Town of Guilderland

Department of Water and Wastewater Management

2020
Annual Report

ANNUAL WATER QUALITY REPORT
2020

TOWN OF GUILDERLAND DEPARTMENT OF
WATER AND WASTEWATER MANAGEMENT

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Town Supervisor
Peter Barber

Water Superintendent
Timothy McIntyre

Water Treatment Plant Supervisor
Dean Sim

A word from the Water Superintendent

Dear Customer,

We are pleased to provide you with our annual Water Supply Statement as required by New York State Public Health Law in compliance with 10 NYCRR, Subpart 5-1.72(e) to (I) and National Primary Drinking Water Regulations Part 141. It is requested that apartment complex owners and managers provide a copy of this report to all its tenants.

The Guilderland Water District and its professional staff are continually striving to provide you, our customers, with drinking water that is safe in quality, adequate in quantity, which meets and exceeds all state and federal standards. We are continuously developing plans for improvements to our water production facilities including water sources, distribution and storage. If you have any questions about this report or concerning your water utility, please contact me at the Water District Office at 456 - 6474. We want you, our customers to be informed about your water utility.

Timothy McIntyre
Superintendent

Description and Condition of Water Source

The Guilderland Water District's system is very large and complex. We maintain piping up to twenty inches in diameter. Pipe materials include ductile iron, cast iron, asbestos cement, copper and synthetic materials. The Town draws water from three different sources: The Watervliet Reservoir, processed at The Town of Guilderland Water Treatment Plant (W.T.P.); three Town owned wells; and fully treated water from The City of Albany which obtains its raw water from the Alcove Reservoir. In addition, we also have four storage tanks, Relyea [2.0 million gallons]; Westmere [1.0 million gallons]; Fort Hunter [1.0 millions gallons]; and Guilderland Water Treatment Plant Clearwell [1.0 millions gallons].

The Watervliet Reservoir is the primary source of raw water for the Guilderland Water District. The Town of Guilderland is permitted to use 5 MGD from the reservoir. The reservoir is located in the Town of Guilderland but is owned by the City of Watervliet. The reservoir has an impoundment area of 620 acres that captures water from a 113 square mile basin drained by the Norman's Kill, Bozen Kill and Black Creek.

The W.T.P. laboratory personnel, on a daily basis test raw water from the Watervliet reservoir. The tests conducted are for Chlorine level (+/- 1.5 mg/L), Turbidity (less than 0.3 unit), pH (+/- 7.7), Fluoride (+/- 1.0). Results of these tests are used to ensure proper dosing determination of treatment chemicals used at the W.T.P. Additionally, the City of Watervliet regularly tests the raw water quality of the reservoir and feeder streams to detect potential contamination. A summary of these tests is available for viewing at the Water District Office and at the Guilderland Public Library

Water Treatment

The Guilderland Filtration Plant is an automated facility designed to operate at a capacity of 5.0 million gallons per day (MGD). Raw water is pumped from the Watervliet Reservoir at the raw water pumping station. As the water enters the plant, Polyaluminumchloride (PACl) is added as a primary coagulant. Flocculation takes place in a series of stepped type units for a period of approximately 30 minutes. Then water flows from 60-degree tube settlers into mixed media filters. After the water is filtered through the mixed media filter, it is again filtered through the Granulated Activated Carbon (GAC) system. Final treatment of filtered water includes disinfection with chlorine, pH adjustment with caustic soda and the addition of sodium fluoride for dental protection. Parents should advise their dentist and pediatrician that the water supply is fluoridated.

Three wells are currently in use to supplement the reservoir supply. Wells 1 and 2 are located adjacent to Kaikout Kill near the intersection of State Farm Road and Nott Road. Well 3 is located adjacent to Blockhouse Creek south of wells 1 and 2. The New York State Department of Environmental Conservation (NYSDEC) has mandated that the total withdrawal rate from the wells not exceed 0.5 MGD on an annual basis. When Well water is used it is treated with chlorine and sodium fluoride. The Albany Emergency Interconnect is on the East Side of New Karner Road at the intersection of Charles Park Boulevard. A permanent Albany-Guilderland interconnect is located near the intersection of Gipp and Rapp Roads. A contractual agreement between the Town of Guilderland and the City of Albany allows for the transfer of up to 2MGD of water daily from this new facility. When Albany water is used, the Town of Guilderland adds chlorine and fluoride at the Interconnect.

