



**The City of Middletown, New York
Water Department**



PWS I.D. No. 3503534

Annual Water Supply Statement

Annual Drinking Water Quality Report for 2016

Department Of Public Works

16 James St. Middletown, N.Y. 10940-1587

Honorable Joseph M. DeStefano, Mayor

J. Miguel Rodrigues, Alderman-At-Large

Jacob S. Tawil, P.E. Commissioner D.P.W.

INFORMATION FOR NON-ENGLISH SPEAKING RESIDENTS

Spanish

Este informe contiene información muy importante sobre su agua beber. Tradúzcalo ó hable con alguien que lo entienda bien.

INTRODUCTION

Your water system is owned and operated by the City of Middletown and has been since the 1800's. The operation and maintenance of this system falls under the direction of the Commissioner of Public Works, Jacob S. Tawil, P.E. The department consists of the water treatment facilities, distribution, water meter department and the reservoirs' watchmen. The City serves 7,415 connections, which serve a population of approximately 30,000 people. To comply with State regulations, the City of Middletown is required annually to issue 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 Jeffrey J. Rysinger, Chief Water Plant Operator @ 845-346-4128 or Deputy Commissioner, Chris Gross @ 845-346-4115. We want you to be informed about your drinking water; so don't hesitate to call the above. If you want to learn more, please attend any of our regularly scheduled city board meetings. The meetings are held at City Hall (16 James St.) 8:00 P.M. on the first and third Tuesday (typically) of each month.

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. The City of Middletown derives its raw water from surface supplies consisting of three (3) reservoirs, two impoundments, one creek and one groundwater well. The watershed, mostly owned by the City encompasses approximately 1,500 acres. The raw water comes to you from these sources through the filtration plant via a system of pipes (of various sizes ranging from 4 inches to 24 inches in diameter) totaling approximately 75 miles to your faucet.

The raw water has the availability to be treated through three separate plants, however only two plants are currently commissioned:

- 1 The Monhagen Treatment Facility, built at the turn of the century and has been added to and upgraded since, consists of pre-chlorination, aluminum sulfate for coagulation. Flocculation and sedimentation then take place. The settled water is then filtered by gravity through sand filters. Chlorine, for residual disinfection and sodium hydroxide, for pH adjustment, are added in the post treatment process. This plant was decommissioned in June of 2010 when the City's new facility was commissioned.
- 2 The package plant, which went on line in November of 2003, incorporates state of the art water treatment technologies, including dissolved air floatation (DAF), filtration and ultraviolet light (UV) disinfection, capable of routinely producing 1.5 Million Gallons per Day (MGD). The treatment includes feeding aluminum sulfate for coagulation, potassium permanganate to reduce iron and manganese (staining effect), dissolved air floatation to float flocculated matter, rapid sand filtration, and ultraviolet disinfection. Then, sodium hypochlorite is added to maintain chlorine (disinfectant) residual within the distribution system and sodium hydroxide for pH adjustment, this plant is currently on a standby / emergency mode as the new facility can more than handle our typical needs.
- 3 June of 2010 saw the commissioning of a completely new 5.1 (MGD) treatment facility. This treatment plant includes feeding aluminum sulfate for coagulation, chlorine dioxide to reduce iron and manganese (staining effect), granular activated carbon (GAC), sand filtration and ultraviolet disinfection. Then, sodium hypochlorite is added to maintain chlorine (disinfectant) residual within the distribution system and sodium hydroxide for pH adjustment. On October 29, 2012, a fluoride feed system was commissioned to provide fluoridation of the drinking water supply.

The NYSDOH has evaluated this public water system's susceptibility to contamination under the Source Water Assessment Program (SWAP), and their findings are summarized in the paragraph below. It is important to stress that these assessments were created using available information and only estimate the potential for source water contamination. Elevated susceptibility ratings do not mean that source water contamination has or will occur for this Public Water System (PWS). This PWS provides treatment and regular monitoring to ensure the water delivered to consumers meets all applicable standards.

This assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. There is also a high density of sanitary wastewater discharges, which results in elevated susceptibility for all contaminate categories. In addition, it appears that the total amount of wastewater discharge to surface water in this assessment area is high enough to considerably raise the potential for contamination (particularly for protozoa). There are no noteworthy contamination threats associated with other discrete contaminate sources. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

A copy of the assessment, including a map of the assessment area, can be obtained by contacting us, as noted in this report.

