



# ORANGE WATER AND SEWER AUTHORITY

*A public, non-profit agency providing water, sewer and reclaimed water services  
to the Carrboro-Chapel Hill community.*

January 20, 2017

Mayor Pam Hemminger  
Town of Chapel Hill  
405 Martin Luther King Jr.  
Boulevard  
Chapel Hill, NC 27514

Mayor Lydia Lavelle  
Town of Carrboro  
301 West Main Street  
Carrboro, NC 27510

Chair Mark Dorosin  
Orange County Board of  
Commissioners  
PO Box 8181  
Hillsborough, NC 27278

Dear Mayor Hemminger, Mayor Lavelle and Chair Dorosin:

We are pleased to submit this annual report on our services, projects and initiatives in 2016.

## **Sewer for the Historic Rogers Road Area**

Orange County and OWASA have approved an agreement for OWASA's services in bidding, construction administration and construction oversight for the installation of [sewer to serve the Rogers Road area](#). Construction is scheduled to begin in summer 2017 and finish in summer 2018.

The project will include 3.5 miles of sewer pipes and will pass by 104 properties, including 86 in the Historic Rogers Road Area.

## **New water rate for Multi-Family Master-Metered customers**

On December 8<sup>th</sup>, we approved a change in the water rates for Multi-Family Master-Metered (MFMM) customers, such as apartment complexes. Starting in May 2017, these customers will pay a year-round water rate of \$5.67 per 1,000 gallons instead of the current seasonal water rates, which are higher from May through September and lower in the other seven months.

In the past, MFMM residents expressed concern about unexpected increases in private water/sewer bills with the change to our peak seasonal rate in May, even when a resident's water use has not increased. About 7,700 households living in approximately 200 apartment complexes in Chapel Hill and Carrboro receive private water and sewer bills from property owners.

Under rules of the NC Utilities Commission, the owners can pass through water/sewer costs to residents through private sub-metering and billing arrangements. The year-round rate will eliminate bill fluctuations due to changes in seasonal rates, so private bills should result in fewer questions and less confusion. [Letter to the governing boards on December 13, 2016](#)

## **Financial management**

Fiscal Year 2017 is the fifth consecutive year with no increase in our monthly rates. We received an unmodified opinion from our independent auditors for our FY 2016 Comprehensive Annual Financial Report. We continue to meet our financial performance objectives including the metric

we use to measure the affordability of our services. The average household in our area uses about 4,000 gallons per month of water and sewer service; the annual cost of service at this level is less than 1.5% of median household income.

### **Affordability outreach program**

On December 8<sup>th</sup>, we approved the [second-year plan for affordability outreach](#). This program is designed to educate and empower customers to reduce their water use and therefore their monthly water and sewer costs. We are partnering with local agencies and focusing on customers who have received financial assistance towards paying an OWASA bill.

In the [Care to Share customer assistance program](#), over 1,000 OWASA customers contribute about \$450 per month through on-bill payments. We also encourage citizens to give directly to the Inter-Faith Council.

### **Advanced Metering Infrastructure (AMI)**

We are moving forward with evaluating and identifying a vendor and system for [Advanced Metering Infrastructure](#) (AMI) in our community. AMI is a system that allows for remote meter reading via radio transmissions, which in turn allows for more frequent meter readings and faster leak detection. After conducting a feasibility study and engaging the community, the OWASA Board determined that such a system would be beneficial to the utility and community and would not require a rate increase. The Board decided to move forward with requesting proposals.

In December 2016, staff received and began evaluating proposals. Early in 2017, we will select a team to provide and install an AMI system. We estimate that installing the new system for all 22,000 meters in our system will take about two years after the vendor begins.

We will continue to inform and engage our customers as we move forward with the installation or consider any proposed policy changes related to AMI.

### **Drinking water quality**

In 2016, we again met all Federal and State standards for the quality of our drinking water including requirements to test for over 150 substances and to report results to the State.

In August, we received the [Partnership for Safe Water's award](#) for five consecutive years of "Excellence in Water Treatment." The Partnership is an unprecedented alliance of six prestigious drinking water organizations, including the US Environmental Protection Agency. This achievement demonstrates our outstanding commitment to delivering superior quality drinking water to our customers.