Population Served

During 2020, The Guilderland Water District served an estimated population of **27,546.**

Water Usage

During 2020, the Guilderland Water District produced **1,182,572,400** gallons of water **(1.18 billion gallons), 924,587,000** gallons from plant production, **131,152,000** gallons from City of Albany, **124,028,400** gallons from Rotterdam, **0** gallons from Bethlehem, and **2,805,000** gallons from the Wells. The Water District is approximately 100 percent metered. Metered water use of **964,862,258** gallons in addition to the **126,800,000** other accounted for water use equaled **2,74,234,658** gallons accounted for water usage for 2020. Based on an audit of production versus total accounted for water usage, the estimated unaccounted water is **7.69** percent of total production. Unaccounted for or lost water is water lost due to leaks, water main breaks, flushing, fires and meter inaccuracy within the transmission and distribution system.

Water Sources Restricted, Removed or Otherwise Limited in Use

During 2020, none of the Water District sources were restricted, removed from service or otherwise limited in use.

2020 Water Rates

The following annual charges were effective on January 1, 2020:

Ad Valorem Tax is $.667644 per $1,000.00 of assessed evaluation.

Winter Cycle

00 - 30,000 gallons, $ 1.50 per thousand
30,000 - 50,000 gallons, $ 2.00 per thousand
over 50,000 gallons, $ 2.50 per thousand

Summer Cycle

00 - 30,000 gallons, $ 1.50 per thousand
30,000 - 60,000 gallons, $ 2.50 per thousand
60,000 - 120,000 gallons, $ 3.60 per thousand
over 120,000 gallons, $4.00 per thousand

A typical home in Guilderland uses 90,000 gallons of water annually. Based on the average assessment of $175,000 for a single family home the annual water bill is:

Annual Ad Valorem	$ 116.84
Annual Water Usage Cost	$ 180.00
Annual Average cost Total	$ 296.84

Conservation Tips from the Water Department

- **Follow Sprinkling Regulations** - **<u>May 1 - Sept 15 (Regulations enclosed)Odd - Even Rule Applies</u>**
- Run the dishwasher with full loads only.
- Check home plumbing and fixtures for leaks.
- Use a water - saving showerhead.
- Install faucet aerators on kitchen and bathroom faucets to reduce flow from 4 to 2.5 gallons per minute.
- Install and maintain automatic sprinkler system shutoff devices including rain shutoffs.
- Install and maintain other water saving devices.
- Use outdoor water wisely - only water when necessary - minimize duration of sprinkling - recommend one inch.
- Don't leave hoses running.
- Avoid washing the driveway - sweep instead.
- For proper operation and maintenance of your hot water heater, follow manufacturer's recommendations (owner's manual).
- If every person in the Town conserved 10 gallons of water a week, we could save 14 million gallons of water annually.
- Use water wisely. Do not waste it!
- Rain barrels are a convenient and efficient way to collect rainwater that can be used for irrigation. Catch those springs and summer showers and recycle nature's way.
- Build a "Rain Garden". A rain garden allows 30% more water to infiltrate into the ground than a conventional lawn.

For your information:

SIZE OF LEAK	WATER WASTED IN THREE MONTHS
1/32" drip	18,500 gallons
1/16" trickle	74,000 gallons
1/8" stream	296,500 gallons
1/4" stream	1,181,000 gallons

2020 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 6:30a.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.

Water Distribution System Maintenance and Capital Improvement Summary

The water distribution system and treatment plant personnel provide daily maintenance which includes, but is not limited to, new service inspections, meter installation, meter readings, bi-annual flushing and repairs to water mains, pump repairs, investigation of leaks and repair or replacement of inoperable fire hydrants.
The 2020 Capital improvements program projects included:

- Mckownville water main replacement is 100% complete. This included approximately 600 lineal feet of 8 inch water main.
- Rotterdam/Guilderland interconnect completed.
- Phase 1 in progress for change over of the water meter reading system from AMR to AMI.
- Phase 1 in progress for new water billing system upgrade from KVS to Tyler Munis.

