

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

October 24, 2019

Ms. Kimberley Campbell, Chief Clerk
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, NC 27699-4325
Clarification

Via Electronic Delivery

Re: Docket No. W-354, Sub 364
Carolina Water Service, Inc. of North Carolina
*Report on Customer Comments from Public Hearings Held in Boone
and Asheville, North Carolina, on October 8 and 9, 2019,
Respectively*

Dear Ms. Campbell:

Attached for electronic filing please find Carolina Water Service, Inc. of North Carolina's *Report on Customer Comments from Public Hearings Held in Boone and Asheville, North Carolina, on October 8 and 9, 2019, Respectively.*

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

Electronically Submitted

s/Jo Anne Sanford
State Bar No. 6831

Attorney for Carolina Water Service,
Inc. of North Carolina

c: Parties of Record

STATE OF NORTH CAROLINA

UTILITIES COMMISSION
RALEIGH

DOCKET NO. W-354, SUB 364

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

In the Matter of
 Application by Carolina Water Service,)
 Inc. of North Carolina, 4944 Parkway)
 Plaza Boulevard, Suite 375, Charlotte,)
 North Carolina 28217, for Authority to)
 Adjust and Increase Rates for Water)
 and Sewer Utility Service in All of Its)
 Service Areas in North Carolina)

**REPORT ON CUSTOMER
 COMMENTS FROM PUBLIC
 HEARINGS HELD IN BOONE
 AND ASHEVILLE, NORTH
 CAROLINA ON OCTOBER 8
 AND 9, 2019, RESPECTIVELY**

NOW COMES Carolina Water Service, Inc. of North Carolina (“CWSNC” or “Company”) and files this report in response to customer concerns raised at the Boone and Asheville public hearings.

The Boone hearing was convened at 7:00 p.m. on October 8, 2019, at the Watauga County Courthouse in Boone, North Carolina. Commissioner ToNola D. Brown-Bland presided on behalf of the North Carolina Utilities Commission (“NCUC” or “Commission”), and was joined by Commissioner Lyons Gray and Charlotte A. Mitchell, Commission Chair.

Staff Attorney Gina Holt appeared for the Public Staff on behalf of the using and consuming public, accompanied by Public Staff Water Engineer Lindsay Darden. Donald H. Denton, President of CWSNC, and J. Bryce Mendenhall, Vice President of Operations, were accompanied by the following Company personnel who were available to assist customers with questions or requests: Tony Konsul, Regional Manager; Neal Reece, Area Manager; Christian Montgomery, Lead

Operator, and Deborah Clark, Communications Manager. Jo Anne Sanford of Sanford Law Office, PLLC appeared as counsel for CWSNC.

The Asheville public hearing was convened at 7:00 p.m. on October 9, 2019, at the Buncombe County Courthouse in Asheville. Commissioner ToNola D. Brown-Bland again presided on behalf of the Commission, and was joined by Commissioner Lyons Gray, Commissioner Daniel G. Clodfelter, and Charlotte A. Mitchell, Commission Chair.

Staff Attorney Gina Holt and Water Engineer Lindsay Darden appeared on behalf of the Public Staff. Donald H. Denton, President of CWSNC, and J. Bryce Mendenhall, Vice President of Operations, were accompanied by the following Company personnel who were available to assist customers with questions or requests: Tony Konsul, Regional Manager; DeWayne Lightle and Philip Murphy, Lead Operators; Neal Reece, Stacy Adcock, and Gary Peacock, Area Managers; and Deborah Clark, Communications Manager. Jo Anne Sanford of Sanford Law Office, PLLC appeared as counsel for CWSNC.

CWSNC'S GENERAL RESPONSES TO CUSTOMER ISSUES

CWSNC believes that it is important to explain some principles and facts that impact both the Company's service obligation and the rules that apply to the rate-setting process for public utilities such as CWSNC, assuring protections to customers. The Company appreciates this opportunity to speak to concerned customers across its service areas and to its regulators. These general principles are attached hereto as Appendix A and are referred to throughout as "General

Responses.” The Company’s General Responses pertain to important matters and subjects such as proposed rates, rate comparisons, legal compliance regarding notice, level of service inquiries, investment in replacing aging infrastructure, water quality, and secondary water quality.

Furthermore, in 2018, CWSNC performed all required monitoring for contaminants for the four utility systems represented by customers who testified at the Asheville public hearing. With only one exception, no notices of violation from the North Carolina Department of Environmental Quality were received and the Company was in compliance with applicable testing and reporting requirements for the four utility systems in question. Specifically, Fairfield Mountain of Lake Lure, Woodhaven, and Waterglyn all have no water quality issues to report. Testing confirms that Connestee Falls has a fluoride concentration greater than the standard of 2.0 mg/l at one of the system’s seven entry points. This is the single water quality issue found in the entire Connestee Falls system. It is addressed later in this Report in the response to the testimony of Mr. Walker.

OVERVIEW OF THE BOONE PUBLIC HEARING

No witnesses testified in Boone. One customer appeared; his concerns were addressed by CWSNC employees prior to the hearing.

OVERVIEW OF THE ASHEVILLE PUBLIC HEARING

Nine witnesses testified, including five witnesses from the Fairfield Mountain of Lake Lure community, one from the Woodhaven community, one from the Waterglyn community in Nebo, and two from the Connestee Falls community.

Generally, customers who testified expressed primary concern about the proposed percentage increase in rates. Certain concerns about service were also brought forward.

SPECIFIC RESPONSES TO CUSTOMER TESTIMONY FROM ASHEVILLE

Chuck Van Rens, Woodhaven Subdivision, 109 Woodhaven Drive, Hendersonville, N.C. *Tr. Vol. 4, pp. 16 -23.*

Mr. Van Rens, who is the Water Chairman for the Woodhaven Property Owners Association, objected to repeated rate increases, questioned the necessity for the Company to increase both its base rate and usage rate, and submitted a document into evidence (Van Rens Exhibit 1) providing information about previous rate increases, a resolution from the Woodhaven Property Owners Association in opposition to CWSNC's requested rate increase, and two pages from a "Water Bill Comparison Study Compiled by Food & Water Watch."¹ He contended that the provision of water to customers like him was not a complex process, submitted that the ratemaking process is "challenged and broken," requested a two- to three-year interval between rate cases, and provided a chart comparing the rates of public and private water systems in the United States.

Mr. Van Rens thanked several named CWSNC employees for responding to problems efficiently and effectively. More specifically, when asked by Public Staff Attorney Holt whether he had any service complaints, Mr. Van Rens responded that "...we've had a couple of water leaks in the neighborhood that

¹ CWSNC observes that Water Bill Comparison Study submitted by Mr. Van Rens is dated in that it appears to rely on data and sources from the period 2000 – 2009.

aren't outside of what should be standard and that usually is taken care of very efficiently...." *Tr. Vol. 4, p. 21, lines 19 - 22.* He then commended several employees of the Company "because we've had some extraordinary issues in our neighborhood that affected Carolina Water System with easements and they were tricky, and these gentleman jumped on that process and resolved it and solved it in the best interest of everybody, and I consider that a real plus from this group of people." *Tr. Vol. 4, p. 22, lines 2 - 7.*

CWSNC's Response to Customer Van Rens:

The legal principles that govern ratemaking are set forth in North Carolina General Statutes, Chapter 62, and in rules promulgated by the North Carolina Utilities Commission under those statutes. By law, CWSNC receives a rate increase only if it proves, in the face of a comprehensive and detailed investigation by the Public Staff (and any Intervenor opposition), that such an increase is authorized under the law and is based on the actual cost and level of prudent and reasonable investment in plant and operation. Thus, CWSNC's water and sewer rates require approval of the Commission which are set after a fully-litigated, contested case hearing. CWSNC filed its pending rate increase Application to seek Commission approval of the recovery of expenditures that are not reflected in the Company's current rates. The Company's investment in utility plant is *only* recoverable after it has been made, placed into service, audited by the Public Staff, and approved by the Commission. This principle—referred to as the "used and

useful” requirement—applies whether costs are recovered in a general rate case or under a system improvement charge.

CWSNC certainly understands customers’ opposition to rate increases. However, the public utility water and sewer business is a capital-intensive industry and, since the Company’s last rate case, CWSNC has invested more than \$22 million in new water and wastewater plant in North Carolina. Therefore, if the new, additional investments made by CWSNC are proved to be necessary and prudent, recovery of those costs is required in order for the Company to continue to provide adequate service to its customers.

