



## DEPARTMENT OF HEALTH

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**Steven M. Neuhaus**

*County Executive*

December 18, 2023

Mr. Todd Venning, City Manager

City of Newburgh

83 Broadway

Newburgh, NY 12550

**RE:**

**City of Newburgh Water Supply Inspection**

**CWS ID NY3503549**

Dear Mr. Venning:

On October 31, 2023, Mr. Paul Bellotto and the undersigned conducted a scheduled inspection of the treatment plant with Mr. Wayne Vradenburgh, Water Superintendent, and Mr. George Cobb, Chief Operator. A follow-up visit was performed by Mr. Paul Bellotto with Mr. George Cobb on November 1, 2023, to inspect the distribution system. Included are our comments upon completing the inspections and after a review of our files:

1. The Catskill Aqueduct was in use on the day of the inspection. Browns Pond was offline.
2. This department, in cooperation with NYSDOH, has reviewed plans prepared by Arcadis of New York, Inc., for filter and SCADA system upgrades. The scope of this project includes replacement of the filter media in each of the six (6) sand filters, installation of new underdrains and air scour, valves, appurtenances and installation and incorporation of a full SCADA system for both sides of the plant, i.e., the conventional filter plant and GAC filter plant, and distribution system tanks and pump stations. We have endorsed the approval of these plans by the NYSDOH. Once approved, installed, and completed works granted, we will close the previously issued violation for deficient media. Please also be reminded to update your Vulnerability/Cybersecurity Assessment and Emergency Response Plan (ERP) as necessary due to the major water facility infrastructure changes and submit it to this department and the NYSDOH.
3. It was also noted that there are plans to eventually switch to fiber optic communication service. Currently the system is using cellular service, and cellular service from two service providers is intended to remain as backup when fiber optic is installed. Please be reminded to update your Cybersecurity Assessment accordingly as this work progresses.

4. It was brought to our attention that there is an issue with the finished water turbidimeter where the influent to the turbidimeter is a high-pressure line, but the device only operates properly under low pressure, around 5 psi. It was suggested that perhaps a pressure reducing valve (PRV) could be installed prior to the turbidimeter. On a related note, this water system lacks a combined/composite filter effluent (CFE) tap for the sand filters. As per Part 5-1 of the State Sanitary Code, Table 10A, community water systems that filter surface water must continuously monitor the composite filter effluent. Mr. Cobb indicated that he would investigate to see if it is possible to install a more appropriately placed CFE tap. It is not uncommon for filter plants to not have an appropriately placed CFE tap, as it was a later revision to the code; however, given the filter plant upgrades, now seems an appropriate time to revisit this requirement. Please notify our office prior to any work conducted on the system.
5. Granular Activated Carbon (GAC) was set to be replaced on one of the three GAC filter trains 12/7, 12/8 and 12/9, 2023. Calgon Carbon was contracted to conduct the replacement. The GAC in the other two filter trains is planned to be replaced sometime in early 2024. Sampling protocols were emailed by this department to a representative of the NYSDEC, which includes disinfection, backwash, rinse, and tests for coliform, arsenic, and PFAS samples. Please keep our office updated on the completion of the changeout and if any issues arise.
6. Caustic soda is currently received in totes, then pumped from the totes into day tanks. Both the tote and day tanks currently lack secondary containment. EPA and OSHA require secondary containment for individual primary containers over 55 gallons or when the aggregate total of multiple containers exceeds 100 gallons. The 2022 Recommended Standards for Water Works (Ten States Standards), Section 5.5.11(a)(5) requires secondary containment for all day tanks. Secondary containment for the tote and day tanks must be provided.
7. We are pleased to note that several improvements were made since the last inspection, and even more are planned:
  - a. Check valves were replaced on the GAC feed pumps to provide better protection against water hammers.
  - b. The two backwash pumps were replaced in-kind and one of the old pumps is to be rebuilt to have as a spare.
  - c. A new control panel was installed in the treatment plant control room.
  - d. The chlorine day crocks have been replaced and new ultrasonic level sensors equipped with a 7-segment display overhead in the control room.
  - e. A new 500kW permanent generator has been installed at the Browns Pond pump station that can power the entire pump station and also communicate back to the treatment plant when it is supplying load, low fuel, low battery, and many other alarms. It was reported that there are plans to raise the height of the fence around the generator to provide better security as the height of the generator is considerably greater than the height of the fence.
  - f. The interior of the Browns Pond pump station has been renovated, including painting of the walls, new epoxy floors, and all seals, valves and pumps were serviced and painted. The operator also noted that there are plans to renovate the rest of the pump stations. We appreciate these improvements and the effort to keep all facilities maintained to a high standard.

