

**SANFORD LAW OFFICE, PLLC**  
Jo Anne Sanford, Attorney at Law

March 1, 2023

Ms. A. Shonta Dunston  
Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4325

**Via Electronic Filing**

Re: Aqua North Carolina, Inc.  
Docket No. W-218, Sub 526A  
Eighteenth Semi-Annual Report Regarding Secondary Water  
Quality Concerns

Dear Ms. Dunston:

Enclosed please find for filing the referenced Eighteenth Semi-Annual Report Regarding Secondary Water Quality Concerns, jointly submitted by Aqua North Carolina, Inc. and the Public Staff. This Report is the latest in a series of reports filed pursuant to the Commission's Rate Case Order of October 26, 2020, in Docket No. W-218, Sub 526, at page 171 (Ordering Paragraph No. 19).

As always, thank you and your office for your assistance and please feel free to contact me if there are any questions.

Sincerely,

**Electronically Submitted**  
**/s/Jo Anne Sanford**  
State Bar # 6831

Attorney for Aqua North Carolina, Inc.

c: Parties of Record

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**STATE OF NORTH CAROLINA  
UTILITIES COMMISSION  
RALEIGH**

DOCKET NO. W-218, SUB 526A

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of  
Reporting Requirements from Docket No. W-218, ) **EIGHTEENTH**  
Sub 526 - Application by Aqua North Carolina, Inc., ) **SEMI-ANNUAL REPORT**  
202 MacKenan Court, Cary, North Carolina 27511, ) **REGARDING**  
for Authority to Adjust and Increase Rates for ) **SECONDARY WATER**  
Water and Sewer Utility Service in All of Its Service ) **QUALITY CONCERNS**  
Areas in North Carolina )

**NOW COME** Aqua North Carolina, Inc. (Aqua or Company) and the Public Staff – North Carolina Utilities Commission (Public Staff), by and through the undersigned counsel, to file this Eighteenth Semi-Annual Report Regarding Secondary Water Quality Concerns (Eighteenth Semi-Annual Report), as discussed below.

In support of this Eighteenth Semi-Annual Report, Aqua and the Public Staff state the following:

On October 26, 2020, the North Carolina Utilities Commission (NCUC or Commission) issued its *Order Approving Partial Settlement Agreement and Stipulation, Deciding Contested Issues, Granting Partial Rate Increase, and Requiring Customer Notice* (2020 Rate Case Order) in Docket No. W-218, Sub 526.

The Commission included the following reporting requirement in its Ordering Paragraph No. 19, at page 171 of the 2020 Rate Case Order:

That the Public Staff and Aqua NC are required to file a written report with the Commission, on March 1 and September 1 each year in which the WSIC is in effect, on secondary quality concerns that are affecting its customers. If a particular secondary water quality concern

has affected or is affecting 10% of the customers in an individual subdivision service area or 25 billing customers in an individual service area, whichever is less, the customers affected and the estimated expenditures that are necessary to eradicate to the extent practicable water quality issues related to iron and manganese through the use of projects that are eligible for recovery through the WSIC shall be detailed in the written report. The written report shall also contain a recommendation as to whether the Commission should order Aqua NC to pursue such corrective action and an underlying reason why the action should or should not be undertaken. If there are no secondary water issues or if the secondary water quality issues are below the 10%/25 threshold previously set forth, Aqua NC and the Public Staff shall so inform the Commission, but they need not report secondary water quality issues resolved by Aqua NC without the assistance or expectation of assistance of the WSIC.

On August 15, 2014, Aqua filed its First Semi-Annual Report on Secondary Water Quality Concerns in Docket No. W-218, Sub 363A. Thereafter, Aqua has heretofore filed an additional 16 Semi-Annual Reports, including its Seventeenth Semi-Annual Report Regarding Secondary Water Quality Concerns which was filed in Docket No. W-218, Sub 526A on September 30, 2022.

### **DISCUSSION**

Aqua initially determined that eight systems met either the 10% of customers or the 25 billing customers per system reporting requirement for this Semi-Annual Report.

Aqua subsequently removed six of the eight systems because the Company determined they did not meet the required reporting criteria either because they were not attributable to secondary water quality issues or because the Company does not expect to resolve them through WSIC funding.

- The Bridlewood system was removed due to a tank being airlocked.

- The Stoney Oaks system was removed due to main breaks, pump repairs and motor repairs.
- The Country Knolls system was removed due to freezing and service line breaks.
- The Timberlake System in Surry County was removed due to a chemical pump being airlocked and flushing.
- The Holly Hills system was removed due to flushing by the purchased water supplier.
- The Sunset Hills system was removed due to system age and because Aqua does not intend to use WSIC funding to address this issue as it is paralleled by a municipal system.