FACTS AND FIGURES

The City Of Middletown has 7,415 active metered water accounts that serve a population of approximately 30,000. Of these accounts, 337 are out of town accounts in the Town of Wallkill and a water district in the Town of Wawayanda. Generally, water meters are read 3 times per year for billings, beginning on the 1st day of March, July and November; 262 large water consumers' meters are read monthly. Water rates as of this date are \$9.64 per 1,000 gallons, and \$6.42 per 1,000 gallons for sewer users. In 2016, the average daily water produced was 2.30 MGD and metered consumption was 1.88 MGD indicating a 18.3% discrepancy. Factors that may contribute to the discrepancy include un-metered municipal use street sweeping, sewer jet, hydrant flushing, firefighting, water main breaks and leaks in the distribution system.

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 Orange County Health Department at (845-291-2331).

Table of Detected Contaminants
Year of 2016

Contaminant	Violation Yes/No	Date of Sample	Level Detected (Avg/Max) (Range)	Unit Measurement	MCLG	Regulatory Limit (MCL, TT or AL)	Likely Source of Contamination
Sulfate	No	6/11/14	22.5	mg/l	N/A	MCL=250	Naturally Occurring
Nickel	No	6/21/16	0.79	ug/l	100	100	Naturally Occurring
Nitrate	No	6/21/16	0.0688	mg/l	10	MCL=10	Erosion of natural deposits
Sodium See Footnote #1	No	6/21/16	29.0	mg/l	N/A	See Footnote #1	Naturally Occurring,
Lead See Footnote #2	No	Jul. - Aug. 2014	90 th = 2.7 Range = ND to 6.0	ug/l	0	AL=15 ug/l	Corrosion of household plumbing systems.
Copper See Footnote #2	No	Jul - Aug. 2014	90 th = 92 Range = 14 to 162	ug/l	1300 ug/L	AL=1300 ug/l	Corrosion of household plumbing.
Trihalomethanes (TTHM's) See Footnote #3	No	2016	LRAA=42.0 Range 27.0 - 45.0	ug/l	N/A	MCL= 80 ug/l	By-products of drinking water chlorination, needed to destroy harmful organisms.
Haloacetic Acids (HAA5's) See Footnote #3	No	2016	LRAA=22.0 Range 10.8 - 28.1	ug/l	N/A	MCL= 60 ug/l	By-products of drinking water chlorination, needed to destroy harmful organisms.
Barium, Total	No	6/21/16	0.011	mg/l	2	2	Erosion of natural deposits.
Turbidity See Footnote #4	No	7/23/16	0.25	NTU	N/A	TT= ≤ 1.0 NTU	Soil Runoff

Turbidity See Footnote #4	No	2016	100	Percent	N/A	TT= 95% of samples ≤ 0.3 NTU	Soil Runoff
Fluoride	No	2016	Avg. = .712 Range .601 - .879	mg/l	N/A	MCL = 2.2	Water additive that promotes strong teeth

1. Water containing more than 20 mg/l 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 drink by people on moderately restricted sodium diets.
2. The level presented represented the 90th percentile of 30 sites that were tested. A percentile is a value on a scale of 100 that indicates the percent of a distribution sample that is equal to or below it. The 90th percentile is equal to or greater than 90% of the lead and copper values detected in our water system. In this case, 30 samples were collected in our system and the 90th percentile value for lead was 2.7 ug/l and copper was 92 ug/l. The action level for lead and copper was not exceeded at any of the sites tested.
3. TTHM's and HAA5's values as indicated, represent the highest Locational Running Annual Average for 2016 and show the range of all individual samples collected throughout the year.
4. Turbidity is a measure of the cloudiness of the water. We test it because it is a good indicator of the effectiveness of our filtration system. Our highest single turbidity measurement 0.25 NTU for the year occurred on 7/23/16. State regulations require that turbidity must always be below 1 NTU. The regulations require that 95% of the turbidity samples collected have measurements below 0.3 NTU. The levels recorded were within the acceptable range allowed and did not constitute a treatment technique violation.

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.

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.

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

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

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

Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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).