An attempt, such as that made by Mr. Van Rens and the Woodhaven Property Owners Association, to make meaningful comparisons between the rates of public and private water systems in the United States is difficult and often results in an “apples to oranges” assessment. The core distinction is found in the concept of “economies of scale.” The costs of serving an individual customer in Raleigh or Charlotte or in other parts of the United States, by public, private, and governmental enterprises, will likely differ markedly from the cost of serving the typical CWSNC customer. The urban areas are densely populated, they generally source water from large surface impoundments or rivers, they treat waste in large central treatment facilities, governmental entities tax their citizens, and they are often not required to utilize “cost-of-service” ratemaking, as are the utilities regulated under Chapter 62 of the General Statutes. Contrast this to the areas served by CWSNC and other regulated public utilities like it: often rural, far less

densely populated, and frequently served by smaller waste treatment plants and by hundreds of wells, drawing water up from rock and dispersed across the state. The difference in cost attributes are obvious and should inform any conversation about comparisons between the rates of public and private water systems in the United States.

As Mr. Van Rens acknowledged, the Company works diligently with the Woodhaven community to satisfy customer issues and to ensure that any service issues are corrected as efficiently as possible. Based on a review of CWSNC's records, Mr. Van Rens has not previously made special requests of the Company or registered any service complaints. CWSNC appreciates Mr. Van Rens' favorable comments regarding the quality of service provided by the Company and its efficient responsiveness to customer and community issues.

Jack Zinselmeier, Fairfield Mountain Subdivision, 157 Bluebird Road, Lake Lure, N.C. *Tr. Vol. 4, pp. 23 - 26.*

Mr. Zinselmeier testified that he wanted to mainly address the "business case" for CWSNC's requested rate increase; not service issues. He noted that CWSNC has had six rate increases since 2004, plus the current request. He stated that the level of rate increase is 3.5 times the inflation rate over the comparable time period, and he essentially maintained that a guaranteed profit margin does nothing to increase the Company's productivity.

Mr. Zinselmeier stated that he would "like to see a comparison of Carolina Water prices with the other water prices in North Carolina" and that he "...would assume that they're very, very high." *Tr. Vol. 4, p. 25, lines 10 -14.* He further

testified that the Commission should “look at the internal structure, the salary increases within the Company, and their total revenue that they're asking for across the board is a 19 percent increase in revenue across all their divisions.” *Tr. Vol. 4, p. 25, lines 15 - 19.*

When asked by the Public Staff whether he had any service-related issues, Mr. Zinselmeier replied: “No service issues that I want to bring up at this time. I've had some in the past years. Mine was the business case tonight.” *Tr. Vol. 4, p. 26, lines 8 - 10.*

CWSNC’s Response to Customer Zinselmeier:

First, it should be reiterated that neither CWSNC nor any other regulated utility in North Carolina is guaranteed a specific return or profit. Chapter 62 of the North Carolina General Statutes provides, generally, that after a contested case evaluation in a rate case and upon a decision by the Commission, a utility has the *opportunity* to earn an “authorized” return. It is an opportunity, not a guarantee.

CWSNC’s water and sewer rates require approval of the Commission, which are set after a fully-litigated, contested case hearing. CWSNC’s investments in utility plant to serve its customers are *only* recoverable after they have been made, placed into service, audited by the Public Staff, and approved by the Commission. As part of its response regarding this issue, CWSNC herein incorporates by reference the more comprehensive response set forth above with regard to the concerns expressed by Mr. Van Rens, as well as the General Response regarding proposed rates set forth in Appendix A to this Report.

Regarding Mr. Zinselmeirer's reference to employee salary increases, the Company's employees experienced a salary increase based on the cost of living and performance, which is in accordance with comparable utilities. Employee retention is a concern and to keep certified, professional employees in most areas, the Company must pay competitive wages.

CWSNC recently completed the installation of 1,145 new water meters at the Fairfield Mountain/Apple Valley water system at a total cost of \$449,560. CWSNC's substantial capital investment in these new water meters is one of several large capital investments that the Company seeks to include in rate base in its pending general rate case and which served to necessitate the Company seeking rate relief. CWSNC replaced the 15-year-old mechanical meters at Fairfield Mountain with new solid-state ultrasonic Automated Meter Reading ("AMR") meters. AMR technology automatically collects consumption, diagnostic, and status data from the customers' water meters and transfers that data to a central database for billing, troubleshooting, and analyzing. AMR meters will benefit Fairfield Mountain customers by indicating leaks quicker, saving both billed water usage and plumber repair costs. AMR meters accurately and clearly track the water usage of all customers. The AMR system will allow for better meter reading capabilities in mountainous terrain during winter weather that requires frequent meter estimating. AMR installation will also eliminate the need to use an outside contractor for meter reading. The project also provides safety and efficiency benefits to CWSNC and its employees.

Jeff Geisler, Fairfield Mountain, 2752 Cedar Creek Road, Lake Lure, N.C. Tr. Vol. 4, pp. 27 – 30.

Mr. Geisler is the General Manager of Rumbling Bald Resort at Fairfield Mountain in Lake Lure. He referred to a rate study (*North Carolina Water and Wastewater Rates Dashboard*, <https://efc.sog.unc.edu/resource/north-carolina-water-and-wastewater-rates-dashboard>) by the School of Government Environmental Finance Center at the University of North Carolina from January 2019, which he asserted showed his Fairfield Mountain water system as being among the top ten percent of systems having the most expensive water rates in North Carolina and, with reference to the sewer system, the most expensive wastewater base rate in North Carolina. Mr. Geisler testified that, using Mr. Zinselmeier's numbers, he calculated that since 2004, there has been a total increase of over 315 percent in CWSNC's rates and that if one adds the 25 percent requested in the pending rate case, rates will have risen almost 393 percent from 2004 to present. He further testified that, during that same period of time, the Southern Region of the Consumer Price Index increased by 36 percent and that Fairfield Mountain is one of the most expensive areas in North Carolina for CWSNC.

Mr. Geisler complained about yearly rate increases, described the system as "broken," and represented that customers are exhausted and antagonized by the frequency of rate cases, the distance they must travel to attend NCUC public hearings, and the time limits on speech. Finally, he asserted that the Fairfield Mountain water and sewer rates make it difficult to attract new residents.

CWSNC's Response to Customer Geisler:

Upon review of the Environmental Finance Center of the University of North Carolina's NC Water and Wastewater Rates Dashboard, CWSNC rates appear to be within the same range of costs associated with water and wastewater services as other private water/wastewater providers across North Carolina. The website also contains this qualifying statement: "...the color bands of this dial are meant to serve as visual cues for where a utility falls within its peer group, and do not by themselves fully indicate the merit of a utility's rate setting practices."

CWSNC is mindful both of the customers' interest in having public hearings near their homes and of the Utilities Commission's constraints on scheduling. Adequacy of security is a limiting factor for the Commission, and the Company's systems are widely scattered across the state, making it very difficult to address the widespread interests in a "local" hearing. Obviously CWSNC is pleased to appear whenever and wherever the Commission schedules public hearings in cases filed by the Company.

Regarding Mr. Geisler's objections and concerns regarding the ratemaking process and the frequency of CWSNC's rate cases, CWSNC again submits that water and sewer rates require approval of the Commission, which are set after a fully-litigated, contested case hearing. Under the North Carolina Public Utilities Act, Chapter 62 of the General Statutes, the Company is legally entitled to file an application for rate relief at any time it determines in good faith that its level of earnings is insufficient, premised upon its ability to demonstrate increased

investment in utility plant and/or increased operating and maintenance expenses. Since the Company's last rate case, CWSNC has invested more than \$22 million in new water and sewer plant in North Carolina. Because the regulated water and sewer utility business is a very capital-intensive industry, CWSNC's earnings must be maintained at a level sufficient to assure access to capital on reasonable terms so that the Company may, at all times, provide reasonable and adequate service to its customers. Unfortunately, this may necessitate more frequent rate case filings, which are, understandably, objectionable to customers, but necessary for public utilities like CWSNC.

CWSNC's substantial capital investment in the amount of \$449,560 for new, advanced AMR water meters at Fairfield Mountain is one of several large capital investments throughout the Company's service territories in North Carolina that the Company seeks to include in rate base in its pending general rate case and which served to necessitate the Company seeking rate relief. The Company's installation of AMR meters is a specific benefit to current and future Fairfield Mountain customers.

Mr. Phil Reitano, Fairfield Mountain, 135 Hawks Nest Trail, Lake Lure, N.C.
Tr. Vol. 4, pp. 30 - 34.

