

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

November 8, 2019

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

**Via Electronic Delivery**

Re: Docket No. W-354, Sub 364  
Carolina Water Service, Inc. of North Carolina  
*Report on Customer Comments from Public Hearing Held in  
Jacksonville, North Carolina, on October 22, 2019*

Dear Ms. Campbell:

Attached for electronic filing please find Carolina Water Service, Inc. of North Carolina's *Report on Customer Comments from Public Hearing Held in Jacksonville, North Carolina, on October 22, 2019*.

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  
HEARING HELD IN  
JACKSONVILLE, NORTH  
CAROLINA ON OCTOBER 22,  
2019**

**NOW COMES Carolina Water Service, Inc. of North Carolina ("CWSNC"**  
or "Company") and files this report in response to customer concerns raised at the  
Jacksonville public hearing.

The public hearing was convened at 7:00 p.m. on Tuesday, October 22,  
2019, in the Superior Courtroom at the Onslow County Courthouse in Jacksonville,  
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 Diana Downey appeared for the Public Staff on behalf of the  
using and consuming public, accompanied by Public Staff Water Engineer Gina  
Casselberry. J. Bryce Mendenhall, CWSNC's Vice President of Operations, was  
accompanied by the following Company personnel who were available to assist  
customers with questions or requests: Dana Hill, Regional Director; Deborah  
Clark, Communications and Community Engagement Manager; Stacy Goff, Lead

Operator; Matthew Golden, Lead Operator, and Greg Spillman, Lead Operator. Robert H. Bennink, Jr., Bennink Law Office, 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.

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. In 2018, CWSNC performed all required monitoring for contaminants for the four utility systems represented by customers who testified at the Jacksonville public hearing. 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, Treasure Cove, Fairfield Harbour, and Brandywine Bay have no water quality issues to report. Copies of the latest Annual Water Quality Reports for 2018 are attached hereto as Exhibits 1, 2, and 3, respectively. CWSNC provides only wastewater utility service at Carolina Pines.

Hardness in water 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. The Company measured the hardness for the Fairfield Harbour and Brandywine Bay systems at 216 ppm and 282 ppm, respectively, which is considered to be “hard.” However, hardness is not regulated by the North Carolina Department of Environmental Quality (“DEQ”). 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 systems. 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.

In addition, CWSNC is committed to providing the highest level of service to customers, especially regarding water quality. The Company continues to

implement a robust flushing program. To-date in 2019, the Company has manually flushed the Fairfield Harbour system on 45 days during the months of March, July, August, and September 2019, as well as auto-flushing in multiple areas weekly. The Company flushes multiple streets throughout Fairfield Harbour on the days that it flushes. CWSNC also has five automatic flushing hydrants at Fairfield Harbour which operate at night, five times a week, and each one runs for an hour every time (approximately 220 days during 2019 as of this Report). The Company also has one auto-flusher which runs for 20 minutes, one time a week (approximately 44 days during 2019 as of this Report). Thus, to-date in 2019, CWSNC has, at times, flushed the Fairfield Harbour water system during a total of approximately 309 days.

Brandywine Bay water system underwent routine flushing in January 2019. In addition, the Company has purchased additional automatic flushing hydrants to install throughout Fairfield Harbour, Brandywine Bay, and other systems.

### **OVERVIEW OF THE JACKSONVILLE PUBLIC HEARING**

Six witnesses testified, including three witnesses from the Fairfield Harbour community, one from the Treasure Cove community, one from the Brandywine community, and two from the Carolina Pines 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  
JACKSONVILLE**

**Danny Conner, Treasure Cove Subdivision, 231 Long John Silver Drive, Wilmington, N.C. *Tr. Vol. 6, pp. 15 - 21.***

Mr. Conner testified that he is opposed to all of the rate changes proposed by CWSNC, including increases in the base facility charge and usage charge for water service. He noted that the Company increased its rates in March 2019, and stated that he did not think that another rate increase was justified. He stated that "there is nothing going on in the neighborhood that would justify any increases." *Tr. Vol. 6, p. 16, lines 17 -18.* Mr. Conner also expressed opposition to approval of the Company's proposed Storm Reserve Fund and a proposed increase in the Company's reconnection fee.

Mr. Conner focused attention on a water outage that occurred on May 30, 2019, when a vehicle hit an electric power transformer (which was located near the road), thereby interrupting power to the Company's two wells which serve the Treasure Cove water system. Mr. Conner testified that he sent a series of questions to CWSNC on June 13, 2019; but that he was unsatisfied with the responses, or lack thereof, that he received from the Company. He then filed a complaint with the Commission on August 2, 2019, but testified that he did not receive a response from the Company until August 21, 2019, and that he was unsatisfied with the responses provided by CWSNC. According to Mr. Conner:

"Some of the questions were answered. Some were ignored. One answer didn't even relate to the question. So based on that, I sent another email to them with the remaining questions and I did not get

a reply to that until I had to go back through the Utilities Commission.”  
Tr. Vol. 6, p. 18, lines 1 – 7.

