

**SANFORD LAW OFFICE, PLLC**

Jo Anne Sanford, Attorney at Law

August 5, 2021

**Via Electronic Filing**

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

Re: Aqua North Carolina, Inc. - Application for Approval to Implement  
Two Secondary Water Quality Improvement Projects Pursuant to  
G.S. 62-133.12 - Docket No. W-218, Sub 526A

Dear Ms. Dunston:

Attached for filing please find Aqua North Carolina, Inc.'s ("Aqua" or "Company") Application for Approval to Implement Secondary Water Quality Improvement Projects, submitted pursuant to G.S. 62-133.12. By this Application, Aqua requests Commission approval to undertake the two proposed projects, which are designed to allow the Company to comply with secondary water quality standards.

Aqua submits that these water system improvements are necessary to enable the Company to provide safe, reliable, and efficient service to its customers in accordance with applicable water quality standards, and requests that the Commission, upon review of this Application, so find.

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

Sincerely,

**Electronically Submitted**

/s/Jo Anne Sanford  
Sanford Law Office, PLLC  
State Bar No. 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

|   |   |                                   |
|---|---|-----------------------------------|
| In the Matter of                            | ) |                                   |
| Reporting Requirements from Docket          | ) |                                   |
| No. W-218, Sub 526 - Application by         | ) | <b>APPLICATION FOR APPROVAL</b>   |
| Aqua North Carolina, Inc., 202              | ) | <b>TO IMPLEMENT SECONDARY</b>     |
| MacKenan Court, Cary, North Carolina        | ) | <b>WATER QUALITY SYSTEM</b>       |
| 27511, for Authority to Adjust and          | ) | <b>IMPROVEMENT PROJECTS</b>       |
| Increase Rates for Water and Sewer          | ) | <b>PURSUANT TO G.S. 62-133.12</b> |
| Utility Service in All of Its Service Areas | ) |                                   |
| in North Carolina                           | ) |                                   |

**NOW COMES Aqua North Carolina, Inc.** ("Aqua" or "Company"), by and through counsel, and hereby applies to the North Carolina Utilities Commission ("Commission" or "NCUC") for approval to implement two secondary water quality system improvement projects pursuant to G.S. 62-133.12 and NCUC Rule R7-39. Aqua states the following in support of this Application:

1. On June 12, 2013, North Carolina Session Law 2013-106 (House Bill 710), entitled *An Act to Permit Water Utilities to Adjust Rates for Changes in Costs Based on Third-Party Rates and to Authorize the Utilities Commission to Approve a Rate Adjustment Mechanism for Water and Sewer Utilities to Recover Costs for Water and Sewer System Improvements*, was signed into law, having previously been ratified by the North Carolina General Assembly. The General Assembly, in pertinent part, enacted G.S. 62-133.12 to authorize the Commission in a general rate case proceeding to approve a rate adjustment mechanism to allow water and sewer utilities to recover reasonable and prudently-incurred investments in eligible water and sewer system improvements.

2. G.S. 62-133.12 provides for Commission approval of a water system improvement charge ("WSIC") and a sewer system improvement charge ("SSIC"), upon finding in a general rate case that the rate adjustment mechanism is in the public interest. G.S. 62-133.12(a) provides:

"The frequency and manner of the rate adjustments under the mechanism shall be as prescribed by the Commission."

3. On June 6, 2014, the Commission entered an Order Adopting Rules to Implement G.S. 62-133.12 in Docket No. W-100, Sub 54. Rule R7-39, entitled "Water System Improvement Charge Mechanism," and Rule R10-26, entitled "Sewer System Improvement Charge Mechanism," were adopted effective as of the date of the rulemaking order.

4. G.S. 62-133.12(c)(2) and (c)(4) provide, in pertinent part, that specific approval from the Commission is necessary before Aqua may undertake and recover its incremental depreciation expense and capital costs through the WSIC mechanism for "eligible water system improvements" implemented to "comply with secondary drinking water standards."