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had no violations. We have learned through our testing that some contaminants have been detected; however, these contaminants were detected below New York State requirements. It should be noted that the action level for lead was exceeded. We are required to present the following information on lead in drinking water:

<p>About Lead: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead in your home may be higher than at other homes in the community because of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, flush your tap for 30 seconds to 2 minutes before using water. If you wish to have your water tested, call (845) 346-4128 for details. More information is available from the Safe Drinking Water Hotline (800-426-4791).</p>	<p>About TTHMs (Total Trihalomethanes): The sum of concentration of chloroform, bromodichloromethane, dibromochloromethane, and bromoform. They are formed as a result of chlorine combining with the natural organics in water.</p> <p>About HAA5 (Haloacetic Acids): The Sum of the concentration of mono-, di-, and trichloroacetic acid, and mono-, and dibromoacetic acid. They are also formed when Chlorine reacts with the natural organics in water.</p>	<p>Maximum Residual Disinfectant Level (MDRL): The highest level disinfectant allowed in drinking water. There is convincing evidence that the addition of a disinfectant is necessary for the control of microbial contaminants. The MRDL for Chlorine is 4.0 ppm.</p> <p>Maximum Residual Disinfectant Level Goal (MDRLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MDLRG's do not reflect the benefits of disinfectant use to control microbial contamination. For Chlorine the MDLRG is 4 ppm.</p>
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IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2016, our system was in compliance with applicable State drinking water operating, monitoring and reporting requirements.

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 0.7 mg/l. During 2016 monitoring showed that fluoride levels in your water were within 0.2 mg/l of the target level for 100.0% 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 fire fighting 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 moved, you have a leak.

SYSTEM IMPROVEMENTS / 2016 HIGHLIGHTS

- * Repaired 33 water main breaks.
- * Installed 11 commercial / residential taps.
- * Winterized and flushed all hydrants and installed hydrant markers.
- * Updated / Replaced 297 Water meters.
- * 22 Water main valves, varying in sizes from 4" to 24" were repaired / replaced.
- * Repaired / replaced / installed 14 fire hydrants.
- * Replaced the granulated activated carbon (GAC) media in filter #3 at the water treatment plant.

2017 PLANNED SYSTEM IMPROVEMENTS AND PROJECTIONS

- * Raise valve boxes.
- * Replace broken valves in distribution system.
- * Replacement / placement of new fire hydrants.
- * Replacing or repainting City water storage tanks at High Barney and Mountain Ave.
- * Treatment of reservoirs with algaecide.
- * Converting Mill Pond Supplemental Water Taking Permit to a permanent water skimming/taking operation, including reconstruction of Mill Pond Dam and adding a permanent raw water pump station.
- * Continue system-wide leak detection program along with staff & equipment from N.Y. Rural Water Association.
- * Begin development of a GIS based mapping system of the City water infrastructure
- * Replace the granulated activated carbon (GAC) media in filter #2 at the water treatment plant.
- * Upgrade the SCADA computer system at the water treatment plant.
- * Beginning March 2017, implement a City wide water meter replacement program for the AMI system. This system will provide easy access of data by City water and sewer account holders, which will encourage and promote water conservation by allowing access to daily water consumption.

PLUMBING INSPECTOR & LICENSED PLUMBERS

The City is required by New York State Municipal Law to have a plumbing inspector. This law was made for your protection and the protection of all our customers. Both the County and State Health Departments require us to prevent and control cross connections within our water distribution system. This can only be done by the plumbing inspector knowing when and where work is being done and that person doing the work is licensed by the City and clearly knowledgeable in the field of plumbing.

IF YOU SEE

Anyone tampering with a hydrant and its operation, or climbing on a water tank is a violation of the law. Report it to the Police immediately. If you see water running out of the street or the ground where have never seen it before, report it to this department. Should your water be discolored after running it for a few minutes, report it also to this department.

The Department of Public Works is open 8:30 – 4:30, Mon- Fri, (343-3169). After hours emergency only, call police department at 343-3151.

YOUR RESPONSIBILITY

Your responsibility for the maintenance of the water system is from and including the tap on the city's water main in the street all the way into your building including all plumbing in your building. You should keep your curb box clean and accessible for emergency shut off of water to your building. All valves should be operable and in good working order. Do not allow hoses to lay in a pool, bucket, tank or anything of the like that could cause contamination to the water system.

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.