



# ORANGE WATER AND SEWER AUTHORITY

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

## **Agenda**

### **Meeting of the OWASA Board of Directors**

**Thursday, January 24, 2019, 7:00 P.M.**

### **Chapel Hill Town Hall**

In compliance with the "Americans with Disabilities Act," interpreter services are available with five days prior notice. If you need this assistance, please contact the Clerk to the Board at 919-537-4217 or [aorbich@owasa.org](mailto:aorbich@owasa.org).

The Board of Directors appreciates and invites the public to attend and observe its meetings. Public comment is invited either by petition upon topics not on the Board's agenda, or by comments upon items appearing on the Board's agenda. Speakers are invited to submit more detailed comments via written materials, ideally submitted at least three days in advance of the meeting to the Clerk to the Board via email or US Postal Service ([aorbich@owasa.org](mailto:aorbich@owasa.org)/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within a four-minute time frame allowed each speaker, unless otherwise determined by the Board of Directors.

### **Announcements**

1. Announcements by the Chair
  - A. Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
2. Announcements by Board Members
  - A. Members of the Orange County Board of Commissioners and Orange County Appointees to the OWASA Board will meet on Wednesday, January 30, 2019 at 8:00 AM in the OWASA Boardroom to discuss items of mutual interest (Ray DuBose)
  - B. OWASA's Annual Update to the Orange County Board of County Commissioners on Tuesday, February 19, 2019, at 7:00 PM at Southern Human Services Center (Ray DuBose)
3. Announcements by Staff
4. Additional Comments, Suggestions, and Information Items by Board Members (Yinka Ayankoya)

### **Petitions and Requests**

1. Public
2. Board
3. Staff

### **Consent Agenda**

#### **Information and Reports**

1. Capital Improvements Program Semiannual Report (Vishnu Gangadharan)
2. 12 Month Board Meeting Schedule (Yinka Ayankoya/Ed Kerwin)

**Action**

3. Minutes of the November 8, 2018 Meeting of the Board of Directors (Andrea Orbich)
4. Minutes of the January 10, 2019 Closed Session of the Board of Directors to Discuss Confidential Information Regarding Security Measures in Place to Protect OWASA Customers, Personnel and Assets (Yinka Ayankoya)

**Regular Agenda**

**Information and Reports**

5. 2018 Annual Lakes Recreation Report (Johnny Riley)
6. Financial Report for the Six-Month Period Ended December 31, 2018 (Stephen Winters)

**Discussion**

7. Affordability Outreach Program Update (Mary Tiger)
8. Fiscal Year 2020 Budget Calendar and Assumptions (Stephen Winters)

**Summary of Board Meeting Action Items**

9. Executive Director will summarize the key action items from the Board meeting and note significant items for discussion and/or action expected at the next meeting

**Closed Session**

10. The Board of Directors will continue in a Closed Session for the Purpose of Discussing a Personnel Matter (Robert Morgan)

**Agenda Item**

- Capital Improvements Program (CIP) Semiannual Report

**Purpose**

- To summarize project and program performance for OWASA's Capital Improvements Program (CIP) for the first two quarters of Fiscal Year (FY) 2019 (July through December 2018).

**Background**

- The report details overall CIP performance during the first two quarters of FY 2019, status updates for projects active during the reporting period, and discussion of bidding climate and Minority and Women Business Enterprise (MWBE) participation in CIP construction contracts.
- Highlights of the report include:
  - Approximately \$4.8 million was invested in a total of 68 capital projects which were active during the reporting period, including notable progress on important projects and studies affecting the water distribution and wastewater collection systems.
  - The CIP expenditures of \$4.8 million are lower than the \$6.2 million planned for this period, and the current projection shows total FY 2019 expenditures of \$18.1 million or 86% of budget. The third and fourth quarters of FY 2019 are expected to see significant construction activity on several large projects already underway or soon to be awarded.
  - Rising construction costs and other construction procurement challenges continue to be an area of concern for the CIP program.
  - Over the past five fiscal years, the CIP program has achieved 43% MWBE participation on formal and informal contracts and has met the 10% MWBE participation goal on 59% of awarded contracts. Recent outreach efforts include direct contact with potential pipeline general contractors in the central part of the state who are state-certified as a minority firm.

**Action Needed**


- Receive and discuss the report.

January 24, 2019



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**TO:** Board of Directors  
**THROUGH:** Ed Kerwin   
**FROM:** Vishnu Gangadharan, P.E., PMP  
**DATE:** January 17, 2019  
**SUBJECT:** **Capital Improvements Program (CIP) Semiannual Report**

## **PURPOSE**

This semiannual report summarizes project and program performance for OWASA's Capital Improvements Program (CIP) for the first two quarters of Fiscal Year (FY) 2019 (July through December 2018).

## **DISCUSSION**

### **Program Summary**

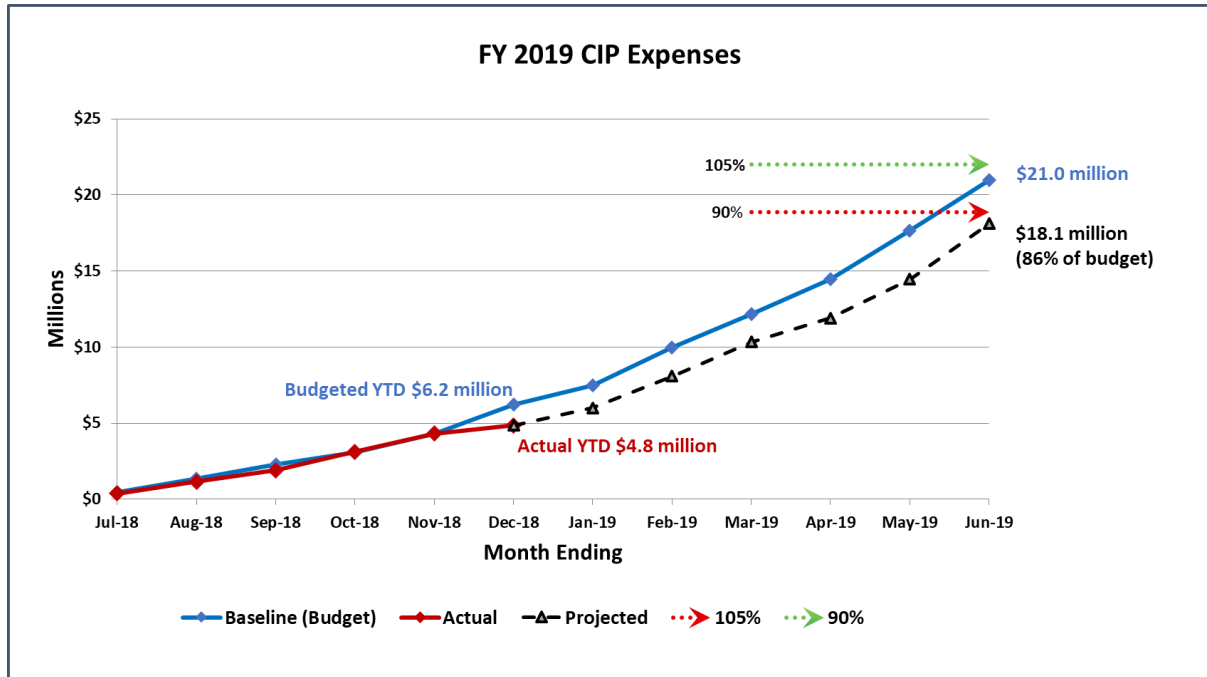
Approximately \$4.8 million was invested in a total of 68 capital projects which were active during the reporting period, including (as of the end of the reporting period): 19 projects in a study or planning phase, 21 projects in design or bidding, 20 projects in construction, and eight projects in closeout. Considerable work was focused on the water distribution and wastewater collection systems in particular, including the completion of water main replacement on Brandywine Road and the concurrent rehabilitation of sewer mains and manholes within Heritage Hills neighborhood, substantial completion of water main replacement in Pritchard Avenue, the start of the second phase of improvements to the Rogerson Drive Pump Station, and additional sewer main rehabilitation throughout the service area. Photos in Attachment 1 show a sampling of the work completed during the first half of FY 2019.

The water distribution and wastewater collection systems are also the focus of two important planning studies: the ongoing gravity sewer hydraulic modeling study and the update to the distribution system replacement prioritization model. Both of these studies are expected to be complete within the next 12 months and will help guide our future investments in these systems.

### **Expenditure Projection**

The CIP expenditures of \$4.8 million are lower than the \$6.2 million planned for this period, and the current projection shows total FY 2019 expenditures of \$18.1 million or 86% of budget (see Figure 1 below). The projection accounts for expected expenditures in the third and fourth quarters on several large construction projects, including Rogerson Drive Pump Station Rehabilitation Phase 2, Sanitary Sewer Rehabilitation (FY 2017-2019) Package #3, Water

Treatment Plant (WTP) Sedimentation Basin Rehabilitation, Wastewater Treatment Plant (WWTP) Intermediate Pump Station Rehabilitation, University Lake Flashboard Reelplacement, WWTP Solids Thickening / Headworks Rehabilitation, and the Manning Drive and Country Club Water Main Replacements. Construction contracts have already been awarded for five of these seven projects.



**Figure 1 – FY 2019 CIP Expenses**

A few notable factors contribute to the year-to-date expenditures lagging the baseline projection, including:

- Decision not to award a construction contract for the Galvanized Water Main Replacements project due to excessive cost. (The work is now planned to be completed by staff.)
- Delay due to redesign and permitting efforts for the Dobbins Drive Water and Sewer Replacement project to account for recent information about potential development in the upstream basin.
- Additional scope and coordination with adjacent development projects for the Fordham Service Road Water Main Replacement.

Additionally, the departure of a Utilities Engineer in November has created a temporary staffing shortage, which we expect will slow the progress of some projects in the third and fourth quarters. The hiring process is underway to replace this position and to fill the recently approved fourth Utilities Engineer position; several promising candidates are currently being considered.

**Project Performance**

Table 1 (Attachment 2) contains summaries of project performance for all active projects during this reporting period, including summary information about Fiscal Year variances as well as

overall project schedule and budget status. Although the breakdown of Fiscal Year variances is more meaningful for the end of year report (in August) than in the mid-year report, for consistency Table 1 separates CIP projects into four major categories based on any currently projected FY 2019 cost overrun for each individual project:

1. Projects with no FY 2019 cost overrun, or a cost overrun primarily due to scope changes;
2. Projects with a FY 2019 cost overrun primarily due to schedule changes;
3. Unfunded projects added to FY 2019 CIP due to urgent unanticipated needs; and
4. Projects still in planning stages and not yet baselined for schedule and budget.

Variances in expenditure related to timing (category #2 above) do not represent true cost growth on a project. These instances tend to be deviations of a few months from the schedule assumptions that were current at time of budget approval. On the other hand, variances in expenditure related to additional project scope do reflect actual cost increases on a project. Typical factors for true cost increases include unforeseen site conditions encountered during construction and unexpected project requirements discovered during planning or design phase. The year-end report in August will provide further analysis of Fiscal Year variances.

### **Bid Climate**

As staff has noted in many of the recent recommendations to the Board for construction contract awards, rising construction costs and other construction procurement challenges continue to be an area of concern for the CIP program. The large quantity of public and private construction work has made it increasingly difficult to solicit bidding interest from contractors. Many of the contractors who have successfully bid our projects in the past now have an extensive backlog of work already planned. Of the five formal construction projects which were bid during this reporting period, two projects received just three bids, and the other three projects received two bids (and were required by statute to readvertise/rebid). This reflects a much more difficult bid climate than four or five years ago, when rebid situations were a rarity for our formal bids.

### **Minority and Women Business Enterprise (MWBE) Participation**

Formal and informal construction contracts awarded during this reporting period included \$2.6 million participation by MWBE businesses (or 36% of the total awarded contract value), with four out of six awarded contracts meeting the 10% participation goal. The contracts which fell below the goal either provided evidence of Good Faith Efforts to secure MWBE participation or else did not utilize subcontracts on the project.

The five-year averages for the CIP program include 43% MWBE participation on formal and informal contracts, and 59% of awarded contracts meeting the 10% participation goal. A review of contract information available since FY 2014 shows the following MWBE breakdown during that time period (out of total MWBE participation of \$14.1 million): Woman-Owned (92.0%), Hispanic-owned (5.0%), Black/African American-owned (2.9%), Other (0.1%). It is notable that most of the MWBE participation is attributable to one woman-owned business that has been awarded the majority of the large pipeline construction contracts in recent years.

The difficult bid environment noted in the previous section carries over into our efforts to increase MWBE participation in our contracts; as is the case with non-MWBE contractors,

MWBE contractors are extremely busy and are selective with the projects that they choose to bid. Recent outreach efforts include direct contact to all potential pipeline general contractors in the central part of the state who are state-certified as a minority firm. Outreach efforts also include targeted contact to potential minority subcontractors targeted toward several upcoming projects at the WTP, WWTP, and water supply reservoirs.

### **Additional Information**

Customers may visit our website ([www.owasa.org](http://www.owasa.org)) for information about our current major CIP projects and our [FY 2019 - 2023 CIP book](#) which provides additional information about the CIP. Please feel free to contact me at (919) 537-4248 or [vgangadharan@owasa.org](mailto:vgangadharan@owasa.org) if you have any questions regarding the CIP program or projects.



