



ORANGE WATER AND SEWER AUTHORITY

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

October 26, 2018

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
Post Office Box 8181
Hillsborough, NC 27278

Dear Mayor Hemminger, Mayor Lavelle and Chair Dorosin:

We are pleased to submit this report on our services, projects and initiatives from July through October 2018. This report includes an update on the following items:

1. Hurricane Florence
2. Hurricane Michael
3. Diversity & Inclusion Program
4. Equal Employment Opportunity Annual Fiscal Report 2017-18
5. Agua Vista/Advanced Metering Infrastructure
6. Sewers for the Historic Rogers Road Area
7. Wastewater Quality & Biosolids Report Card
8. Annual Fiscal Report 2017-18
9. Infrastructure Investments

1) Hurricane Florence

OWASA prepared to deliver reliable water and wastewater services throughout the storms. We reviewed our response, recovery and safety plans; secured back-up fuel and treatment chemicals; prepared redundant staffing plans; and lined up contractors to assist with repairs as needed. We coordinated with community partners and assigned Incident Command responsibilities.

On September 14, 2018, [Hurricane Florence](#) made landfall in North Carolina as a Category 1 Storm, bringing heavy winds and rains to Carrboro and Chapel Hill in the days that followed. University Lake peaked at 54.5 inches above the spillway, triggering the first stage in our Dam Emergency Action Plan (EAP): we notified Orange County Emergency Management, the dam's engineer, and the state. The State's Department of Environmental Quality's Dam Safety Division inspected the dam and noted no issues. Cane Creek Reservoir's water levels peaked at 27.5 inches above the spillway; this did not require us to activate the Dam EAP.

We responded to two water main breaks: one was a private main for which we shut off the meter; the other occurred when a vehicle washed under a bridge breaking one of our water mains. OWASA restored service to the affected community members (88 customers) within the day.

During floods, stormwater inadvertently enters our wastewater collection system through cracks in pipes. We observed and reported one wastewater overflow estimated at 8,300 gallons as well as high level water alarms at six of our pump stations; there was no overflow at these pump stations. At our wastewater treatment plant, we treat on average 7.8 million gallons per day. During the storm, we treated 29.3 million gallons at one point in the storm. The treatment plant performed well and reclaimed water service to the university remained normal.

OWASA takes this opportunity to thank the Towns and community partners for their collaboration on operational and communications matters, which ensured emergency water preparedness throughout the community.

2) Hurricane Michael

With preparations for Hurricane Florence still intact, OWASA was ready for Hurricane Michael. On October 11, wind speed increased and power outages started to occur in Carrboro and Chapel Hill. By 6:30 pm that evening, OWASA had twelve facilities running smoothly on back-up power generation: the Cane Creek raw water pump station, the water and wastewater treatment plants, and 9 of our wastewater pumping stations. Throughout the storm, our water and wastewater systems remained fully operational. On October 13, we closed recreation at Cane Creek due to power limitations. We also scheduled additional operators and maintenance personnel at the wastewater treatment plant over the weekend as contingency. By October 14 at 1:15 pm, utility power was restored and we returned to normal operations at all locations. Once again, OWASA thanks all community partners for their collaboration throughout the storm.

3) Diversity and Inclusion Program

OWASA's Diversity and Inclusion (D&I) program has two goals: 1) to foster diversity in our workforce reflecting the communities we serve, and 2) enable an inclusive environment that encourages and supports each team member to contribute to their full ability towards OWASA's mission. OWASA's Diversity Resource Group, Diversity Recruitment Group, Diversity Leadership Group, and supervisors have received 16 hours of training. Voluntary employee trainings have also occurred. In addition, OWASA has completed a review of its recruitment processes, career development programs, mentoring program and promotional opportunities. With learnings from this review and input from the D&I groups, D&I activities now include: the development of recruitment plans for each recruitment incorporating local census data to develop applicant targets for under-represented groups, training on new standard processes for interview panels, and training for supervisors. The Board of Directors has also had four training sessions, with additional trainings to be scheduled.

4) Equal Employment Opportunity Annual Fiscal Report 2017-18

At the end of the fiscal year, OWASA's workforce was comprised of 23.2% Women and 76.8% Men, representing an increase in gender diversity from last year (when OWASA's workforce was comprised of 21.9% Women and 78.1% Men).