8. It was also reported that plans for the reconstruction of the Browns Pond spillway have been approved by the NYSDEC and NYCDEP. Please keep our office informed of when construction will commence.
9. There are reportedly plans to extend the bulk sodium hypochlorite fill pipe so that suppliers need not climb the platform to fill the tanks, and that there are also plans to modify the slope around the bulk fill pipes and bulk truck parking area to provide spill containment. Our office is in agreement with these proposed upgrades.
10. There are also plans to provide alarms for the underground chemical spill holding tanks. Lack of alarms on these tanks is a serious concern of ours and we strongly recommend prioritizing this improvement.
11. A new 3-inch Reduced Pressure Zone Assembly (RPZA) has been delivered to replace the faulty RPZA on the finished water supply line to the treatment building. Some pipe modifications need to be made to install an isolation valve in order to install the new RPZA without having to shut off water to the entire treatment plant. Please be reminded to have the device tested initially and annually thereafter and a copy of the report sent to this office.
12. Shortly after the last inspection letter was delivered, we received a letter from Mr. Vradenburgh reporting that several items of our last inspection were addressed. We also observed that these items were addressed in this most recent inspection. These items are as follows:
  - a. Standing water in the pipe gallery from a leak on an old backwash tower line has been capped. There was no standing water observed during the inspection.
  - b. HVAC maintenance for the GAC building is under service contract with Armistead Mechanical Inc. and is inspected quarterly.
  - c. The fluoride analyzer was repaired by Thermo Scientific Tech and was observed to be properly functioning during the inspection.
  - d. The leaking expansion joint in the Carter Ave Pump Station has been replaced.
  - e. Long-Term 2 (LT2) sampling as required under the LT2 Interim Enhanced Surface Water Treatment Rule (LT2IESWTR) has been completed and we are in receipt of the summary report.

We appreciate the swift action of your staff in addressing these items.

13. New York City has been treating the Catskill Aqueduct with Chlorine Dioxide. It was reported that the Chlorine Dioxide has been aiding in oxidation at the treatment plant. Chlorine Dioxide is a regulated contaminant for which an MCL and minimum monitoring requirements appear in the State Sanitary Code (10 NYCRR Part 5, Subpart 5-1) and NYCDEP will be monitoring accordingly. It is not clear at this time what impact this use of chlorine dioxide may have on the City of Newburgh, if any. We understand that your operators are conducting testing daily, for informational purposes. Orange County DOH continues to evaluate the situation and will advise of any additional required testing requirements for Newburgh after review of DEP's test results and discussions with NYSDOH.

14. It was reported that there could be a 4- or 5-day shutdown of the Catskill Aqueduct sometime in January or February. We are in receipt of a full Part 5 analysis for Browns Pond in anticipation of switching over from aqueduct. At this time this department does not require any further action for switching over to Browns Pond. Please keep this office updated on the potential shutdown.
15. Contracts are reportedly in place for 2024 for the treatment of Browns Pond and Washington Lake to help prevent Harmful Algal Blooms (HAB).
16. New York State has launched the Drinking Water Source Protection Program (DWSP2) to assist municipalities with proactively protecting their drinking water sources. Technical assistance in developing a source water protection plan is available free of charge to participants. We understand that the city may be interested in participating but feels like it would be beneficial to include both the Town of Newburgh and the Town of New Windsor at the same time, due to interest and ownership of water sources by these three municipalities. Please keep our office informed as this progresses, and if our office can offer any support for facilitating these discussions, please let us know.
17. The City is actively acquiring land around Browns Pond, with assistance from the Orange County Water Authority (OCWA). This land acquisition will significantly increase protection of this surface water source.
18. It is our understanding that the situation concerning the property located in the Town of Newburgh, at 392 N. Montgomery Street is still ongoing. Water supply from the City to this facility is currently shut off, the issue being that this commercial facility does not have adequate backflow protection and appears to have wells located on the property that can potentially cause significant contamination to the City's water supply. We understand that there is ongoing litigation, although there has not been much, if any, activity since the last inspection that we are aware of. Please keep our office immediately updated as this situation progresses.
19. As the City is already aware the EPA has recently announced revisions to the Lead and Copper Rule (LCRR) that officially went into effect on December 16, 2021. A significant aspect of the current revision is that all water suppliers subject to sampling under the current Lead and Copper Rule are required to inventory all service lines, both residential and commercial, throughout their respective distribution systems. Of particular concern, is the identification of all lead service lines or potential lead service lines. All available data must be collected and reviewed with the inventory completed by no later than October 16, 2024. Depending on the complexity and age of your water distribution system, the task of compiling a comprehensive inventory could require much time and effort. As such, our office would strongly recommend that you begin this inventory project as soon as possible. Service line inventories must consider all portions of the line from the water main to the end user. Portions of the line, utility owned and private (as applicable) must be identified as to material type. At minimum, material identification is to be based upon a review of all available records, plumbing codes, permits and water system records. Inventories need to be updated as new site-specific information becomes available. There will be more details to follow on this rule in the coming months. Our office is also available should you have any questions or concerns regarding this new requirement.
20. It was reported that plans are to have Arcadis conduct the lead line inventory noted above. We are also aware that the City has been awarded a substantial grant through the Bipartisan Infrastructure Law Lead Service Line Replacement (BIL-LSLR) and that the City has acknowledged and accepted the award. These funds will surely help to complete the lead service inventory and lead service line replacement as per the LCRR. Please keep our office informed as this progresses.