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Vishnu Gangadharan, P.E., PMP  
Engineering Manager - Capital Improvements

### Attachments

- Project Photos
- Table 1 Project Performance Summary Table



**ATTACHMENT 1 – Notable CIP Projects in Construction**



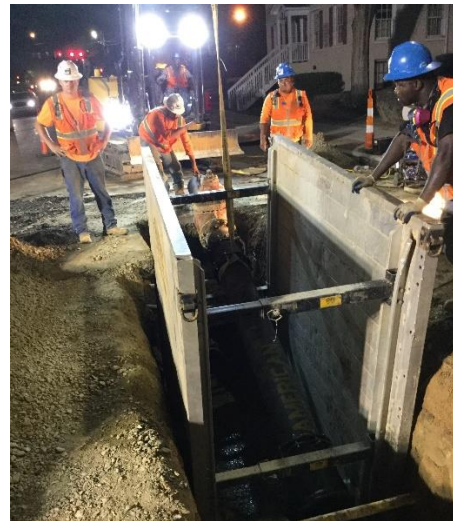
**Odor control improvements are part of the second phase of \$3.1 million improvements to the Rogerson Drive Pump Station**



**Rehabilitation using Cured-In-Place Pipe (CIPP) liner has been used to extend the life of more than 2.3 miles of sewer mains during the first half of FY 2019.**



**Water main replacement along Brandywine Road was completed concurrently with sewer rehabilitation throughout the Heritage Hills neighborhood.**



**Some water main replacement work at Pritchard Avenue and Rosemary Street was completed at night to minimize traffic and water service disruption.**



**Roof replacements completed through the CIP program are prioritized through comprehensive condition assessments as part of the overall asset management program.**



**Table 1: Project Performance Summary - FY 2019 through second quarter**

- ✔ FY 2019 (or overall project) costs within 5% of FY 2019 (or overall project) budget; completion within 2 months of baselined completion
- ✘ FY 2019 (or overall project) costs more than 5% above FY 2019 (or overall project) budget; completion more than 2 months beyond baselined completion

CIP No.	Project	Active Phase (at 1/15/19)	FY 2019 Performance (projected)			Overall Project Performance						Comments
			FY 2019 Budget	FY 2019 Projected Cost	FY 2019 Cost Status	Baseline Budget	Forecasted Cost	Cost Status	Baseline Completion	Forecasted Completion	Schedule Status	
<b>1. Projects with no projected FY 2019 cost overrun, or cost overrun primarily due to scope (not timing) changes</b>												
270-04	Jordan Lake Raw Water Supply Allocation	N/A	\$ 5	\$ 5	✔	\$ 5	\$ 5	✔	Jun 19	Jun 19	✔	
270-09	Quarry Reservoir Development	N/A	\$ 15	\$ 15	✔	\$ 15	\$ 15	✔	Jun 19	Jun 19	✔	
270-11	University Lake Pump Station Improvements	Bidding	\$ 250	\$ 308	✘	\$ 2,105	\$ 2,284	✘	Jun 20	Apr 20	✔	Design costs greater than planned; scope added for installation of 24" raw water meter
270-28	University Lake Permanganate Facility	Design	\$ 312	\$ 308	✔	\$ 1,540	\$ 2,401	✘	Jun 21	Dec 20	✔	Project costs increased due to additional requirements discovered during permitting, construction cost increases, addition of maintenance storage area, and some additional design effort
270-32	University Lake Flashboard Replacement	Construction	\$ 500	\$ 350	✔	\$ 500	\$ 350	✔	Jun 19	May 19	✔	
272-14	Water Facility Security Upgrades	Closeout	\$ 129	\$ 150	✘	\$ 325	\$ 536	✘	Jun 18	Dec 18	✘	Additional security options and scope identified during system design
272-37	WTP Belt Filter Press Replacement	Study	\$ 350	\$ 327	✔	\$ 1,567	\$ 3,155	✘	Jun 21	Mar 21	✔	Additional controls integration scope/cost, general construction cost increases, added scope to rehabilitate second press for redundancy; some additional design effort
272-38	WTP Sedimentation Basin Rehabilitation	Construction	\$ 1,255	\$ 1,004	✔	\$ 3,296	\$ 2,905	✔	Jun 20	Apr 20	✔	
272-39	Concrete Condition Assessment	Study	\$ 50	\$ 50	✔	\$ 500	\$ 100	✔	Jun 19	Jun 19	✔	
272-41	WTP Turbidimeter Replacements	Study	\$ 90	\$ 80	✔	\$ 90	\$ 90	✔	Jun 19	Aug 19	✔	
272-47	WTP and WWTP Risk Assessment	Closeout	\$ 36	\$ 36	✔	\$ 150	\$ 243	✘	Jun 18	Aug 18	✔	Cost of study above planning estimate
272-51	HVAC Replacement Program	Construction	\$ 45	\$ 125	✘	\$ 205	\$ 410	✘	Jun 22	Jun 22	✔	Actual timing of needs differs from planning assumptions; cost of HVAC unit for the WWTP switchgear building considerably higher than planning estimate
275-15	Reimbursement for Distribution System Improvements	Construction	\$ 231	\$ 216	✔	\$ 231	\$ 216	✔	Jun 19	Jun 19	✔	
275-20	Brandywine Road Water Main	Construction	\$ 897	\$ 254	✔	\$ 1,098	\$ 1,112	✔	Aug 18	Sep 18	✔	
275-20	Fordham Service Road Water Main	Design	\$ 900	\$ 125	✔	\$ 955	\$ 1,235	✘	Jun 19	Dec 19	✘	Delay to allow for coordination with adjacent construction work; projected cost overrun due to anticipated construction cost increases
275-21	Pritchard Avenue Water Main	Construction	\$ 1,125	\$ 1,134	✔	\$ 1,218	\$ 1,134	✔	Jun 19	Jan 19	✔	
275-21	Manning Drive & Country Club Water Main Replacements	Design	\$ 850	\$ 870	✔	\$ 3,811	\$ 3,304	✔	Mar 20	Jan 20	✔	

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275-46 276-48	Dobbins Drive Water and Sewer Main Replacement	Design	\$ 800	\$ 124	✔	\$ 4,690	\$ 4,690	✔	Mar 20	Mar 20	✔	Delay due to re-evaluation of upstream flow demand projections, easement acquisition; project cost/schedule were re-baselined
275-53	Distribution System Hydraulic Model	Study	\$ 30	\$ 30	✔	\$ 30	\$ 30	✔	Jun 19	Jun 19	✔	
275-77	Galvanized Water Main Replacement Program	Construction	\$ 726	\$ 272	✔	\$ 1,165	\$ 745	✔	Jun 20	Jun 21	✘	Contract was bid but construction not awarded due to excessive cost; the galvanized water main sites are now planned to be completed by operations staff
275-88	Kensington Drive Water Main	Design	\$ 105	\$ 100	✔	\$ 1,375	\$ 994	✔	Jun 20	Apr 20	✔	
275-90	Distribution System Sampling Stations	Construction	\$ 125	\$ 45	✔	\$ 125	\$ 85	✔	Mar 19	Mar 20	✘	Project construction originally planned to be contracted; work will be completed by operations staff
276-18	Gravity Sewer Rehabilitation Program	Various	\$ 2,305	\$ 2,050	✔	\$ 3,509	\$ 3,655	✔	Jun 19	Dec 19	✘	Additional rehab needs were identified and will be issued in forthcoming bid package
276-47	Little Creek Interceptor	Construction	\$ 462	\$ 462	✔	\$ 1,185	\$ 2,623	✘	Jun 16	Oct 18	✘	Construction was significantly delayed twice due to issues related to unusual soil conditions. Cost overrun due primarily to an extensive support structure required for a portion of the interceptor. Additional background about the project and the contractor's claim in an memorandum was emailed to the Board on January 19, 2018, and the project was further discussed during the January 25, 2018 Board meeting.
276-57	Gravity Sewer Hydraulic Model	Study	\$ 428	\$ 475	✘	\$ 579	\$ 660	✘	Jun 19	Dec 19	✘	Cost variance due to additional project objective (evaluation of system inflow/infiltration). Model calibration has been delayed pending refinement of future demand projections for the service area.
276-58	Prince Street Service Replacement	Design	\$ 30	\$ 30	✔	\$ 80	\$ 80	✔	May 20	May 20	✔	
277-31	Rogerson Drive Pump Station Rehabilitation	Construction	\$ 1,935	\$ 1,571	✔	\$ 2,169	\$ 2,095	✔	Jun 19	Aug 19	✔	Phase 2 numbers shown
277-40	Pump Station Operational Assessments	Study	\$ 25	\$ 25	✔	\$ 50	\$ 50	✔	Jun 20	Jun 20	✔	
278-46	Comprehensive Coatings Program	Construction	\$ 333	\$ 325	✔	-	-	-	Jun 19	Apr 19	✔	Ongoing contract with annual funding reauthorization; FY 2019 information is shown
278-51	WWTP Solids Thickening Improvements	Bidding	\$ 730	\$ 585	✔	\$ 4,250	\$ 5,508	✘	Jun 20	Jun 20	✔	Projected cost overrun due primarily to general construction cost increases, and to lesser extent by additional scope requirements
278-54	WWTP Intermediate Pump Station Rehabilitation	Construction	\$ 900	\$ 750	✔	\$ 1,004	\$ 853	✔	Dec 18	Dec 19	✘	Delays in procurement; also, some delay due to project approval process as part of low interest loan funding
278-68	Roofing Program - WTP Lab	Construction	\$ 50	\$ 40	✔	\$ 50	\$ 50	✔	Jun 19	Jul 19	✔	
278-72	WWTP Secondary Clarifier Rehabilitation	Bidding	\$ 800	\$ 150	✔	\$ 900	\$ 722	✔	Jun 19	Aug 19	✔	
278-72	WWTP Secondary Clarifier Pumping Improvements	Closeout	\$ 100	\$ 30	✔	\$ 102	\$ 161	✘	Jun 20	Jun 20	✔	Cost of study above planning estimate; some additional study scope included

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278-77	WWTP Bar Screen Rehabilitation	Construction	\$ 150	\$ 120	✔	\$ 150	\$ 130	✔	Jun 19	Apr 19	✔	
278-80	WWTP Chemical Building and Bulk Tank Piping Rehabilitation	Design	\$ 85	\$ 90	✘	\$ 400	\$ 490	✘	Jun 20	Jul 20	✔	Anticipated construction cost greater than planning estimate
278-80	WWTP Aeration Basin Spray Water System	Design	\$ 30	\$ 15	✔	\$ 85	\$ 87	✔	Jun 20	Jul 20	✔	
278-82	WWTP Headworks Rehabilitation	Bidding	\$ 360	\$ 350	✔	\$ 1,466	\$ 1,333	✔	Jun 20	Jun 20	✔	Construction contract is being bid and constructed together with 278-51 WWTP Solids Thickening Improvements
278-83	WWTP Server Room	Design	\$ 50	\$ 250	✘	\$ 350	\$ 335	✔	Jun 19	Jun 19	✔	
278-84	WWTP Security Improvements	Study	\$ 100	\$ 60	✔	\$ 100	\$ 75	✔	Mar 20	Mar 20	✔	
<b>2. Projects with FY 2019 cost variance primarily due to schedule changes</b>												
270-26	Cane Creek Permanganate Facility	Closeout	\$ -	\$ 25	✘	\$ 1,032	\$ 969	✔	Jun 17	May 18	✘	Substantial completion achieved in June 2017, but punchlist/closeout items and final invoicing lagged
272-40	WTP Filter Media and Backwash Improvements	Closeout	\$ 200	\$ 314	✘	\$ 850	\$ 1,399	✘	Jun 19	Feb 19	✔	Construction costs increased due to significant and previously unknown deteriorated components within the older filter basins. Replacement of filter troughs and rehabilitation of deteriorating concrete were added to scope. Fiscal year cost overrun due to delay in work expected to be complete in FY 2018
275-76	Advanced Metering Infrastructure (AMI) System	Construction	\$ 1,675	\$ 1,967	✘	\$ 6,060	\$ 5,539	✔	Jun 20	Mar 19	✔	
275-87	Hillsborough Street Water Main	Closeout	\$ -	\$ 106	✘	\$ 2,160	\$ 2,193	✔	Feb 18	May 18	✘	Construction was complete in May 2018 but final invoicing not processed until FY 2019.
277-38	Rogerson Drive Force Main Rehabilitation	Closeout	\$ -	\$ 15	✘	\$ 1,650	\$ 1,708	✔	Mar 18	Mar 19	✘	Construction was substantially complete in May 2018 but final paving of Prestwick Rd has been coordinated to occur following completion of adjacent development.
278-58	WWTP Non-Potable Water Pump Replacements	Construction	\$ 50	\$ 269	✘	\$ 275	\$ 308	✘	Dec 17	Feb 19	✘	Considerable delay with pump fabrication and delivery
278-73	WWTP SCADA Upgrades	Closeout	\$ 60	\$ 180	✘	\$ 389	\$ 397	✔	Dec 18	Jan 19	✔	Overall project variances are within tolerance; pace of intermediate tasks/billing lagged projections.
280-06	Administration Building HVAC System Upgrade	Construction	\$ 150	\$ 418	✘	\$ 1,685	\$ 2,110	✘	Mar 19	Feb 19	✔	Some work planned for FY 2018 completion was delayed to FY 2019; project cost overrun due to higher bids than expected.
<b>3. Unfunded FY 2019 projects added to the CIP</b>												
275-xx	Jones Ferry Road Water Main Replacements	Design	\$ -	\$ 50		\$ -	\$ 1,200					Rapid assessment, scoping, and design of replacements of several critical large diameter water mains near the Jones Ferry Road WTP
278-11	Wastewater Treatment Rehabilitation	Planning	\$ -	\$ 327		\$ -	\$ 327					Unanticipated urgent rehabilitation needs include grit removal system equipment, rehabilitation of dewatering press, and permit-required flow metering

