

2022 drinking water quality report

FRANKLIN SQUARE WATER DISTRICT
PUBLIC WATER SUPPLY IDENTIFICATION NO. 2902822

Board of Commissioners

Ralph D. Pugliese, Chairman

Anthony L. Boccella, Treasurer

Madeline F. Presta, Secretary

ANNUAL WATER SUPPLY REPORT

MAY 2023

To keep our customers up-to-date on the quality of our drinking water the Franklin Square Water District is pleased to present this year's Water Quality Report. New York State and the EPA set regulations for drinking water quality and indicate the levels of various substances that are acceptable in public drinking water. This report explains how our water supply compares to the standards that the State and the EPA have developed.

Our constant goal is to provide you with a safe and dependable supply of drinking water every single day. The Board of Water Commissioners and the District employees are committed to ensuring that you and your family receive the highest quality water.

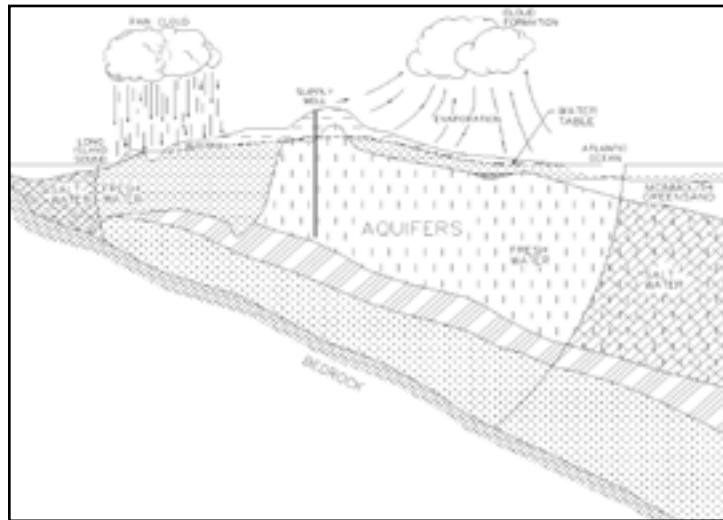
WHERE DOES OUR WATER COME FROM?

We have five (5) wells located throughout our community that pump water out of the Magothy aquifer which is located beneath the land surface of Long Island as shown in the adjacent drawing. Aquifers are underground layers of porous rock and sand that store about 50 percent of the rain and snow that fall on Long Island. Generally, the water quality of the aquifers in Franklin Square is excellent.

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 our tap water is safe to drink, the State and the EPA prescribe regulations that 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.

The population within the Franklin Square Water District during 2022 was 20,000. The total amount of water withdrawn from the aquifer during the year was 711.7 million gallons.



THE LONG ISLAND AQUIFER SYSTEM

WATER CONSERVATION MEASURES

The underground water system of Long Island has more than enough water for present water demands. However, saving water can reduce your water bill and most importantly will ensure that our future generations will have a safe and abundant water supply.

We would like to thank the residents who have begun implementing water conservation measures in their homes. We hope that making some small changes continues as the trend in 2022 and years to come. Some of the steps that can be made to conserve water are:

- Check for and repair leaks in the home. A slow drip can waste 15 to 20 gallons a day!!
- Replace showerheads, faucets and toilets with water-saving devices or retrofitting existing plumbing fixtures with flow restrictors.
- Try to maintain an awareness of personal and family habits that can lead to water conservation. For example, don't let the faucet run when it isn't in use!

- Modify automatic lawn sprinklers to include rain sensors and don't forget - Nassau County Lawn Sprinkler Regulations are still in effect.

But we aren't leaving all conservation efforts to the consumers. The Franklin Square Water District has been implementing our own water conservation measures. In 2022, we continued to implement a water conservation program in order to minimize any unnecessary water use. The pumpage for 2022 was approximately 5.8 percent less than in as in 2021. This was most likely due to the cooler and wetter conditions in 2022 compared to 2021. We will remain dedicated to implementing water conservation measures at our wells and throughout the distribution system. Additional education material are available at the District office.