Mr. Reitano, from the Rumbling Bald community at Fairfield Mountain, is the senior member of his property owner's association board and has lived in the community for 25 years. Mr. Reitano testified that he is "appalled" by the rate increase and classified the Company's multiple rate increase requests as "exorbitant" and without "true substance," noting that it is CWSNC's fifth rate

increase in eight years (and three years in a row), and observing that most of the impacted residents in his area, including him, are retired and on fixed incomes. *Tr. Vol. 4, p. 31, lines 8 – 15.* He asserted that CWSNC has not provided “any true justification or quantitative information on the needs for additional rate increase such as what's included in the infrastructure improvements or their long-range plan for water resource improvements. *Tr. Vol. 4, p. 31, lines 16 - 23.*

Mr. Reitano testified that he has lived in the state of North Carolina for 30 years, mostly in Mecklenburg County, has been a full-time resident of Rutherford County for the past two years, and never paid what he called “these unjustified, exorbitant rates even in Mecklenburg County.” *Tr. Vol. 4, p. 31, lines 14 – 15.*

He asserted that the requested rate increase, if fully granted, would push his water bill to the range of \$100 per month and that the net impact on Fairfield Mountain customers is a total increase of 132 percent since 2004. Mr. Reitano discussed historic and current inflation rates and stated that “None of this justifies an increase of 25 percent over the current rates.” *Tr. Vol. 4, p. 33, lines 9 – 11.*

In response to a question from the Public Staff as to whether he had any service-related complaints, Mr. Reitano responded “To my knowledge, no.” *Tr. Vol. 4, p. 34, line 3.*

CWSNC's Response to Customer Reitano:

CWSNC appreciates Mr. Reitano's testimony indicating that he has no service quality complaints regarding the water utility service supplied to him by the Company.

Regarding Mr. Reitano's concerns, CWSNC responds that the Company's rates require approval from the Commission, which are set after a fully-contested rate hearing. A "fully-contested rate case hearing," for these purposes, is one in which the utility's request is fully and rigorously examined by experts in the consumer advocate agency. In North Carolina, this is the Public Staff, whose experienced experts in accounting, economics, law and engineering fully investigate the Company's rate case application and file independent expert testimony setting forth the Staff's position on the merits of the case. CWSNC filed its rate case application with the Commission on June 28, 2019, almost four months ago. The Public Staff's investigation of the Company's application has included the filing of extensive discovery through data requests and CWSNC has diligently supplied the voluminous information requested by the Staff.

From the date that CWSNC filed its rate case application on June 28, 2019, until receipt of an Order from the Commission addressing any rate adjustments, the statutory timetables allow essentially a maximum of 300 calendar days to complete the statutory rate-setting process. It can take more or less time, but generally speaking it takes from seven to nine months from request to outcome, and that seven-to-nine-month time period is spent by the Public Staff vigorously

questioning and examining the predicate of the case, while the Company diligently supports its request with proof. Additionally, CWSNC filed its application based on actual expenditures that it has made during a 12-month test year, adjusted as necessary for reasonable and prudent changes that are generally certain to take place prior to the close of the evidentiary hearing.

Recognizing that customers are concerned about rising costs, it is important to reiterate that these rates do not change unless CWSNC proves, in a judicial-type proceeding, in the face of capable and rigorous opposition, that the capital and O&M expenditures which drive rates were made because they were necessary and were made prudently. If and when that is proved to the satisfaction of the Commission (and only then), in compliance with the statutory standards specified by the North Carolina General Assembly, the Company is allowed a rate increase. As noted earlier, since the Company's last rate case, CWSNC has invested more than \$22 million in new water and sewer plant in North Carolina. CWSNC's substantial capital investment in the amount of \$449,560 for new, advanced AMR water meters at Fairfield Mountain is one of several large capital investments throughout the Company's service territories in North Carolina that the Company seeks to include in rate base in its pending general rate case and which served to necessitate the Company seeking rate relief. The Company's installation of AMR meters is a specific benefit to current and future Fairfield Mountain customers.

Finally, counsel for CWSNC is working with the Public Staff to ensure that Mr. Reitano is provided links to the Commission's website, so that he can access on line the filings made in support of---and in opposition to---this rate request.

Jeannie Moore, Fairfield Mountain, 129 McIntosh Circle, Rumbling Bald Community. *Tr. Vol. 4, pp. 34 – 42.*

Ms. Moore objects to what she alleges to be the standard procedure wherein "enormous" percentage increases are requested by CWSNC after "vague" recitations about reasons. As a member of the Finance Committee of her POA---which she observes is required to make a profit---she notes the double impact on community members with respect to payment of their increased home bills, plus payment of the increased POA bills.

Ms. Moore complained that her new digital meter box was underground and often covered with water, indicating that she regularly attempts to scoop the water out so that the meter is not covered. She does not know whether this has had any impact on her meter reading. Ms. Moore also complained about a problem with air in her water that has periodically occurred since she moved into her house in 2017. She testified that when she turns on the tap, instead of the water being clear, "it's air bubbles. And if you put it in a clear glass, the whole thing is cloudy, and then it takes a while for it to -- the air to come out. It's just bubbles." She stated that the issue with air in the water "probably" occurs on a weekly basis. *Tr. Vol. 4, p. 38, lines 6 - 10, 18.*

Ms. Moore also testified that it was not convenient or safe for customers living at Fairfield Mountain to be required to travel to Asheville for CWSNC public

hearings. She requested that the Commission schedule rate case public hearings in the Fairfield Mountain area, noting that “We’ve gone from having hundreds of people to several -- several, not even 10 people here. I think that the Commission needs to hear us better than this.” *Tr. Vol. 4, p. 37, lines 3 - 5.*

Ms. Moore concluded her testimony with a compliment regarding CWSNC operating personnel by stating: “I will say that the people who are right there at our location, Buffalo Creek, the people that have been dispatched out whenever they are dispatched, they are some of the very nicest people that you have working for you, and you need to make sure you keep them because they’re probably the only reason why some of us don’t scream louder.” *Tr. Vol. 4, p. 40, lines 23 – 24 through p. 41, lines 1 - 5.*

CWSNC’s Response to Customer Moore:

CWSNC appreciates the praise that Ms. Moore offered during her testimony for the Company employees who maintain and operate the Fairfield Mountain water system.

Subsequent to the public hearing, the Company sent an Operator to Ms. Moore’s home and modifications were made to the meter box on her property; i.e. raising it to eliminate water ponding. The line to her home was flushed to address the issue related to air in the water. A new automatic flushing valve was ordered and installed at this location.

A review of Company records indicates that Ms. Moore has not previously called CWSNC to register complaints regarding water in her meter box or water quality issues.

Regarding Ms. Moore's request that future rate case hearings be scheduled in the Fairfield Mountain area, as previously stated in this Report, CWSNC is pleased to appear whenever and wherever the Commission schedules public hearings in cases filed by the Company.

Ms. Linda Huber, Fairfield Mountain, 186 Stonecrest, Rumbling Bald Community. *Tr. Vol. 4, pp. 42 – 46.*

Ms. Huber, a water and sewer customer, complained of the amount of her combined water and sewer bill, stating that "I pay \$130 a month whether I'm there or not." *Tr. Vol. 4, p. 42, line 19.* She indicated that in some months when she was not in residence, her bill was higher than other months when she was in North Carolina. Ms. Huber is a part-time resident at the Rumbling Bald Resort, residing six-months of the year in North Carolina (from the middle of April to the middle of October) and six months in Florida. She stated that her bill went down to \$120 when she was there in the summer. Ms. Huber further stated that her water bills for water and sewer service for the months of June, July, and August of 2019 were \$121, \$135, and \$140, respectively. In addition, she testified that her water meter is under water.

CWSNC's Response to Customer Huber:

Ms. Huber's billing history indicates that she has been billed the base rate for both water and wastewater and usage properly. The lower billing for the months

the customer did not occupy the property occurred in February when the 2018 approved rates went into effect. This accounts for the difference in her bills. The customer has no record in Company files of any billing or water quality issues or complaints. Ms. Huber's meter box was raised to address the water ponding issue, the water lines were flushed, and an automatic water flushing valve was installed.

Mr. Brian McCarthy, 892 Dotsi, Connestee Falls. Tr. Vol. 4, pp. 46 – 55.

Mr. McCarthy began his testimony by thanking CWSNC for the significant improvements made to the Connestee system this past year. He complained about the length of time it took to make those improvements, about high water and sewer rates, multiple rate increases, long-standing sewer problems---including boil water notices over the past three years---and being told not to swim in the lake because of sewage spills. He testified that there have been no further sewer system spills since the Company made improvements to the system this year. He also inquired about the impact of the Federal Tax Reduction Act of last year and how CWSNC is spending that money.

Mr. McCarthy is a part-time resident at Connestee Falls. He has lived there for three and one-half years and spends time in both Asheville and Connestee Falls every week. He testified that his new water meter was installed in July 2019, and that about a month later he received a "pretty extraordinary water bill." He discovered a water leak (apparently around Labor Day) which he attributes to the changing of his water meter. Mr. McCarthy turned the water off and called

CWSNC. The Company employee who responded told him that he needed to get a plumber to repair the leak; which he did.

Mr. McCarthy testified that the following month, he received a bill for 8,000 gallons of water that leaked. His next monthly bill was “very high as well.” Mr. McCarthy stated that he did not immediately discover the leak “because it was mostly underground until it fully saturated the ground and started running across the driveway. We didn't know it was happening.” The witness testified that he has requested a billing adjustment from CWSNC, but had not received a response from the Company as of the time of the public hearing.