In response to requests from customers, OWASA staff tested the water quality at 89 homes and businesses and provided written reports of these results. We continue to offer free lead testing to our customers. In 2016, 58 customers took advantage of this service. Additionally, we partnered with Chapel Hill Carrboro City Schools and local childcare facilities to test almost 200 water samples for lead. All samples were well below the federal action level of 15 parts per billion. We

continue to encourage our customers to contact us whenever they have any comments or questions about our water or to request water quality testing including lead testing at no charge.

### **Drinking water disinfection and plumbing systems**

On September 22<sup>nd</sup>, we received information from staff and [recommendations](#) from our Natural Resources and Technical Systems Committee regarding chloramines, our disinfectant for drinking water, and its effect on certain types of rubber.

We will continue working to inform our customers, plumbers and other stakeholders about the need to choose rubber items, such as toilet flappers, that are chloramine resistant. [Related OWASA letter on January 18, 2017](#)

### **Long-Range Water Supply Plan Update/Jordan Lake allocation**

On November 10<sup>th</sup>, we approved a process and criteria for evaluating supply and demand management options as we [update this plan](#). The next steps will include receiving population forecasts for our service area from a regional transportation planning process. [Letter to governing boards](#) on November 4<sup>th</sup>.

We will not approve an updated plan until after the NC Environmental Management Commission (EMC) has made a decision on our request to continue our present Jordan Lake allocation of about 5 million gallons per day (for use only in severe droughts and operational emergencies). The Division of Water Resources made a presentation on the allocation requests to the Water Allocation Committee (WAC) of the EMC on January 11; Committee members were hopeful that the item would be included as an action item on the March WAC and EMC agendas.

### **Energy management**

On September 8<sup>th</sup>, we approved evaluation criteria and the approach for [energy management](#) including the use of a “social cost of carbon” based on the methodology used by Federal agencies. The social cost of carbon is an economic calculation of the damages from greenhouse gas emissions, such as reduced agricultural yields, disease spread, and loss of ecosystem services.

The goals of our energy management program include reducing use of purchased electricity by 35% and lowering natural gas use by 5% by the end of 2020, as well as exploring opportunities for renewable energy generation.

### **Mountains-to-Sea Trail (MST) on OWASA land near the Cane Creek Reservoir**

On August 25<sup>th</sup>, we approved conditions for allowing the MST on OWASA land near the Cane Creek Reservoir. The conditions address water quality protection, risks related to hiking and ensuring that there will be no costs to OWASA due to the trail. The specific route of the trail on OWASA land is subject to our future approval.

We informed stakeholders about our decision and we encourage residents to participate in the County's process for considering the MST. [Letter to the governing boards on August 26<sup>th</sup>](#).

### **Diversity and Inclusion Program**

On November 3rd, we held a [special meeting](#) to receive information and insights from five professionals in Diversity and Inclusion. Staff is revising the draft program submitted to the Board in June and we will have further discussion in February 2017.

### **Quality of our treated wastewater and biosolids**

In July 2016, we received the Platinum Peak Performance Award from the National Association of Clean Water Agencies for six consecutive years of meeting all standards for the quality of our treated wastewater. Our treated wastewater has phosphorus and nitrogen levels well below the limits set by the State for our Mason Farm Wastewater Treatment Plant.

We also continue to meet all standards for the quality of the treated wastewater solids, and our Class A biosolids meet federal environmental standards for "exceptional quality." We recycled our "biosolids" primarily to enhance the soil on approved farmlands. Some biosolids are recycled at a private composting facility in Chatham County which makes a soil additive for landscaping.

### **Infrastructure investments**

Capital investments, including debt payments for capital projects, account for about half of our costs. In 2016, we invested about \$7.5 million to renew, replace and improve our infrastructure to maintain the reliability and quality of our services and the structural integrity of facilities.