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<b>4. Projects not yet baselined</b>												
271-05	Cane Creek Raw Water Transmission Main Capacity Study	Design	\$ 50	\$ 55	✘	-	-	-	-	-	-	Planning study not yet initiated
272-42	WTP Finished Water Pump Improvements	Study	\$ 50	\$ 131	✘	-	-	-	-	-	-	Preliminary design underway; some FY 2020 design work may occur ahead of schedule
272-46	WTP Chemical Facility Improvements	Design	\$ 100	\$ 35	✔	-	-	-	-	-	-	Preliminary design pending
272-48	WTP SCADA Obsolete Equipment Replacement	Study	\$ 15	\$ 25	✘	-	-	-	-	-	-	Preliminary design pending
273-09	Barbee Chapel Road Booster Pump Station Study	Study	\$ 75	\$ 20	✔	-	-	-	-	-	-	Planning study not yet initiated
275-21	Scarlett-Cooper Neighborhood Water Mains	Design	\$ 52	\$ 21	✔	-	-	-	-	-	-	Preliminary design pending
275-21	Barclay Road Water Main	Design	\$ 61	\$ 60	✔	-	-	-	-	-	-	Preliminary design pending
275-21	Bartram Drive Water Main	Design	\$ 15	\$ 21	✘	-	-	-	-	-	-	Preliminary design pending
275-21	Fordham Boulevard at Ephesus Church Road Water Main	Study	\$ 50	\$ 10	✔	-	-	-	-	-	-	Planning study in progress
275-52	West Cameron Avenue Water Main	Study	\$ 25	\$ 25	✔	-	-	-	-	-	-	Planning study in progress
275-89	Distribution System Prioritization Model	Study	\$ 150	\$ 80	✔	-	-	-	-	-	-	Planning study pending
276-45	Bolinwood Drive Interceptor	Design	\$ 50	\$ 50	✔	-	-	-	-	-	-	Planning study in progress
276-53	Creek Crossing Access Improvements	Study	\$ 50	\$ 40	✔	-	-	-	-	-	-	Planning study in progress
277-29	Rogerson Drive Force Main - Northern Routing Study	Study	\$ 50	\$ 30	✔	-	-	-	-	-	-	Planning study not yet initiated
278-68	Roofing / Building Envelope Rehabilitation Program	Design	\$ 25	\$ 25	✔	-	-	-	-	-	-	Planning study pending
278-78	WWTP Fermenter Improvements	Construction	\$ 200	\$ 356	✘	-	-	-	-	-	-	Cleaning/inspection of fermenter required more effort than expected and resulted in a different project recommendation than originally funded. The revised project will be assessed during the CIP budget development process.
278-85	WWTP Gas Monitoring Systems	Study	\$ 100	\$ 90	✔	-	-	-	-	-	-	Preliminary design pending

<b>Total FY 2019 Active Projects</b>	FY 2019 Budget	FY 2019 Cost
	\$ 20,952	\$ 18,051

Baseline Budget	Forecasted Cost
\$ 55,526	\$ 60,768

## OWASA Board of Directors – 12 Month Board Meeting Schedule (January 18, 2019)

Month	Board Meetings		Committee & Other Meetings
	Work Session	Business Meeting	
January 2019	Purchase of Solids Thickening Equipment for the Mason Farm WWTP Appoint Audit Firm (C) Employee Health and Dental Insurance Update for FY20 (C) Approve Budget Amendment Discuss Consultant Analysis of November 5, 2018 Water Main Break and OWASA Response <b>Approach for Developing a Forestry Management Program</b> CS – Discuss Confidential Information Regarding Security Measures in Place to Protect OWASA Customers, Personnel and Assets 1/10/2019	Annual Lakes Recreation Report (C) CIP Semiannual Report (C) Q2 Financial Report (C) FY 20 Budget Calendar and Assumptions (C) Affordability Outreach Program Update CS – Personnel Matter 1/24/2019	<i>Board Session with VISIONS, Inc. (1/9/2019)</i>  <i>OC Appointees to the OWASA Board meet with Members of Orange County BOCC (1/30/2019)</i>
February 2019	<b>(Tentative) LRWSP Final Demands and Yield</b> <b>Community Engagement Approach for Forestry Management</b> <b>Review Scope of Water Distribution System Replacement Prioritization Model</b> Award the University Lake Raw Water Pump Station Improvements Construction Contract Sole Source Authorization to Purchase a Grit Removal System Upgrade for the Mason Farm Wastewater Treatment Plant Resolution Accepting NC Division of Water Infrastructure Loan Offer and Acceptance Documents (Tentative) Authorize Applying for SRF Loans (Tentative) Options for Accelerating Valve Maintenance CS – Prepare for General Counsel Interim Review (C) 2/14/2019	<b>This meeting will be a Work Session at 6 PM (at OWASA)</b> <b>Discuss Draft Communications and Community Engagement Plan</b> Award the WWTP Solids Thickening Improvements and Headworks Rehabilitation Construction Contract CS – General Counsel Interim Review (C) 2/28/2019	<i>OWASA's Annual Update to the Orange County BOCC (2/19/2019)</i>  <i>Chatham-Orange Joint Planning Task Force Meeting (2/21/2019)</i>  <i>HR Committee Meeting to discuss retiree health and 457 deferred compensation (TBD)</i>  <i>NRTS Committee Meeting to discuss forest management (TBD)</i>  <i>Community Engagement Committee Meeting to discuss Agua Vista Web Portal (TBD)</i>
March 2019	FY 20 Draft Budget & Rates (C) <b>Review AMI Manual Read</b> <b>(Tentative) LRWSP – Discuss Water Supply and Demand Management Alternatives</b> CS – Prepare for ED Interim Review (C) 3/14/2019	<b>Annual Update of the Energy Management Plan</b> (C) Award the Manning and Country Club Water Main Replacement Construction Contract FY 20 Draft Budget & Rates and Proposed Staff Rate Adjustment Recommendation (C) Set date for Public Hearings – FY 20 Budget & Rates (C) CS – ED Interim Review (C) 3/28/2019	
April 2019	Review Employee Health and Dental Insurance Renewals (C) FY 20 Draft Budget and Rate Adjustment Information (C) Appointment of the Nominating Committee (C) 4/11/2019	Q3 Financial Report (C) FY 20 Budget and Rates Discussion and Authorize Staff to Publish Proposed Rates <b>Demonstration of Agua Vista Web Portal</b> 4/25/2019	

## OWASA Board of Directors – 12 Month Board Meeting Schedule (January 18, 2019)

May 2019	Approve Employee Health and Dental Insurance Renewals Discuss Employee Merit Pay for FY 2020  5/9/2019	(C)	Public Hearings – FY 20 Budget and Rates (Tentative) Approve New Banking Services Provider Approve Employee Health and Dental Insurance Renewals (if needed)  5/23/2019	(C)
June 2019	Approve FY 20 Budget and Rates, including merit pay decision <b>(Tentative) LRWSP – Final Water Supply and Demand Management Alternatives</b> Award the Dobbins Drive Water and Sewer Replacement Construction Contract Election of Officers  6/13/2019	(C)	Award Kensington Drive Water Main Replacement Construction Contract       6/27/2019	
July 2019	TBD  7/11/2019		TBD  7/25/2019	
August 2019	TBD  8/8/2019		Preliminary 12 Month Financial Report CIP Semiannual Report CS – Prepare for General Counsel Review  8/22/2019	(C) (C) (C)
September 2019	EEO/Affirmative Action Report Annual Report on Disposal of Surplus Personal Property <b>AMI Low-Flow Leak Alerts</b> CS – General Counsel Review  9/12/2019	(C) (C) (C)	Annual Report and Financial Audit Approve General Counsel Engagement CS – Prepare for ED Review  9/26/2019	(C) (C) (C)
October 2019	CS – ED Review  10/10/2019	(C)	Q1 Financial Report <b>Strategic Trends Report and Strategic Plan Update</b>  10/24/2019	(C) (C)
November 2019	TBD  11/14/2019		<i>Holiday – no meeting</i>	
December 2019	TBD  12/12/2019		<i>Holiday – no meeting</i>	

**Note: Additional Board Meetings will include matters related to improving reliability and resiliency on OWASA’s services.**

The 12 Month Board Meeting Schedule shows Strategic Plan initiatives and other priority efforts that the Board and staff plan to give greatest consideration to during the next twelve months. The schedule also shows major recurring agenda items that require Board action, or items that have been scheduled in response to the Board's prior standing request. This schedule does not show all the items the Board may consider in a work session or business meeting. It also does not reflect meetings at which the Board will discuss and act on the update of the Strategic Plan.

The 12 Month Board Meeting Schedule will be reviewed and updated at each monthly work session and may also be discussed and updated at the Board’s business meetings.

In addition to the initiatives shown in this schedule, staff will be working on other Strategic Plan and organizational priorities that are not expected to require major additional discussion with the Board except as part of budget deliberations.

The schedule implies that the following Strategic Plan initiatives would be addressed beyond the 12-month period. The Board may conclude that one or more of the following initiatives are higher priority. The schedule will be revised as needed to reflect the Board's priorities, and any additional initiatives that the Board may decide to address.



## OWASA Board of Directors – 12 Month Board Meeting Schedule (January 18, 2019)

- Development of a plan and policy framework for OWASA lands is considered a longer-term priority. The NRTS Committee discussed this issue in September 2017 and determined it was lower priority than Forestry Management.
- Water Conservation Plan will be prepared concurrent with update of the Long-Range Water Supply Plan.
- Update of Strategic Plan. On November 15, 2018, the Board and staff agreed to defer update of the Strategic Plan to a date to be determined.

The OWASA Board determines which topics it wants to explore as a full Board (potentially in a work session format) and which topics it wants to assign to Board committees or committee chairs for further analysis and development of recommendations. Board also determines priorities and desired timeframes for addressing topics. Committee meetings will be updated on the schedule routinely.

### Abbreviations Used in Draft Schedule:

(C)	Recurring agenda item (generally these are “required” items)	JLP	Jordan Lake Partnership
AMI	Advanced Metering Infrastructure	KPI	Key Performance Indicator
BOCC	Board of County Commissioners	LRWSP	Long-Range Water Supply Plan
CBOA	Carrboro Board of Aldermen	MOA	Memorandum of Agreement
CE	Community Engagement	MST	Mountains-to-Sea Trail
CEP	Community Engagement Plan	MFMM	Multi-Family Master Meter
CHTC	Chapel Hill Town Council	NCDOT	North Carolina Department of Transportation
CIP	Capital Improvements Program	NRTS	Natural Resources and Technical Services
COLA	Cost of Labor Adjustment	OC	Orange County
CS	Closed Session of the Board	Q	Quarter
CY	Calendar Year	RFP	Request for Proposals
D&I	Diversity and Inclusion	SRF	State Revolving Fund
ED	Executive Director	SOW	Scope of Work
EEO	Equal Employment Opportunity	TBD	To Be Determined
FY	Fiscal Year	WTP	Water Treatment Plant
HR	Human Resources	WWTP	Wastewater Treatment Plant

Orange Water and Sewer Authority  
 Meeting of the Board of Directors  
 November 8, 2018

The Board of Directors of the Orange Water and Sewer Authority (OWASA) met in a work session on Thursday, November 8, 2018, at 6:00 PM in OWASA's Community Room, 400 Jones Ferry Road, Carrboro.

Board Members present: Yinka Ayankoya (Chair), Ray DuBose (Secretary), Bruce Boehm, Jody Eimers, Robert Morgan, John N. Morris, Ruchir Vora and John A. Young. Board Member absent: Jeff Danner (Vice Chair).

OWASA staff present: Denise Battle, Mary Darr, Monica Dodson, Robert Epting, Esq., (Epting and Hackney), Stephanie Glasgow, Randy Horton, Ed Kerwin, Kenneth Loflin, Linda Low, Andrea Orbich, Dustin Rhodes, Nicholas Rogers, Ruth Rouse, Todd Taylor, Mary Tiger, Stephen Winters and Richard Wyatt.

Others present: Terry Battle, Terri Buckner, Lewis Kellogg (Director of Energy Services, University of North Carolina), Margaret Holton (UNC Water Resources Manager), Ben Poulson (UNC Associate Director of Energy Services), Tammy Grubb (News & Observer) and Ryan Smoot (Daily Tarheel).