CWSNC's Response to Customer McCarthy:

CWSNC appreciates Mr. McCarthy's comments thanking the Company for the significant capital improvements made to the Connestee Falls sewer system this past year. CWSNC completed three significant capital projects at Connestee Falls in 2019, which are described below.

The Connestee Falls Wastewater Treatment Plant project involved the installation of a Sequencing Batch Reactor (“SBR”) treatment facility to replace the current wastewater treatment plant, which presented a high consequence of failure and was in very poor condition based on an asset evaluation. The current wastewater treatment plant is a 300,000 gallons per day (“gpd”) concrete plant installed in the early 1970s. The plant is located in the mountains and is exposed to winter weather, including cold, ice and snow. These conditions have led to the serious erosion of exposed areas of concrete, most significantly the above-the-

waterline walls and walkways, due to years of “freeze/thaw” cycles. The concrete deterioration has reached the point of “end of life” of the asset, and the current plant has presented a high consequence of failure. The new WWTP was placed in service on October 3, 2019, at a cost \$7,630,175. It will benefit customers by effectively serving the prospective “build-out” of the Connestee system. The treatment facility capacity has been increased from 300,000 gpd to 360,000 gpd (but has been permitted in such a manner that it could be expanded to treat 460,000 gpd), which will accommodate the 650 availability customers in the system and allow for organic growth. This increases economies of scale for the local operations and thus benefits existing customers. As the existing plant was beyond its useful life and had experienced significant signs of deterioration, this project proactively addresses the treatment process and avoids the potential for a catastrophic failure of the present system.

In addition to the above-discussed WWTP project at Connestee Falls, CWSNC also made a capital investment of \$430,649 in 2019, to install approximately 1419 new AMR water meters on the system. As is the case with the AMR water meters installed at Fairfield Mountain, the Company’s installation of AMR meters at Connestee Falls is also a specific benefit to current and future customers.

The 2019 capital projects for Connestee Falls also included a lift station project that replaced several dry can lift stations that had exceeded their useful life of operation. The lift station project not only addressed maintenance issues that

led to several sanitary sewer overflows into surrounding recreational lakes but also mitigated safety issues surrounding the need to enter a confined space to make needed repairs. This project consisted of converting lift stations #2, #3, #8, and #11 dry can lift stations to "typical" submersible lift stations. This project is complete and was placed in service on September 2, 2019, at a capital cost of \$1,179,461.

The WWTP, AMR, and lift station projects at Connestee Falls required a total capital investment by CWSNC during 2019, of \$9,240,285.

CWSNC is pleased to report that Mr. McCarthy's request for a billing adjustment related to the water leak referred to in his testimony has been satisfactorily resolved by mutual agreement. CWSNC provided Mr. McCarthy with a two-month billing reimbursement and plumber's cost of \$750.

By this Report, CWSNC assures Mr. McCarthy that all of the benefits of the Federal tax reductions have been, or are in the process of being, flowed through to the benefit of the Company's customers. More specifically, with the adoption of the Federal Tax Cuts and Jobs Act ("TCJA"), the federal tax rate applicable to CWSNC decreased effective January 1, 2018. Because the Company's rates were not changed to incorporate and reflect this change until February 2019, the Company is refunding excess taxes recovered from customer rates during that time period – January 1, 2018 until February 20, 2019. This refund will run for one year (until February 2020) and includes interest. The refund calculates as a

percentage of the base and volumetric charges on each customer's monthly bill, as shown below:

Uniform Water	-4.744%
Uniform Sewer	-4.805%
BF/FH/TC Water	-2.182%
BF/FH/TC Sewer	-4.176%

In addition, under the TCJA, the Company is required to reserve funds for expected future tax payments (deferred taxes), which are now lower due to the tax rate decrease. Therefore, the portion of the reserve that is no longer payable to the federal government is being refunded to customers. The refund will run for four years and includes interest. The refund is calculated as 0.815% of the base and volumetric charges on each customer's monthly bill.

Ron Shuping, Waterglyn Subdivision, 73 Lake Mist Court, Nebo, N.C. *Tr. Vol. 4, pp. 55 – 60.*

Mr. Shuping, a water only customer, objected strongly to the amount and frequency of rate increase requests by CWSNC and asked that the current request be categorically denied. When asked by the Public Staff whether he had any service-related complaints, Mr. Shuping relied "No. They've got great people. It's management." *Tr. Vol. 4, p. 60, lines 10 -11.*

CWSNC's Response to Customer Shuping:

CWSNC appreciates Mr. Shuping's statement that he has no complaints regarding the quality of utility service provided to him by the Company and his complimentary comment regarding the Company's employees.

The Company incorporates by reference previous comments set forth in this Report that are responsive to Mr. Shuping's testimony, particularly his comments regarding the frequency of the Company's rate case filings and the ratemaking process in North Carolina.

The Company has found no records of any complaints from Mr. Shuping regarding billing, usage, or water quality.

Steve Walker, Connestee Falls, 17 Sequoia Court, Brevard, N.C. *Tr. Vol. 4, pp. 60 – 68.*

Mr. Walker, a water-only customer, strongly objected to CWSNC's current rate increase request as well as the frequency of CWSNC's rate increase requests. He also complained of "frequent" outages and expressed health concerns based on the boil water notices (which he says occur every two to three months) and the excessive amount of fluoride in the water (based on the contents of a 2018 water quality report he received). Mr. Walker also expressed concern about being unable to understand the precise reasons for the Company's increase request, in terms of the specific nature of the investment made by CWSNC.

CWSNC's Response to Customer Walker:

The Company incorporates by reference previous comments set forth in this Report that are responsive to Mr. Walker's testimony, particularly his comments regarding the frequency of the Company's rate case filings and the ratemaking process in North Carolina. The prior discussion in this Report regarding the three capital improvement projects completed in 2019 at Connestee Falls at a total cost of \$9,240,285 is also pertinent to Mr. Walker's comments.

Regarding Mr. Walker's complaints regarding frequent outages and boil water notices, CWSNC notifies customers of any water main break repairs that result in a boil water advisory. A boil water advisory is only issued when the Company loses system pressure, such as during main breaks or supply interruptions, and the water pressure drops below 20 pounds per square inch. When that happens, the system becomes susceptible to conditions favorable for backflow or back-siphonage. In some instances, there are only specific streets that are impacted by the boil water advisory. Only the affected customers are contacted and not the entire community. Customers are contacted either by a text message, email, or a phone call. During the last year, there were a total of fifteen boil water advisories in the Connestee Falls community which resulted from work to repair and replace sections of old water mains with the majority only impacting a small section of the community in each instance.

Regarding Mr. Walker's testimony regarding excessive fluoride, Connestee Falls has a fluoride concentration greater than the standard of 2.0 mg/l at one of the system's seven entry points. The highest fluoride level at one of the entry points was 2.4 mg/l. The range of results from all other entry points shows 'No Detection to 1.6 mg/l' of naturally-occurring fluoride. The water of all seven wells is blended to diffuse the fluoride in the system. This is the single water quality issue found in the entire system.

Finally, counsel for CWSNC is working with the Public Staff to ensure that Mr. Walker has information allowing him to access the Commission's website,

where he can find all information filed both in support of and in opposition to the requested rate increase.

CONCLUSION

CWSNC appreciates the willingness of its customers to participate in this process, and the Company understands customers' opposition to rate increases. However, this is a capital-intensive industry and, since the last rate case, CWSNC has invested more than \$22 million in new water and sewer plant in North Carolina. Therefore, if the new, additional capital investments made by CWSNC are proved to be necessary and prudent, recovery of those costs is required in order for the Company to continue to provide adequate service. The assurance of fairness to customers is found in the strict, highly-skilled oversight of and regulation by the Public Staff and the Commission.

Respectfully submitted, this the 24th day of October 2019.

SANFORD LAW OFFICE, PLLC

Electronically Submitted

/s/Jo Anne Sanford

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**ATTORNEYS FOR CAROLINA WATER SERVICE, INC.
OF NORTH CAROLINA**

APPENDIX A
CWSNC RESPONSE TO CUSTOMER CONCERNS
ASHEVILLE PUBLIC HEARING - W-354, SUB 364
GENERAL RESPONSES TO CUSTOMER ISSUES

1. Proposed Rates – The legal principles that govern ratemaking are set forth in North Carolina General Statutes, Chapter 62, and in rules promulgated by the North Carolina Utilities Commission under those statutes. By law, CWSNC receives a rate increase only if it proves, in the face of an investigation by the Public Staff (and any Intervenor opposition), that such an increase is authorized under the law, based on the actual cost and level of prudent and reasonable investment in plant and operation. Further, investment in plant is *only* recoverable after it has been made, placed into service, and audited by the Public Staff. This principle—referred to as the “used and useful” requirement—applies whether costs are recovered in a general rate case or under a system improvement charge.
2. Rate Comparisons – An attempt to make meaningful comparisons between statewide average costs for all water and wastewater service providers and the costs of a provider like CWSNC often results in an “apples to oranges” assessment. The core distinction is found in the concept of “economies of scale.” The costs of serving an individual customer in Raleigh or Charlotte, by a governmental utility enterprise, will likely on average be less than the cost of serving the typical CWSNC customer. The urban areas are densely populated, they generally source water from large surface impoundments

or rivers, they treat waste in large central treatment facilities, governmental entities tax their citizens, and they are often not required to utilize “cost-of-service” ratemaking, as are the utilities regulated under Chapter 62 of the General Statutes. Contrast this to the areas served by CWSNC and others like it: often rural, far less densely populated, and frequently served by smaller waste treatment plants and by hundreds of wells, drawing water up from rock and dispersed across the state. The difference in cost attributes are obvious and should inform any conversation about comparisons in respective average costs.

