5s)	N/A		36.9-87	µg/l	N/A	N/A	By-product of drinking water chlorination
HAA6 range of values (sample dates sample as HAA5s)	N/A		33.5-82.4	µg/l	N/A	N/A	By-product of drinking water chlorination

FOOTNOTES-

1. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. Level detected represents the highest level detected. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. We achieved 100% of the measurements below 0.3 NTU. Distribution system turbidity performed 5 times a week with 0.02 NTU being the lowest and 0.06 NTU being the average. level detected and 1.14 NTU being the highest level detected and 0.05 NTU being the average**.**

2. The level presented represents the 90th percentile of 30 test sites. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the copper values detected at your water system. In this case, 30 samples were collected at your water system and the 90th percentile value was the 27th sample with the fourth highest value (level detected 0.28 mg/l). The action level for copper was not exceeded at any of the 30 sites tested.
3. See Information Concerning Fluoride under Health Effects Information on page 2.
4. The level presented represents the 90th percentile of 30 test sites. The action level for lead was not exceeded at any of the 30 sites tested. See Information Concerning Lead on page 2
5. Water containing more than 20 ppm should not be consumed by persons on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.
6. The LRAA represents the highest LRAA for 2022. The highest TTHM and HAA5 LRAAs was in the 3rd quarter of 2022.
7. The Interim Enhanced Surface Water Treatment Rule (IESWTR) requires monitoring of raw and finished water Total Organic Carbon (TOC). Depending on the raw water alkalinity value, proper water treatment should remove between 15% to 35% of the raw water TOC thus reducing the amount of disinfection byproducts produced. The removal or compliance ratio should be 1 or greater for each quarter.
8. Unregulated Contaminant Monitoring 4 was conducted during 2018. This is a requirement of the 1996 Safe Drinking Water Act amendments. This monitoring provides a basis for future regulatory action to protect the public health. The number in parentheses refers to the number of analytes measured for a total of 29 analytes. The number in parentheses refers to the number of measured for a total of 29 analytes. The breakdown of analytes is as follows: semi volatile organic chemicals (3), pesticides and pesticide manufacturing byproduct (9), metals (2), alcohols (3), cyanotoxin chemical contaminants (10) and indicator compounds (2). We have listed those compounds that were detected in the table of Detected Contaminants. For some parameters there are no associated MCL's for these compounds at this time.
9. A violation occurs at systems collecting less than 40 samples per month when two or more samples are total coliform positive. A violation occurs when a total coliform positive sample is positive for E. Coli and a repeat total coliform sample is positive or when a total coliform positive sample is negative for E. Coli but a repeat total coliform sample is positive and the sample is also positive for E. Coli. The sample collected was positive for both Total Coliform and E. coli Resamples collected on 4/3/22 were all negative for Total Coliform and E. coli
10. Only PFOA and PFOS have a regulatory limit of 10 ng/l each.
11. All perfluoroalkyl substances, besides PFOA and PFOS, are considered Unspecified Organic Contaminants (UOC) which have an MCL = 0.05 mg/L.
12. USEPA Health Advisory Levels identify the concentration of a contaminant in drinking water at which adverse health effects and/or aesthetic effects are not anticipated to occur over specific exposure durations. Health Advisory Levels are not to be construed as legally enforceable federal standards and are subject to change as new information becomes available. PFBS and HFPO-DA also have Health Advisory Levels.

***The following tables reflect test results for the town owned wells. It should be noted that the wells were not used in 2022 and will not be used until further notice as Guilderland is in the planning phase of possibly implementing a large scale filtration system for the well water.**

TOWN OF GUILDERLAND WELL 1 TABLE OF DETECTED CONTAMINANTS
Public Water Supply Identification Number NY0100205

Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Barium	N	9/8/20	87.3	µg/l	2000	2000	Erosion of natural deposits
Chloride	N	9/8/20	16.8	mg/l	N/A	250	Geology; Naturally occurring
Color	**Y**	9/8/20	30	units	N/A	14	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant
Fluoride	N	9/8/20	0.661	µg/l	N/A	2200	Erosion of natural deposits; water additive that promotes strong teeth
Iron[1]	**Y**	9/8/20	668	µg/l	N/A	300	Geology; Naturally occurring
Manganese	N	9/8/20	206	µg/l	N/A	300	Geology; Naturally occurring
Odor	N	9/8/20	1	uits	N/A	3	Natural sources
pH	N	9/8/20	7.68	units		6.5-8.5	
Sodium[2]	N	9/8/20	37.8	mg/l	N/A	N/A	Geology; Road Salt
Sulfate	N	9/8/20	94	mg/l	N/A	250	Geology