Mr. Conner testified that he asked CWSNC if there were plans to move the transformer to protect it and if there are permanent operational generators on both wells. He was unsatisfied with the responses he received. Mr. Conner also questioned the veracity of an answer he received from CWSNC as to the number of residences currently connected to the Treasure Cove water system (296) and the number of connections that the water system is designed to serve (300), stating that “I think they've exceeded capacity, which is probably why we have such a low flow and drain the system so quickly.” *Tr. Vol. 6, p. 19, lines 11 -18.*

Mr. Conner questioned the accuracy of CWSNC's statement that average customer usage is 4,000 gallons of water per month. He also questioned why the fire hydrants in the subdivision are not in service, stating that they were in service when he moved to the neighborhood; but that CWSNC says now that they are for flushing only. Mr. Conner questioned whether Well #1 is in a flood zone, although he stated that he was told by CWSNC that the well is not located in a flood zone. Mr. Conner further testified that he asked CWSNC if there were plans to reduce the high mineral/sediment content of the water and that he was advised that the neighborhood would have to pay for it at a cost of up to \$1.2 million. He testified that he asked about testing for PFAS and was advised by the Company that testing is “not required by DEQ, so they tested it one time, but that's it.” *Tr. Vol. 6, p. 21, lines 2 – 3.*

**CWSNC's Response to Customer Conner:**

Regarding Mr. Conner's objection to the rate increase being requested by CWSNC in this case, 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 rates (and, where applicable, its sewer rates) require approval of the Commission, and are set only 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.

Mr. Conner objected to the Company's proposed Storm Reserve Fund. As stated in the Company's Rate Case Application, due to the increasingly volatile, frequent, and unpredictable nature of storms and storm restoration costs, CWSNC proposes to establish a storm damage restoration reserve, in addition to including a normalized level of storm damage restoration costs in base rates. The reserve would be funded through customer rate surcharges designed to produce a \$250,000 reserve fund. CWSNC filed expert testimony in support of this request which indicates that implementation of this reserve fund would provide the Company with support for recovery efforts and extraordinary O&M costs resulting from damages sustained in severe storms such as Hurricane Florence; minimize the need for deferred accounting petitions; and smooth the financial impact of such extraordinary costs that are otherwise unable to be considered in the setting of CWSNC's revenue requirement. The Company's proposed storm reserve fund will be fully investigated by the Public Staff and can only be implemented by CWSNC if approved and authorized by the Commission after a fully-litigated, contested case hearing.

Regarding Mr. Conner's objection to the Company's proposal to increase its reconnection fee from \$27 to \$42, CWSNC notes that it will present expert testimony in this case that the price increase is based on the Company's current

time and costs to process and complete a customer reconnection, as the current \$27 fee was implemented many years ago and does not reflect the Company's current operating costs. The Company's witness has supplied a schedule for the record which details the basis for the calculation of the new proposed fee of \$42. Here again, this proposal will be fully investigated by the Public Staff and can only be implemented upon approval by the Commission based upon a full and careful evaluation of the facts.

Regarding Mr. Conner's testimony about a water outage that occurred on May 30, 2019 [when a vehicle hit an electric power transformer, which is located near the road, thereby interrupting power to the Company's two wells which serve the Treasure Cove water system], the Company notes that the transformer in question is not owned by CWSNC, but is the property of the local electrical provider. During his testimony, Mr. Conner asked CWSNC if there were plans to move the transformer to protect it; the Company's reply is that it has no authority to move another utility company's equipment.

As part of his testimony, Mr. Conner also asked whether the Company has permanent generators installed at both wells at Treasure Cove. CWSNC has a generator permanently installed and located at Well #2. During an emergency where power is anticipated to be out for an extended period of time (such as in the event of a hurricane) and there is no permanent generator on site, CWSNC will reallocate mobile generators as needed from the Company's western North Carolina systems to the coast. At the time of the May 30<sup>th</sup> outage, the generator

at Well #2 did come on as designed, but the pump starter in the wellhouse tripped as a result of the damage to the power transformer. Thus, the generator was running but the pump could not start. System pressure never dropped below the required 20 psi, and CWSNC staff was on-site within 2 hours to restart the pump at Well #2.

In his testimony, Mr. Conner questioned the accuracy of CWSNC's statement that average customer usage is 4,000 gallons of water per month. The Company's response is that water usage may vary per family or residence based on several factors, such as frequency of irrigation, laundry, or if the home is a permanent or vacation/temporary residence. The industry standard for a family of four using water per month averages about 4,000 gallons of water.

Mr. Conner also asked questions regarding the hydrants installed on the Treasure Cove water system and why they do not provide fire protection. The answer is that Treasure Cove water system utilizes hydro-pneumatic tanks for water storage, which are not approved by the State of North Carolina for fire protection rated flow. All water hydrants in the subdivision are marked to indicate that they are rated for "flushing only" and CWSNC mails letters annually to the local Fire Chief as a reminder that the Treasure Cove system is not designed or intended to support fire suppression flows.

Regarding Mr. Conner's question as to whether Well #1 is in a flood zone, the Company responds that the well in question was not impacted by any flooding during Hurricane Florence; nor was it impacted by any preceding storm.

Regarding the number of current connections and the capacity of the Treasure Cove water system, CWSNC reiterates the information which the Company previously supplied to Mr. Conner; i.e., there are currently 296 action water connections or customers on the system and the system is designed and permitted to serve a total of 300 water connections.

Regarding the water hardness issue raised by Mr. Conner, the Company notes that hardness reflects the relative amounts of calcium and magnesium ions in 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.