#### [Current projects](#)

- Replacing water line on part of East Rosemary, Henderson and Hillsborough Streets
- Installing a new water line on part of Hilltop Street
- Replacing sewer near Emory Drive and Brigham Road
- Renovating two of the four biosolids treatment tanks at the Mason Farm Wastewater Treatment Plant

#### *Upcoming projects*

- Replacing water and sewer lines on Dobbins Drive
- Replacing sewer on Bolinwood Drive
- Rehabilitating the pressurized sewer on Prestwick Road near Hamilton Road, and the wastewater pump station near Providence Road

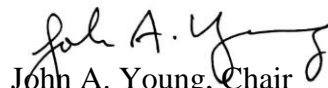
#### *Completed in 2016*

- Water line replacements at Halifax Road, Chase Park Road, Chase Avenue, Weiner Street, Emory Drive, Purefoy Road (east of South Columbia Street), Plum Lane and Evergreen Lane/Ridge Lane

- Replacing sewer at Finley Golf Course near Glenwood Elementary
- Pump station rehabilitation in the Piney Mountain neighborhood (north of I-40)
- Rehabilitating electrical items at the Mason Farm Wastewater Treatment Plant's stormwater pump station
- Replacing the storage tanks for liquid disinfectant at the Jones Ferry Road Water Treatment Plant

We would be happy to give you more detailed information. Please let Ed Kerwin, Executive Director ([ekerwin@owasa.org](mailto:ekerwin@owasa.org) or 919-537-4211) or myself know.

Sincerely,



John A. Young, Chair  
OWASA Board of Directors

Attachments

c: Ms. Bonnie Hammersley, Orange County Manager  
Mr. Roger L. Stancil, Chapel Hill Town Manager  
Mr. David Andrews, Carrboro Town Manager  
OWASA Board of Directors  
Ed Kerwin, OWASA Executive Director

**MONTHLY SUMMARY OF CALLS AND E-MAILS TO OWASA  
FROM NEIGHBORS REPORTING ODOR  
IN THE MASON FARM WASTEWATER TREATMENT PLANT AREA**

**January-2002 to December-2015 History and 2016 present**

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016 Reports	2016 Events
January	11	3	9	0	8	3	8	1	3	3	4	0	3	0	0	0
February	7	5	2	0	8	0	4	1	0	3	3	0	4	0	0	0
March	9	0	7	1	10	4	1	1	0	2	8	0	0	1	0	0
April	9	2	4	0	9	3	1	1	2	1	1	0	0	0	0	0
May	6	0	2	5	8	3	2	5	4	0	1	3	0	0	0	0
June	4	1	1	1	5	1	8	8	1	2	2	0	0	0	1	0
July	1	0	2	0	0	2	6	3	2	4	0	0	2	0	0	0
August	1	0	4	3	11	2	9	0	1	1	2	0	2	2	0	0
September	2	5	2	2	9	3	1	1	5	1	1	0	3	0	0	0
October	2	6	1	1	8	8	2	0	3	3	2	2	3	0	0	0
November	0	0	1	7	2	6	7	1	1	4	0	1	0	0	0	0
December	3	3	2	5	8	10	2	1	1	6	3	5	0	0	1	0
<b>TOTALS</b>	<b>55</b>	<b>25</b>	<b>37</b>	<b>25</b>	<b>86</b>	<b>45</b>	<b>51</b>	<b>23</b>	<b>23</b>	<b>30</b>	<b>27</b>	<b>11</b>	<b>17</b>	<b>3</b>	<b>2</b>	<b>0</b>

An “odor event” is defined as: One or more odor reports received during a 24-hour period from WWTP neighbor(s). Each odor event shall be considered to be “verified” unless OWASA determines conclusively that an alternative source other than the WWTP created the odor.