5. By the 2014 Rate Case Order entered in Docket No. W-218, Sub 363, the Commission specifically found that it was in the public interest to approve and authorize Aqua to implement WSIC and SSIC mechanisms.

6. On October 26, 2020, the Commission entered an 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, Aqua's most recent general rate case.

7. By this Application, Aqua requests that the Commission approve the Company's proposal to implement two secondary water quality system improvement filtration projects, the history of which is described in Appendix A.<sup>1</sup> Approval is requested pursuant to G.S. 62-133.12 and NCUC Rule R7-39.

8. The proposed WSIC projects described in Appendix A are necessary in order to allow Aqua to comply with secondary water quality standards in conformity with G.S. 62-133.12. Appendix A contains a description of these proposed projects and provides documentation in support thereof.

9. If the Commission approves Aqua's proposal to undertake and implement the two secondary water quality improvement projects described in Appendix A, the Company will, by September 2022, make a collective, total capital investment in the Royal Senter Ridge and Bayleaf Farms water systems (both located in Wake County) ranging from approximately \$720,000 to \$770,000 in a good faith effort to remedy secondary water quality issues.

10. In addressing secondary water quality issues, Aqua generally follows a four-step protocol, moving from least-cost options to more expensive options at each stage. As a first step, the Company cleans the hydro tank and

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<sup>1</sup> Aqua submitted the Executive Summary for Branston on December 9, 2018. During discovery and follow-up discussions between Aqua and the Public Staff, Aqua investigated an interconnection with the Royal Senter Ridge subdivision. Discovery and consultation regarding this interconnection were on-going throughout 2019 and 2020. Aqua received email notification from the Public Staff on April 30, 2021, that the Staff would recommend approval, before the Commission, of WSIC treatment for the cost to install greensand type (i.e., manganese oxide) filtration at Royal Senter Ridge Well #1 and interconnection for Well #2. Discovery continues regarding the final recommendation to also serve the combined entry point TM1 that is supplied by Royal Senter Ridge Wells #2 and #3.

Aqua submitted the Executive Summary for the Bayleaf Farms Well #1 project to the Public Staff for its review and concurrence on July 14, 2021. The Public Staff subsequently conducted discovery and follow-up discussions between Aqua and the Public Staff were undertaken. Aqua received email notification from the Public Staff on July 27, 2021, that the Staff would recommend approval, before the Commission, of WSIC treatment for the cost to install greensand type (i.e., manganese oxide) filtration at Bayleaf Farms Well #1.

flushes the system. If a second treatment option is necessary, the Company evaluates the use of a sequestering agent, such as polyphosphate, and initiates this form of treatment, if effective. If a third stage is necessary, Aqua continues to use a sequestering agent where applicable, and, in addition, installs disposable cartridge filtration on the well. If further action is required, the Company installs an iron and manganese filtration type well filter, which is considered to be the best available technology to solve secondary water quality issues but is by far the most expensive treatment option.

11. Aqua identifies and has discussed with the Public Staff the need to accelerate the secondary water quality treatment protocols, including the installation of iron and manganese type filtration in some instances. Although other options are appreciably less expensive, they may not effectively treat the iron or manganese and, in Aqua's experience, may result in operational issues such as premature failure of cartridge filters. Every situation is being addressed individually, which leads to different approaches to prudently solving the issue for Aqua's customers.

12. The attorney for Aqua, on whom all pleadings and notices should be served, is:

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**WHEREUPON**, Aqua hereby requests that, for purposes of and consistent with G.S. 62-133.12, the Commission (a) find and conclude that the two proposed

WSIC projects set forth and described in Appendix A to this Application are needed in order for the Company to comply with secondary water quality standards in the specific service areas covered by these projects and (b) specifically approve implementation of these proposed secondary water quality improvement projects as eligible water system improvement projects.

Respectfully submitted this 5<sup>th</sup> day of August 2021.