FOOTNOTES:

1. Iron has no health effects. At 1000 ug/l a substantial number of people will note the bitter astringent taste of iron. Also, at this concentration, it imparts a brownish color to laundered clothing and stains plumbing fixtures with a characteristic rust color. Staining can result at levels of 50 ug/l, lower than those detectable to taste buds. Therefore, the MCL of 300 ug/l represents a reasonable compromise as adverse aesthetic effects are minimized at this level. Many multivitamins may contain 3000 or 4000 ug/l of iron per capsule.
2. Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets.

TOWN OF GUILDERLAND WELL 2 TABLE OF DETECTED CONTAMINANTS* Public Water Supply Identification Number NY0100205							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Barium	N	9/8/20	200	µg/l	2000	2000	Erosion of natural deposits
Chloride	N	9/8/20	12.9	mg/l	N/A	250	Geology; Naturally occurring
Color	N	9/8/20	10	units	N/A	15	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant
Fluoride	N	9/8/20	783	µg/l	N/A	2.2	Erosion of natural deposits; water additive that promotes strong teeth
Iron	N	9/8/20	361	µg/l	N/A	300	Geology; Naturally occurring
Manganese	N	9/8/20	87.3	µg/l	N/A	300	Geology; Naturally occurring
Odor	N	9/8/20	1.4	units	N/A	3	Natural sources
pH	N	9/8/20	8.06	units		6.5-8.5	
Sodium[1]	N	9/8/20	46.3	mg/l	N/A	N/A	Geology; Road Salt
Sulfate	N	9/8/20	29.4	mg/l	N/A	250	Geology;

FOOTNOTES:

1. Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

TOWN OF GUILDERLAND WELL 3 TABLE OF DETECTED CONTAMINANTS* Public Water Supply Identification Number NY0100205							
Contaminant	Violation Y/N	Date of Sample	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants							
Barium	N	9/8/20	55.7	µg/l	2000	2000	Erosion of natural deposits
Chloride	N	9/8/20	39.0	mg/l	N/A	250	Geology; Naturally occurring
Color	**Y**	9/8/20	40	units	N/A	15	Large quantities of organic chemicals, inadequate treatment, high disinfectant demand and the potential for production of excess amounts of disinfectant
Fluoride	N	9/8/20	388	µg/l	N/A	2.2	Erosion of natural deposits; water additive that promotes strong teeth
Iron[1]	**Y**	9/8/20	701	µg/l	N/A	300	Geology; Naturally occurring
Manganese[1]	N	9/8/20	183	µg/l	N/A	300	Geology; Naturally occurring
Odor	N	9/8/20	1	units	N/A	3	Natural sources
pH	N	9/8/20	7.75	units		6.5-8.5	
Sodium[2]	N	9/8/20	41.2	mg/l	N/A	N/A	Geology; Road Salt
Sulfate	N	9/8/20	101	mg/l	N/A	250	Geology;

FOOTNOTES:

1. The manganese concentration is greater than the MCL of 300 ppb but when iron and manganese are both present the state allows a combined concentration of 500 ppb.

2. Water containing more than 20 ppm of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

Glossary of Terms Used in Data Tables

Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter (µg/l) - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l)(ng/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

90th Percentile Value- The values reported for lead and copper represent the 90th percentile. A percentile is a value on a scale of 100 that indicates the percent of a distribution that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected at your water system

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

Treatment Technique (TT) -A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

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

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

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

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

Locational Running Annual Average (LRAA) - The LRAA is calculated by taking the average of the four most recent samples collected at each individual site

N/A-not applicable

WHAT DOES THIS INFORMATION MEAN?