In terms of racial representation, at the end of the fiscal year, OWASA's workforce was 74.4% White, 12.8% Black, 6.4% Two or More Races, 3.2% Hispanic, 2.4% Asian, and 0.8% American Indian or Alaska Native. Overall, minority representation at OWASA at fiscal end was 25.6%, remaining generally the same as the year before when minority representation was 25.8%.

OWASA has the opportunity to improve diversity at all levels of the organization and will continue to strive to do so, with the Diversity & Inclusion program being an important factor.

5) Agua Vista/Advanced Metering Infrastructure

We have reached 75% of our installation target for our [new advanced meters](#), and the project remains on time and on budget. The real-time data analysis made possible by the new meters continues to enable OWASA to reach out proactively to customers when we see their water use increase significantly from normal consumption patterns. As a result of these proactive notifications and customer service support, the number of customers making requests for OWASA to come and do on-site checks have greatly decreased. For example, service requests were 50% lower in September 2018 than in September 2017.

To enable customers to track their own water use in the future, we have commenced the first phase of implementing a web portal where customers will be able to view near real-time data on their water consumption and learn conservation tips. The Advanced Metering Infrastructure Initiative is scheduled to wrap up in June 2019.

6) Sewers for the Historic Rogers Road Area

The [Historic Rogers Road Area Sewer Extension Project](#) was approved and funded jointly by three local governments: Orange County, Town of Carrboro, and Town of Chapel Hill. In service to this project, OWASA is providing project management services to oversee the construction of 18,000 feet of sewer pipes; 56% of the pipes for this project have been installed.

As per best practice, the path for laying pipes on this project is designed to travel to low lying areas – so wastewater can flow through and down pipes powered by natural forces of gravity – and connect to the rest of the system. Along the path of the piping in the Rogers Road area, we have encountered underground rock throughout the construction area. The hardest rock has been found south and north of Tallyho Trail in Carrboro which will require blasting. The need to do blasting is a common occurrence in sewer installations; it's important to note that the blasting type and method used in sewer installations is not related in any way to the type used in fracking or mineral mining operations.

We understand that community members and area residents will want to ask questions about the project, the blasting process, and be informed of how the work will affect them. The Rogers Road Team (comprised of Orange County, the Town of Carrboro, the Town of Chapel Hill, and OWASA) is working on developing community outreach plans, which will include public meetings to meet with residents in-person to respond to questions or concerns, and equally important, incorporate community needs and feedback into the planning process to the best of the team's ability. OWASA will be present at these meeting to assist in answering technical questions about the sewer installation and construction progress. The Rogers Road project is anticipated to be complete in early 2019.

7) Wastewater Quality and Biosolids Report Card

In August, OWASA issued its annual [Wastewater Quality and Biosolids Report Card](#). Throughout 2017-18, OWASA's wastewater system treated about 2.8 billion gallons of wastewater, an average of 7.8 million gallons per day. OWASA surpassed all Federal and State standards for treated wastewater quality.

The report card, which was mailed to all OWASA account holders, includes information such as results of laboratory testing on OWASA's wastewater and biosolids, and causes of sewer overflows and how to prevent them. During the year, OWASA responded to four overflows in its wastewater collection system caused by grease build-up, root intrusion, and contractor error.

Reclaimed water service is an important part of OWASA's conservation stewardship. In 2017-18, the University and UNC Healthcare used about 265 million gallons of reclaimed water provided by OWASA.

8) Annual Fiscal Report 2017-18

In September, OWASA presented its Comprehensive Annual Financial Report (CAFR) for Fiscal Year 2018 (beginning July 21, 2017 and ending June 30, 2018). OWASA's financial position improved during the fiscal year with net income less debt service being about \$10.7 million. The financial reserves will be used for planned capital improvement needs.

About 69% of OWASA's \$19.2 million capital expenditures for fiscal year 2018 were invested in replacing and rehabilitating existing infrastructure. The remaining 31% of capital expenditures were invested in expanding or enhancing the community's water and wastewater systems, for example, to increase the size of some pipes and install new meters.

OWASA is a special purpose local government entity organized under state law. We are a public, non-profit agency and are required by law to use cost-of-service rates, meaning we set our rates, fees, and charges to cover the cost for each of our services. We do not levy or collect taxes, nor do we receive funding from taxing authorities. OWASA's credit ratings from Fitch of AA+ and Aa1 from Moody's, remain unchanged. Standard & Poor's increased OWASA's rating to AAA during the year.