Guilderland Water District Things You Should Know

Water-powered sump pumps are normally used to back up conventional electric sump pumps in the event that the building loses electrical power. They are powered by municipal water pressure, and most units pump 2 gallons out of a basement sump for every 1 gallon of municipal water used. While an effective backup system, it should be noted that the system uses that additional water and will be reflected on your next water bill. This should not be used as your primary source of power for the system.

Pursuant to Local Law Article 271.11 – 271.17 these types of connections constitute a cross-connection and require the use of an appropriate backflow device. For further information please contact the Water District office at 456-6474.

Pursuant to the New York State Code section 1191.2 paragraph 4, it is illegal to "place or permit objects or materials to obscure or obstruct the use of fire hydrants and fire department connections".

In many cases landscaping around or near fire hydrants can cause them to become obscured and not readily seen or usable by your local Fire Department. This could affect their ability to effectively fight a fire thereby increasing the potential for life hazard and property damage
.
Trees, shrubs, retaining signs, fence posts etc. should be placed well back and to the sides of hydrants. If you have an existing situation or are planning a landscaping project, please call the Water District Office at 456-6474 for more details on required hydrant clearances. In cases where this situation is determined a problem, The Town will clear or correct the problem. Please be advised, if a property owner causes the problem, the owner may be liable for all costs.

Guilderland Sewer District Things You Should Know

As per the Districts sewer use ordinance (Local Law Number 2 of 1980), it is illegal for sump pumps, roof drains, storm drains or water that is not considered sewage to enter the sanitary sewer system. The cost of treatment and the potential of creating a public health hazard are greatly increased when additional water is added to the collection system. Please check your sewer for such connections and, if necessary, disconnect. If you have any questions or need to know where such connections can be discharged, please contact the Sewer District Office at 456 – 6474.

Town of Guilderland's Wells
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. It does not mean the water delivered to your home is or will become unsafe to drink. See section: "Are there contaminants in our water?" of this report for information concerning low levels of contaminants in your water.

Guilderland 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.

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.

Water Treatment Plant

Volatile Organic Compounds (VOC/POC) (53 Solvents and Petroleum Products) tests were completed in the first quarter of 2020. All results were below the associated MCL's. Synthetic Organic Chemicals were collected in the second quarter of 2020. All results were below the MCL's. Inorganic Compounds (IOC + Nitrate) analyses were completed in the first quarter of 2020 for NEIP. Synthetic Organic Chemical (SOC) analysis was completed in the fourth quarter of 2020. All results were below the MCLs. PFOA, PFOS and 1,4-Dioxane were not detected in the 3rd and 4th quarters.

Well #1

Nitrate analysis was completed in the third quarter of 2020. 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 fourth quarter of 2020. All results were below the associated MCL's.

Well # 2

Nitrate analysis was completed in the third quarter of 2020. 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 fourth quarter of 2020. All results were below the associated MCL's. PFOA, PFOS and 1,4-Dioxane were not detected in the 3rd and 4th quarters.

Well # 3

Nitrate analysis was completed in the third quarter of 2020. 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 fourth quarter of 2020. All results were below the associated MCL's

Transmission and Distribution

Total Trihalomethane (TTHM) testing was done at 4 sites quarterly in 2020 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 2020. 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 first quarter of 2020 while the HAA5 MCL was not exceeded at any sites in 2020. Analysis for (Total Coliform/ E. *coli*) was conducted on a weekly basis. We collect 30 samples per month. All samples were and *E. coli* negative in 2020. We had 1 positive total coliform sample in August 2020 and September 2020. 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.

Rotterdam Interconnect

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

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 measures for a total of 32 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 2020 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.

A complete set of analytical tests performed in 2020 can also be reviewed at the Guilderland Water Office and the Guilderland Public Library, and on the Town Website at www.TownofGuildelrand.org.

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 (518) 456-6474, or the Albany County Department of Health (518) 447-4625.

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.

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.

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 2020 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

Summary of Water Quality Analytical Testing

A summary of each analytical test performed in 2018 is attached and can also be reviewed at the Guilderland Water Office and the Guilderland Public Library and on the Town Website at www.TownofGuildelrand.org. 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 that follow 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.