WATER QUALITY FACTS

In accordance with State regulations, the Franklin Square Water District routinely monitors your drinking water for numerous parameters. We test your drinking water for coliform bacteria, turbidity, inorganic contaminants, lead and copper, nitrates, volatile organic contaminants, synthetic organic contaminants and radiological contaminants. Over 135 separate parameters are tested for in each of our wells numerous times per year. The table presented on page 3 depicts which parameters or contaminants were detected in your drinking water. It should be noted that many of these parameters are naturally found in all Long Island drinking water and do not pose any adverse health effects.

Some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as person 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).

During 2020, the District collected 30 samples for lead and copper. The 90% level is presented in the table as the maximum result. The next round of samples will occur in 2023. If present, elevated levels of lead can cause serious health problems, especially for pregnant women, infants, and young children. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Franklin Square Water District 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 (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

The District implements several measures to protect the quality of water. One of these measures is maintaining an active backflow prevention program where plumbing devices are installed on water services to prevent the backflow of any contaminant into the distribution system. The District requires all residents with automatic sprinkler systems to maintain a backflow device. Please contact the District office for the District's backflow requirements.

WHAT TYPE OF WATER TREATMENT DO WE PROVIDE?

The Franklin Square Water District provides treatment at all wells to improve the quality of the water pumped prior to distribution to the consumer. The pH of groundwater is normally a bit low, so to reduce any corrosion in water mains and in-house plumbing, sodium hydroxide is added to the water to raise the pH.

The District utilizes packed tower aeration to remove volatile organic compounds from Well Nos. 1 and 2. Capital improvements to Well Nos. 1 and 2 to add granular activated carbon treatment are planned to begin in summer 2023. The District has also implemented new packed tower aeration, advanced oxidation process and granular activated carbon treatment for Well Nos. 4 and 5 as part of their capital improvement plan to treat emerging contaminants. Well Nos. 3 and 5 was not utilized into the system during the 2022 calendar year.

The District also adds small amounts of sodium hypochlorite to the water as a disinfection agent.

The Franklin Square Water District conducts over 7,500 water quality tests throughout the year, testing for over 130 different contaminants which have been undetected in our water supply including:

Manganese	Hexachlorocyclopentadiene	Chloromethane	1,2,3-Trichlorobenzene
Odor	bis(2-Ethylhexyl)adipate	Vinyl Chloride	Benzene
Ammonia	bis(2-Ethylhexyl)phthalate	Bromomethane	Toluene
Nitrite	Hexachlorobenzene	Chloroethane	Ethylbenzene
Detergents (MBAS)	Benzo(A)Pyrene	Trichlorofluoromethane	M,P-Xylene
Free Cyanide	Aldicarb Sulfone	Chlorodifluoromethane	O-Xylene
Antimony	Aldicarb sulfoxide	Methylene Chloride	Styrene
Beryllium	Aldicarb	Trans-1,2-Dichloroethene	Isopropylbenzene (Cumene)
Thallium	Total Aldicarb	1,1-Dichloroethane	N-Propylbenzene
Lindane	Oxamyl	cis-1,2-Dichloroethene	1,3,5-Trimethylbenzene
Heptachlor	Methomyl	2,2-Dichloropropane	Tert-Butylbenzene
Aldrin	3-Hydroxycarbofuran	Bromochloromethane	1,2,4-Trimethylbenzene
Heptachloro Epoxide	Carbofuran	Carbon Tetrachloride	Sec-Butylbenzene
Dieldrin	Carbaryl	1,1-Dichloropropene	4-Isopropyltoluene (P-Cumene)
Endrin	Glyphosate	1,2-Dichloroethane	N-Butylbenzene
Methoxychlor	Diquat	1,2-Dichloropropane	Methyl Tert-Butyl Ether (MTBE)
Toxaphene	Endothall	Dibromomethane	Selenium
Chlordane	1,2-Dibromoethane (EDB)	Trans-1,3-Dichloropropene	Fluoride
Total PCBs	1,2-Dibromo-3-Chl.Propane	cis-1,3-Dichloropropene	
Propachlor	Dioxin	1,2-Dichlorobenzene	
Alachlor	Chloroacetic Acid	1,3-Dichlorobenzene	
Simazine	Bromoacetic Acid	1,4-Dichlorobenzene	
Dicamba	Total Coliform	1,2,4-Trichlorobenzene	
Pentachlorophenol	Dichlorodifluoromethane	Hexachlorobutadiene	
Zinc	Chromium	1,1,1-Trichloroethane	
Chlorodifluoromethane	HAA5	Tetrachloroethene	