Aqua determined that there were two subdivisions or service areas served by the Company where a particular secondary water quality concern affected either 10 percent of the customers or 25 billing customers during the six-month reporting period ending December 31, 2022, which is the period addressed by this Eighteenth Semi-Annual Report, and for which Aqua expects to incur expenditures recoverable through the use of the WSIC mechanism. The Aqua systems in question are listed below.

<u>Systems Located in Aqua's Central Area</u>	<u>Systems Located in Aqua's Western Area</u>	<u>Systems Located in Aqua's Coastal Area</u>
Hunt Farms Paceville	None	None

## **SPECIFIC SERVICE AREA REPORTS**

**Hunt Farms.** The Hunt Farms water system currently serves 35 connections and is at full build-out. The system has one approved well and one 2,000-gallon hydro-pneumatic storage tank. Aqua adds sodium hypochlorite, a polyphosphate blend, and sodium hydroxide. A Harmsco filter was installed at the well in April 2020.

Aqua received seven water quality complaints from five customers during the six-month reporting period ending December 31, 2022. Four complaints were received during the previous reporting period ending June 30, 2022. This is the second time that the Hunt Farms water system appears in a Semi-Annual Report.

Hunt Farms' last IOC sample, which was collected on April 2, 2021, showed iron levels at 0.549 mg/L and manganese at 0.211 mg/L, which were both above their respective sMCLs.

The Hunt Farms system was flushed in January, August, and November 2022, as well as June 2021 and August 2020.

Aqua initiated compilation of the necessary documentation and sample data for preparation of an Executive Summary requesting approval to install a secondary water quality filter. Aqua will continue to monitor the polyphosphate blend feed rate and conduct flushing to minimize the secondary water quality issues at Hunt Farms in the interim.

### **Public Staff Comments.**

As noted above, the Hunt Farms system was previously included in the Sixteenth Semi-Annual Report Regarding Secondary Water Quality Concerns filed on March 1, 2022.

The Public Staff notes that the seven customer complaints related to secondary water quality in the Hunt Farms water system were received over an 11-day period, beginning on November 6, 2022, rather than throughout the reporting period. The Public Staff believes that a high intensity of complaints could be related to an unidentified cause.

The Public Staff additionally makes note that, as indicated by Aqua's Pump Status Report Form, between October 20, 2022, and November 2, 2022, the average pump run time decreased from greater than 3 minutes per use, to just under 34 seconds. The pump runtime during the 7-day period ending on November 9, 2022 returned to 3 minutes and 49 seconds. The following week, the pump runtime decreased to an average of 28 seconds. The number of pump cycles per day increased from approximately 20 during normal operation to as many as 212 during these abnormal periods.

The Monthly Operating Reports associated with the treatment system at the Hunt Farms well indicate that on October 26 and November 2, 2022, the phosphate residuals were measured at 0.4 and 0.6 mg/L, respectively. This is a notable departure from the other weeks in October and November which average 0.87 mg/L and 1.0 mg/L.

The Public Staff believes that the high intensity of customer complaints during this time period could be related to abnormal operation of the well pump and treatment system. The Public Staff recommends that Aqua investigate the noted irregular operation, determine the cause, resolve any issues identified, and report its findings and resolutions.

### **Aqua's Response to the Public Staff Comments.**

Aqua received two discolored water calls on November 6, 2022, in the Hunt Farms Subdivision. Emergency staff responded, investigated, and could not identify anything atypical contributing to the discolored water. On both occasions the water was found to be clear upon arrival and inspection.

Aqua received its third discolored water call in the Hunt Farms system on November 11, 2022, in which discolored water was witnessed by the Aqua employee upon arrival. Aqua staff installed a jumper in place of the water meter to assist in clearing the service for the customer. The jumper cleared the homeowner's service line but caused additional issues for surrounding neighbors.

On November 12, 2022, thru November 13, 2022, Aqua staff opened a system blow off to better clear the affected area of the subdivision. The Public Staff's comments concerning the number of starts in this timeframe are related to opening the blow-off to clear the discolored water and are not necessarily representative of the issue. The number of starts did not cause the discolored water but were the result of actions taken by Aqua to mitigate the discolored water. The discolored water appears to have been caused by precipitation of particulates in the line which are not wholly controllable using a sequestrant.