Motions

1. John Morris made a motion to approve the Minutes of the October 25, 2018 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter; second by Robert Morgan and unanimously approved.
2. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution Designating OWASA's Primary and Secondary Agents and Authorizing Them to Execute and File Applications for Federal and/or State Assistance and Represent the Organization in All Dealings with Federal Emergency Management Agency and the North Carolina Division of Emergency Management. (Motion by Robert Morgan, second by Ruchir Vora and unanimously approved.)

\* \* \* \* \*

Announcements

Yinka Ayankoya asked if any Board Member knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight to disclose the same at this time; none were disclosed.

Without objection, Ms. Ayankoya announced that an item was added to the agenda, Update and Discussion on the November 5, 2018 Water Main Break at the Jones Ferry Road Water Treatment Plant.

Ms. Ayankoya announced that new Board Members and three to four other OWASA Board Members would meet for a Diversity and Inclusion Session with VISIONS, Inc. on Tuesday, November 13, 2018 at 5 PM in the OWASA Boardroom.

John Young announced that the Natural Resources and Technical Services (NRTS) Committee meeting scheduled for today to discuss the overall approach for managing watershed lands was canceled and will be rescheduled for December 12, 2018 at 4 PM in the OWASA Boardroom.

Mr. Young said that the NRTS Committee met on October 30, 2018 to discuss source water protection. The Committee supported staff's recommendation to sample per- and polyfluoroalkyl substances (PFAS) on a quarterly basis at the water supply intake at Cane Creek Reservoir and the treated drinking water leaving the Jones Ferry Road Water Treatment Plant. The Board agreed that staff will report back the findings after a year's worth of sampling has been completed. The Board agreed to schedule a discussion on PFAS/PFOS sampling plan at a future meeting, but supported staff moving forward with the sampling plan.

Ruchir Vora announced a meeting between the Chapel Hill Town Council OWASA Committee and Chapel Hill Appointees to the OWASA Board of Directors on Thursday, November 15, 2018 at 8:30 AM in the OWASA Boardroom to discuss items of mutual interest.

Robert Morgan announced that the Human Resources Committee will meet on Wednesday, November 28, 2018 at 5 PM in the OWASA Boardroom to discuss retiree health insurance and employee 457 deferred compensation.

Ray DuBose announced that the Finance Committee will meet on Wednesday, December 5, 2018 at 5 PM in the OWASA Boardroom to review analyses of OWASA's operating expenses and discuss planning assumptions for the Fiscal Year 2020 budget.

Mr. DuBose also announced that Penny Rich, Chair of the Orange County Board of Commissioners, requested a meeting with Orange County Appointees to the OWASA Board on a date to be determined.

Item One:     Minutes

John Morris made a motion to approve the Minutes of the October 25, 2018 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter; second by Robert Morgan and unanimously approved. Please see Motion 1 above.

Item Two:     Resolution Designating OWASA's Primary and Secondary Agents and Authorizing Them to Execute and File Applications for Federal and/or State Assistance and Represent the Organization in All Dealings with Federal Emergency Management Agency and the North Carolina Division of Emergency Management

Motion by Robert Morgan, second by Ruchir Vora and unanimously approved. Please see Motion No. 2 above.

Item Three: Update and Discussion on the November 5, 2018 Water Main Break at the Jones Ferry Road Water Treatment Plant

The Board received and discussed a staff presentation on the water emergency including an overview of the water main break and staff's response. Information was provided on the water main repair work, as well as proposed strategies and investments that OWASA can act on in the short- and long-term to increase the resiliency of the system. Staff informed the Board and public that an independent consultant will be hired to determine the cause of the break and the reason(s) why it took about eight hours to stop the leak. Staff also provided data on communications with local government agencies that kept the community and other stakeholders informed throughout the water emergency.

Terri Buckner noted that some OWASA customers do not live in Carrboro or Chapel Hill and it is important that those OWASA customers receive communication.

Board Member questions and comments included information on the frequency of valve exercising program, opportunity to review scope of work on the distribution system replacement prioritization model, appreciation of staff efforts throughout all the events over the past few months and the future work needed to earn back the community's trust and confidence.

Staff will work to refine and develop plans to address short- and long-term improvements for water distribution system resiliency for discussion and action at future meetings.

Item Four: Review Board Work Schedule

Ed Kerwin said that the Chapel Hill/Carrboro Chamber of Commerce is hosting a meeting on Monday, November 12, 2018, at 9:00 AM, in the Chamber's Office, to review what happened, answer questions and receive feedback on the November 5, 2018 water emergency. Mr. Kerwin invited Board Members to participate in this meeting.

Ed Kerwin requested that a special work session be scheduled to discuss communications and community engagement; the Board agreed.

Item Five: Executive Director Will Summarize the Key Staff Action Items from the Work Session

Ed Kerwin noted the following items for staff follow-up:

- Schedule Board discussion on per- and polyfluoroalkyl substances sampling plan;
- Refine and develop plans to address short- and long-term improvements for water distribution system resiliency for discussion and action at future meetings.

- Reschedule Natural Resources and Technical Services Committee meeting to discuss the overall approach for managing forested watershed lands to December 12, 2018 at 4 PM in the OWASA Boardroom; and
- Schedule special work session to discuss communications and community engagement.

Item Six:      Closed Session

Without objection, the Board continued in a Closed Session to discuss a personnel matter.

The Board came out of Closed Session and the meeting was adjourned at 9:40 p.m.

Respectfully submitted by:

Andrea Orbich  
Executive Assistant/Clerk to the Board

Attachments

DRAFT

Orange Water and Sewer Authority

Closed Session of the Board of Directors

January 10, 2019

The Board of Directors of Orange Water and Sewer Authority met in Closed Session on Thursday, January 10, 2019, following the Board meeting.

Board Members present: Yinka Ayankoya (Chair), Jeff Danner (Vice Chair), Ray DuBose (Secretary), Bruce Boehm, Jody Eimers, Robert Morgan, John Morris, Ruchir Vora and John A. Young.

Staff present: Mary Darr, Robert Epting, Ed Kerwin, Andrea Orbich, Dan Przybyl, Todd Taylor and Stephen Winters.

\*\*\*\*\*

ITEM ONE

The Board of Directors met in Closed Session to discuss confidential information regarding security measures in place to protect OWASA customers, personnel and assets.

No official action was taken at the meeting.

The meeting was adjourned at 9:09 p.m.

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Yinka Ayankoya, Chair  
Board of Directors



**Agenda Item**

- 2018 Annual Lakes Recreation Report

**Purpose**

- To provide information about the 2018 lake recreation season including patronage, cost, and revenues.

**Background**

- This report and other agenda information has been distributed by e-mail to more than 80 lake recreation stakeholders.

**Action Needed**

- Receive and discuss the 2018 Annual Lakes Recreation Report

January 24, 2019



# ORANGE WATER AND SEWER AUTHORITY

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

## MEMORANDUM

**TO:** Board of Directors  
**THROUGH:** Ed Kerwin *EJK*  
**FROM:** Johnny Riley  
**DATE:** January 18, 2019  
**SUBJECT:** 2018 Lake Recreation Report

### Purpose

To provide information about lake recreation in 2018 including patronage, costs, and revenues.

In accordance with the Board's direction, this report is provided in the Board's regular meeting agenda each year and public comments are welcome. This report and other agenda information will also be distributed by e-mail to more than 80 lake recreation stakeholders.

### Key Takeaways

- Overall attendance and revenues decreased by 12% and 7% respectively.
- Patrons were slow to return following the two hurricanes.
- As in past years, revenue covered somewhat less than half of costs.

### Operating Schedule

During the 2018 lake season (March 24<sup>th</sup> through November 11<sup>th</sup>) University Lake was open Friday, Saturday and Sunday from 6:30 a.m. to 6:00 p.m. Cane Creek Reservoir was open on Friday and Saturday from 6:30 a.m. to 6:00 p.m.

### User Fees

Attachment 1 shows the rates and fees for the 2018 season. Fees have remained unchanged since 2011.



**Cane Creek  
Reservoir**

**Revenue & Attendance**

University Lake generated \$38,935.50 in total revenue during 2018 (12% decrease from the 2017 season). In total, 3,980 people visited University Lake during the 2018 season (16% decrease from the 2017 season).

Average revenue per University Lake visitor in 2018 was \$9.31 (Unchanged from the 2017 season).

Cane Creek generated \$36,116.50 in total revenue (1% decrease from the 2017 season).

Cane Creek received 3,391 visitors (8% decrease from the 2017 season). Average revenue per Cane Creek visitor in 2018 was \$10.65 (7% increase from the 2017 season).

Total Visitation was 7,371 (12% decrease from 2017) and Total Revenue was \$75,052 (7% decrease from 2017).



University Lake

The table below compares historical daily attendance averages (2004-2017) to the 2018 daily attendance averages for each lake:

**Comparison of Attendance by Day of the Week**

<b>Cane Creek</b>	<b>Friday<sup>1</sup></b>	<b>Saturday</b>
<b>Average 2004-2017</b>	27	64
<b>2018</b>	34	63

<sup>1</sup>Cane Creek closed on Fridays following the 2007 season and reopened in the 2013 season.

<b>University Lake</b>	<b>Friday</b>	<b>Saturday</b>	<b>Sunday</b>
<b>Average 2004-2017</b>	19	50	60
<b>2018</b>	16	44	52

**Kayak Rental**

On April 4, 2014 both lakes began offering kayaks for rent. During the 2018 season, revenue from kayak rentals totaled \$8,320 which is a 2% increase over the previous year.

The table below compares the total revenue from kayak rentals over the past five seasons:

	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Cane Creek	\$780	\$985	\$945	\$1,315	\$1,135
University Lake	\$3,475	\$6,290	\$5,585	\$6,885	\$7,185
<b>Total</b>	<b>\$4,255</b>	<b>\$7,275</b>	<b>\$6,530</b>	<b>\$8,200</b>	<b>\$8,320</b>

**Bird watching**

On September 10, 2015, the Board of Directors approved free birdwatching at the Cane Creek Reservoir on Wednesdays between 7:00 and 11:00 AM. During the 2017-18 season (November 15, 2017 to March 21, 2018) the lake received a total of 113 visitors (6 per day average). This is a 59% increase in attendance from the year before. Support from the local birding clubs were a factor in the increase from 2017. We recommend continuing this program because the staffing time needed continues to be minimal.

<b>Year</b>	<b>2015-16</b>	<b>2016-17</b>	<b>2017-18</b>	<b>2018-19*</b>
<b>Total Visitors</b>	101	71	113	41
<b>Daily Average</b>	5	4	6	5.1

\*as of 1/9/19

**Demographics**

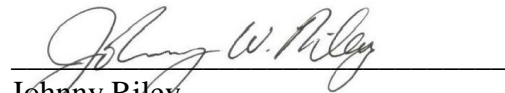
As shown in Attachment 3 Exhibit A, the largest segment of visitors at University Lake continues to be Orange County residents (82%), followed by Durham County residents (5%), Chatham County residents (4%), Alamance County residents (2%), and others (7%).

As shown in Attachment 3 Exhibit B, the largest segment of visitors at Cane Creek Reservoir continues to be Orange County residents (38%), followed by Alamance County residents (14%), Robeson County residents (9%), Guilford County residents (5%), and others (34%).

**Expenses versus Revenues**

As shown in Attachment 4 Exhibit B, expenses exceeded revenues by \$68,657 in 2018. Revenues covered about 52% of costs. Labor remains the largest expense in the operation of the lakes. The lakes staff time is allocated to one of five categories: maintenance, recreation activities, security, grounds, and administration. A portion of each of these five categories is considered in the expense of operating the two lakes as public recreation facilities.

Please feel free to contact me with any questions concerning this report or the lake operation.

A handwritten signature in cursive script, reading "Johnny W. Riley", is written over a horizontal line.

Johnny Riley  
Senior Lake Warden

Attachment 1: Lake Use Fees

Attachment 2: Season Pass Sales

Attachment 3: Origin of Lake Visitors

Exhibit A: 10-year Lake Revenues

Exhibit B: 2018 Lake Operating Expenses

## Attachment 1 – Lake Use Fees

### 2017 and 2018 Lake Use Fees

<b>LAKE USE FEES:</b>		<u><b>2017 Season</b></u>	<u><b>2018 Season</b></u>
Boat Rental Fee	Orange County Resident	\$4.50 <sup>1</sup>	\$4.50 <sup>1</sup>
	Non-county Resident	\$8.00 <sup>1</sup>	\$8.00 <sup>1</sup>
Kayak Rental Fee	Orange County Resident	\$15.00	\$15.00
	Non-county Resident	\$20.00	\$20.00
Private Boat Launch Fee	Orange County Resident	\$3.50	\$3.50
	Non-county Resident	\$7.00	\$7.00
Motor Rental	Orange County Resident	\$15.00	\$15.00
	Non-county Resident	\$22.00	\$22.00
Lake Use Fee	Orange County Resident	\$4.50	\$4.50
	Non-county Resident	\$5.50	\$5.50
	Child (Orange County Resident)	\$2.00	\$2.00
	Senior (OWASA Customer or Orange County Resident)	\$0.00	\$0.00
	Senior or Child (Non-County Resident)	\$2.50	\$2.50

<sup>1</sup> Rental Fee does not include Lake Use Fee

### Season Passes

For the 2018 season, five types of passes were available to Orange County residents. A single boat pass is issued to only one person and includes the boat rental and lake use fee. The group pass is honored for up to four people including the person who is the holder of the pass. The lake use pass is for a single individual and includes the associated lake use fee. The table below shows the fees for the different types of passes.