**Ralph Tridico, Fairfield Harbour Subdivision, 1100 Kia Court, New Bern, N.C.**  
*Tr. Vol. 6, pp. 21 - 30.*

Mr. Tridico questioned how CWSNC can propose a pilot rate study when the Company does not have any automatic monitoring of their water meters, but rely on manual meter readers, about whom he says "Sometimes they get it right. Sometimes they don't." Mr. Tridico testified that his September 2019 bill contained "no reading" for that month. *Tr. Vol. 6, p. 22, lines 10 – 14.* In response to questions from the Presiding Commissioner, Mr. Tridico subsequently clarified his direct testimony by stating that his bill for September 2019, did contain a reading or number for his monthly water usage, but that the bar graph on the bill which shows monthly usage did not contain a bar for September. He also asserted that CWSNC fails to read his meter three to four times a year and used that statement to support his position in favor of "digital readers," contending that "most utilities have them." *Tr. Vol. 6, p. 25, lines 17 – 24 and p. 26, lines 1 – 18.*

Mr. Tridico also complained as follows regarding chlorine:

"The issue regarding chlorine or lack of in the water. We get these slugs of chlorine and then nothing for two or three weeks. There are other people in the development that have too much chlorine. I don't know how they're putting the chlorine in the water. I don't know if they're injecting it or if they're just dumping it in or whatever, it's not consistent. That's the bottom line." *Tr. Vol. 6, p. 22, lines 18 -24 and p. 23, lines 1 – 4.*

In addition, Mr. Tridico registered an ongoing complaint regarding rust in the water. He stated that there had been no improvement in the rust issue. He brought a filter from his home to illustrate his testimony and stated that "six, seven years ago I could change the filter every three months. Now I have to do it every month or I get bleed through." *Tr. Vol. 6, p. 23, lines 14 – 16.*

Mr. Tridico complained about the rate increase being currently being sought by CWSNC, noted the history of prior rate increases granted to the Company since 2013, and asserted that there has been no improvement in the service provided by CWSNC to Fairfield Harbour customers. He stated that Fairfield Harbour was devastated by Hurricane Florence, that there are still residents not able to live in their homes, and that he has a 98-year-old neighbor who is unable to live in his home, but is paying for water service. *Tr. Vol. 6, p. 23, lines 18 – 23.* He also questioned the Company's proposal to establish a storm reserve fund and stated that funds for such a purpose "should come out of profits; a part of doing business, the cost of doing business." *Tr. Vol. 6, p. 24, lines 11 – 13.*

In response to questions from the Presiding Commissioner, Mr. Tridico described the filtration systems that he has installed at his home (consisting of an \$1,800 RO system which is five years old and a \$2,000 water softener system which is 28 years old). Mr. Tridico concluded his testimony by stating that "The guys on site they — they do a pretty good job." *Tr. Vol. 6, p. 29, lines 21 – 22.*

**CWSNC's Response to Customer Tridico:**

First, CWSNC appreciates Mr. Tridico's statement that the Company employees on site at Fairfield Harbour "do a pretty good job."

Next, 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 proposed new rates, including the Company’s request to implement a storm reserve fund for extraordinary storm restoration costs and to implement a pilot rate study, require approval of the Commission, and are only set after a fully-litigated, contested case hearing. CWSNC filed this rate increase Application to seek Commission approval of the recovery of expenditures that are not reflected in the current rates. The Application for a rate increase is investigated and contested by the Public Staff and will also be subject to examination by at least one additional third-party intervenor. Any rate increase will only be allowed by the Commission after a full series of both public and evidentiary hearings. 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. Conner, as well as the General Response regarding proposed rates set forth in Appendix A to this Report.

Regarding Mr. Tridico’s testimony about water hardness, CWSNC incorporates the general comments on that subject previously set forth in this Report and offers the following more specific comments related to the Fairfield Harbour system. Previously, in early-2011, the Company responded to customer concerns expressed during a public hearing about the hardness of the drinking

water. The Company timely and appropriately responded to the concerns of the Fairfield Harbour customers by preparing a "Water Softening System" proposal and cost estimate for review and discussion with the Public Staff of the Commission. It is the Company's recollection and belief that this proposal was soundly rejected by the customers in the Fairfield Harbour community.

Regarding Mr. Tridico's testimony pertaining to the devastation at Fairfield Harbour which resulted from Hurricane Florence, CWSNC believes that it is important to provide a full discussion of the damage caused by Florence at Fairfield Harbour and also at the Company's other coastal utility systems. Hurricane Florence made landfall at or around Wrightsville Beach near Wilmington, North Carolina, on September 14, 2018, with winds reaching speeds of up to 140 miles per hour and covering 500 miles.

Previously, on Friday, September 7, 2018, Governor Roy Cooper declared a State of Emergency for North Carolina before the hurricane actually made landfall, due to the anticipated damages from a storm of this magnitude. Despite being a Category 1 hurricane, Florence's slow pace bombarded coastal North Carolina for days with torrential rain, high winds, coastal erosion, and an abnormally high storm surge. At the height of the storm, 800,000 residents were reportedly without power, 12,000 people were evacuated to 126 shelters, and over 150 people were rescued by boat in the New Bern, North Carolina area. Damage to structures throughout the storm area was extensive due to flooding and storm surges, driven by rainfall accumulating more than 30 inches in several areas.



Governor Cooper estimated that approximately \$13 billion in damage resulted from the hurricane. Later deemed to have been the wettest tropical cyclone recorded in the Carolinas, Florence resulted in 53 deaths, including 39 in North Carolina.