9) Infrastructure Investments

OWASA maintains 750 miles of water and wastewater pipes, a water treatment plant, a wastewater treatment plant, pump stations, and other infrastructure. Meeting the community's needs requires periodic expansion and ongoing rehabilitation of the water, wastewater, and reclaimed water systems. Capital investments, including debt payments for capital projects, account for about half of our costs. Our current five-year Capital Improvements Program can be viewed [here](#).

Recently completed projects:

- Replacement of filter media and rehabilitation and improvements to the filtration system used at the Jones Ferry Road Water Treatment Plant
- Enhancements to security systems at various remote water supply and storage facilities
- Replacement of a water main on a portion of Brandywine Road
- Rehabilitation of sewer mains and manholes throughout the Heritage Hills neighborhood
- Upsizing of a major sewer interceptor behind Emory Drive at Little Street

Key projects underway:

- Replacement of a water main on Pritchard Avenue and Noble Street
- Rehabilitation and improvements to the wastewater pump station near Cleland Drive, OWASA's largest remote wastewater pump station
- Replacement of a water main along a portion of Lexington Road
- Cleaning and inspection of a large enclosed concrete tank at the Wastewater Treatment Plant (WWTP)
- Electrical and ventilation improvements to a pumping station at the WWTP

Key upcoming projects:

- Replacement of the water main along Manning Drive from Ridge Road to Fordham Boulevard
- Replacement of the water main along Country Club Road from Boundary Street to Gimghoul Road
- Upsizing of the water and sewer mains along Dobbins Drive from Erwin Road to the start of East Franklin Street

We would be happy to provide you more detailed information on the items above or other topics of interest as desired. Please feel free to contact Ed Kerwin, Executive Director (ekerwin@owasa.org or 919-537-4211), or me.

Sincerely,



Yinka Ayankoya, Chair
OWASA Board of Directors

Attachments

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

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

| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 Events |
|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|----------------|
| January | 11 | 3 | 9 | 0 | 8 | 3 | 8 | 1 | 3 | 3 | 4 | 0 | 3 | 0 | 0 | 0 | 0 |
| February | 7 | 5 | 2 | 0 | 8 | 0 | 4 | 1 | 0 | 3 | 3 | 0 | 4 | 0 | 0 | 1 | 0 |
| March | 9 | 0 | 7 | 1 | 10 | 4 | 1 | 1 | 0 | 2 | 8 | 0 | 0 | 1 | 0 | 0 | 0 |
| April | 9 | 2 | 4 | 0 | 9 | 3 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| May | 6 | 0 | 2 | 5 | 8 | 3 | 2 | 5 | 4 | 0 | 1 | 3 | 0 | 0 | 0 | 0 | 0 |
| June | 4 | 1 | 1 | 1 | 5 | 1 | 8 | 8 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| July | 1 | 0 | 2 | 0 | 0 | 2 | 6 | 3 | 2 | 4 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| August | 1 | 0 | 4 | 3 | 11 | 2 | 9 | 0 | 1 | 1 | 2 | 0 | 2 | 2 | 0 | 0 | 1 |
| September | 2 | 5 | 2 | 2 | 9 | 3 | 1 | 1 | 5 | 1 | 1 | 0 | 3 | 0 | 0 | 0 | 2 |
| 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 | 0 | 1 | - |
| TOTAL | 55 | 25 | 37 | 25 | 86 | 45 | 51 | 23 | 23 | 30 | 27 | 11 | 17 | 3 | 0 | 2 | 3 |

January-2002 to December-2017 History and 2018 present

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 2018 – December 2018

| Date call received | Time call received | Location |
|---------------------------|---------------------------|--|
| January 2018 | No Reported Odors | N/A |
| February 2018 | No Reported Odors | N/A |
| March 2018 | No Reported Odors | N/A |
| April 2018 | No Reported Odors | N/A |
| May 2018 | No Reported Odors | N/A |
| June 2018 | No Reported Odors | N/A |
| July 2018 | No Reported Odors | N/A |
| August 2018 | 1 | Highland Woods Road |
| September 2018 | 2 | 940 Carmichael Street 123 Old Mason Farm Road |
| October 2018 | - | - |
| November 2018 | - | - |
| December 2018 | - | - |