3. Legal Compliance Regarding Notice – In a general rate case, the Public Notice to customers is prescribed by the requirements of statute and is issued by the Commission, based upon the input of CWSNC and the Public Staff. It is a joint effort to provide specific information to all customers about current and proposed rates. In a general rate case like this, the length and complexity of the Public Notice serves the purpose of detail and transparency yet is likely daunting to many customers who attempt to understand all its contents and the personal impact.
4. Investment in Replacing Aging Infrastructure – As documented by the U.S. Environmental Protection Agency (“EPA”) and the American Water Works Association (“AWWA”), significant investment is needed throughout North Carolina—more than \$20 billion—to replace aging water and wastewater

infrastructure, including drinking water pipes, wastewater collection pipes, lift stations, and wastewater treatment facilities.

5. Water Quality – Water quality can be impacted by, among other things, unplanned water main breaks, unexpected malfunctioning of equipment, and challenges when implementing capital projects. CWSNC’s primary focus is on providing the highest level of service related to compliance with primary drinking water quality standards. The Company’s latest Annual Water Quality Reports for Fairfield Mountain, Fairfield Apple Valley, Waterglyn, Woodhaven, and Connestee Falls are attached hereto as Exhibits 1 – 5, respectively.
6. Secondary Water Quality – The Company is also committed to a high level of service regarding secondary water quality standards. Secondary water quality standards address substances that may impact the taste, odor, or color (i.e., the “aesthetics”) of a customer’s drinking water.
 - a. Iron – As reflected within CWSNC’s latest Annual Water Quality Reports for 2018, the Company’s testing for Iron reveals levels below the Maximum Contaminant Level (“MCL”) of 0.3 parts per million (“ppm”) for Fairfield Mountain, Connestee Falls, Waterglyn, Fairfield Apple Valley, and Woodhaven.
 - b. Hardness – Hardness reflects the relative amounts of calcium and magnesium ions within drinking water. Generally, “hard water” can be found throughout North Carolina, including the coastal areas

served by groundwater. It is not uncommon for homeowners served by public and private drinking water systems to own and deploy drinking water softeners. However, hardness is not regulated by the North Carolina Department of Environmental Quality. The Company's experience is that many drinking water customers possess their own drinking water softeners. Historically, the Company has heard from customers with in-home drinking water softeners that they do not wish to pay for—i.e., subsidize—an expensive system-wide water softener to support other customers within the community who do not have an in-home water softening system. In summary, traditionally, the Company leaves drinking water hardness solutions to the individual preferences of its customers, unless a clear and substantial demand for such a capital investment is made by a community.

- c. The Company's On-Going Commitment to Water Quality – The Company is committed to providing the highest level of service to customers, especially regarding water quality. The Company continues to implement its annual flushing program.



Carolina Water Service of North Carolina™

Fairfield Mountain Water System

PWS ID: **NC0181126**

Annual Water Quality Report 2018

quality of water we delivered to you over the past year.

As your community water utility, we fully appreciate our role in the local community and are committed to providing safe, reliable and cost-effective service to you. All of our employees share in this commitment and strive to serve you with integrity and professionalism.

We are proud to share this report which provides water quality testing results through December 2018. We continually work to supply water that meets or exceeds all federal and state water quality regulations.

Our dedicated local team of water quality experts is working in the community everyday ensuring that you, our customer, are our top priority and that we are providing high quality service that protects the environment and benefits our communities - now and in the years to come.

Best regards,

Visit us online at

www.carolinawaterservicenc.com

Or Join us on Facebook and Twitter

@CarolinaWaterNC



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County which draw water from a fractured bedrock aquifer.

Please be reminded that our water systems in North Carolina are always in some stage of either voluntary or mandatory water conservation restriction. These restrictions may vary weekly due to drought conditions and are dictated by a system established by the North Carolina Utilities Commission in an order dated May 23, 2008. The customers are encouraged to keep informed of current restrictions by visiting www.carolinawaterservicenc.com and clicking on the “Community Drought Status” link on the front page or call our customer service at (800) 525-7990.

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For more information visit www.epa.gov/watersense.

We ask that all our customers help us protect our water sources which are the heart of our community, our way of life and our children's future.

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

EPA Wants You To Know

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 activity.

Contaminants that may be present in source water include:

- A. **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D. **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E. **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

What measures are in place to ensure water is safe to drink?

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home

plumbing. Carolina Water Service, Inc. of North Carolina 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 or at www.epa.gov/safewater/lead.

Water that remains stationary within your home plumbing for extended periods of time can leach lead out of pipes joined with lead-containing solder as well as brass fixtures or galvanized pipes. Flushing fixtures has been found to be an effective means of reducing lead levels. The flushing process could take from 30 seconds to 2 minutes or longer until it becomes cold or reaches a steady temperature. Faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions. Visit the NSF Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

Drain Disposal Information

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. A common cause is sewer pipes blocked by grease, which gets into the sewer from household drains. Grease sticks to the insides of pipes. Over time, the grease can build up and block the entire pipe. Help solve the grease problem by keeping this material out of the sewer system in the first place:

- Never pour grease down sink drains or into toilets. Scrape grease into a can or trash.
- Put strainers in sink drains to catch food scraps / solids for disposal.

Prescription Medication and Hazardous Waste

Household products such as paints, cleaners, oils, and pesticides, are considered to be household hazardous waste. Prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the wastewater treatment system and enter rivers and lakes (or leach into the ground and seep into groundwater in a septic system). Follow the directions for proper disposal procedures. **Do not flush hazardous waste or prescription and over-the-counter drugs down the toilet or drain.** They may flow downstream to serve as sources for community drinking water supplies. Many communities offer a variety of options for conveniently and safely managing these items. For more information, visit the EPA website at: www.epa.gov/hw/household-hazardous-waste-hhw.

The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

Understanding This Report In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.

Action level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
EPA	Environmental Protection Agency.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's 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 contaminants.
Not applicable (N/A)	Not applicable.
Not Detected (ND)	This means not detected and indicates that the substance was not found by laboratory analysis.
Parts per million (ppm) or Milligrams per liter (mg/l)	One part per million corresponds to one minute in two years or a single penny in \$10,000.
Parts per billion (ppb) or Micrograms per liter (ug/l)	One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.
Picocuries per liter (pCi/L)	A measure of radioactivity in the water.
Locational Running Annual Average (LRAA)	The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
Running Annual Average (RAA)	Calculated running annual average of all contaminant levels detected.
Treatment Technique (TT)	A required process intended to reduce the level of a contaminant in drinking water.

Source Water Assessment Program (SWAP)

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower. The relative susceptibility rating of each source for Fairfield Mountain was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #1	Moderate	04/26/2017
Well #2	Moderate	04/26/2017
Well #3	Moderate	04/26/2017
Well #4	Moderate	04/26/2017
Well #5	Lower	04/26/2017

The complete SWAP Assessment report for Fairfield Mountain may be viewed on the Web at: www.ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP

report on the web, you may mail a written request for a printed copy to:

Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Monitoring Your Water

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

If You Have Questions Or Want To Get Involved

Carolina Water Service, Inc. of North Carolina does not hold regular public meetings. If you have any questions about this report or concerning your water, or would like a company representative to attend an upcoming homeowners association meeting, please contact Customer Service at 1-800-525-7990.

Water Quality Test Results

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
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Inorganics Contaminants

Fluoride (ppm)	4/23/18	N	1.6	ND - 1.6	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
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Radiological Contaminants

Alpha emitters (pCi/L)	2016	N	6.5	ND - 6.5	0	15	Erosion of natural deposits
Combined radium (pCi/L)	2016	N	2.30	N/A	0	5	Erosion of natural deposits

Disinfectant Residuals Summary

Contaminant (units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2018	N	0.75	0.5 - 1.5	4	4.0	Water additive used to control microbes.

Stage 2 Disinfection Byproduct Compliance

Contaminant (units)	Sample Location Code	Year Sampled	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	B01	2018	N	7.4	N/A	N/A	80	Byproduct of drinking water disinfection.
HAA5 (ppb) [Total Haloacetic Acids]	B01	2018	N	5.4	N/A	N/A	60	Byproduct of drinking water disinfection.