As you will see from the tables above, we had an MCL violation of Total Trihalomethanes (TTHM) in the first quarter samples of 2022) Our sample site on Willey St. was tested, and the Long Running Average (LRAA) averages the results of individual tests taken for each of the previous three quarters. Typically, the TTHM levels are elevated in the summer months. This is mainly due to high organics and vegetation in the reservoir, higher static temperatures, and elevated chlorine demand throughout the system. We have made several modifications to treatment strategy, and plant programming to help improve the finished water quality before it enters the system. As of the second quarter of 2022, the LRAA for all four sample sites are below the MCL, and remain in compliance into 2023.

Lead and copper tests were performed in 2020 and all results were below the action level and in compliance with regulations. The next round of samples will be performed in the summer of 2023. If you would like to participate in the sampling program, feel free to contact the water department at the numbers listed in this document, or by email. Below, you will find some more information on 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 Town of Guilderland Water Dept. 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, contact Guilderland Water Dept. at *518-456-6474*. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at *http://www.epa.gov/safewater/lead*.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2022, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements. We test the water at the Town's entry point, and at various select locations throughout the town daily, and weekly. All other mandated testing is performed in accordance with NYS and Federal regulations. All data is submitted to the local DOH every month, with a summary of any noteworthy events that may have affected the water quality at any time throughout the month.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. During September 2016 through August 2018, as part of our sampling plan, 24 samples of our Raw Reservoir source water were collected and analyzed for Cryptosporidium oocysts. One sample of the 24 samples collected was presumed positive for Cryptosporidium, and was confirmed positive. Therefore, our monitoring indicates the presence of Cryptosporidium in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. 23 additional source water samples did not show the presence of Cryptosporidium. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care provider regarding appropriate precautions to take to avoid infection.

INFORMATION ON GIARDIA

Giardia is a microbial pathogen present in varying concentrations in many surface waters and groundwater under the influence of surface water. Giardia is removed/inactivated through a combination of filtration and disinfection or by disinfection. During September 2016 through August 2018, as part of our sampling plan, 24 samples of our Raw Reservoir source water were collected and analyzed for Giardia cysts. Of these samples 5 were confirmed positive for Giardia cysts. Therefore, our monitoring indicates the presence of Giardia in our source water. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of Giardia may cause giardiasis, an intestinal illness. People exposed to Giardia may experience mild or severe diarrhea, or in some instances no symptoms at all. Fever is rarely present. Occasionally, some individuals will have chronic diarrhea over several weeks or a month, with significant weight loss. Giardiasis can be treated with anti-parasitic medication. Individuals with weakened immune systems should consult with their health care providers about what steps would best reduce their risks of becoming infected with Giardiasis. Individuals who think that they may have been exposed to Giardiasis should contact their health care providers immediately. The Giardia parasite is passed in the feces of an infected person or animal and may contaminate water or food. Person to person transmission may also occur in day care centers of other settings where handwashing practices are poor.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens 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 from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

INFORMATION ON FLUORIDE ADDITION

Our system is one of the many drinking water systems in New York State that provides drinking water with a controlled, low level of fluoride for consumer dental health protection. According to the United States Centers for Disease Control, fluoride is very effective in preventing cavities when present in drinking water at a properly controlled level. To ensure that the fluoride supplement in your water provides optimal dental protection, we monitor fluoride levels on a daily basis to make sure fluoride is maintained at a target level of 0.70 mg/l. During 2022 monitoring showed that fluoride levels in your water were within 0.1 mg/l of the target level for 100% of the time. None of the monitoring results showed fluoride at levels that approach the 2.2 mg/l MCL for fluoride.

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new wells, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential firefighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes. If it moves, you have a leak.
- Please see and follow the attached Automatic Sprinkler System Guidelines for homes that use such systems.

2022 Lawn Sprinkling Regulations

6.8 In order to maintain sufficient water supply and pressure at all times for fire protection and household use, from May 1st through September 15th lawn sprinkling, garden sprinkling and other use of public water supply shall be restricted to the following days and times:

A. Automatic Lawn Sprinkler Systems

1. All dwellings, buildings, structures, lots, pieces or parcels of land connected to the public water supply, with even numbered addresses, and with automatic lawn sprinkler systems serviced by the municipal supply, may use the public water supply for outside lawn & garden sprinkling on even numbered calendar days 1:00 A.M. to 4:00 A.M., regardless of the nature of use of premises.