As of October 3, 2018, twenty-eight of North Carolina's counties had been declared a major disaster by the President of the United States under the Stafford Act (P.L. 93-288), with other counties requested and pending approval.

CWSNC facilities suffered extensive damage due to the storm, particularly in the coastal region of the Company's service territory. Specifically, Florence impacted most of the Company's coastal systems, including (1) Fairfield Harbour; (2) Carolina Pines; (3) Hestron Park; (4) Brandywine Bay; (5) White Oak Estates; (6) Regalwood; (7) Belvedere Plantation; (8) Olde Pointe; (9) Mason's Landing; and (10) Treasure Cove (collectively referred to as "Coastal Systems"). Also, the storm impacted the Carolina Trace wastewater treatment plant ("WWTP") due to extreme flooding. Fifty percent of the Company's affected systems lost continuous service during the hurricane.

As a result of Florence, the Company incurred extraordinary, unplanned operating and capital costs, as well as lost revenues from customers who were forced to disconnect their service due to damage to their homes. The Company has, to-date, incurred incremental operation and maintenance ("O&M") expenses at Fairfield Harbour related to damage from Hurricane Florence of \$46,852.07 and incremental capital investment costs of \$983,455.32. The Company's incremental

capital investments at Fairfield Harbour fall into the following categories and related amounts:

Lift Station Replacements	\$903,653.80
Service Replacements	850.00
Maintenance Building	39,639.57
Well Equipment	22,076.76
WWTP Repairs	<u>17,235.19</u>
Total	\$983,455.32

CWSNC promptly filed a claim with its insurance carrier and is in the process of working through the claim with its insurer. The Company has proposed in the current rate case that insurance proceeds be used to offset costs incurred due to Hurricane Florence to mitigate impacts to customers.

Regarding Mr. Tridico's complaints regarding chlorine and rust, CWSNC's operations team has done the following to address the perceived issues of chlorine and rust in the water:

- Increased the feed at all wells to maintain greater residual numbers in the system;
- Analyzed the phosphate feed to address the iron levels;
- Broadened the sample sites to get a more representative picture of the whole system; and
- Placed the four new flushers in areas where the complaints are prevalent, and increased manual flushing based on new sample collection.

Regarding Mr. Tridico's billing complaints, the Company notes that estimated bills occur for several reasons. For instance, this can happen in the event access to the community is not possible due to flooding, hurricane damage, unsafe conditions, or construction access or for other reasons beyond CWSNC's

control. Under that circumstance, the Company will estimate the current usage based on historical usage for the account.

Regarding any customers who are not in their homes in the hurricane-impacted areas, service to their residences can be disconnected and reconnected when water and wastewater services are restored. CWSNC's Customer Service Department can assist with these types of requests.

**James C. Kraft, Brandywine Bay Subdivision, 215A Reserve Green Drive, Morehead City, N.C. *Tr. Vol. 6, pp. 30 - 35.***

Mr. Kraft testified that he is a 42-year resident of Carteret County, North Carolina. He has lived in four houses during that time; the first three houses were served by wells and he currently receives water service from CWSNC at the fourth house. He complained of stains caused by the water and sediment in the water (particularly when he leaves for a period of time and comes back to find the water in the toilet to be an orange and pink color). He further testified that:

"The wells -- were the only treatment that they received was water softeners and the water from the wells in this area is excellent. The water from the water company is not excellent. It contains a lot of sediment and the pressure varies considerably."

Mr. Kraft testified that his main concern is with the cost of the water and sewer service provided by CWSNC---specifically, the Company's combined base charges of \$73.84 per month (not including usage charges) and his normal bill of \$110 per month. He stated that "If the Company is interested in conserving water, then the base rate should be low and the water rate should be higher, so that

people would save water and save money in the process.” *Tr. Vol. 6, p. 32, lines 22 – 24 and p. 33, lines 1 – 2.*

Mr. Kraft stated that in September 2014, CWSNC's combined base rate for water and sewer was \$51.27 and that the current combined base rate of \$73.84 is an increase of 44 percent over five years. According to Mr. Kraft, that is a compound annual rate of return of roughly eight percent and that during that same timeframe, the consumer price index averaged about two percent a year. He recommended that Commission grant no rate increase to the Company this year and also direct the Company to make refunds to customers.

Mr. Kraft further recommended the Company take steps to improve water quality, stating that each year there is at least one measure that is out of limits. He opined that he did not think customers were notified of such instances. In response to a question from Chair Mitchell, Mr. Kraft replied that he had never previously communicated his water quality concerns to the Company, but that he had, on two occasions, communicated by email with Gina Casselberry of the Public Staff.

**CWSNC's Response to Customer Kraft:**

Regarding Mr. Kraft's objections and concerns regarding CWSNC's rates, 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.