To reduce the continued discolored water on November 16, 2022, Aqua initiated a full system flush. Please note Aqua completes system flushes in this system twice per year, and this flushing has been ineffective in alleviating the precipitation of particulates in the mains between flushing campaigns.

This system has been fully evaluated by Aqua compliance and engineering staff and identified as needing advanced filtration. Aqua is preparing an executive summary in support of advanced filtration for this system.

**Paceville.** The Paceville water system currently serves 22 connections and is at full build-out. The system has one approved well and one 5,400 hydro-pneumatic storage tank. Aqua adds sodium hypochlorite, sodium hydroxide and a polyphosphate for sequestration. A Harmsco filter was installed at the well in 2017.

Aqua received four water quality complaints from three customers during the six-month reporting period ending December 31, 2022. There were no complaints received during the previous reporting period ending June 30, 2022. This is the first time that the Paceville water system appears in a Semi-Annual Report.

Paceville's last IOC sample, which was conducted on January 12, 2021, showed levels of iron as non-detect and manganese of 0.158 mg/L, which is above the sMCL of 0.05 mg/L for manganese.

The Paceville system was flushed in November 2019, April 2021, and most recently in January 2023.

Aqua is conducting additional analysis to determine future actions in accordance with its secondary water quality plan. In the interim, Aqua will continue to address the secondary water quality concerns through sequestration and distribution system flushing.

**Public Staff Comments.**

The Public Staff agrees with Aqua's plan of action to address discolored water complaints at Paceville. The Public Staff notes that the period of time between the



previous system flushing event in April of 2021 and the first system complaint in August of 2022 was 16 months, a period longer than one year, and that this may have contributed to the increase in water quality complaints.

The following Aqua appendices are attached to this Report:

<u>Appendix</u>	<u>System Name</u>
Appendix A	Hunt Farms
Appendix B	Paceville

The Aqua appendices show:

- a. Simple map of system showing the location of each well, with wells identified; **FILED CONFIDENTIALLY**;
- b. Department of Environmental Health/Public Water Supply Section (DEH/PWSS) approval letter for each well;
- c. Original inorganic analysis for each well submitted to DEH for well approval;
- d. All inorganic analyses from each well at the wellhead for the last six years;
- e. Copies of all iron and/or manganese analyses for soluble and insoluble the past three years – baseline (without treatment), well head (after treatment), and distribution system (after treatment);
- f. Copies of the Pump Status Reports for each well for the last two years;
- g. Original 24-hour pump test for each well; and
- h. Copies within the last six months of all Aqua NC emails to and from PWSS, letters to and from PWSS, reports to and from PWSS, and the recommendations of PWSS regarding water quality concerns on Aqua NC's water systems.

## RECOMMENDATION

**WHEREFORE**, Aqua and the Public Staff request that the Commission review this Eighteenth Semi-Annual Report Regarding Secondary Water Quality Concerns and accept the corrective actions recommended herein as reasonable and appropriate to address the secondary water quality issues affecting the Company's service areas listed above.

Respectfully submitted, this the 1<sup>st</sup> day of March 2023.

### **ATTORNEYS FOR AQUA NORTH CAROLINA, INC. Electronically Submitted**

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**VERIFICATION**

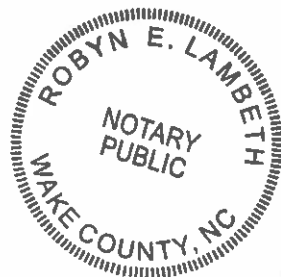
**Shannon V. Becker**, being duly sworn, deposes and says: that he is the President of Aqua North Carolina, Inc.; that he is familiar with the facts set out in this **EIGHTEENTH SEMI-ANNUAL REPORT REGARDING SECONDARY WATER QUALITY CONCERNS** filed in Docket No. W-218, Sub 526A; that he has read the foregoing Eighteenth Semi-Annual Report and knows the contents thereof; and that the same is true of his knowledge except as to those matters stated therein on information and belief, and as to those he believes them to be true.

  
\_\_\_\_\_  
Shannon V. Becker

Sworn to and subscribed before me this  
the 16<sup>th</sup> day of March 2023.

  
\_\_\_\_\_  
Robyn E. Lambeth  
Notary Public

My Commission Expires: May 13, 2026



**CERTIFICATE OF SERVICE**

I hereby certify that on this the 1<sup>st</sup> day of March 2023, a copy of the foregoing **EIGHTEENTH SEMI-ANNUAL REPORT REGARDING SECONDARY WATER QUALITY CONCERNS** has been duly served upon all parties of record in Docket No. W-218, Sub 526A by electronic service, addressed as shown below:

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