#### Season Passes

Type of Pass	2018 Cost
Single boat only	\$82.00
Single boat and motor	\$163.00
Group boat only	\$163.00
Group boat and motor	\$245.00
Lake use	\$46.00



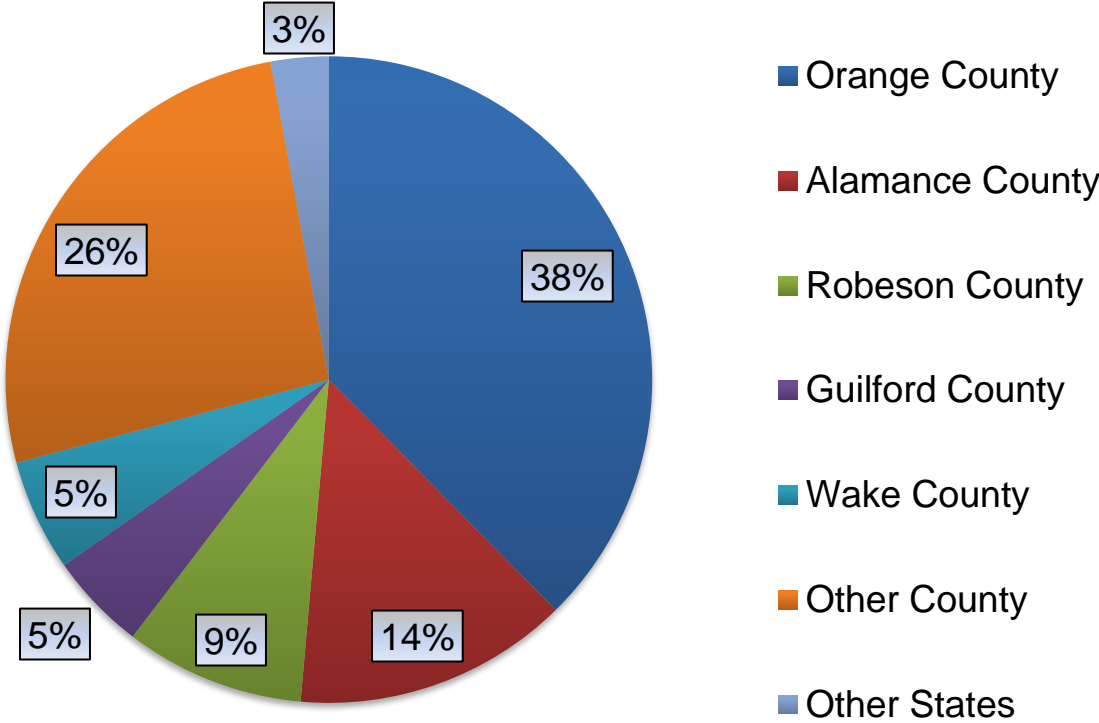
## Attachment 2 – Season Pass Sales

Number of Passes Sold by Type

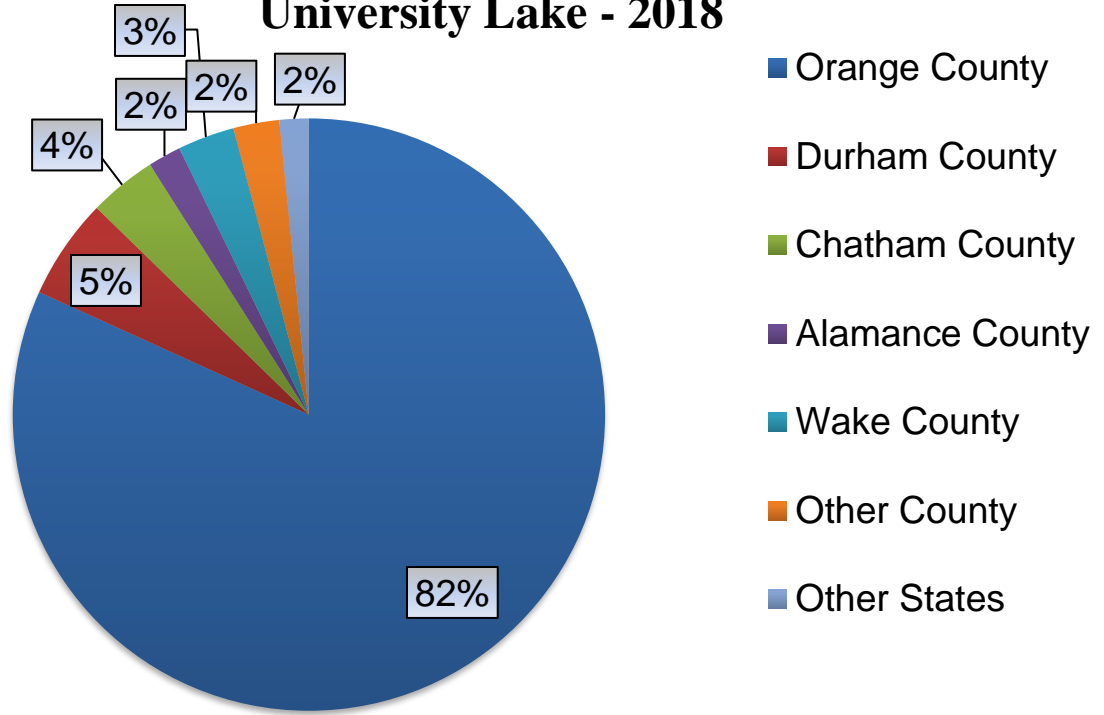
	2012	2013	2014	2015	2016	2017	2018
Single boat only	9	16	10	30	21	26	35
Single boat and motor	2	0	1	3	3	9	6
Group boat only	2	3	3	3	5	2	3
Group boat and motor	2	0	2	1	0	0	0
Lake Use	1	0	3	0	1	3	3
<b>TOTAL</b>	16	19	19	37	30	40	47

Overall a total of 47 passes were sold in 2018. Passes generated \$4,475 in total revenue. This is a 10% increase over the previous year. The 47 passes sold were used an average of 9.4 times.

**Attachment 3  
Origin of Visitors  
Cane Creek - 2018**



**Attachment 3 (cont.)  
Origin of Visitors  
University Lake - 2018**



**Exhibit A**  
**10 Year Lake Revenues**

	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
Boat Rentals <sup>1</sup>	\$ 24,885	\$12,712	\$11,952	\$12,736	\$15,127	\$14,004	\$12,448	\$12,702	\$14,425	\$12,255
Lake Use & Boat Launch Fees	\$ 18,524	\$28,093	\$25,327	\$26,276	\$29,650	\$30,544	\$29,957	\$30,935	\$34,664	\$30,997
Electric Motor Rentals	\$ 11,029	\$10,431	\$9,180	\$9,444	\$13,475	\$13,290	\$11,760	\$15,335	\$19,134	\$19,005
Lakes Use Passes	\$ 1,690	\$1,540	\$2,160	\$1,926	\$1,801	\$2,100	\$3,683	\$2,991	\$4,063	\$4,475
Kayak Rentals <sup>2</sup>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 4,255	\$7,275	\$6,530	\$8,200	\$8,320
<b>TOTALS:</b>	<b>\$56,128</b>	<b>\$52,776</b>	<b>\$48,620</b>	<b>\$50,382</b>	<b>\$60,053</b>	<b>\$64,193</b>	<b>\$65,123</b>	<b>\$68,493</b>	<b>\$80,486</b>	<b>\$75,052</b>

**NOTES:**

<sup>1</sup> Lake Use Fee for individuals renting a boat is included in the Boat Rental revenues for 2009.

<sup>2</sup> Kayak rentals began in April of the 2014 recreational season

**Exhibit B**  
**2018 Lake Operating Expenses**

Description	Expenses				
	Total	Cane Creek		University Lake	
		Non-Recreational	Recreational	Non-Recreational	Recreational
Full Time Employee Salaries	\$188,401	\$87,657	\$50,831	\$14,585	\$35,328
Payroll Taxes & Employee Benefits	\$55,244	\$26,553	\$15,456	\$4,505	\$8,730
Part Time Employee Salaries	\$24,325	\$3,630	\$8,700	\$329	\$11,666
Utilities	\$9,980	\$4,172	\$2,380	\$2,092	\$1,336
Materials and Supplies	\$10,009	\$4,895	\$3,448	\$1,350	\$316
Maintenance of Facilities	\$579	\$378	\$0	\$201	\$0
Annual Amortization of equipment	\$8,000	\$2,000	\$2,000	\$2,000	\$2,000
Miscellaneous Expenses	\$4,484	\$2,609	\$1,412	\$357	\$106
<b>Totals</b>	<b>\$301,022</b>	<b>\$131,894</b>	<b>\$84,227</b>	<b>\$25,419</b>	<b>\$59,482</b>

**2018 Revenue (from Exhibit A) \$75,052**

**Deficit (Total Revenue - Total Recreational Expense) \$68,657**

**Agenda Item**

- Financial Report for the Six-Month Period Ended December 31, 2018

**Purpose**

- To inform the Board of Directors of OWASA's financial performance and fiscal position.

**Background**

- The financial report consists of a Statement of Net Position, an Income Statement that includes a budget to actual comparison, graphical presentations of financial performance indicators and a Financial Management Policy Report Card.
- Highlights of the report include:
  - All but one financial performance target was met.
  - Operating Revenues for the period were about \$593,000 or 3.1% under budget.
  - System Development Fees were about \$111,000 or 18.5% over budget.
  - Operating Expenses were about \$141,000 or 1.3% under budget.
  - Net Income less Debt Service was about \$644,000 or 11.3% under budget. OWASA is a nonprofit entity. Net Income less Debt Service is used to fund investments in capital improvement projects and reserves.
  - Capital Improvements Program expenditures were approximately \$1.3 million lower than projected for the period.

**Action Needed**

- Receive and discuss the Financial Report for the six-month period ended December 31, 2018.

January 24, 2019



# ORANGE WATER AND SEWER AUTHORITY

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

## MEMORANDUM

**To:** Board of Directors  
**Through:** Ed Kerwin *EK*  
**From:** Stephen Winters, CPA  
**Date:** January 18, 2019  
**Subject:** Financial Report for the six-month period ended December 31, 2018

### Purpose

The financial report for the six-month period ended December 31, 2018 is presented to inform the Board of Directors of OWASA's financial position and financial performance in relation to budget.

### Contents

- Statement of Net Position
- Income Statement
- Graphs of Key Performance Indicators
- Financial Management Policy Report Card

### Fiscal Performance

- As shown on page 10 of the financial report, all financial performance measurement targets were met for the period except for meeting the target balance in the working capital reserve. At the end of the period, the balance was about \$4.4 million less than the target. We have expended approximately \$6.2 million on Capital Improvements Program (CIP) projects which are being financed with low-interest loans from the state and we have not yet drawn funds against the loans; we plan to do so during this quarter.
- Average drinking water sales for the period was 6.00 million gallons per day (MGD), 6.38 was projected. Combined drinking and reclaimed water sales for the period averaged 6.86 MGD versus a projection of 7.27.
- Total Operating Revenue was 3.1% or about \$593,000 under budget.
- Revenue from new system connections (system development fees) was over budget by about \$111,000 due to a difference between the allocation of the budget across the months of the year and when the meters were actually installed.
- Total Operating Expenses for the period were 1.3% or about \$141,000 under budget.
  - General and Administrative expenses were under budget by about \$413,000 due primarily to not yet incurring budgeted consulting and professional fees and staff vacancies in the Engineering and Planning and Human Resources Departments. Computer equipment expense was also under budget for the period.
  - The Water Supply and Treatment department was over budget by about \$49,000 primarily due to higher than expected chemical use and costs.

- Water Distribution expenses were under budget by about \$104,000. Wastewater Collection expenses were under budget by about \$108,000. Maintenance costs in both departments were less than projected for the period.
  - Wastewater Treatment expenses were over budget by about \$262,000 due primarily to chemicals, maintenance, and supplemental biosolids dewatering expenses.
  - Through December 2018, we incurred about \$174,000 of expenses related to preparing for Hurricane Florence and dealing with its aftermath. We are in the process of working with the Federal Emergency Management Agency to be reimbursed for these costs.
- Net Income less Debt Service for the period was approximately 11% or \$644,000 less than budget. OWASA is a nonprofit entity. Net Income less Debt Service is used to fund investments in capital improvement projects and reserves.
  - Capital Improvements Program (CIP) Summary

Approximately \$4.8 million was invested in a total of 68 capital projects which were active during the reporting period, including (as of the end of the reporting period): 19 projects in a planning phase, 21 projects in design or bidding, 20 projects in construction, and eight projects in closeout. Considerable work was focused on the water distribution and wastewater collection systems, including the:

- Completion of water main replacement on Brandywine Road and the concurrent rehabilitation of sewer mains and manholes within Heritage Hills neighborhood
- Substantial completion of water main replacement on Pritchard Avenue
- The start of the second phase of improvements to the Rogerson Drive Pump Station
- Additional sewer main rehabilitation throughout the service area

The water distribution and wastewater collection systems are also the focus of two important planning studies: the ongoing gravity sewer hydraulic modeling study and the update to the distribution system replacement prioritization model. Both of these studies are expected to be complete within the next 12 months and will help guide our future investments in these systems.