Furthermore, regarding Mr. Kraft's statement that his main concern is with the cost of the water and sewer service provided by CWSNC (particularly pertaining to the Company's base charges for water and sewer service), the Company notes that in CWSNC's last rate case (Docket No. W-354, Sub 360), the Commission set CWSNC's water rates based upon a ratio of 52%/48% base or fixed charges to usage charges.<sup>1</sup> The Company's approved sewer rates were based upon a ratio of 80%/20% base or fixed charges to usage charges. The base charges set by the Commission for both CWSNC's water and sewer services are designed to allow the Company to recover a reasonable portion of the Company's fixed charges to make available and provide utility service to customers on demand

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<sup>1</sup> In the Sub 360 rate case order dated February 21, 2019, the Commission noted at page 107 that Public Staff Water Engineer Gina Casselberry testified that approximately 75% of the Company's water service costs are fixed and that CWSNC witness DeStefano testified that 80% of the Company's water service costs are fixed.

and on an ongoing basis, irrespective of the customer's actual usage. That is the purpose of the monthly base charges for water (\$24.44) and sewer (\$45.97) currently being paid by all customers at Brandywine Bay. Those charges were specifically set and approved by the Commission by its Sub 360 rate case order dated February 21, 2019. Thus, CWSNC submits that the total monthly water and sewer rates paid by Mr. Kraft are fair and reasonable to him and all of the Company's customers. There is no reasonable basis upon which the Commission could or should order any customer refunds as recommended by Mr. Kraft.

Whether a rate design has a higher or a lower base facilities charge, the approved rates are designed to allow for the revenue recovery that is authorized by the Commission. Further, some customers prefer a higher fixed charge and a lower volumetric charge, while others favor the opposite. Mr. Kraft's complaint is one example of that diversity of opinion.

Regarding Mr. Kraft's water quality complaints, the Company hereby incorporates by reference the discussions related to "hard water" (which admittedly exists at Brandywine Bay) set forth above in conjunction with CWSNC's General Responses to Customer Concerns section of this Report and in the Company's response to the testimony of Mr. Conner.

CWSNC mails each of its customers, including Mr. Kraft, a Consumer Confidence Report ("Annual Water Quality Report") which describes the water quality of the communities served by the Company. This Report is also included on CWSNC's website at <https://www.myutility.us/CarolinaWaterServiceNC/water->

[quality-reports/2018](#). The four-page Annual Water Quality Report for 2018 for Brandywine Bay concludes with this statement:

“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.” (Emphasis in original)

**John Gumbel, Carolina Pines, 107 Boros Landing, New Bern, N.C. *Tr. Vol. 6, pp. 35 - 41.***

Mr. Gumbel testified that he moved into his current home in 2005, that he is a retired Marine Colonel, and that he possesses a Bachelor's Degree in economics and a Master's Degree in system's analysis. He receives uniform flat-rate sewer service from CWSNC in the Company's Carolina Pines service area. He testified that the Commission should deny CWSNC's request for a rate increase and, instead, roll back the Company's rates “to bring the rates more in line with inflation.” *Tr. Vol. 6, p. 39, lines 17 – 19.* He asserted that the proposed 37.43% rate increase in the Company's Uniform Sewer Flat Rate is “excessive” and that:

“Given the 10-year history of increases in the Uniform Flat Rate, no increase in the rate is currently justified when the rate is compared with increases in the CPI over the same period of time. Rate increases have already been 3.9 times the increase in the CPI over the last 10 years even without this proposed increase. If anything, rates should be rolled back. *Tr. Vol. 6, p. 37, lines 1 – 7.*”

Mr. Gumbel cited numerous statistics in support of his testimony.

**CWSNC's Response to Customer Gumbel:**

CWSNC notes that, during the public hearing, Mr. Gumbel registered no service quality complaints regarding the sewer utility service supplied to him by the Company.

Regarding Mr. Gumbel's concerns, CWSNC responds that the Company's sewer 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, more than 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 much of that 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 previously in this Report, since the Company's last rate case, CWSNC has invested more than \$22 million in new water and sewer plant in North Carolina.

**David Stevenson, Fairfield Harbour, 903 Carolina Court, New Bern, N.C.** *Tr. Vol. 6, pp. 41 - 44.*

Mr. Stevenson testified that he attended the public hearing at the request of the Fairfield Harbour POA and that his primary message focused on the cost of the increase in CWSNC's rates. He addressed the Company's request to establish a storm reserve fund and his concern that such request "implies that they [CWSNC] had no insurance for flood insurance and they had no reserve." *Tr. Vol. 6, p. 42, lines 4 – 14.* Mr. Stevenson testified with respect to the suffering and damage that Hurricane Florence caused to the residents of Fairfield Harbour and

stated that CWSNC's rate increase proposal is "like salt in a wound" to customers who are still not in their homes. *Tr. Vol. 6, p. 42, lines 15 – 24 and p. 43, lines 1 – 2.* He noted that property owners at Fairfield Harbour carried flood insurance to cover their losses and, in support of his total opposition to the proposed rate increase, questioned whether CWSNC had made any provision to deal with the disaster resulting from Hurricane Florence.

**CWSNC's Response to Customer Stevenson:**

In response to Mr. Stevenson's testimony in opposition to approval of the Company's request to establish a Storm Reserve Fund, CWSNC incorporates by reference the response set forth above related to the testimony offered by Mr. Conner. In addition, CWSNC incorporates by reference the responses offered by the Company in support of its current request for a rate increase related to the oppositional testimony offered by customers Conner, Tridico, Kraft, and Gumbel.