**SANFORD LAW OFFICE, PLLC**

**Electronically Submitted**

**/s/Jo Anne Sanford**

North Carolina State Bar No. 6831

P.O. Box 28085

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**/s/Robert H. Bennink, Jr.**

Bennink Law Office

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Cary, North Carolina 27513

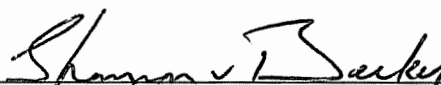
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**Attorneys for Aqua North Carolina, Inc.**

VERIFICATION

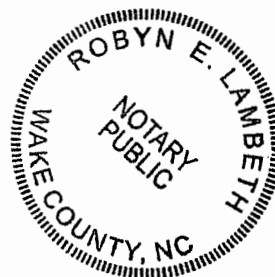
**Shannon V. Becker**, being duly sworn, deposes and says: that he is President of Aqua North Carolina, Inc.; that he is familiar with the facts set out in this **Application for Approval to Implement Secondary Water Quality System Improvement Projects Pursuant to G.S. 62-133.12** filed in Docket No. W-218, Sub 526A; that he has read the foregoing Application 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 5<sup>th</sup> day of August 2021.

  
Notary Public

My Commission Expires: May 13, 2026



## AQUA NORTH CAROLINA – SECONDARY DRINKING WATER QUALITY

| RATE DIVISION |  |
|---------------|--|
|---------------|--|

Aqua North Carolina, Inc. – Water

| SUBDIVISION/PWS ID# |  |
|---------------------|--|
|---------------------|--|

Bayleaf Farms Well #1

Wake County, PWS ID #NC 03-92-373

| TOTAL PERMITTED CONNECTIONS IN<br>BAYLEAF-LEESVILLE MASTER<br>SYSTEM | EXISTING CUSTOMERS IN MOST<br>IMMEDIATE SUBDIVISION |
|--|---|
| 6,356  | 6,176   |

| DESCRIPTION OF CURRENT WATER QUALITY ISSUES |
|---|
|---|

Numerous customers have expressed concerns regarding the water quality in the Bayleaf Farms / Bayleaf-Leesville Master System. The samples taken from Bayleaf Farms Well #1 on March 9, 2021, show results of 0.0609 mg/L for total iron and 0.348 mg/L for total manganese. These results indicate that the total iron is below the secondary Maximum Contaminant Level (sMCL) of 0.30 mg/L for iron and above the sMCL of 0.05 mg/L for manganese. In addition, the manganese level exceeds the EPA Health Advisory Limit of 0.3 mg/L which is being actively enforced by NCDEQ. Bayleaf Farms Well #1 is approved for a total of 117 gallons of water per minute.

| ALTERNATIVE STEPS PREVIOUSLY TAKEN TO<br>POSSIBLY REMEDY THE PROBLEM |
|--|
|--|

Aqua began feeding SeaQuest at Well #1 in July 2015. The distribution system has been flushed annually since 2019 and is scheduled to be flushed again in March 2022. Installation of the iron and manganese filtration system is proposed in order to provide sufficient water quality for Well #1.

| RECOMMENDATION OF THE PUBLIC STAFF |
|------------------------------------|
|------------------------------------|

The Public Staff supports implementation of Aqua's proposal to install a filter system.

| AQUA'S PROPOSAL TO CORRECT THE PROBLEM(S) |
|---|
|---|

Aqua is proposing to install a manganese dioxide filter for Well #1. Manganese dioxide filtration is considered the best practicable technology to provide water that is reliably and consistently under the secondary water quality standards for iron and manganese.

| ESTIMATED CAPITAL COST<br>TO BE RECOVERED | ESTIMATE OF THE ANNUAL<br>DEPRECIATION EXPENSE |
|---|--|
| \$330,000 - \$355,000                     | \$11,821.50                                    |