The CIP expenditures of \$4.8 million are lower than the \$6.2 million planned for this period, and the current projection shows total FY 2019 expenditures of \$18.1 million or 86% of budget. The projection accounts for expected expenditures in the third and fourth quarters on several large construction projects, including Rogerson Drive Pump Station Rehabilitation Phase 2, Sanitary Sewer Rehabilitation (FY 2017-2019) Package #3, Water Treatment Plant (WTP) Sedimentation Basin Rehabilitation, Wastewater Treatment Plant (WWTP) Intermediate Pump Station Rehabilitation, University Lake Flashboard Replacement, WWTP Solids Thickening / Headworks Rehabilitation, and the Manning Drive and Country Club Water Main Replacements. Construction contracts have already been awarded for five of these seven projects.



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Stephen Winters, CPA  
Director of Finance and Customer Service



# **Orange Water and Sewer Authority**

**Financial Report  
For the Six-Month Period Ended  
December 31, 2018**

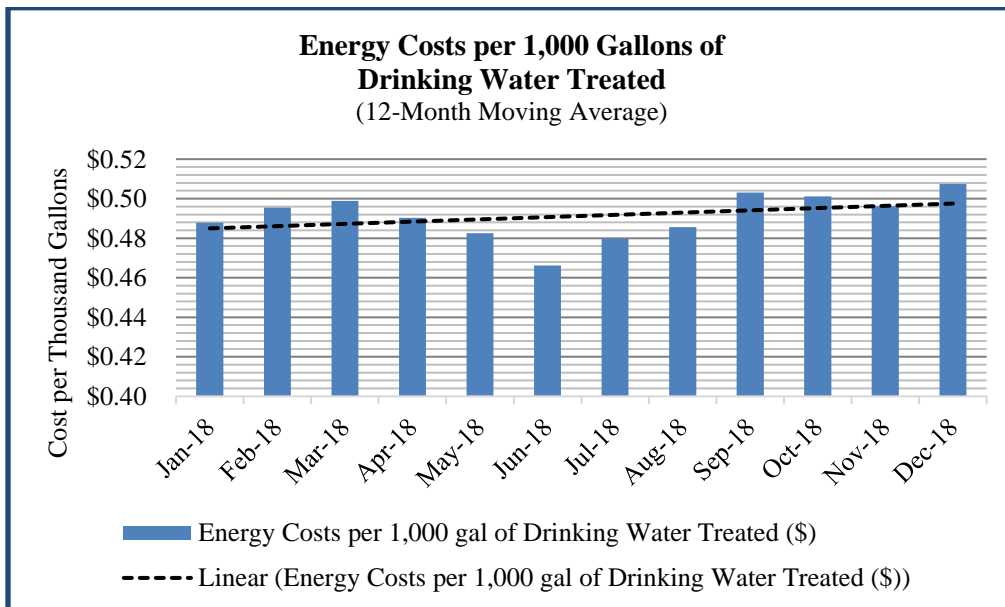
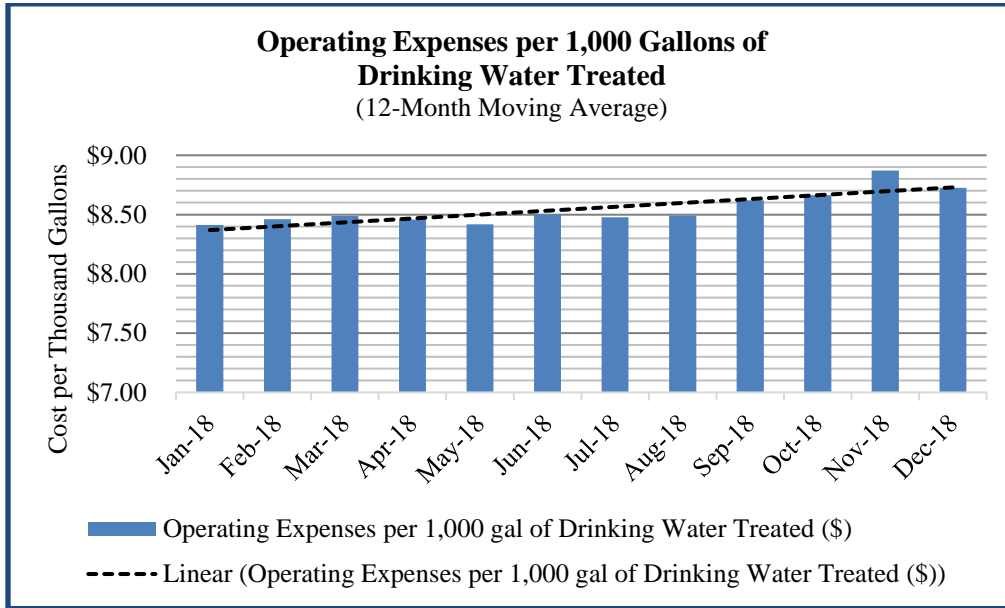
**Orange Water and Sewer Authority**  
**Statement of Net Position**  
**December 31, 2018**  
(unaudited)

<b>Assets</b>	
Current Assets	
Cash	\$14,239,257
Receivables	5,103,931
Inventory	1,643,595
Prepaid expenses	181,257
Restricted cash	3,885,028
	<hr/>
Total Current Assets	25,053,068
	<hr/>
Noncurrent Assets	
Capital assets (net of depreciation)	275,274,963
Other noncurrent assets	42,003,274
	<hr/>
Total Noncurrent Assets	317,278,237
	<hr/>
<b>Total Assets</b>	<b>\$342,331,305</b>
	<hr/> <hr/>
<b>Liabilities and Net Position</b>	
Current Liabilities	
Accounts payable and accrued expenses	\$1,997,178
Unearned income	280,074
Customer deposits	1,156,025
	<hr/>
Total Current Liabilities	3,433,277
	<hr/>
Noncurrent Liabilities	
Bonds payable	55,433,000
Other noncurrent liabilities	13,907,668
	<hr/>
Total Noncurrent Liabilities	69,340,668
	<hr/>
Net Position	
Contributed capital	119,771,227
Net position at the beginning of the year	146,731,581
Year-to-date accrual basis net income	3,054,552
	<hr/>
<b>Total Liabilities and Net Position</b>	<b>\$342,331,305</b>
	<hr/> <hr/>
<b>Net income reconciliation:</b>	
Accrual basis net income	\$3,054,552
Depreciation and interest expense	5,570,958
	<hr/>
<b>Modified accrual basis net income</b>	<b>\$8,625,510</b>
	<hr/> <hr/>

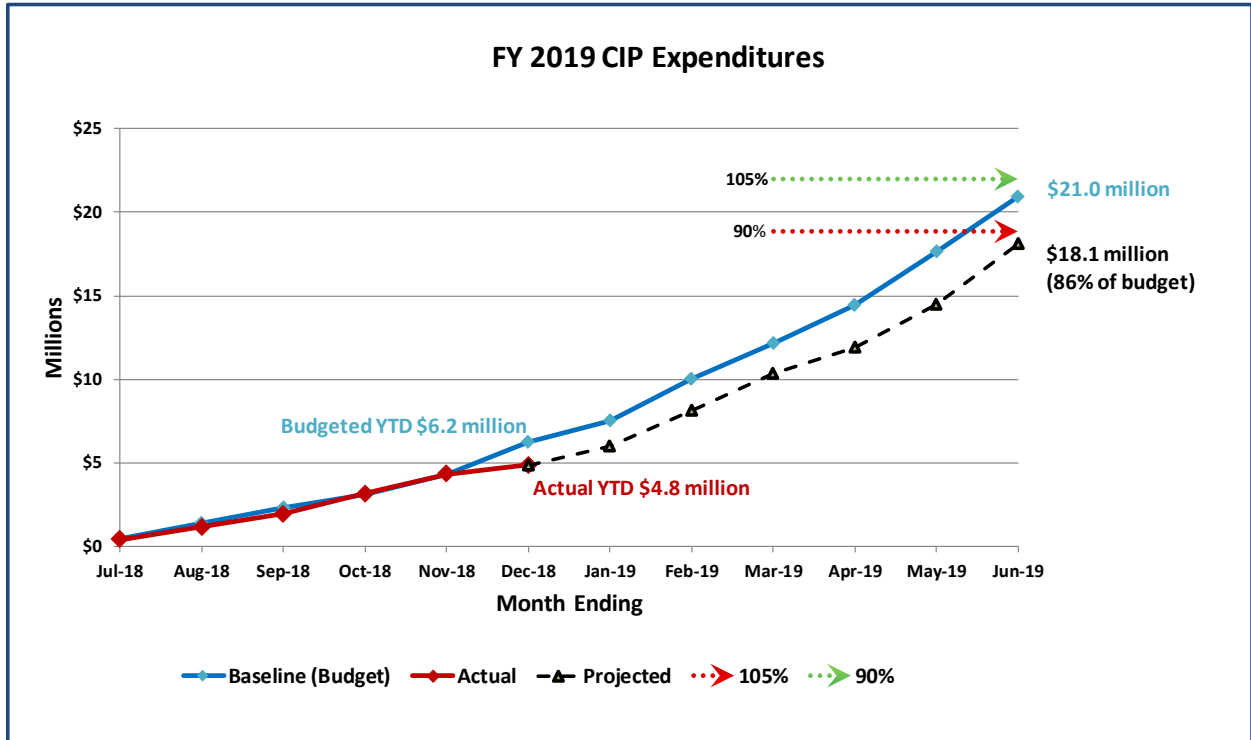
**Orange Water and Sewer Authority**  
**Income Statement**  
**For the Six-Month Period Ended December 31, 2018**  
(unaudited)

	Actual through December 31, 2018	Budget through December 31, 2018	Variance (effect on net change in Fund Balance)	Percent Variance
<b>Operating Revenue</b>				
Water	\$9,365,122	\$9,932,263	(\$567,141)	(5.7%)
Sewer	8,780,901	8,770,650	10,251	0.1
Reclaimed Water	252,503	241,900	10,603	4.4
Service Initiation Fees	80,755	77,172	3,583	4.6
Other	455,047	513,443	(58,396)	(11.4)
Refunds and Allowances	(107,283)	(115,002)	7,719	6.7
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Total Operating Revenue</b>	18,827,045	19,420,426	(593,381)	(3.1)
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Non-Operating Income (Expense)</b>				
System Development Fees	707,828	597,174	110,654	18.5
Interest	16,985	11,838	5,147	43.5
Loan Fees	(124,053)	0	(124,053)	
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Total Non-Operating Income</b>	600,760	609,012	(8,252)	(1.4)
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Total Income</b>	19,427,805	20,029,438	(601,633)	(3.0)
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Operating Expense</b>				
General and Administrative	3,327,696	3,741,069	413,373	11.0
Water Supply and Treatment	2,627,918	2,579,398	(48,520)	(1.9)
Water Distribution	1,580,642	1,684,207	103,565	6.1
Wastewater Treatment	2,624,116	2,361,833	(262,283)	(11.1)
Wastewater Collection	468,405	576,709	108,304	18.8
Hurricane-Related Expenses	173,518	0	(173,518)	
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Total Operating Expense</b>	10,802,295	10,943,216	140,921	1.3
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Net Income (modified accrual)</b>	8,625,510	9,086,222	(460,712)	(5.1)
Debt Service	3,596,673	3,413,777	(182,896)	(5.4)
	<hr/>	<hr/>	<hr/>	<hr/>
Net Income less Debt Service	5,028,837	5,672,445	(643,608)	(11.3)
CIP Expenditures	4,849,000	6,198,000	1,349,000	21.8
Capital Equipment Expenditures	205,990	871,135	665,145	76.4
	<hr/>	<hr/>	<hr/>	<hr/>
<b>Net Change in Fund Balance</b>	(\$26,153)	(\$1,396,690)	\$1,370,537	
	=====	=====	=====	

**Orange Water and Sewer Authority  
Select Financial Data  
For the Six-Month Period Ended December 31, 2018**



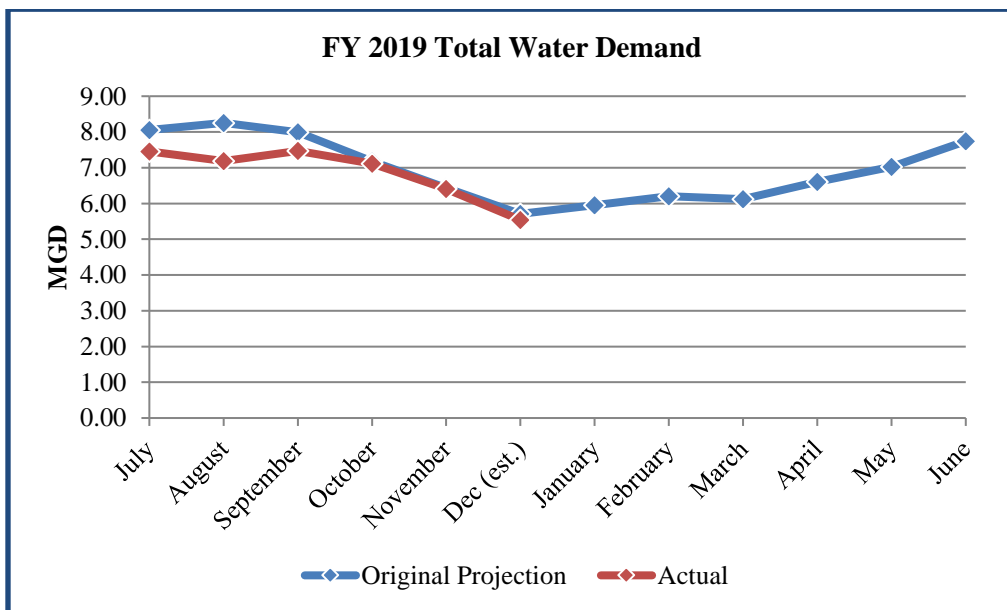
**Orange Water and Sewer Authority  
Select Financial Data  
For the Six-Month Period Ended December 31, 2018**