2022 DRINKING WATER QUALITY REPORT - TABLE OF DETECTED PARAMETERS

Contaminants	Violation (Yes/No)	Date of Sample	Level Detected (Maximum Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contaminant
Inorganic Contaminants							
Copper	No	June & July 2020	ND - 0.22 0.11 ⁽¹⁾	mg/l	1.3	AL = 1.3	Corrosion of household plumbing systems; Erosion of natural deposits
Lead	No	June & July 2020	ND - 4.3 ND ⁽¹⁾	ug/l	0	AL = 15	
Barium	No	06/14/22	ND - 0.0033	mg/l	n/a	MCL = 2.0	Naturally occurring
Sodium	No	08/22/22	9.0 - 13.3	mg/l	n/a	No MCL ⁽²⁾	
Chloride	No	08/02/22	17.7 - 24.1	mg/l	n/a	MCL = 250	
Iron	No	12/13/22	ND - 0.23	ug/l	n/a	MCL = 300	
Sulfate	No	08/09/22	11.8 - 29.4	mg/l	n/a	MCL = 250	
Magnesium	No	08/09/22	3.8 - 5.4	mg/l	n/a	None	
Nickel	No	08/02/22	ND - 0.0032	ug/l	n/a	MCL = 100	
Calcium	No	08/09/22	6.0 - 10.5	mg/l	n/a	No MCL	
Nitrate	No	08/02/22	0.56 - 2.4	mg/l	10	MCL = 10	
Perchlorate	No	08/02/22	ND - 1.5	ug/l	n/a	AL = 18 ⁽³⁾	Oxygen additive in solid fuel propellant for rockets, missiles and fireworks
Volatile Organic Contaminants							
1,1,2-Trichlorotrifluoroethane	No	06/14/22	ND - 1.9	ug/l	n/a	MCL = 5	Industrial discharge
Trichloroethene	No	11/11/22	ND - 2.7	ug/l	n/a	MCL = 5	
1,1-Dichloroethene	No	07/12/22	ND - 1.2	ug/l	n/a	MCL = 5	
Disinfection By-Products							
Total Trihalomethanes (TTHMs)	No	07/12/22	ND - 7.4	ug/l	n/a	MCL = 80	Disinfection By-Products
Radionuclides							
Gross Alpha	No	03/24/20	0.33 - 2.36	pCi/L	n/a	MCL = 50	Naturally occurring
Gross Beta	No	03/24/20	0.35 - 1.71	pCi/L	n/a	MCL = 50	
Radium 226 & 228	No	03/24/20	0.88 - 1.68	pCi/L	n/a	MCL = 5 ⁽⁴⁾	
Uranium	No	03/24/20	0.167 - 1.18	ug/l	n/a	MCL = 30	
Synthetic Organic Contaminants (SOCs)							
1,4-Dioxane	No	10/14/22	0.10 - 0.83	ug/l	n/a	MCL = 1.0 ⁽⁵⁾⁽⁶⁾	Industrial discharge
Perfluorooctanesulfonic Acid (PFOS)	No	10/14/22	ND - 6.1	ng/l	0	MCL = 10 ⁽⁷⁾	Released into the environment from widespread use in commercial and industrial applications
Perfluorooctanoic acid (PFOA)	No	09/06/22	ND - 1.9	ng/l	0	MCL = 10 ⁽⁷⁾	
Disinfectants							
Chlorine Residual	No	Continuous	0.9 - 1.5	mg/l	n/a	MRDL = 4.0	Measure of disinfectant
Physical Characteristics							
pH	No	Continuous	7.2 - 8.1	pH units	n/a	7.5 - 8.5 ⁽⁸⁾	Measure of acidity or alkalinity
Calcium Hardness	No	08/09/22	15.0 - 26.2	mg/l	n/a	No MCL	Naturally occurring
Total Alkalinity	No	08/02/22	4.9 - 15.2	mg/l	n/a	No MCL	
Total Hardness	No	08/09/22	30.8 - 48.3	mg/l	n/a	No MCL	
Total Dissolved Solids (TDS)	No	08/02/22	82.9 - 118.0	mg/l	n/a	No MCL	