DISTRIBUTION OF OWASA E-MAILS ABOUT OFF-SITE ODOR ELIMINATION

| | |
|----------------|--------------------------------|
| 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 |
| | Angel Smith |
| | Jordon Sharome |
| | Cameron Williams |
| | Marian Rice |
| | Janet McLamb |
| | Michael Henning |
| | Benjamin Duan-Porter |
| | Matthew Mauck |
| Finley Forest | Adam Kimplead |
| | Cindy Underwood |
| | Dan Puckett |
| | David J. Polewka |
| | Kathryn Conard |
| | Michael Sharpe |
| | Julie Maness |
| Laurel Hill | Bob Wendell |
| | Carol David |
| | Pat Evans |
| | Ewan Rodewald and Sharon Hodge |

| | |
|--------------------------------------|--|
| | Marcella Grendler |
| | Kay Goldstein |
| | Ann Wilson |
| | Louis Fogleman |
| St. Thomas More Church and School | St. Thomas More Church staff |
| Morgan Creek area | Ellen Johnson |
| | Aldersgate United Methodist Church |
| | 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 and David Jarrett |
| | Nadine O'Malley |
| | Mark Witcher |
| | Ralph Abrahams |
| | Kathy Abrahams |
| Bayberry Drive area | William Ware |
| UNC | 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 |
| | Michael Wilkinson, golf pro |
| | Andrew Sapp, Men's Golf Coach |
| | UNC Tennis Center |
| | UNC parking |
| | Mike McFarland, University Communications |
| | Scott Ragland, News Services |
| | Linda Convisor, 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 | Kate Luck Mel Hurston Karen McCall Keith Morris |
| 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 Superintendent Catherine Lazorko, Public Information Officer Jeanne Brown, Assistant to the Mayor Phil Mason, Planner Sabrina Oliver, Town Clerk Amy Harvey, Public Affairs and Communications Chris Blue, Police Chief Bryan Walker, Captain/Police Information Josh Mecimore, Police Information Officer Allison Weakley Kiel Harms Ran Northam Ross Tompkins |
| City Schools | Bill Mullin Todd LoFrese, Assistant Superintendent for Support Services Jeff Nash, Community Relations Crystal Jones Chris Liles Darlene Ryan |
| Other Utilities | Indira Everett, Duke Energy Brenda Duke, Duke Energy 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 Post Office |

**SUMMARY OF ON-SITE HYDROGEN SULFIDE (H₂S)
ODOR MONITORING**

| Month and year | Headworks Monitor | | | UNC Monitor | | | Digester Monitor | | | Switchgear Monitor | | |
|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| | Average H ₂ S Reading (ppm) | Minimum H ₂ S Reading (ppm) | Maximum H ₂ S Reading (ppm) | Average H ₂ S Reading (ppm) | Minimum H ₂ S Reading (ppm) | Maximum H ₂ S Reading (ppm) | Average H ₂ S Reading (ppm) | Minimum H ₂ S Reading (ppm) | Maximum H ₂ S Reading (ppm) | Average H ₂ S Reading (ppm) | Minimum H ₂ S Reading (ppm) | Maximum H ₂ S Reading (ppm) |
| July 2018 | 0.0000 | 0.0000 | 0.0000 ¹ | 0.0010 | 0.0005 | 0.0151 ² | 0.0000 | 0.0000 | 0.0000 ³ | 0.0000 | 0.0000 | 0.0000 ⁴ |
| August 2018 | 0.0000 | 0.0000 | 0.0000 ⁵ | 0.0010 | 0.0004 | 0.0161 ⁶ | 0.0000 | 0.0000 | 0.0000 ⁷ | 0.0000 | 0.0000 | 0.0000 ⁸ |
| September 2018 | 0.0000 | 0.0000 | 0.0000 ⁹ | 0.0006 | 0.0002 | 0.00586 ¹⁰ | 0.0000 | 0.0000 | 0.0000 ¹¹ | 0.0000 | 0.0000 | 0.0000 ¹² |

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.

¹ Maximum reading zero all of July 2018

² Maximum reading occurred on July 22, 2018

³ Maximum reading zero all of July 2018

⁴ Maximum reading zero all of July 2018

⁵ Maximum reading zero all of August 2018

⁶ Maximum reading occurred on August 26, 2018

⁷ Maximum reading zero all of August 2018

⁸ Maximum reading zero all of August 2018

⁹ Maximum reading zero all of September 2018

¹⁰ Maximum reading occurred on September 5, 2018

¹¹ Maximum reading zero all of September 2018

¹² Maximum reading zero all of September 2018