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination
Copper (ppm) (90 th percentile)	Jun 2018	0.128	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits.

Secondary Contaminants, The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water.

Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low High	Secondary MCL
Sulfate (ppm)	4/23/18	62.5	ND - 62.5	250 mg/l

Violations: In 2018, Carolina Water Service, Inc. of North Carolina performed all required monitoring for contaminants. In addition, **no violations** from the North Carolina Department of Environmental Quality were received and we were in compliance with applicable testing and reporting requirements.





Carolina Water Service of North Carolina™

Fairfield Mountain – Apple Valley

PWS ID: NC0181133

Annual Water Quality Report 2018

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Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. A common cause is sewer pipes blocked by grease, which gets into the sewer from household drains. Grease sticks to the insides of pipes. Over time, the grease can build up and block the entire pipe. Help solve the grease problem by keeping this material out of the sewer system in the first place:

- Never pour grease down sink drains or into toilets. Scrape grease into a can or trash.
- Put strainers in sink drains to catch food scraps / solids for disposal.

Prescription Medication and Hazardous Waste

Household products such as paints, cleaners, oils, and pesticides, are considered to be household hazardous waste. Prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the wastewater treatment system and enter rivers and lakes (or leach into the ground and seep into groundwater in a septic system). Follow the directions for proper disposal procedures. **Do not flush hazardous waste or prescription and over-the-counter drugs down the toilet or drain.** They may flow downstream to serve as sources for community drinking water supplies. Many communities offer a variety of options for conveniently and safely managing these items. For more information, visit the EPA website at: www.epa.gov/hw/household-hazardous-waste-hhw.

The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

Understanding This Report In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.

Action level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
Average (AVG)	Regulatory compliance with some MCLs is based on running annual average of monthly samples
EPA	Environmental Protection Agency.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's 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 contaminants.
Not applicable (N/A)	Not applicable.
Not Detected (ND)	This means not detected and indicates that the substance was not found by laboratory analysis.
Parts per million (ppm) or Milligrams per liter (mg/l)	One part per million corresponds to one minute in two years or a single penny in \$10,000.
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Picocuries per liter (pCi/L)	A measure of radioactivity in the water.
Locational Running Annual Average (LRAA)	The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
Running Annual Average (RAA)	Calculated running annual average of all contaminant levels detected.

Source Water Assessment Program (SWAP)

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Fairfield Mountain – Apple Valley was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

The complete SWAP Assessment report for Fairfield Mountain – Apple Valley may be viewed on the Web at:

Source Name	Susceptibility Rating	SWAP Report Date
Well #8	Moderate	04/26/2017
Well #12	Moderate	04/26/2017
Well #13	Lower	04/26/2017
Well #14	Lower	04/26/2017

www.ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on

the web, you may mail a written request for a printed copy to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Monitoring Your Water

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

If You Have Questions Or Want To Get Involved

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Water Quality Test Results

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
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Inorganic Contaminants

Fluoride (ppm)	2018	N	1.35 (Highest result)	0.31 - 1.35	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
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Radioactive Contaminants (Highest AVG Result)

Alpha emitters (pCi/L)	2018	N	2.92	0 - 2.92	0	15	Erosion of natural deposits
Combined radium (pCi/L)	2018	N	4.5	ND - 4.9	0	5	Erosion of natural deposits
Uranium (pCi/L)	2018	N	8.95	3.78 - 8.95	0	20.1	Erosion of natural deposits

The above table for the Radioactive Contaminants reports the highest annual average from any one of the three treatment plants (total of four active wells) in the water system. In August 2018, treatment for the removal of combined radium was installed at Well #8. We continue to closely monitor the combined radium, and we are pleased to inform you that we have remained in compliance since the treatment was placed into service.

Synthetic Organic Contaminants including Pesticides and Herbicides

Di(2-ethylhexyl) phthalate (ppb)	2017 & 2018	N	4 (Highest RAA)	ND - 16*	0	6	Discharge from rubber and chemical factories
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* A sample result from one of the three treatment plants showed elevated levels of Di(2-ethylhexyl)phthalate. Compliance is based on a four quarter running average; therefore we were not in violation. We increased our monitoring for the contaminant, and all follow-up sampling showed no detection. Please see the following health effects language: *Some people who drink water containing di (2-ethylhexyl) phthalate in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.*

Stage 2 Disinfection Byproduct Compliance

TTHM [Total Trihalomethanes] (ppb) Location Code B01	2018	N	5.4	N/A	N/A	80	By-product of drinking water chlorination
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Disinfectants Residuals (*highest RAA)

Chlorine (ppm)	2018	N	0.8	0.6 - 1.1	MRDLG = 4	MRDL = 4	Water additive used to control microbes.
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Violations: In 2018, Carolina Water Service, Inc. of North Carolina performed all required monitoring for contaminants. In addition, **no violations** from the North Carolina Department of Environmental Quality were received and we were in compliance with applicable testing and reporting requirements.





Carolina Water Service of North Carolina™

Waterglyn Water System

PWS ID: NC0156134

Annual Water Quality Report 2018

quality of water we delivered to you over the past year.

As your community water utility, we fully appreciate our role in the local community and are committed to providing safe, reliable and cost-effective service to you. All of our employees share in this commitment and strive to serve you with integrity and professionalism.

We are proud to share this report which provides water quality testing results through December 2018. We continually work to supply water that meets or exceeds all federal and state water quality regulations.

Our dedicated local team of water quality experts is working in the community everyday ensuring that you, our customer, are our top priority and that we are providing high quality service that protects the environment and benefits our communities - now and in the years to come.

Best regards,

Visit us online at

www.carolinawaterservicenc.com

Or Join us on Facebook and Twitter

@CarolinaWaterNC



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**How Easy Is My Utility Connect to Find?
Go to www.carolinawaterservicenc.com
or search “MyUtilityConnect” in the
App Store or Google Play Store.**

Please be reminded that our water systems in North Carolina are always in some stage of either voluntary or mandatory water conservation restriction. These restrictions may vary weekly due to drought conditions and are dictated by a system established by the North Carolina Utilities Commission in an order dated May 23, 2008. The customers are encouraged to keep informed of current restrictions by visiting www.carolinawaterservicenc.com and clicking on the “Community Drought Status” link on the front page or call our customer service at (800) 525-7990.

Help Protect our Resources

Help put a stop to the more than **1 trillion gallons of water lost annually** nationwide due to household leaks. These easy to fix leaks waste the average family the amount of water used to fill a backyard swimming pool each year. Plumbing leaks can run up your family's water bill an extra 10 percent or more, but chasing down these water and money wasting culprits is as easy as 1—2—3. Simply check, twist, and replace your way to fewer leaks and more water savings:

- ⇒ **Check** for silent leaks in the toilet with a few drops of food coloring in the tank, and check your sprinkler system for winter damage.
- ⇒ **Twist** faucet valves; tighten pipe connections; and secure your hose to the spigot. For additional savings, twist a WaterSense labeled aerator onto each bathroom faucet to save water without noticing a difference in flow. They can save a household more than 500 gallons each year—equivalent to the amount water used to shower 180 times!
- ⇒ **Replace** old plumbing fixtures and irrigation controllers that are wasting water with WaterSense labeled models that are independently certified to use 20 percent less water and perform well.

For more information visit www.epa.gov/watersense.

We ask that all our customers help us protect our water sources which are the heart of our community, our way of life and our children's future.

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

EPA Wants You To Know

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 activity.

Contaminants that may be present in source water include:

- A. **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D. **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E. **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

What measures are in place to ensure water is safe to drink?

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Special notice from EPA for the elderly, infants, cancer patients and people with HIV/AIDS or other immune system problems

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Information Concerning Lead in Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home

plumbing. Carolina Water Service, Inc. of North Carolina 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 or at www.epa.gov/safewater/lead.

Water that remains stationary within your home plumbing for extended periods of time can leach lead out of pipes joined with lead-containing solder as well as brass fixtures or galvanized pipes. Flushing fixtures has been found to be an effective means of reducing lead levels. The flushing process could take from 30 seconds to 2 minutes or longer until it becomes cold or reaches a steady temperature. Faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions. Visit the NSF Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

Drain Disposal Information

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The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

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Action level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
EPA	Environmental Protection Agency.
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Maximum Contaminant Level Goal (MCLG)	The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
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Picocuries per liter (pCi/L)	A measure of radioactivity in the water.
Locational Running Annual Average (LRAA)	The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
Running Annual Average (RAA)	Calculated running annual average of all contaminant levels detected.

Source Water Assessment Program (SWAP)

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Waterglyn was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #1	Moderate	04/21/2017
Well #2	Moderate	04/21/2017

The complete SWAP Assessment report for Waterglyn may be viewed on the Web at: www.ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to:

Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Monitoring Your Water

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

If You Have Questions Or Want To Get Involved

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Water Quality Test Results

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
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Inorganic Contaminants

Fluoride (ppm)	April 2018	N	0.46	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
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Disinfectants Residuals Summary

Contaminant (units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2018	N	0.75	0.4-1.0	4	4	Water additive used to control microbes.