2022 DRINKING WATER QUALITY REPORT - TABLE OF DETECTED PARAMETERS

Contaminants	Violation (Yes/No)	Date of Sample	Level Detected (Maximum Range)	Unit Measurement	MCLG	Regulatory Limit (MCL or AL)	Likely Source of Contaminant
--------------	--------------------	----------------	--------------------------------	------------------	------	------------------------------	------------------------------

Unregulated Contaminant Monitoring Rule - Phase 4 (UCMR4) ⁽⁹⁾							
Manganese	No	10/15/19	3.5 - 69.4	ug/l	n/a	MCL = 300 ⁽¹⁰⁾	Naturally occurring; indicative of landfill contamination
HAA6Br	No	04/16/19	0.91 - 1.67	ug/l	n/a	No MCL	Disinfection By-Products
HAA9	No	04/16/19	1.23 - 2.07	ug/l	n/a	No MCL	Disinfection By-Products
2-methoxyethanol	No	04/16/19	ND - 0.47	ug/l	n/a	No MCL	Industrial solvent
2-propen-1-ol	No	04/16/19	ND - 1.1	ug/l	n/a	No MCL	Laboratory chemical

Definitions:

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

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

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

Milligrams per liter (mg/l) - Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).

Micrograms per liter (ug/l) - Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).

Nanograms per liter (ng/l) - Corresponds to one part of liquid in one trillion parts of liquid (parts per trillion - ppt).

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

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

pCi/L - pico Curies per Liter is a measure of radioactivity in water.

⁽¹⁾ - During 2020, we collected and analyzed 30 samples for lead and copper. The action levels for copper was not exceeded at any site tested. The action level for lead was exceeded at only one site. Retesting is required in 2023. 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. In our sampling program, the 90th percentile value is the 4th highest result.

⁽²⁾ - No MCL has been established for sodium. However, 20 mg/l is a recommended guideline for people on high restricted sodium diets and 270 mg/l for those on moderate sodium diets.

⁽³⁾ Perchlorate is an unregulated contaminant. However, the NYS Dept. of Health has established an action level of 18.0 ug/l.

⁽⁴⁾ - MCL for Radium is for Radium 226 and Radium 228 combined.

⁽⁵⁾ - 1,4-Dioxane -The New York State (NYS) established MCL for 1,4-Dioxane at 1 part per billion(ppb) effective August 2020.

⁽⁶⁾ - It is used as a solvent for cellulose formulations, resins, oils, waxes and other organic substances. It is also used in wood pulping, textile processing, degreasing, in lacquers, paints, varnishes, and stains; and in paint and varnish removers.

⁽⁷⁾ - The US Environmental Protection Agency (EPA) has established a life time health advisory level (HAL) of 70 parts per trillion (ppt) for PFOA and PFOS combined. The New York State (NYS) established a maximum contaminant level (MCL) of 10 ppt for PFOA and 10 ppt for PFOS effective August 22, 2020.

⁽⁸⁾ - As per, Nassau County Department of Health guidelines.

⁽⁹⁾ - UCMR - Unregulated Contaminant Monitoring Rule is a Federal water quality sampling program in which water suppliers sample and test their source water for a designated period during 2015-2020. The USEPA will use the results in determining whether the contaminants need to be regulated in the future.