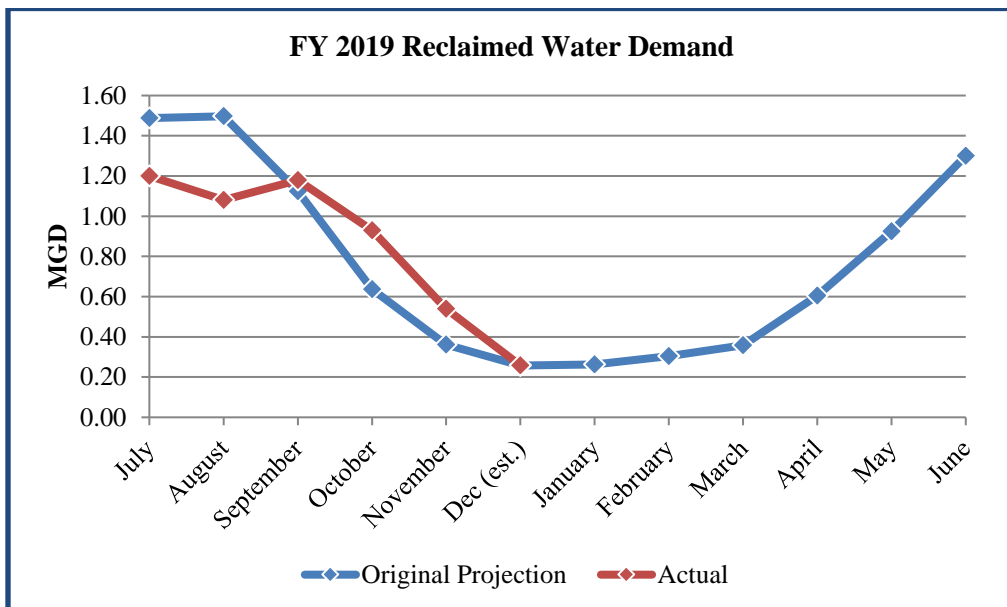
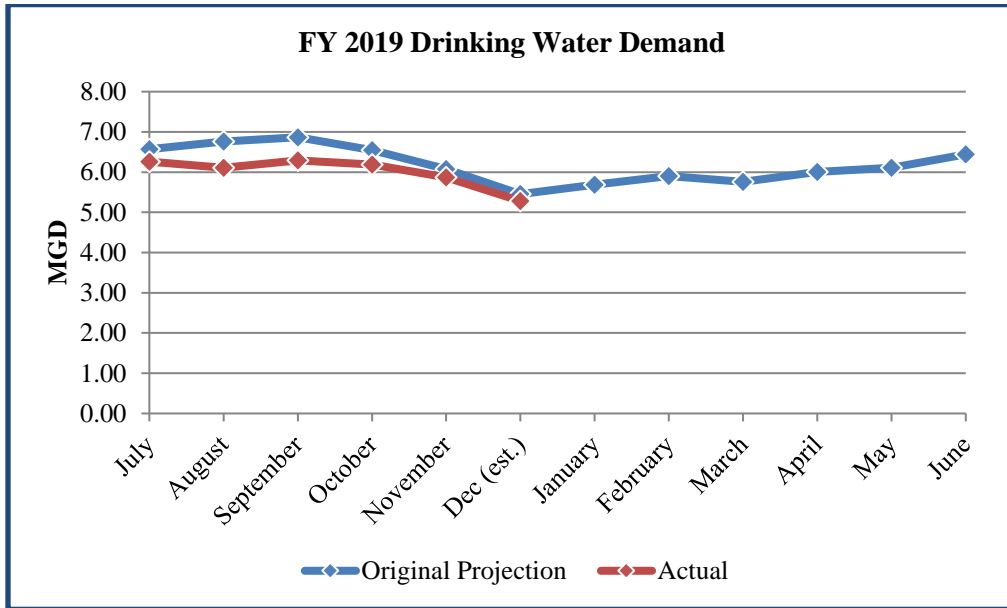
**Orange Water and Sewer Authority  
Select Financial Data  
For the Six-Month Period Ended December 31, 2018**

<b><u>FY 2019 Water Sales Projection (Average Day)</u></b>						
	<b>Original FY 2019 Sales Projections</b>		<b>Actual FY 2019 Water Sales</b>		<b>Revised FY 2019 Sales Projections</b>	
	<b>DW</b>	<b>RCW</b>	<b>DW</b>	<b>RCW</b>	<b>DW</b>	<b>RCW</b>
July	6.57	1.49	6.26	1.20	6.26	1.20
August	6.76	1.50	6.11	1.08	6.11	1.08
September	6.87	1.12	6.29	1.18	6.29	1.18
October	6.54	0.64	6.19	0.93	6.19	0.93
November	6.07	0.36	5.87	0.54	5.87	0.54
December	5.45	0.26	5.28	0.26	5.45	0.26
January	5.69	0.26			5.69	0.26
February	5.90	0.30			5.90	0.30
March	5.76	0.36			5.76	0.36
April	6.00	0.61			6.00	0.61
May	6.10	0.93			6.10	0.93
June	6.45	1.30			6.45	1.30
Average	6.18	0.76	6.00	0.86	6.01	0.75

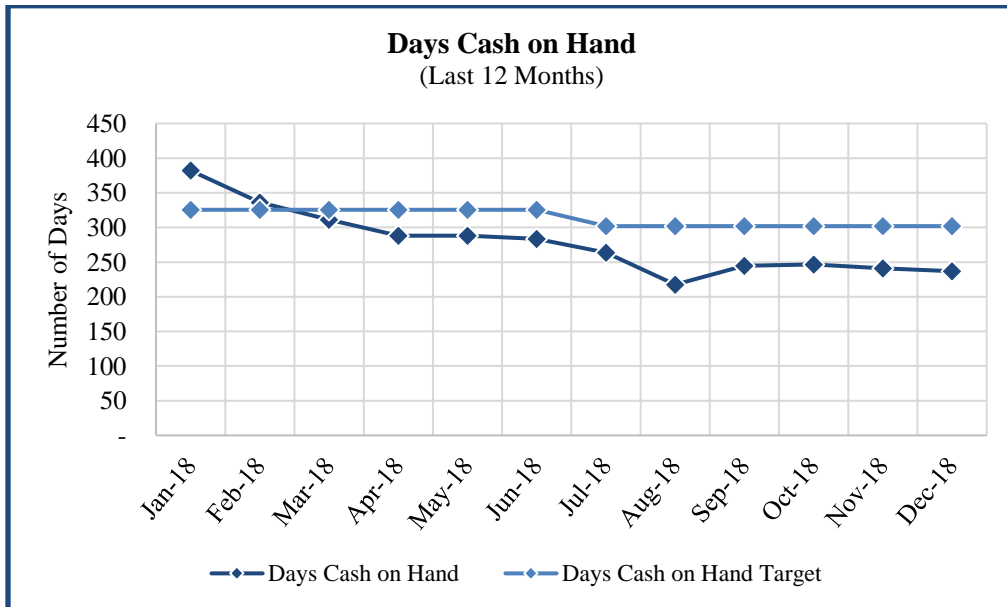
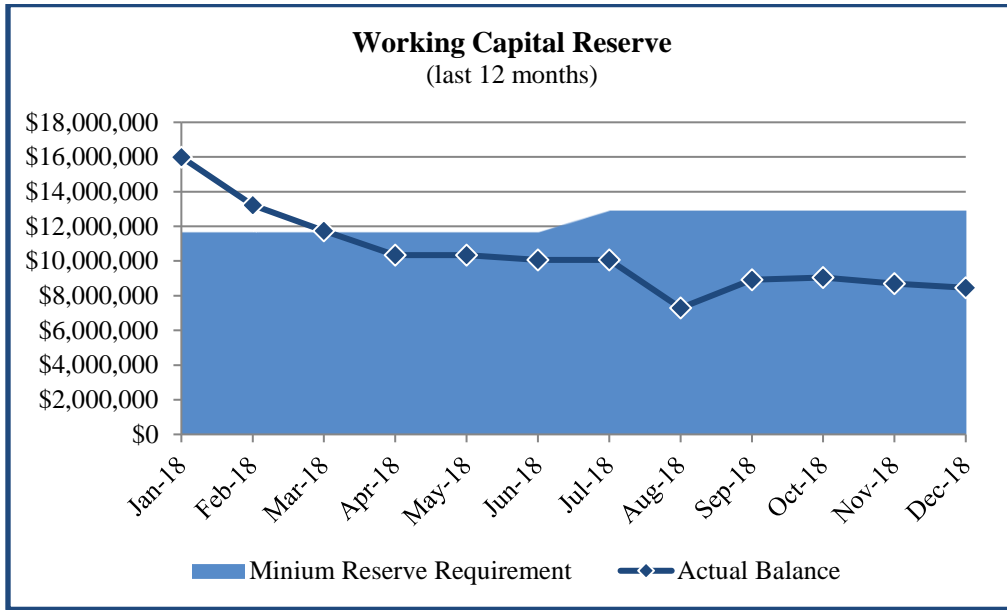
Estimates shown in red



**Orange Water and Sewer Authority  
 Select Financial Data  
 For the Six-Month Period Ended December 31, 2018**

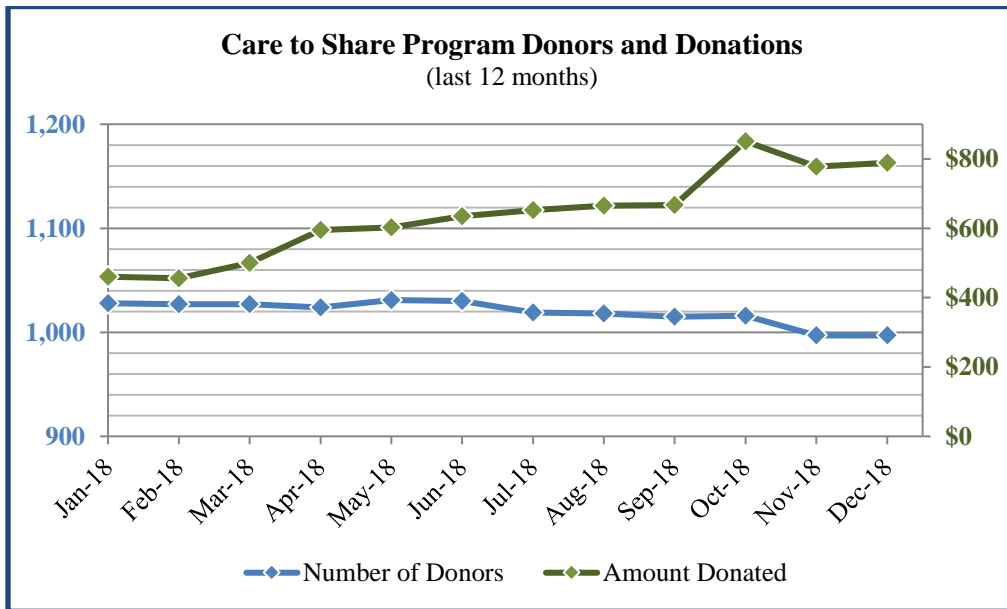


**Orange Water and Sewer Authority**  
**Select Financial Data**  
**For the Six-Month Period Ended December 31, 2018**





**Orange Water and Sewer Authority  
 Select Financial Data  
 For the Six-Month Period Ended December 31, 2018**



**Orange Water and Sewer Authority  
Financial Management Policy Report Card  
For the Six-Month Period Ended December 31, 2018**

Measurement	Objective	FY18 Results	FY19 Goal	YTD FY19 Results
Working Capital Reserves	Greater of four months Operating Expenses or 20% of succeeding three years CIP	\$10.1M	\$12.9M	\$8.5M
Capital Improvements Reserve	2% of Net Capital Assets (Funding \$400,000 per year until reach goal of approximately \$6M)	\$3.6M	\$4.0M	\$4.0M
Rate/Revenue Stabilization Reserve	5% of annual Water and Sewer Revenue	\$1.7M	\$1.8M	\$1.8M
Debt Burden to Asset Value	Total Debt not more than 50% of Total Assets	24%	≤ 50%	21%
Sufficiency of Revenues above Debt Requirements <sup>1</sup>	Annual Debt Service no more than 35% of Gross Revenue	17%	≤ 35%	19%
Cash Financing of Capital <sup>2</sup>	Annual revenues and reserves provide at least 30% of CIP funding	49%	≥ 30%	44%
Debt Service Coverage Ratio <sup>1</sup>	Annual Net Income not less than two times Annual Debt Service	2.6	2.0	2.2
Service Affordability Ratio <sup>3</sup>	Average annual OWASA bill not more than 1.5% of area median household income	1.35%	1.5%	1.38%

M = million

i

<sup>1</sup> Calculation based on the FY 2019 Annual Budget until full-year results are available.