The Company also incorporates by reference the description of what the Company did to restore utility service to customers at Fairfield Harbour in the aftermath of Hurricane Florence as set forth above in response to the testimony of Mr. Tridico. With reference to Mr. Stevenson's query regarding insurance, CWSNC notes that the Company promptly filed a claim with its insurance carrier and is in the process of working through the claim with its insurer. The Company has also proposed in the current rate case that insurance proceeds be used to offset costs incurred due to Hurricane Florence to mitigate impacts to customers. The Company has, to-date, incurred incremental O&M expenses at Fairfield

Harbour related to damage from Hurricane Florence of \$46,852.07 and incremental capital investment costs of \$983,455.32. The Company's investment of almost \$1 million at Fairfield Harbour in the aftermath of Florence to restore service clearly demonstrates CWSNC's commitment to the well-being of its customers and recognition of its obligations as a regulated public utility in North Carolina.

**Irving Joffee, Fairfield Harbour, 1014 Pelican Drive, New Bern, N.C.** *Tr. Vol. 6, pp. 45 - 51.*

Mr. Joffee testified that he was flooded out of his home by Hurricane Florence and that he is still not able to live in his house. Mr. Joffee stated that he wanted to address three points in his testimony; i.e., the quality of the water that CWSNC provides; the "lack of regard in many ways, that CWS has for the community that it serves;" and "the efficiency with which CWS uses its resources in terms of the request to continually raise the rates." *Tr. Vol. 6, p. 45, lines 16 – 24 and p. 46, lines 1 – 5.*

With regard to the quality of the water provided by CWSNC, Mr. Joffee made an unfavorable comparison to the quality of water he currently receives from the Town of New Bern at his temporary residence, stating that there is no water purifying system in that house and that the city water is clear, has no color or chlorine or sulfur odors, and does not stain clothes. Mr. Joffee stated that he owns a condominium in Delaware and that the rate he pays for sewer service at Fairfield Harbour (currently \$50.46) is "quite a bit more" than what he pays for sewer service

in Delaware (less than \$30 a month). *Tr. Vol. 6, p. 47, lines 1 – 24 and p. 48, lines 1 – 4.*

With regard to his contention that CWSNC exhibits a “lack of regard” for the Fairfield Harbour community, Mr. Joffee testified that, although he is not currently living in his home, he has been required to pay for both water *and* sewer service since approximately the beginning of April 2019, when construction began on his home. He testified that his house is itself not currently attached to CWSNC’s water and sewer system, but that, instead, his construction workers have access to a spigot for water installed at the water meter. He stated that water usage at the site is minimal and that, because there is no connection to CWSNC’s sewer system, no water used by the construction crew can enter the Company’s sewer system. Mr. Joffee stated that he is required to pay CWSNC’s minimum monthly charge of approximately \$50 for sewer service (which he thinks is “outrageous”) as well as for water service used by the construction crew. Mr. Joffee contacted CWSNC and requested that he be exempt from paying the monthly charge of sewer service, while still paying for water service, but his request was refused by management. *Tr. Vol. 6, pages 48 – 50.*

**CWSNC’s Response to Customer Joffee:**

An attempt, such as that made by Mr. Joffee, to make meaningful comparisons between costs for water and wastewater service providers such as the Town of New Bern and an out-of-state utility in Delaware 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 a municipality such as New Bern, 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. Nor can any reasonable comparison be made with the rates charged by a utility in another state. The difference in cost attributes are obvious and should inform any conversation about comparisons in respective average costs.

Regarding Mr. Joffe’s water quality complaints, the Company hereby incorporates by reference the discussions related to quality of service, water hardness, and the Company’s flushing procedures at Fairfield Harbour set forth above in conjunction with CWSNC’s General Responses to Customer Concerns section of this Report, as well as the Company’s specific responses to the testimony of other customers who spoke at the Jacksonville public hearing.

## 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 8th day of November 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**  
**JACKSONVILLE 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 Treasure Cove, Fairfield Harbour, and Brandywine Bay are attached hereto as Exhibits 1, 2, and 3, 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 Treasure Cove, Fairfield Harbour, and Brandywine Bay.
  - 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™

## Treasure Cove Water System

PWS ID: NC0465165

### 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](http://www.carolinawaterservicenc.com)

Or Join us on Facebook and Twitter

@CarolinaWaterNC



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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](http://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](http://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](http://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](http://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](http://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 Treasure Cove 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:

#### Source Water Assessment Program (SWAP) Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
Well #1	Moderate	06/23/2017
Well #2	Lower	06/23/2017

The complete SWAP Assessment report for Treasure Cove may be viewed on the Web at: [www.ncwater.org/?page=600](http://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](mailto: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
<b>Nitrate/Nitrite Contaminants</b>							
Nitrate (as Nitrogen) (ppm)	2018	N	2.37	2.32 - 2.42	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits.

### Lead and Copper Contaminants

Contaminant (units)	Sample Date	Action Level Exceedance Y/N	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	July 2017	N	0.260	0	1.3	AL= 1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives.

### Disinfectant Residuals Summary Based upon Running Annual Average (RAA)

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	1.24	0.2 - 2.2	4	4	Water additive used to control microbes.