⁽¹⁰⁾ - If iron and manganese are present the total concentration of both should not exceed 500 ug/l.

MCL DEFERRAL

In January 2021, the District received a deferral from the new Maximum Contaminant Level (MCL) established by the New York State Department of Health for 1,4-Dioxane. This deferral delayed the the 1.0 ppb MCL for 1,4-Dioxane up until December 25, 2022, to allow the District time to construct treatment facilities. However, during the time of the deferral, the District did not provide any water that exceeds the MCL for 1,4-dioxane or any other contaminant. For more information on the deferral, please visit www.fswd.org/1-4-dioxane-update. The Deferral is attached as Appendix A.

COST OF WATER

The District bills its consumers at a billing rate of \$32.00 per quarter for the first 9,000 gallons and \$3.20 per additional 1,000 gallons. Of the 711.7 million gallons that was withdrawn, approximately 94.0 percent was billed directly to the consumers. The typical District resident pays approximately \$1.00 per day for water. We are sure you will agree that your water bill is by far the cheapest of all your utility bills.

SOURCE WATER ASSESSMENT




The NYSDOH, with assistance from the local health department, has completed a source water assessment for this system, based on available information. Possible and actual threats to this drinking water source were evaluated. The source water assessment includes a susceptibility rating based on the risk posed by each potential source of contamination and how rapidly contaminants can move through the subsurface to the wells. The susceptibility of a water supply well to contamination is dependent upon both the presence of potential sources of contamination within the well's contributing area and the likelihood that the contaminant can travel through the environment to reach the well. The susceptibility rating is an estimate of the potential for contamination of the source water, it does not mean that the water delivered to consumers is, or will become contaminated. See section "Water Quality Facts" for a list of the contaminants that have been detected. The source water assessments provide resource managers with additional information for protecting source waters into the future.

As mentioned before, our water is derived from five (5) wells. The source water assessment has rated the wells as having a very high susceptibility to industrial solvents and a high susceptibility to nitrates. The elevated susceptibility to industrial solvents is due primarily to point sources of contamination related to transportation routes, and commercial/ industrial facilities and related activities in the assessment area. The elevated susceptibility to nitrates is due to residential land use and related practices, such as fertilizing lawns, as well as the commercial/industrial activities in the assessment area.



A copy of the assessment, including a map of the assessment area, can be obtained by contacting the District, as noted below.

PUBLIC INFORMATION AND PARTICIPATION

If you have any questions about this report or about your water supply, the following contacts and resources are available to you:

-  Water District Superintendent John Hughes at (516) 354-0780.
-  Nassau County Department of Health at (516) 227-9692.
-  All our residents are welcome to attend any of our regularly scheduled meetings. They are normally held on the first, second, third and fourth Tuesday of each month at 5:30 p.m. at the Water District office.

The Franklin Square Water District routinely monitors for different parameters and contaminants in your drinking water as required by Federal and State laws. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. If you would like to find more information on contamination and potential health risks, you can contact:

-  USEPA Safe Drinking Water Hotline at (800-426-4791).
-  Website addresses for EPA (www.epa.gov/safewater) and/or NYSDOH (www.health.state.ny.us).

CAPITAL IMPROVEMENT PROGRAM

The District has completed the construction of a new wellhead treatment system at our Theodora Street well station for the removal of emerging contaminants (1,4-dioxane and perfluorinated compounds). The District is happy to report that it received a New York State Water Infrastructure Improvement Act (WIIA) grant in the amount of \$4.122 million (approximately 60% of the total cost) to offset the costs to the Water District residents for the design and construction of this project. The new treatment system will be online during 2023 and providing clean drinking water to the residents. The District has additionally received a \$3.0 million WIIA grant for construction of granular activated carbon treatment at Well Nos. 1 and 2 to treat for perfluorinated compounds. These capital improvements will help ensure that the residents of the Franklin Square Water District will have the highest quality and reliable drinking water for decades to come.