**LOG OF CALLS AND E-MAILS TO OWASA  
FROM NEIGHBORS REPORTING ODOR IN THE MASON FARM  
WASTEWATER TREATMENT PLANT (WWTP) AREA**

January 2016 – December 2016

<b>Date call received</b>	<b>Time call received</b>	<b>Location</b>
January 2016	No Reported Odors	N/A
February 2016	No Reported Odors	N/A
March 2016	No Reported Odors	N/A
April 2016	No Reported Odors	N/A
May 2016	No Reported Odors	N/A
June 22, 2016	7:30pm	1016 Highland Woods determined a collection system odor NOT odor from WWTP
July 2016	No Reported Odors	N/A
August 2016	No Reported Odors	N/A
September 2016	No Reported Odors	N/A
October 2016	No Reported Odors	N/A
November 2016	No Reported Odors	N/A
December 23, 2016	9:48pm	1002 Highland Woods determined a collection system odor NOT odor from WWTP

**SUMMARY OF ON-SITE HYDROGEN SULFIDE (H<sub>2</sub>S)  
ODOR MONITORING**

Month and year	Headworks Monitor			UNC Monitor			Digester Monitor			Switchgear Monitor		
	Average H <sub>2</sub> S Reading (ppm)	Minimum H <sub>2</sub> S Reading (ppm)	Maximum H <sub>2</sub> S Reading (ppm)	Average H <sub>2</sub> S Reading (ppm)	Minimum H <sub>2</sub> S Reading (ppm)	Maximum H <sub>2</sub> S Reading (ppm)	Average H <sub>2</sub> S Reading (ppm)	Minimum H <sub>2</sub> S Reading (ppm)	Maximum H <sub>2</sub> S Reading (ppm)	Average H <sub>2</sub> S Reading (ppm)	Minimum H <sub>2</sub> S Reading (ppm)	Maximum H <sub>2</sub> S Reading (ppm)
<b>October 2016</b>	0.0000	0.0000	0.0000 <sup>1</sup>	0.0000	0.0000	0.0000 <sup>2</sup>	0.0000	0.0000	0.0000 <sup>3</sup>	0.0008	0.0000	0.0000 <sup>4</sup>
<b>November 2016</b>	0.0000	0.0000	0.0000 <sup>5</sup>	0.0000	0.0000	0.0000 <sup>6</sup>	0.0000	0.0000	0.0000 <sup>7</sup>	0.0008	0.0000	0.0000 <sup>8</sup>
<b>December 2016</b>	0.0000	0.0000	0.0000 <sup>9</sup>	0.0000	0.0000	0.0000 <sup>10</sup>	0.0000	0.0000	0.0000 <sup>11</sup>	0.0001	0.0000	0.0000 <sup>12</sup>

**Monitor Locations :**

Headworks Monitor (#1) – Monitor located at Headworks Facility

Digester Monitor (#2) – Monitor located between Digester #1 and Digester #4

UNC Monitor (#3) – Monitor located at Primary Sludge PS

Switchgear Monitor (#4) – Monitor located at Switchgear Building

<sup>1</sup> Maximum reading zero all of October 2016

<sup>2</sup> Maximum reading zero all of October 2016

<sup>3</sup> Maximum reading zero all of October 2016

<sup>4</sup> Maximum reading zero all of October 2016

<sup>5</sup> Maximum reading zero all of November 2016

<sup>6</sup> Maximum reading zero all of November 2016

<sup>7</sup> Maximum reading zero all of November 2016

<sup>8</sup> Maximum reading zero all of November 2016

<sup>9</sup> Maximum reading zero all of December 2016

<sup>10</sup> Maximum reading zero all of December 2016

<sup>11</sup> Maximum reading zero all of December 2016

<sup>12</sup> Maximum reading zero all of December 2016



E-mails from OWASA to neighbors of the Mason Farm Wastewater Treatment Plant (WWTP)  
regarding off-site odor elimination matters

October 5, 2016 – January 10, 2017

<b>Date</b>	<b>Topic</b>
October 18, 2016	Quarterly report to the Town of Chapel Hill