2. All dwellings, buildings, structures, lots, pieces or parcels of land connected to the public water supply, with odd numbered addresses, and with automatic sprinkling systems serviced by the municipal water supply, may use the public water supply for outside lawn & garden sprinkling on odd numbered calendar days 1:00 A.M. to 4:00 A.M. regardless of the nature of use of premises.

3. All dwellings, buildings, structures, lots, pieces or parcels of land connected to the public water supply, with automatic lawn & garden sprinkling systems serviced by the municipal supply, shall not be permitted to use manually placed and/or handheld lawn sprinklers outside of the times specified in (1.) and (2.) of this subparagraph.

B. Manually Placed Lawn Sprinklers or Handheld Watering

1. All dwellings, buildings, structures, lots, pieces or parcels of land connected to the public water supply, with even numbered street addresses, and without automatic lawn sprinkling systems serviced by the municipal supply, may use the public water supply for outside lawn & garden sprinkling on even numbered calendar days 6:30a.m. to 8:00a.m. and 6:30pm to 8:00pm regardless of the nature of use of the premises.

2. All dwellings, buildings, structures, lots, pieces or parcels of land connected to the public water supply, with odd numbered street addresses, and without automatic lawn sprinkler systems serviced by the municipal supply, may use the public water supply for outside lawn & garden sprinkling on odd numbered calendar days 6:30 a.m. to 8:00a.m. and 6:30pm to 8:00pm regardless of the nature of use of premises.

C. The restrictions contained in subparagraphs (A) and (B) above shall not apply to hand sprinkling of outdoor gardens used for the growing of non-commercial foodstuffs and flower gardens.

D. In the event of a fire or other water emergency, the Supervisor, upon the recommendations of the Superintendent of the Department of Water and Wastewater Management, may modify or suspend any or all of the regulations relating to sprinkling for the duration of the emergency. The Department of Water and Wastewater management shall notify the public by publication or other appropriate manner of any modification or suspension of sprinkling as a result of such emergency.

E. Upon application of any person, the Supervisor, or his/her designee, may vary or modify the restrictions contained herein upon such terms and conditions as he/she deems appropriate. There shall be no appeal from the decision of the Supervisor on an application made under this subparagraph.

F. Nothing contained herein shall restrict the use of private wells for outside watering purposes, provided that a sign stating PRIVATE WELL must be displayed on the dwelling readable from the right-of-way. All private wells' water faucets must be permanently labeled. No interconnection of the private well with the public water system shall be permitted.

G. No person shall fill a swimming pool from the public water supply at any time without the approval of the Superintendent of the Department of Water and Wastewater Management. The Superintendent shall specify the quantity, time and method for filling of swimming pools.

H. Any person who violates this subsection shall be guilty of a violation and shall be punishable by a fine of not less than $50.00 for the first offense, and not less than $100.00 for any second or subsequent offense committed within the same calendar year.

SYSTEM IMPROVEMENTS

In 2022, Plant upgrades were completed in early spring. Upgrades included new flocculator paddles and drive motors at the head of the plant, which are designed to keep the sediments in suspension and improve settling, also lowering the dividing wall between flocculation basins, which lowers the velocity and inertia and keeps the sediments more stable as it travels through the treatment train. This also improves the ability to settle. Lastly, extra holes were added at each transition point of the treatment train to further reduce velocity. This allows the heavy particles to settle, and prevents the need to filter it out through the mixed media filter. The goal for these improvements is to be more efficient in Total Organic Carbon removal performance, and overall finished water quality.

The water distribution system and water plant personnel provide daily maintenance which includes, but not limited to, new service inspections, meter installations, meter readings, bi-annual flushing and repairs to water mains, pump repairs, proactive investigations for leaks, and repair and/or replacement of inoperable fire hydrants throughout the town.
The 2022 capital improvements program included:

- Continuation of billing software upgrade from KVS to Tyler-Munis
- Continue the preparation and specification phase of the new metering system. Upgrades, buildout/installation completion is planned for spring 2025

As Guilderland sees consistent growth year to year, the need to be able to keep up with increasing demand becomes increasingly important. Our department takes pride in the brainstorming, testing, and planning of ways to improve our infrastructure.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our water sources, which are the heart of our community. Please call our office if you have questions.