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

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

N/A-not applicable.

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

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Microbiological Contaminants						
Turbidity [1] (sample from 7/13/20)	N	2.0	NTU	N/A	TT=1 NTU	Soil runoff
Turbidity(August 2020)	N	96.12%			TT= 95% samples < 0.3	
Inorganic Contaminants (Sample data 3/10/20 unless otherwise noted)						
Barium	N	14.5	ppb	2000	2000	Naturally occurring
Copper (sample data from 6/23/20—8/11/20) Range of copper concentration	N	0.28[2] 0.01-1.15	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Chloride	N	60.8	ppm	N/A	250	Geology; Naturally occurring
Fluoride	N	0.664[3]	ppb	N/A	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	3[4] ND-3.04	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate	N	0.242	ppm	10	10	Runoff from fertilizer use, erosion of natural deposits
Odor	N	1	units	N/A	3	Natural sources
pH	N	7.91	units		6.5-8.5	
Sodium[5]	49.8	36.2	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	16.5	ppm	N/A	250	Naturally Occurring,
Radiological Contaminants (sample from 3/20/17)						
Radium 228	N	2.58	pCi/l	0	5	Erosion of natural deposits
Uranium	N	0.053	ppb	0	30	Erosion of natural deposits
Stage 2 Disinfection Byproducts (samples from 2/11/20, 5/12/20, 8/11/20 & 11/110/20)						
Haloacetic Acids (HAA5) [6] Range of HAA5s all sites	N	LRAA1 41.52 2.3-40.6 LRAA2 58.4 35-58.8 LRAA3 37.1 27.9-48.1 LRAA4 37.8 21-38.3	ppb	N/A	60	By-product of drinking water chlorination
Trihalomethanes [TTHM] (LRAA)[6] Range of TTHMs all sites	N	LRAA1 65.3 11.7-56.3 LRAA2 64.8 40.8-78.1 LRAA3 60.4 35.-62.8 LRAA4 52.9 28.9-54.6	ppb	0	80	By-product of drinking water chlorination
Chlorine Range of chlorine residual	N	1.30 0.05-1.27	ppm	MRDLG N/A	MRDL 4	Used in the treatment and disinfection of drinking water
Total Organic Carbon[7] -Control of Disinfection Byproducts (monthly samples from 2020)						
Total Organic Carbon Monthly Compliance Ratio	N	1.17-2.16	N/A	Compliance ratio>=1	TT[7]	Organic material both natural and man made; Organic pollutants, decaying vegetation,
Unregulated Contaminant Monitoring Regulation 4 (samples from 1/10/18, 4/25/18, 7/23/18 & 10/24/18)						
Manganese (range of values for NEIP & Wells)	N	ND-191	ppb	N/A	300	Naturally occurring
HAA9 range of values (sample dates sample as HAA5s)	N/A	36.9-87	ppb	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	ppb	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. This was the final four hoursa reading before shutdown for plugged filter cleaning. Distribution system turbidity performed 5 times a week with 0.02 NTU being the lowest level detected and 1.07 NTU being the highest level detected and 0.07 NTU being the **average.**
2. The level presented represents the 90th percentile of 30 test sites. 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 2020. The highest TTHM and HAA5 LRAAs were in the 1st quarter of 2020.
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.