Copies of the Supplemental Data Package, which includes the water quality data for each of our supply wells utilized during 2022, are available at the Franklin Square Water District office located at 895 Schroeter Avenue, Franklin Square, New York and the local Public Library.

We, at the Franklin Square Water District, work around the clock to provide top quality water to every tap throughout the community. The District is proud of the fact that we consistently are voted one of the Best Tasting Waters in Nassau County. We ask that all our customers help us protect our water supply, which is the heart of our community, our way of life and our children's future.

APPENDIX A

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

1,4-Dioxane MCL Exceedance at Franklin Square Water District

Why are you receiving this notice/information?

You are receiving this notice because testing of our public water system found the chemicals 1,4-Dioxane in one of our drinking water supply wells at 1.1 ppt. This is above New York State's maximum contaminant level (MCL) of 1.0 ppb in public drinking water systems. The MCLs are set well below levels known to cause health effects in animal studies. Therefore, consuming water with 1,4-dioxane at the level detected does not pose a significant health risk. Your water continues to be acceptable for all uses.

The Franklin Square Water District has submitted, and the New York State Department of Health (Department) has issued, a deferral to the Franklin Square Water District. When a public water system is issued a deferral, the water system agrees to a schedule for corrective action and compliance with the new MCLs. In exchange, the Department agrees to defer enforcement actions, such as assessing fines, if the water system is meeting the established deadlines. We are required to update the Department and the Nassau County Department of Health each calendar quarter on the status of our projects. If we do not meet the agreed upon deadlines, the Department can resume enforcement.

Please note that Well number 5 has been tested to exceed the 1.0 ppb MCL. The District has removed Well number 5 from service and it will not be used until such time a treatment system is constructed to remove the chemical.

What are the health effects of 1,4-dioxane?

Laboratory studies show that 1,4-dioxane caused liver cancer in animals exposed at high levels throughout their lifetime. Other types of cancer have also been reported, although less consistently than liver cancer. There is no evidence of 1,4-dioxane cancer effects in humans. The United States Environmental Protection Agency considers 1,4-dioxane a likely human carcinogen based upon studies of animals exposed to high levels of this chemical over their entire lifetimes.

At the level of 1,4-dioxane detected in your water, exposure from drinking water and food preparation is well below 1,4-dioxane exposures associated with health effects.

What is New York State doing about 1,4-Dioxane in public drinking water?

The New York State Department of Health (NYS DOH) has adopted a drinking water regulation that requires all public water systems to test for 1,4-dioxane. If found above the MCLs, the water supplier must take steps to lower the level to meet the standard. Exceedances of the MCL signal that steps should be taken by the water system to reduce contaminant levels.

What is being done to meet the MCL?

The Franklin Square Water District has prepared and begun to implement an aggressive action plan which includes the construction of Advanced Oxidation Process (AOP) facilities for the removal of 1,4-Dioxane. It should be noted that only one of our wells (Well 5) was tested to exceed the MCL of 1.0. Well number 5 is currently out of service. We expect the system to be completed and placed into service by the spring of 2022. Additional information will be shared as further testing and progress occurs. This process is similar for any chemical detected in public drinking water that requires mitigation. The compliance timetable will ensure that your drinking water will meet the MCL as rapidly as possible. The deferral is effective until May 25, 2022. Additional information will be shared as further testing and progress occurs. This process is similar for any chemical detected in public drinking water that requires mitigation due to exceedance of an MCL. The compliance timetable will ensure that your drinking water will meet the MCL as rapidly as possible.

Where can I get more information?

For more information, please contact Franklin Square Water District at 516-354-0780 or 895 Schroeter Avenue, Franklin Square, NY 11010. You can also contact the Nassau County Department of Health at 516-277-9692.

If you have additional questions about these contaminants and your health, talk to your health care provider who is most familiar with your health history and can provide advice and assistance about understanding how drinking water may affect your personal health.

Public Water System ID# 2902822

Date: January 7, 2021