Distribution list for OWASA e-mails about off-site odor elimination

January 19, 2017

Highland Woods	Paul Neebe
	Mary Turner
	Malcolm Forbes
	Natalia Lebedeva
	Gary Richman
	Gail Wood
	Robert and Melissa Porter
	Robin Casey
	Joseph Clancy
	Ann Schwab
	Seth Kingsbury
	Amanda Kingsbury
	Freeman and Angela Kirby
	Reed Johnson
	Kay Johnson
	Rex Bartles
	Lisa Bartles
	Ann Alexander
	Nortin Hadler
	Carol Hadler
	Frank P. Rexford
	Scott Brees
	Kendall Brees
	Rainer Blaesius
	Elisabeth Schweins
	Susannah Shearer
	Fred Hall
	Lawanda Rainey-Hall
	Katie Jamieson
	Richard Harrill
	Matthew and Krista Mauck
	Angel Smith
	Jordon Sharome
Finley Forest	Adam Kimplead
	Cindy Underwood
	Dan Puckett
	David J. Polewka
	Kathryn Conard
	Michael Sharpe
	Rima Wehbe
	Julie Maness
	Rima Wehbe

Distribution list for OWASA e-mails about off-site odor elimination

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Laurel Hill	Bob Wendell Carol David Pat Evans Ewan Rodewald and Sharon Hodge Marcella Grendler Kay Goldstein Ann Wilson Anne Fogleman Louis Fogleman
St. Thomas More Church and School	St. Thomas More Church staff
Morgan Creek area	Carlos Lima Ellen Johnson Betsy Malpass Hanson Malpass Jeannie Cox Laura King Moore Jeanne Langley AW Carr Marilyn and Don Hartman Robert Huls
Ronald McDonald House	Shelly Day
Family House	Greg Kirkpatrick, Executive Director Janice Ross, Operations Manager Matt Hapgood
Reserve	Steve McPhail James F. Howard Steven and Susan Frye Doug Longman Barbara and Edward Paradise Jeanne & David Jarrett Nadine O'Malley Mark Witcher Ralph Abrahams Kathy Abrahams
Bayberry Drive area UNC	William Ware Johnny Randall, NC Botanical Garden Jennifer Peterson, NC Botanical Garden Phil Barner, Energy Services Director Margaret Holton, Water, Sewer & Stormwater Coordinator Mary Beth Koza, Director, Environment, Health and Safety Ross Fowler, Finley Golf Course Willie Scroggs, Athletic Department Michael Wilkinson, golf pro

Distribution list for OWASA e-mails about off-site odor elimination

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Andrew Sapp, Men's Golf Coach  
Ms. Jan Mann, Women's Golf Coach  
UNC Tennis Center  
UNC parking  
Mike McFarland, University Communications  
Scott Ragland, News Services  
Linda Convissor, Director of Local Relations  
UNC Farm (Faculty Staff Recreation Association)  
Frank Maynard, Athletics/ Finley Golf Course  
Robert Costa, Athletics/ Finley Golf Course  
Mark Steffer, Athletics/ Finley Golf Course  
Jeff McCracken, Public Safety

UNC Healthcare Mel Hurston  
Karen McCall

Town of Chapel Hill Roger Stancil, Town Manager  
Florentine A. Miller, Deputy Town Manager  
Ralph Karpinos, Town Attorney  
Lance Norris, Public Works Director  
Chris Roberts, Town Engineer  
Richard Terrell, Public Works Operations Supt.  
Catherine Lazorko, Public Information Officer  
Jeanne Brown  
David Bonk, Planner  
Phil Mason, Planner  
Sabrina Oliver, Town Clerk  
Amy Harvey, Public Affairs and Communications  
Larry Tucker, Engineering  
Chris Blue, Police Chief  
Jeff Clark, Patrol Captain  
Bryan Walker, Captain/Police Information  
Josh Mecimore, Police Information Officer  
Allison Weakley  
Dave Milkereit  
Kiel Harms  
Ran Northam  
Ross Tompkins

City Schools Bill Mullin  
Todd LoFrese, Assistant Superintendant for Support  
Services  
Jeff Nash, Community Relations  
Crystal Jones  
Chris Liles  
Darlene Ryan

Other Utilities Indira Everett, Duke Energy  
Brenda Duke, Duke Energy

Distribution list for OWASA e-mails about off-site odor elimination

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	Steve Small, Duke Energy
	Billy Miller, PSNC
	Time Warner Cable
Orange County	Orange 911 Center Supervisor on duty
	Connie Pixley, Environmental Health Supervisor
Other	Bill Ferrell, Meadowmont Community Association
	Chamber of Commerce
	Michael Hughes