**ESTIMATED DATE OF PROJECT COMPLETION: SEPTEMBER 2022**



## AQUA NORTH CAROLINA – SECONDARY DRINKING WATER QUALITY

### RATE DIVISION

Aqua North Carolina, Inc. – Water

### SUBDIVISION/PWS ID#

Royal Senter Ridge Well #1 Wake County, PWS ID #NC 43-92-140

| TOTAL PERMITTED CONNECTIONS<br>IN ROYAL SENTER RIDGE<br>MASTER SYSTEM | EXISTING CUSTOMERS IN MOST<br>IMMEDIATE SUBDIVISION |
|---|---|
| 294   | 250   |

### DESCRIPTION OF CURRENT WATER QUALITY ISSUES

Numerous customers have expressed concerns regarding the water quality in the Royal Senter Ridge master system and the Branston public water system, which are currently adjacent but are two separate systems. These systems are proposed to be interconnected and supplied primarily by Royal Senter Ridge Well #1, which will allow Aqua to place Branston Well #1 into backup mode. The Branston well has less production and increased water quality concerns; therefore, it has been determined that the most prudent option to reduce the water quality concerns is by interconnecting the two systems and treating the Royal Senter Ridge wells. The interconnection between Branston and Royal Senter Ridge, along with installation of the proposed filtration treatment at Royal Senter Ridge Well #1, is expected to significantly improve water quality in both systems. The samples taken from Royal Senter Ridge Well #1 on April 21, 2021, show results of 0.05 mg/L for total iron and 0.449 mg/L for total manganese. These results for Well #1 indicate that the total iron result is below the secondary Maximum Contaminant Level (sMCL) of 0.30 mg/L for iron and above the sMCL 0.05 mg/L for manganese. In addition, the manganese level exceeds the EPA Health Advisory Limit of 0.3 mg/L, which is being actively enforced by NCDEQ. Royal Senter Ridge Well #1 is approved for a total of 96 gallons of water per minute.

### ALTERNATIVE STEPS PREVIOUSLY TAKEN TO POSSIBLY REMEDY THE PROBLEM

Aqua began feeding SeaQuest at Well #1 in October 2014. Well #1 has a cartridge filter which was installed in 2015. The distribution system was flushed in May 2018, February 2020, November 2020, and January 2021. The system is scheduled to be flushed again in September 2021. Installation of the iron and manganese filtration system is proposed in order to provide sufficient water quality.

### RECOMMENDATION OF THE PUBLIC STAFF

The Public Staff supports implementation of Aqua's proposal to install a filter system.

### AQUA'S PROPOSAL TO CORRECT THE PROBLEM(S)

Aqua is proposing to install a manganese dioxide filter at Royal Senter Ridge Well #1 and interconnect the two public water systems. Manganese dioxide filtration is considered the best practicable technology to provide water that is reliably and consistently under the secondary water quality standards for iron and manganese.

| ESTIMATED CAPITAL COST<br>TO BE RECOVERED | ESTIMATE OF THE ANNUAL<br>DEPRECIATION EXPENSE |
|---|--|
| \$390,000 - \$415,000                     | \$13,819.50                                    |

**ESTIMATED DATE OF PROJECT COMPLETION: SEPTEMBER 2021**

**CERTIFICATE OF SERVICE**

I hereby certify that I have served a copy of the attached **APPLICATION FOR APPROVAL TO IMPLEMENT SECONDARY WATER QUALITY SYSTEM IMPROVEMENT PROJECTS PURSUANT TO G.S. 62-133.12**, filed by Aqua North Carolina, Inc. in Docket No. W-218, Sub 526A, on the parties of record, in accordance with North Carolina Utilities Commission Rule R1-39, either by: United States mail, first class postage pre-paid; by hand delivery; or by means of electronic delivery upon agreement of the receiving party.

This the 5<sup>th</sup> day of August 2021.

**Electronically Submitted**  
**/s/Jo Anne Sanford**  
State Bar No. 6831

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**ATTORNEY FOR AQUA NORTH  
CAROLINA, INC.**