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

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (sample from 9/8/20 unless otherwise noted)						
Barium	N	87.3	ppb	2000	2000	Erosion of natural deposits
Chloride	N	16.8	ppm	N/A	250	Geology; Naturally occurring
Color	**Y**	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	0.661	ppb	N/A	2200	Erosion of natural deposits; water additive that promotes strong teeth
Iron[1]	**Y**	668	ppb	N/A	300	Geology; Naturally occurring
Manganese	N	206	ppb	N/A	300	Geology; Naturally occurring
Odor	N	1	uits	N/A	3	Natural sources
pH	N	7.68	units		6.5-8.5	
Sodium[2]	N	37.8	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	94	ppm	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	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (samples from 9/8/20 unless otherwise noted)						
Barium	N	200	ppb	2000	2000	Erosion of natural deposits
Chloride	N	12.9	ppm	N/A	250	Geology; Naturally occurring
Color	N	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	783	ppb	N/A	2.2	Erosion of natural deposits; water additive that promotes strong teeth
Iron	**Y**	361	ppb	N/A	300	Geology; Naturally occurring
Manganese	N	87.3	ppb	N/A	300	Geology; Naturally occurring
Odor	N	1.4	units	N/A	3	Natural sources
pH	N	8.06	units		6.5-8.5	
Sodium[1]	N	46.3	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	29.4	ppm	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	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (samples from 9/8/20 unless otherwise noted)						
Barium	N	55.7	ppb	2000	2000	Erosion of natural deposits
Chloride	N	39.0	ppm	N/A	250	Geology; Naturally occurring
Color	N	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	388	ppb	N/A	2.2	Erosion of natural deposits; water additive that promotes strong teeth
Iron[1]	Y	701	ppb	N/A	300	Geology; Naturally occurring
Manganese[1]	N	183	ppb	N/A	300	Geology; Naturally occurring
Odor	N	1	units	N/A	3	Natural sources
pH	N	7.75	units		6.5-8.5	
Sodium[2]	N	41.2	ppm	N/A	N/A	Geology; Road Salt
Sulfate	N	101	ppm	N/A	250	Geology;

FOOTNOTES FOR WELL #3

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.

ROTTERDAM WATER DISTRICT #5 TABLE OF DETECTED CONTAMINANTS
Public Water Supply Identification Number NY4600069

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Inorganic Contaminants (sample data from 1/28/20 unless otherwise noted)						
Barium	N	42.2	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Chloride	N	71.6	ppm	N/A	250	Geology; Naturally occurring
Copper (data from 6/2/20-6/25/20) Range of copper concentrations	N	0.52 0.01-0.97	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron	N	21.4	ppb	N/A	300	Geology
Lead (data from 6/2/20-6/25/20) Range of lead concentrations	N	2 ND-6	ppb	0	AL=15	Corrosion of household plumbing systems, erosion of natural deposits
Manganese	N	5.1	ppb	N/A	300	Geology
Nickel	N	1.1	ppb	N/A	N/A	Erosion of natural deposits
Nitrate (as Nitrogen)	N	0.767	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Odor	N	1	units	N/A	3	Natural sources
pH	N	7.53	units		6.5-8.5	
Sodium[3]	N	33.9	ppm	N/A	N/A	Geology; Road Salt
Zinc	N	6.3	ppb	N/A	5000	Geology
Synthetic Organic Chemicals (sample data from(/9/21/20 & 12/7/20)						
Perfluorooctanoic acid [PFOA] range of values	N	1.04-1.55	ppt	N/A	10	Released into the environment from widespread Use in commercial and industrial applications
Perfluorooctane Sulfonate [PFOS]] range of values	N	3.94-5.20	ppt	N/A	10	
Disinfection Byproducts (**sample data 3/9/20 & 8/12/20)**						
Chlorine Residual (average) based on daily testing (range)	N	0.6 050-0.70	ppm	MRDLG N/A	MRDL 4	Used in the disinfection and treatment of drinking water
Stage 2 Haloacetic Acids [HAA5] range	N	1.07-3.78	ppb	N/A	60	By-product of drinking water chlorination
Stage 2 TTHM[Total Trihalomethanes] range	N	8.1-17.2	ppb	0	80	By-product of drinking water chlorination
Unregulated Contaminant Monitoring Rule 4 Detected Contaminants (samples from 1/10/18 & 7/23/18)						
Manganese (range of values) 1/10/18 & 7/23/18	N	1.03-2.82	ppb	N/A	300	Erosion of natural deposits
HAA6 (range of values) 2/6/18 & 8/14/18	N	4.3-6.8	ppb	N/A	N/A	
HAA9 (range of values) 2/6/18 & 8/14/18	N	8.7-14.9	ppb	N/A	N/A	

NOTES-

1. 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 0.57 mg/l). The action level for copper was not exceeded at any of the sites tested.

2. 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.

3. Water containing more than 20 mg/l 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.

4. TTHM and HAA5 samples were collected at 4 sites in 4 quarters of 2019 to determine the optimal sites for future compliance monitoring of the disinfection byproducts.

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.