Stage 2 Disinfection Byproduct Compliance

Contaminant (units)	Year Sampled	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM [Total Trihalomethanes] (ppb) (Location Code B01)	2016	N	6.1	N/A	N/A	80	By-product of drinking water chlorination.

Violations
 In 2018, Carolina Water Service, Inc. of North Carolina performed all required monitoring for contaminants. In addition, **no violations** from the North Carolina Department of Environmental Quality were received and we were in compliance with applicable testing and reporting requirements.





Carolina Water Service of North Carolina™

Woodhaven Water System

PWS ID: **NC0145147**

Annual Water Quality Report 2018

quality of water we delivered to you over the past year.

As your community water utility, we fully appreciate our role in the local community and are committed to providing safe, reliable and cost-effective service to you. All of our employees share in this commitment and strive to serve you with integrity and professionalism.

We are proud to share this report which provides water quality testing results through December 2018. We continually work to supply water that meets or exceeds all federal and state water quality regulations.

Our dedicated local team of water quality experts is working in the community everyday ensuring that you, our customer, are our top priority and that we are providing high quality service that protects the environment and benefits our communities - now and in the years to come.

Best regards,

Visit us online at

www.carolinawaterservicenc.com

Or Join us on Facebook and Twitter

@CarolinaWaterNC



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- Put strainers in sink drains to catch food scraps / solids for disposal.

Prescription Medication and Hazardous Waste

Household products such as paints, cleaners, oils, and pesticides, are considered to be household hazardous waste. Prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the wastewater treatment system and enter rivers and lakes (or leach into the ground and seep into groundwater in a septic system). Follow the directions for proper disposal procedures. **Do not flush hazardous waste or prescription and over-the-counter drugs down the toilet or drain.** They may flow downstream to serve as sources for community drinking water supplies. Many communities offer a variety of options for conveniently and safely managing these items. For more information, visit the EPA website at: www.epa.gov/hw/household-hazardous-waste-hhw.

The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

Understanding This Report In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.

Action level (AL)	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
EPA	Environmental Protection Agency.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's 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 contaminants.
Not applicable (N/A)	Not applicable.
Not Detected (ND)	This means not detected and indicates that the substance was not found by laboratory analysis.
Parts per million (ppm) or Milligrams per liter (mg/l)	One part per million corresponds to one minute in two years or a single penny in \$10,000.
Parts per billion (ppb) or Micrograms per liter (ug/l)	One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.
Picocuries per liter (pCi/L)	A measure of radioactivity in the water.
Locational Running Annual Average (LRAA)	The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
Running Annual Average (RAA)	Calculated running annual average of all contaminant levels detected.

Source Water Assessment Program (SWAP)

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Woodhaven was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #1	Moderate	04/20/2017
Well #2	Moderate	04/20/2017

The complete SWAP Assessment report for Woodhaven may be viewed on the Web at: www.ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to:

Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Monitoring Your Water

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

If You Have Questions Or Want To Get Involved

Carolina Water Service, Inc. of North Carolina does not hold regular public meetings. If you have any questions about this report or concerning your water, or would like a company representative to attend an upcoming homeowners association meeting, please contact Customer Service at 1-800-525-7990.

Water Quality Test Results							
Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Inorganics Contaminants							
Fluoride (ppm)	2018	N	0.15	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.
Nitrate/Nitrite Contaminants							
Nitrate (as Nitrogen) (ppm)	04/23/2018	N	1.53	N/A	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Disinfectant Residuals Summary							
Contaminant (units)	Year Sampled	MRDL Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2018	N	1.00	0.5-1.8	4	4.0	Water additive used to control microbes.
Lead and Copper Contaminants							
Contaminant (units)	Sample Date	Your Water	Number of sites found above the AL	MCLG	AL	Likely Source of Contamination	
Copper (ppm) (90 th percentile)	2017	0.288	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives	

Violations: In 2018, Carolina Water Service, Inc. of North Carolina performed all required monitoring for contaminants. In addition, **no violations** from the North Carolina Department of Environmental Quality were received and we were in compliance with applicable testing and reporting requirements.





Carolina Water Service of North Carolina™

Connestee Falls Water System

PWS ID: **NC0188104**

Annual Water Quality Report 2018

quality of water we delivered to you over the past year.

As your community water utility, we fully appreciate our role in the local community and are committed to providing safe, reliable and cost-effective service to you. All of our employees share in this commitment and strive to serve you with integrity and professionalism.

We are proud to share this report which provides water quality testing results through December 2018. We continually work to supply water that meets or exceeds all federal and state water quality regulations.

Our dedicated local team of water quality experts is working in the community everyday ensuring that you, our customer, are our top priority and that we are providing high quality service that protects the environment and benefits our communities - now and in the years to come.

Best regards,

Visit us online at

www.carolinawaterservicenc.com

Or Join us on Facebook and Twitter

@CarolinaWaterNC



**MY
UTILITY
CONNECT**

DOWNLOAD OUR MOBILE APP!

- Pay utility bill
- Manage account settings
- Monitor usage
- Connect with Customer Service

How Easy Is My Utility Connect to Find?
Go to www.carolinawaterservicenc.com
or search “MyUtilityConnect” in the
App Store or Google Play Store.

Water Conservation

Please be reminded that our water systems in North Carolina are always in some stage of either voluntary or mandatory water conservation restriction. These restrictions may vary weekly due to drought conditions and are dictated by a system established by the North Carolina Utilities Commission in an order dated May 23, 2008. The customers are encouraged to keep informed of current restrictions by visiting www.carolinawaterservicenc.com and clicking on the “Community Drought Status” link on the front page or call our customer service at (800) 525-7990.

Help Protect our Resources

Help put a stop to the more than **1 trillion gallons of water lost annually** nationwide due to household leaks. These easy to fix leaks waste the average family the amount of water used to fill a backyard swimming pool each year. Plumbing leaks can run up your family's water bill an extra 10 percent or more, but chasing down these water and money wasting culprits is as easy as 1—2—3. Simply check, twist, and replace your way to fewer leaks and more water savings:

- ⇒ **Check** for silent leaks in the toilet with a few drops of food coloring in the tank, and check your sprinkler system for winter damage.
- ⇒ **Twist** faucet valves; tighten pipe connections; and secure your hose to the spigot. For additional savings, twist a WaterSense labeled aerator onto each bathroom faucet to save water without noticing a difference in flow. They can save a household more than 500 gallons each year—equivalent to the amount water used to shower 180 times!
- ⇒ **Replace** old plumbing fixtures and irrigation controllers that are wasting water with WaterSense labeled models that are independently certified to use 20 percent less water and perform well.

For more information visit www.epa.gov/watersense.

We ask that all our customers help us protect our water sources which are the heart of our community, our way of life and our children's future.

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

EPA Wants You To Know

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 activity.

Contaminants that may be present in source water include:

- A. **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- B. **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- C. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- D. **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- E. **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.

What measures are in place to ensure water is safe to drink?

In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

Special notice from EPA for the elderly, infants, cancer patients and people with HIV/AIDS or other immune system problems

Some people may be more vulnerable to contaminants 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 about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Information Concerning Lead in Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home

plumbing. Carolina Water Service, Inc. of North Carolina 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 or at www.epa.gov/safewater/lead.

Water that remains stationary within your home plumbing for extended periods of time can leach lead out of pipes joined with lead-containing solder as well as brass fixtures or galvanized pipes. Flushing fixtures has been found to be an effective means of reducing lead levels. The flushing process could take from 30 seconds to 2 minutes or longer until it becomes cold or reaches a steady temperature. Faucets, fittings, and valves, including those advertised as "lead-free," may contribute lead to drinking water. Consumers should be aware of this when choosing fixtures and take appropriate precautions. Visit the NSF Web site at www.nsf.org to learn more about lead-containing plumbing fixtures.

Drain Disposal Information

Sewer overflows and backups can cause health hazards, damage home interiors, and threaten the environment. A common cause is sewer pipes blocked by grease, which gets into the sewer from household drains. Grease sticks to the insides of pipes. Over time, the grease can build up and block the entire pipe. Help solve the grease problem by keeping this material out of the sewer system in the first place:

- Never pour grease down sink drains or into toilets. Scrape grease into a can or trash.
- Put strainers in sink drains to catch food scraps / solids for disposal.

Prescription Medication and Hazardous Waste

Household products such as paints, cleaners, oils, and pesticides, are considered to be household hazardous waste. Prescription and over-the-counter drugs poured down the sink or flushed down the toilet can pass through the wastewater treatment system and enter rivers and lakes (or leach into the ground and seep into groundwater in a septic system). Follow the directions for proper disposal procedures. **Do not flush hazardous waste or prescription and over-the-counter drugs down the toilet or drain.** They may flow downstream to serve as sources for community drinking water supplies. Many communities offer a variety of options for conveniently and safely managing these items. For more information, visit the EPA website at: www.epa.gov/hw/household-hazardous-waste-hhw.