21. Additionally, we are very pleased to note that the City has already been aggressively pursuing lead service line replacement. It was reported that, to date, 270 lead service lines have been replaced so far, all schools and daycares are complete, and that future budgeting goals are to continue to replace these lines. We also commend the City for its \$10,000 contribution to residents for the replacement of lead service lines. This extremely important public health service to your community is truly appreciated. We were also informed that the City has been a portion of the grant money received will be allotted to a second hydrovac truck for the safe excavation of curb boxes.
22. We are informed that the entire distribution system is flushed once or twice per year, and locally as needed. A few automatic flushing stations have been added to maintain disinfectant residual in areas where it has proven difficult to do so in the past and we are pleased to report that they appear to be working quite well.
23. Our office has on record a service connection total for the City of 6,486 and a population of 28,000. As per the 2022 AWQR, the City reports a service connection total of 5,675 and population of 29,000. Our office understands that these may be meter totals and some users do not have meters, which could be the reason for the smaller number. We are keeping our records indicating the total service connections of 6,486 and have updated our records to reflect a population of 29,000. Please update our office as services and/or populations change, as regulatory requirements are often stemmed from these totals.
24. As gathered from the 2022 AWQR, the total water produced during 2022 was 1.2 billion gallons, the daily average of water treated and distributed was 3.04 million gallons, and the amount of water delivered to customers was approximately 649 million gallons. This results in a difference in water produced vs. delivered of approximately 46%, which we find unusually high considering the City's aggressive leak detection program. This difference can be attributed to many things including leaks, filter backwash (typically less than 3%), authorized unmetered usage (i.e. fire dept, flushing), unauthorized usage, water sold to/ received from another supply, etc. Our office typically requests consumption figures to perform our own rudimentary comparison to production figures recorded on monthly operations reports for the same period. We will be reaching out to obtain such figures and will inform the City of any significant findings. In the interim we suggest investigating the accuracy of these figures to find the high volume of water unaccounted for, as well as continuing the aggressive leak detection program.
25. We are aware that the City has funding for the replacement of all meters in the City. New meters will aid in leak detection and water conservation efforts.
26. It was reported that there are nine sampling stations to allow operators to sample the distribution system directly from the water mains.
27. We are pleased to note that the water storage tanks serving the City were all professionally inspected and the inside cleaned in July of 2021 by Underwater Solutions Inc. Please note that the recommended inspection frequency is every 3-5 years. We would expect to see the next round of professional inspections sometime on or before 2026. You should continue to follow any recommendations from the tank inspection reports; additionally, the result of our sanitary survey inspection of the facilities are noted here.
28. Please be reminded that all hose bibs in the treatment buildings and pump stations must be equipped with vacuum breakers.