*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*

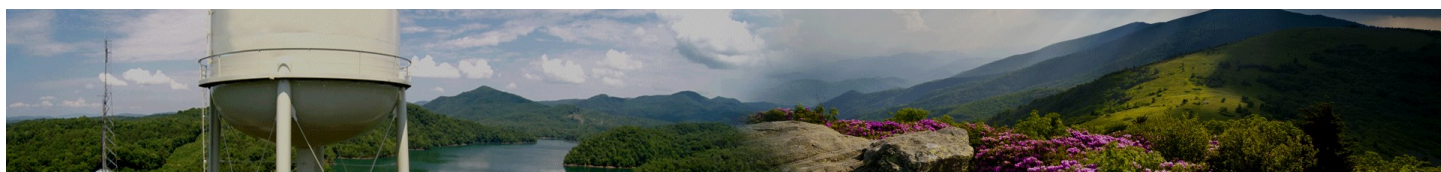
### Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low High	Secondary MCL
Sulfate (ppm)	7/18/18	23.2	22.27-23.2	250

### GenX Compound

Carolina Water Service, Inc. of North Carolina's (CWSNC) systems and customers within the Cape Fear area are served exclusively by well water. In late 2017, CWSNC proactively sampled several of our wells within this area, including wells within the Belvedere, Olde Point, Mason Landing, and Treasure Cove systems. The samples were sent to a certified laboratory capable of analyzing for the GenX compound. **CWSNC is pleased to report that the resulting analysis shows no detectable levels of GenX in our samples.**

**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 Harbour Water System

PWS ID: NC0425132

### Annual Water Quality Report 2018

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

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**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.**

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Best regards,

Visit us online at

[www.carolinawaterservicenc.com](http://www.carolinawaterservicenc.com)

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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](http://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](http://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.*

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Nov 08 2019



## 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](http://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](http://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](http://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 Harbour 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	04/18/2017
Well #2	Moderate	04/18/2017
Well #3	Moderate	04/18/2017

The complete SWAP Assessment report for Fairfield Harbour may be viewed on the Web at: [www.ncwater.org/?page=600](http://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](mailto: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

### Inorganics Contaminants

Contaminant (units)	Year Sampled	Violation Y/N	Your Water	Range Low High	MCLG	MCL	Likely Source of Contamination
Fluoride (ppm)	2018	N	0.46	N/A	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories.

### Disinfectant Residuals Summary

Disinfectant Residual	Year Sampled	Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2018	N	0.94	0.2 - 2.2	4	4.0	Water additive used to control microbes.

### Stage 2 Disinfection Byproduct Compliance - Based upon Locational Running Annual Average (LRAA)

Disinfection Byproduct	Sample Location Code	Year Sampled	MCL Violation Y/N	Your Water (Highest Locational Average)	Range Low High	MCLG	MCL	Likely Source of Contamination
TTHM (ppb) [Total Trihalomethanes]	B01	2018	N	55.1	6.2 - <b>116.6*</b>	N/A	80	Byproduct of drinking water disinfection.
TTHM (ppb) [Total Trihalomethanes]	B02	2018	N	42.8	2.1 - <b>100.8*</b>	N/A	80	Byproduct of drinking water disinfection.
HAA5 (ppb) [Total Haloacetic Acids]	B01	2018	N	27.0	9.0 - 47.0	N/A	60	Byproduct of drinking water disinfection.
HAA5 (ppb) [Total Haloacetic Acids]	B02	2018	N	19.1	2.2 - 42.3	N/A	60	Byproduct of drinking water disinfection.

\*Two quarterly sample results collected from our B01 site, and one quarterly sample result from our B02 site showed levels of TTHMs above 80 ppb. Compliance is based on a four-quarter average; therefore, our system was not in violation. We have increased our flushing efforts and we will continue quarterly monitoring as required. Our customers will be notified if the averages exceed the MCL. For additional information, please see the following standard health effects language from the US EPA: *Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.*

### 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 <sup>th</sup> percentile)	2018	0.624	1	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits.
Lead (ppb) (90 <sup>th</sup> percentile)	2018	4	1	0	AL=15	Corrosion of household plumbing systems; erosion of natural deposits.

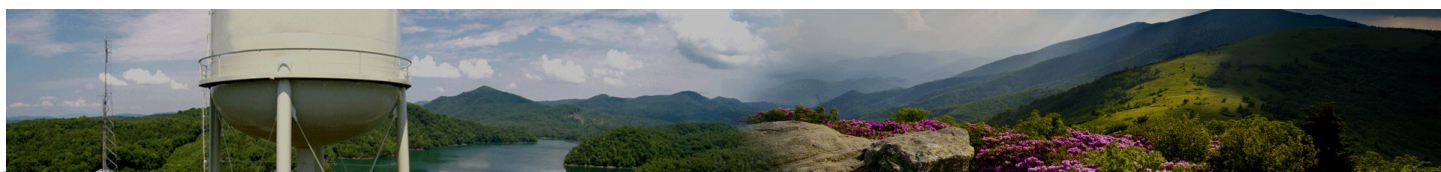
*Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could, suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor. Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.*

### 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/A	2 of 67 samples were positive	N/A	TT*	Naturally present in the environment.

\*Under the Revised Total Coliform rule that became effective April 1, 2016, if a system collecting fewer than 40 samples per month has two or more positive samples in one month, an assessment is required. We collect 5 routine distribution samples each month for total coliform bacteria. In May 2018, 1 of 5 routine and 1 of 3 repeat (follow-up) samples showed the presence of total coliform bacteria. Both positive samples were collected from the same site. Upon investigation, we found the problem was at the particular outside spigot used for sample collection. *Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments. During the past year we were required to conduct one Level 1 assessment. A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system. One Level 1 assessment was completed. No corrective actions were required.*

**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™

## Brandywine Bay Water System

PWS ID: NC0416163

### Annual Water Quality Report 2018

for 2018. This report is designed to inform you of the 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](http://www.carolinawaterservicenc.com)

Or Join us on Facebook and Twitter

@CarolinaWaterNC



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UTILITY  
CONNECT**

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## EPA Wants You To Know

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### 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.
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- 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.
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### 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).