The Safe Drinking Water Act was passed in 1974 due to congressional concerns about organic chemical contaminants in drinking water and the inefficient manner by which states supervised and monitored drinking water supplies. Congress' aim was to assure that all citizens served by public water systems would be provided high quality water. As a result, the EPA set enforceable standards for health-related drinking water contaminants. The Act also established programs to protect underground sources of drinking water from contamination.

Understanding This Report In order to help you understand this report, we want you to understand a few terms and abbreviations that are contained in it.	
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EPA	Environmental Protection Agency.
Maximum Contaminant Level (MCL)	The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG)	The "goal" is the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's 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 contaminants.
Not applicable (N/A)	Not applicable.
Not Detected (ND)	This means not detected and indicates that the substance was not found by laboratory analysis.
Parts per million (ppm) or Milligrams per liter (mg/l)	One part per million corresponds to one minute in two years or a single penny in \$10,000.
Parts per billion (ppb) or Micrograms per liter (ug/l)	One part per billion corresponds to one minute in 2,000 years or a single penny in \$10,000,000.
Picocuries per liter (pCi/L)	A measure of radioactivity in the water.
Locational Running Annual Average (LRAA)	The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.
Running Annual Average (RAA)	Calculated running annual average of all contaminant levels detected.
Nephelometric Turbidity Units (NTU)	A measure of water clarity. Turbidity in excess of 5 NTU is just noticeable to the average person.
Treatment Technique (TT)	A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
Turbidity	A measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

Source Water Assessment Program (SWAP)

The North Carolina Department of Environmental Quality (DEQ), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of each source for Connestee Falls was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area.). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #1	Moderate	06/22/2017
Well #2	Moderate	06/22/2017
Well #4	Moderate	06/22/2017
Well #5	Lower	06/22/2017
Well #7	Lower	06/22/2017
Well #8	Moderate	06/22/2017
Well #9	Moderate	06/22/2017
Well #10	Moderate	06/22/2017
Well #11	Lower	06/22/2017
Well #3	inactive	(not rated in 2017)

The complete SWAP Assessment report for Connestee Falls may be viewed on the Web at: www.ncwater.org/?page=600. Note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this web site may differ from the results that were available at the time this CCR was prepared. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to:

Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment staff by phone at 919-707-9098.

It is important to understand that a susceptibility rating of "higher" **does not** imply poor water quality, only the system's potential to become contaminated by PCSs in the assessment area.

Monitoring Your Water

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The tables below list all the drinking water contaminants that we detected in the last round of sampling for each particular contaminant group. The presence of contaminants does not necessarily indicate that water poses a health risk. **Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2018.** The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Water Quality Test Results

Inorganic Contaminants

Contaminant (units)	Sample Date	MCL Violation Y/N	Your Water (Highest Average)	Range Low High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	2016 - 2018	N	2.4	ND - 2.4*	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories

*Please see the attached notice for additional information concerning fluoride and contact your child's pediatrician and/or dentist, especially if fluoride supplements have been prescribed. The Likely Source of Contamination listed in the table for fluoride is standard language provided by the EPA. Carolina Water Service, Inc. of North Carolina does not add fluoride to the drinking water of Connestee Falls. *The fluoride detected is naturally-occurring.*

Radiological Contaminants

Contaminant (units)	Year Sampled	MCL Violation Y/N	Your Water (Highest Average Detected)	Range Low High	MCLG	MCL	Likely Source of Contamination
Alpha Emitters (pCi/L)	2014, 2016-2017	N	3.56	ND - 3.63	0	15	Erosion of natural deposits
Uranium (pCi/L)	2014, 2016-2018	N*	23.84*	ND - 38.71*	0	20.1	Erosion of natural deposits

* This system consists of 9 active ground-water wells. A single sample collected from Well #7 in 2017 showed elevated levels of uranium above the MCL. Compliance is based on a 4-quarter average, therefore the system is not in violation. Uranium removal treatment is installed at Well #7, and upon receiving the exceeding result, we immediately took the well out of service. Repairs are still ongoing, and the well will remain offline until we are assured the Uranium removal treatment is operating properly. For additional information about Uranium, we are providing the following EPA Health Effects Language: ***Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.***

Stage 2 Disinfection Byproduct

TTHM (ppb) (Total Trihalomethanes)	2018	N	2.6 (Location B01)	N/A	N/A	80	Byproduct of drinking water disinfection
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Disinfectant Residuals Summary

Contaminant (units)	Year Sampled	MRDL Violation Y/N	Your Water (Highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2018	N	0.88	0.4 - 1.5	4	4.0	Water additive used to control microbes

Lead and Copper Contaminants

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90th percentile)	2018	0.300	0	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Microbiological Contaminants in the Distribution System

Contaminant (units)	MCL Violation Y/N	Your Water	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria (presence or absence)	N	1 in 6/18	0	N/A*	Naturally present in the environment

*If a system collecting fewer than 40 samples per month has two or more positive samples in one month, an assessment is required. Please see the following health effects language from the USEPA: ***Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found at this sample location and this was a warning of potential problems.***

If You Have Questions Or Want To Get Involved

Carolina Water Service, Inc. of North Carolina does not hold regular public meetings. If you have any questions about this report or concerning your water, or would like a company representative to attend an upcoming homeowners association meeting, please contact Customer Service at 1-800-525-7990.

Violations

In 2018, Carolina Water Service, Inc. of North Carolina performed all required monitoring for contaminants. In addition, **no violations** from the North Carolina Department of Environmental Quality were received and we were in compliance with applicable testing and reporting requirements.



NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER **Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.**

Connestee Falls Has Levels of Fluoride That Exceed the Secondary Maximum Contaminant Level (SMCL)

This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 milligrams per liter (mg/l) of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community water system, Connestee Falls, has a fluoride concentration greater than 2.0 mg/l at one of seven entry points. The fluoride level at one of the entry points was 2.4 mg/l. The range of results from all other entry points shows 'No Detection to 1.6 mg/l' of naturally-occurring fluoride.

Dental fluorosis in its moderate or severe forms, may result in a brown staining and or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride-containing products. Older children and adults may safely drink the water.

Drinking water containing more than 4 mg/l of fluoride (the U.S. Environmental Protection Agency's drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 mg/l of fluoride, but we're required to notify you when we discover that the fluoride levels in your drinking water exceed 2 mg/l because of this cosmetic dental problem.

For more information, please call Gary Peacock of Carolina Water Service, Inc. of North Carolina at 800-525-7990. Some home water treatment units are also available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call NSF International at 1-877-8-NSF-HELP.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact:

Responsible Person Gary Peacock	System Name Connestee Falls	System Address (Main Office-Mailing Address) P.O. Box 240908
Phone Number 800-525-7990	System PWSID # NC 01-88-104	System Address (Main Office-City, State, Zip) Charlotte, NC 28224

Annual Distribution / Method of Distribution: Directly Mailed with CCR

VERIFICATION

Deborah Clark, being duly sworn, deposes and says:

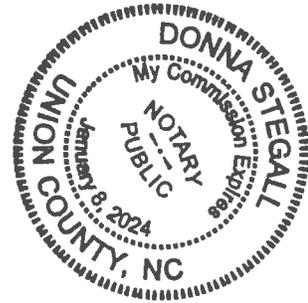
That she is the Communications and Community Engagement Manager for Carolina Water Service, Inc. of North Carolina; that she is familiar with the facts set out in this **REPORT ON CUSTOMER COMMENTS FROM NCUC PUBLIC HEARINGS HELD IN BOONE AND ASHEVILLE, NORTH CAROLINA ON OCTOBER 8 AND 9, 2019, RESPECTIVELY**, filed in Docket No. W-354, Sub 364; that she has read the foregoing Report and knows the contents thereof; and that the same is true of her knowledge except as to those matters stated therein on information and belief, and as to those she believes them to be true.

Deborah Clark
Communications and Community Engagement
Manager
Carolina Water Service, Inc. of North Carolina

Sworn to and subscribed before me this
the 24 day of October 2019.

Donna Stegall
Notary Public

My Commission Expires: 01/08/2024



CERTIFICATE OF SERVICE

I hereby certify that on this the 24th day of October 2019, a copy of the foregoing **REPORT ON CUSTOMER COMMENTS FROM PUBLIC HEARINGS HELD IN BOONE AND ASHEVILLE, NORTH CAROLINA ON OCTOBER 8 AND 9, 2019, RESPECTIVELY**, filed by Carolina Water Service, Inc. of North Carolina in Docket No. W-354, Sub 364, has been duly served upon all parties of record by electronic service, as follows:

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Staff Attorney, Legal Division
North Carolina Utilities Commission - Public Staff
gina.holt@psncuc.nc.gov

John Little
Staff Attorney, Legal Division
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