29. The Ellis Avenue tank can use a power wash. Please also continue to keep removal of brush and leaves part of routine maintenance.
30. Regarding the Marne Avenue tank and pump station:
  - a. We understand that plans are to change this pump station over to a VFD. Currently, pumps are alternated manually each week.
  - b. As noted in the last inspection letter, there is a cracked valve. The operator indicated that new valves were ordered and all valves in the pump station are to be replaced. A short shutdown of water may be required to conduct this replacement. Please reach out to our office when work is to be conducted so we may provide instruction on what actions may be required, such as a precautionary boil water order.
  - c. One of the booster pumps was also leaking. The operator was aware and there were plans to repair or replace the pump.
31. The mixer in the Brady Avenue tank has been replaced. This tank can also use a power wash. The breaker for the heater in the shed housing the chlorine analyzer was found tripped during the inspection. The operator indicated he would have it addressed.
32. Regarding the Carter Ave Pump Station:
  - a. The flex coupling on the 1,600 gpm that was leaking during the last inspection has been replaced. A valve on this line was also replaced, and there are plans to replace the other flex coupling and valve on this line.
33. The 330-gallon mobile tank trailer was winterized for the season and stored in the storage garage adjacent to the Carter Ave pump station.
34. We understand that there are plans of establishing a bulk water filling station, specifically planned for the purpose of filling tankers, hydrovac trucks, street sweepers, etc., and possibly sell finished water. Please keep this office updated on the plans for this facility. Adequate backflow prevention will need to be addressed and this department must review and approve all testable backflow prevention devices prior to installation and use of this filling station.
35. Please find attached the SDWIS/State Water Sample Schedule Report. The following testing remains for 2023:
  - a. 30 Distribution system samples must be collected for coliform on a monthly basis in compliance with your monitoring plan.
  - b. One monthly Total Organic Carbon (TOC) sample is required to be collected from the Combined Filter Effluent (CFE) location and from the raw water source. Source water alkalinity must also be included monthly with the TOC samples.
  - c. A nitrate sample is due annually.
  - d. Synthetic Organic Chemicals, Table 9C.

e. Lead and Copper – Water Quality Parameters must be collected on a regular basis:

- i. 1 Distribution system sample set must be collected Quarterly.
- ii. 1 Entry point set must be collected every 2 weeks.

Results must be submitted to our office as soon as they are available, results can be submitted electronically to [pwstestresults@orangecountygov.com](mailto:pwstestresults@orangecountygov.com).

36. In addition to the monitoring detailed on the attached SDSWIS/ State Water Sample Schedule Report, the following is also required to be reported on monthly operations reports:

- a. Results of the distribution system turbidity and free chlorine residual samples collected at the same time and place as the Coliform samples.
- b. The Individual Filter Effluent (IFE) turbidity is monitored continuously, recorded automatically at least every 15 minutes and reported on monthly operation report (DOH-4303) form.
- c. The Combined Filter Effluent Turbidity (CFE) is monitored and recorded continuously and reported for every 4-hour period.
- d. The Entry Point free chlorine residual is monitored and recorded continuously and reported for every 4-hour period.
- e. Daily treatment chemical usage.
- f. Results from daily grab samples for free chlorine, fluoride & phosphate residuals at the EP.

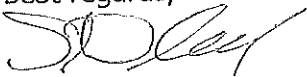
37. Please be reminded that the Annual Water Quality Report (AWQR) must be delivered to consumers by May 31 each year. Certification of delivery is due in our office by September 1 each year. The 2022 report was distributed in June 2023 and certification of delivery has been received.

38. The City has completed round 2 of sampling for the Long Term 2 Enhanced Surface Water Treatment Rule (LT2EHSWTR) and we have received the final summary report. No further action is required on the LT2EHSWTR at this time.

39. Our office is also impressed with the filter plant opening its doors to the public once a month to provide a tour of the facilities and provide education and transparency to the community.

In conclusion, we find that the filter plant and distribution system are very well operated.

Best regards,



Steven Gagnon, MPH, PE  
Principal Public Health Engineer

SG/PB

cc: Newburgh Mayor & City Council  
Wayne Vradenburgh, C. Newburgh  
George Cobb, C. Newburgh  
File