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### Information Concerning Lead in Water

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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](http://www.epa.gov/safewater/lead).

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### 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 Brandywine Bay 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	Lower	04/17/2017
Well #3	Lower	04/17/2017

The complete SWAP Assessment report for Brandywine Bay may be viewed on the Web at: [www.ncwater.org/?page=600](http://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:

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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.

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## Water Quality Test Results

Contaminant (units)	Sample Location Code	Sample Date	MCL Violation Y/N	Your Water (Highest Locational Average)	Range Low High	MCLG	MCL	Likely Source of Contamination
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### Stage 2 Disinfection Byproduct Compliance - Based upon Locational Running Annual Average (LRAA)

TTHM (ppb) [Total Trihalomethanes]	B01	2018	N*	74.68	39.8 - 111.1*	N/A	80	Byproduct of drinking water disinfection.
	B02	2018	N	50.95	34.8 - 68.2	N/A	80	Byproduct of drinking water disinfection.
HAA5 (ppb) [Total Haloacetic Acids]	B01	2018	N*	29.78	8.4 - 69.5*	N/A	60	Byproduct of drinking water disinfection.
	B02	2018	N*	44.50	29.7 - 62.3*	N/A	60	Byproduct of drinking water disinfection.

\*Two of four quarterly samples collected during 2018 at our B01 sample site showed levels of Trihalomethanes (TTHMs) above 80 ppb. One quarterly sample from each of our two sample sites (B01 & B02) showed levels of Haloacetic Acids (HAA5s) above 60 ppb. Compliance is based on a four-quarter average; therefore, our system was not in violation in 2018. In March 2019, our customers were notified of an LRAA MCL exceedance for TTHMs at our B01 site after the first quarter 2019 monitoring. We are evaluating options to permanently reduce disinfection byproducts in the system, including treatment modifications. Our customers will be updated quarterly until we return to compliance for TTHMs.

For additional information, please see the following standard health effects language for disinfection byproducts: **TTHM:** Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer. **HAA:** Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

### Disinfectant Residuals Summary

Contaminant (units)	Year Sampled	MCL/MRDL Violation Y/N	Your Water (highest RAA)	Range Low High	MRDLG	MRDL	Likely Source of Contamination
Chlorine (ppm)	2018	N	0.66	0.05 - 1.6	4	4	Water additive used to control microbes

### Lead and Copper Contaminants

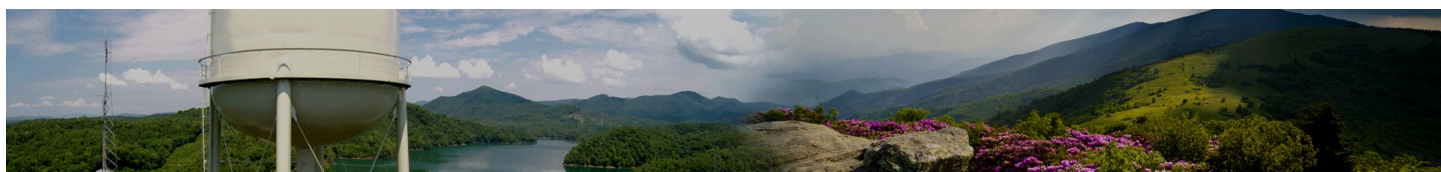
Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG	MCL	Likely Source of Contamination
Copper (ppm) (90 <sup>th</sup> percentile)	Aug 2018	0.208	0	1.3	AL= 1.3	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.

**Secondary Contaminants**, required by the NC Public Water Supply Section, are substances that affect the taste, odor, and/or color of drinking water. These aesthetic contaminants normally do not have any health effects and normally do not affect the safety of your water.

### Water Characteristic Contaminants

Contaminant (units)	Sample Date	Your Water	Range (Low High)	Secondary MCL
pH (Standard Units)	4/3/2017	6.9	N/A	6.5 to 8.5
Sodium (ppm)	4/3/2017	23.4	N/A	N/A
Iron (ppm)	4/3/2017	0.144	N/A	0.3
Hardness (ppm)	4/3/2017	282	N/A	N/A

**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.



## 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 PUBLIC HEARING HELD IN JACKSONVILLE, NORTH CAROLINA ON OCTOBER 22, 2019**, 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.



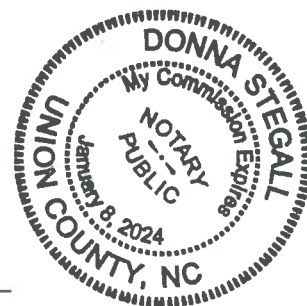
Deborah Clark  
Communications and Community Engagement  
Manager  
Carolina Water Service, Inc. of North Carolina

Sworn to and subscribed before me this

the 7 day of November 2019.

  
Notary Public

My Commission Expires: 01/08/2024





**CERTIFICATE OF SERVICE**

I hereby certify that on this the 8th day of November 2019, a copy of the foregoing **REPORT ON CUSTOMER COMMENTS FROM PUBLIC HEARING HELD IN JACKSONVILLE, NORTH CAROLINA ON OCTOBER 22, 2019**, 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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