**SDWIS/State Water Sample Schedule Report**  
**NEWBURGH CITY PWS ID: NY3503549**

Due Contaminant (Group)/ 2023 Sample Location/Frequency	Last Compliance Results	Sample Requirements
<b>Coliform, Total (TCR)</b>		
<input checked="" type="checkbox"/> Location: Distribution System Frequency: 30 Samples Monthly		30 Samples must be collected every month.
<b>Part 5-1.52 Table 9C - Synthetic Organic Chemicals</b>		
<input checked="" type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Every 18 Months Dioxin, Diquat, Endothall and Glyphosate not required.	Samples last collected: 6/9/2022	Sample must be collected by 12/31/2023
<b>Part 5-145(c) - Lead and Copper Water Quality Parameters</b>		
<input checked="" type="checkbox"/> Location: DISTRIBUTION SYSTEM ID: DS0001 Frequency: 1 Sample Quarterly		1 Sample must be collected each calendar quarter.
<input checked="" type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Every two weeks		
<b>Total Organic Carbon (Toc)</b>		
<input checked="" type="checkbox"/> Location: CATSKILL AQUEDUCT TAP ID: 003 Frequency: 1 Sample Monthly One (1) RAW WATER sample per month - Routine Monitoring. MUST include an ALKALINITY sample		1 Sample must be collected every month.
<input checked="" type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Monthly One (1) CFE sample per month - Routine Monitoring.		1 Sample must be collected every month.
<b>Combined Radium (-226 &amp; -228)</b>		
<input type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Every 9 years	Samples last collected: 8/5/2015	Next sample must be collected by 12/31/2024
<b>Combined Uranium</b>		
<input type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Every 9 years	Samples last collected: 8/5/2015	Next sample must be collected by 12/31/2024
<b>Gross Alpha, Incl. Radon &amp; U</b>		
<input type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Every 9 years	Samples last collected: 8/5/2015	Next sample must be collected by 12/31/2024
<b>Nitrate</b>		
<input type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Yearly Sample Point: ENTRY POINT Sample Point No.: 001 Sample Point Type: EP-Entry Point Collect sample between April 1 and Sept. 30.	Last Sample Collected on or Before: 4/6/2023	Next sample must be collected between 1/1/2024 and 12/31/2024
<b>Part 5-1.42 and 5-1.47 - Lead and Copper</b>		
<input type="checkbox"/> Location: DISTRIBUTION SYSTEM ID: DS0001 Frequency: 30 Samples Yearly 30 first draw samples collected from distribution between 6/1 and 9/30	31 Samples Collected on or Before: 9/6/2023	Starting 1/1/2024, next 30 samples must be collected between 6/1 and 9/30 within a single year by 12/31/2024
<b>Part 5-1.52 Table 8B - Primary Inorganic Chemicals</b>		
<input type="checkbox"/> Location: FILTRATION PLANT ID: T001 Frequency: 1 Sample Yearly	Last Sample Collected on or Before: 5/8/2023	Next sample must be collected between 1/1/2024 and 12/31/2024
<b>Part 5-1.52 Table 9A - Disinfection Byproducts/Stage 2</b>		



# SDWIS/State Water Sample Schedule Report

NEWBURGH CITY PWS ID: NY3503549

**Due 2023 Contaminant (Group)/**

**Sample Location/Frequency**

**Last Compliance Results**

**Sample Requirements**

Location: DISTRIBUTION SYSTEM ID: DS0001  
Frequency: 2 Samples Quarterly

2 Samples Collected  
on or Before:  
10/11/2023

2 Samples must be collected each calendar  
quarter.

Sample Point: BRADY AVE TANK  
Sample Point No.: LRAA1  
Sample Point Type: DS-Distribution System

Sample Point: 124 GRAND STREET  
Sample Point No.: LRAA4  
Sample Point Type: DS-Distribution System

Samples must be collected on the 3rd week of Jan, April, July and Oct at the sites specified as per your monitoring plan.

System on reduced monitoring.

DBP LRAAs must not exceed 1/2 the MCL & Raw Water TOC RAA must not exceeded 4.0 mg/l.

**Part 5-1.52 Table 9B - Principal Organic Chemicals**

Location: FILTRATION PLANT ID: T001  
Frequency: 1 Sample Yearly

Last Sample Collected  
on or Before: 5/8/2023

Next sample must be collected between  
1/1/2024 and 12/31/2024

**Part 5-1.52 Table 9C - PFOA, PFOS and 1,4-Dioxane**

Location: FILTRATION PLANT ID: T001  
Frequency: 1 Sample Every 18 Months

Last Sample Collected  
on or Before:  
10/16/2023

Next sample must be collected between  
7/1/2024 and 12/31/2025

Any change to water source will require sampling frequency to return to quarterly

**Sodium**

Location: FILTRATION PLANT ID: T001  
Frequency: 1 Sample Yearly

Last Sample Collected  
on or Before: 5/8/2023

Next sample must be collected between  
1/1/2024 and 12/31/2024