<sup>2</sup> Cash Financing of Capital based on 5-Year CIP Budget and potential borrowing during the same period.

<sup>3</sup> FY 2019 Calculation based on median household income of \$62,620 (per 2015 U.S. Census Bureau, American Community Survey, 5-Year Estimates) and average monthly household water use of 4,000 gallons.

**Agenda Item**

- Affordability Outreach Program Update

**Purpose**

- To obtain the Board’s feedback and guidance on and approval of the proposed Affordability Outreach Program Update and Plan for Year 4

**Background**

- “Affordability and Cost Management” is one of the five key strategic themes in OWASA’s Strategic Plan. During rate-setting discussions and strategic planning meetings, the OWASA Board of Directors concluded that water conservation should be promoted as a key strategy for customers – especially those in financial need – to lower monthly water and sewer bills.
- On February 8, 2018, the Board of Directors approved [the Affordability Outreach Program Plan \(Year 3\)](#) and authorized staff to proceed in implementing the program in accordance with the plan.
- The proposed plan was developed in partnership with our community partners in affordability. Our partners were invited to review and comment on it. All of those responding expressed support for the proposed plan.

**Action Needed**

- We invite questions on the update and feedback and guidance on the plan for next year’s Affordability Outreach Program from members of the public and the Board of Directors.
- Consistent with past practice, we do not believe a formal resolution is needed for this matter. However, we do recommend that if and when the Board supports moving forward with the proposed program, it consider acting on this matter via approval of a motion, perhaps along the lines of the following:

*“Motion that the Board of Directors approves the proposed Affordability Outreach Program Update and Plan (Year 4) and authorizes staff to proceed to implement the program in accordance with the approach described in the proposed plan.”*

# Orange Water and Sewer Authority Affordability Outreach Program Update

Year 4: January 2019 – December 2019

## Purpose

OWASA’s Affordability Outreach Program is designed to increase community awareness of options to manage and reduce water and sewer bills and to empower low-income customers, and the local agencies that serve them, with information and tools to manage and reduce water and sewer bills. The following plan provides an update on the third year (2018) of OWASA’s Affordability Outreach Program and proposes strategies for the coming year (2019).<sup>1</sup>

## Background

“Affordability and Cost Management” is one of the five key themes in OWASA’s Strategic Plan. During rate-setting discussions and strategic planning meetings, the OWASA Board of Directors has identified water conservation as a key strategy for customers – especially to those in financial need – to lower monthly water and sewer bills.

And while we cannot provide free service or charge different rates based on our customers’ ability to pay because of legal and bond order restrictions, we are a member of the community we serve and recognize the need to ensure that water and wastewater service meets a basic human need. It’s important to OWASA that our services be accessible to the community in order to protect public health and the environment.

Furthermore, water conservation practices and investments make our community better prepared for droughts; defer the need for multimillion-dollar expansion of OWASA system capacities; and reduce greenhouse gas emissions from use of conventional energy sources to pump lake water, drinking water, wastewater, and treated wastewater. Water conservation has been identified as a key strategy in addressing customer affordability because it reduces costs for customer service, service delivery, and long-term water resource provision. Water conservation has the potential for sustained positive impact for customers, including reduction in water and bills as well as energy costs associated with heating water. Additionally, our Affordability Outreach Program enhances OWASA’s engagement with the community.

The affordability of water and sewer service is not an issue isolated to Chapel Hill and Carrboro. National utility organizations and federal agencies and legislators are paying attention to the rising concerns about water and sewer service affordability across the country. Much of the

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<sup>1</sup> Previous Plans were reviewed, discussed, and approved by the OWASA Board of Directors at the [October 22, 2015](#), the [December 8, 2016](#), and the [February 8, 2018](#) meeting.

country's infrastructure is aging and will require a great deal of investment to repair and replace in the coming years and decades. This investment is increasingly falling on local utilities whose primary means of covering expenses is rates. Last year, the American Water Works Association adopted a [Policy Statement on Affordability](#) that strongly recommends the adoption of policies and procedures by utilities, regulators and governmental entities to address the affordability challenges experienced by some of their residential customers. Water and wastewater affordability issues are on the national policy radar. There is [federal legislation pending](#) (S. 3564) that would create a Low-Income Water Customer Assistance Program, similar to what is in-place for energy bill assistance.

As we move forward with our Affordability Outreach Program, OWASA will remain informed on national programs and opportunities to address the affordability of our services. However, the foundation of OWASA's Affordability Outreach Program will remain the partnership with local, social service agencies. We are grateful for their continued collaboration and engagement and look forward to our continued work with them.

## Program Objectives

OWASA's Affordability Outreach Program is designed to increase community awareness of options to manage and reduce water and sewer bills and to empower low-income customers, and the local agencies that serve them, with information and tools to manage and reduce OWASA bills. The following goals and metrics provide an indication of water and sewer service affordability and our efforts to provide relevant outreach to the community.

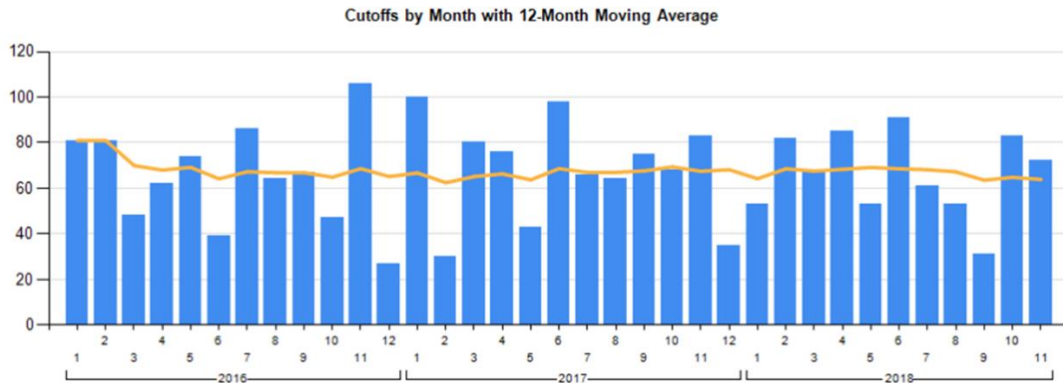
- **Increase contributions to our Care to Share program:** Through the Care to Share Program, OWASA customers can contribute funds to provide bill payment assistance to OWASA families in-need. Currently, about 1,000 customers contribute to Care to Share on their monthly OWASA bill. In 2018, on-bill contributions raised over \$7,650 for the Interfaith Council for Social Services to provide utility bill assistance. This was about \$2,350 more than was raised in 2017 (a 44% increase).

In addition, individuals and businesses can donate directly to the Interfaith Council for Social Service and request their funds go to Care to Share. In 2018, \$790 was donated directly from the public to the program.

In sum, Care to Share contributions covered approximately 64% of the water utility bill assistance provided by the Interfaith Council for Social Services in 2018.

- **Decrease average water use of those customers with whom we engage through our affordability outreach program:** The following report summarizes a spectrum of strategies through which we have engaged and propose to engage with customers to decrease their water use. Unfortunately, crediting changes in water use to general outreach is challenging at best. Nonetheless, it remains an objective of the program.
- **Minimize cut-offs due to non-payment:** Although water service cut-offs are an important tool to ensure timely bill payment, they cause great hardship to OWASA

customers. OWASA’s reconnection fee (after service cut-off) is \$45. If we can help a customer avoid a service cutoff, we help them avoid this fee. Over the past two and a half years, trends in service cut-off due to non-payment have stabilized following a steady decline between July 2014 and June 2016. This decline was due in-part to increased effort to remind customers of upcoming bills. Last year, approximately 550 (3%) of our customers were cut-off from service at least once.



**Figure 1: The number of cutoffs, on average, has been relatively stable over the past three years**

Our program strives to engage customers with difficulty paying for OWASA services. Primarily, these customers are those:

- Requesting and receiving bill payment assistance from local social service agencies, including the Inter-Faith Council for Social Services (IFC) and the “Care to Share” program;
- Requesting extensions of credit to manage bill payments; and
- For whom service is cut-off due to non-payment of bills.

We recognize there are other customers for whom water and sewer service comprises a significant portion of their monthly household expenses that do not fall into any of these categories. By working with our partners in the community, we are able to proactively address affordability concerns before a customer may have to request bill assistance or is cutoff from service. Additionally, it is important to note that while many of the strategies discussed below (including in-home water use assessments) are identified to be focused through certain agencies and to specific households, these services are generally available to our entire customer base upon request, as we cannot differentiate services to our customers based on their financial position or need.

## Strategies for Addressing Affordability

The Affordability Outreach Program includes six major strategies for addressing the affordability of OWASA's services. These strategies are:

- Rates and Billing,
- Information and Outreach,
- Bill Assistance,
- Water Efficiency Retrofits,
- Leak Identification, and
- Partnership.

Within these overarching strategies, we have pursued a number of initiatives for which the remainder of this document will provide an update, as well as propose new and continued tactics for the coming year. An exciting resource that will be a key part of many new initiatives in the coming year is our new Advanced Metering Infrastructure (AMI) and complementary Agua Vista web portal. This resource will serve as a keystone of our customer outreach efforts in the coming years and beyond.

### Rates and Billing

Rate structures, rate levels, and billing arrangements have significant ramifications for the affordability of water and sewer for all OWASA customers.

OWASA's Board-adopted Financial Management Policy includes a Service Affordability goal that the average annual residential bill shall be no more than 1.5% of median household income (MHI). Currently, the average bill (for 4,000 gallons of water) is \$72.07, which annually equals 1.3% of the MHI for Chapel Hill (\$67,426) and 1.5% of the MHI for Carrboro (\$56,573).

This metric, however, fails to capture true service affordability in our community. The MHI in our service area is relatively high. Using this metric alone to gauge the affordability of water and wastewater service underemphasizes the challenge that some members of our community have in paying their utility bill.

About 21% of Chapel Hill residents and 22% of Carrboro residents have annual household income of \$25,000 or less. An average bill of \$72.07 costs 3.5% of an annual income of \$25,000. Put another way, at minimum wage, it would require 10 hours of work to afford essential water and sewer services for a family of four in OWASA's service area.

Ensuring that affordable rates, particularly for essential water use, is a very important affordability strategy.

### 2018 Update

**Reduction in up-front system development fees:** In July 2018, OWASA reduced its up-front system development fees for all customers. While this change did not affect current customers, it did significantly reduce the up-front costs for all new developments,

including affordable housing. Additionally, based on water use trends and the cost of service, the OWASA Board of Directors approved the addition of a new low-tier for homes that are 800 square feet or less, in an effort to improve system connection affordability for “tiny homes.” The cost for water and sewer connection was reduced to \$2,252 from \$3,862 for new homes that are 800 square feet or less.

**Cost Management and the Adoption of Modest Rate Increase:** On October 1, 2018, a 2% rate increase on monthly water and sewer rates went into effect. This was the first monthly water or wastewater rate increase in six years. This modest rate increase was necessary to continue investing in the reliability and resiliency of the water and wastewater system. While acknowledgement of a modest rate increase may not appear to be an affordability strategy, ultimately, it helped to mitigate the need for more severe rate increases in future years (i.e. rate shock).

**Pay-by-phone option:** In July 2018, we initiated an option for customers to pay-by-phone to make bill payment more convenient and available around-the-clock. While this tool does not decrease bills for customers, an easier payment system can help our customers pay bills on time and avoid late payment fees, service cut-offs, and reconnection fees.

## **New Initiatives for 2019**

**Choose Your Own Bill Date:** Prior to having Advanced Metering Infrastructure (AMI), OWASA was geographically constrained by meter reading routes as to when customers were billed. For some customers (particularly those on fixed incomes that are paid once per month), the bill date associated with an address does not align well with income payments, and money may be short by the time the bill comes. With AMI, OWASA can be more flexible with the bill date. We will now be able to offer customers a choice as to when their meter is read, and their bill issued.

## **Information and Outreach**

Through accessible and engaging outreach, we aim to give our customers useful information and strategies for reducing their OWASA bill. In 2019, we propose to continue with many of the initiatives implemented over the last year and to enhance those initiatives with the Agua Vista web portal.

## **2018 Update and Continued Initiatives**

**Participate in and provide outreach material for community events:** Last year, we worked with our partners, as well as directly with customers, to share water conservation information and low-flow devices (showerheads, aerators, and leak detection tablets). We continue to use the infographic and motion graphic developed in Year 1 of the Program to engage all customers in water wise behavior. The infographic was developed in English and Spanish (Figure 2); the motion graphic was narrated in English, Spanish, Burmese, and Karen and can be found on [OWASA’s YouTube Channel](#).



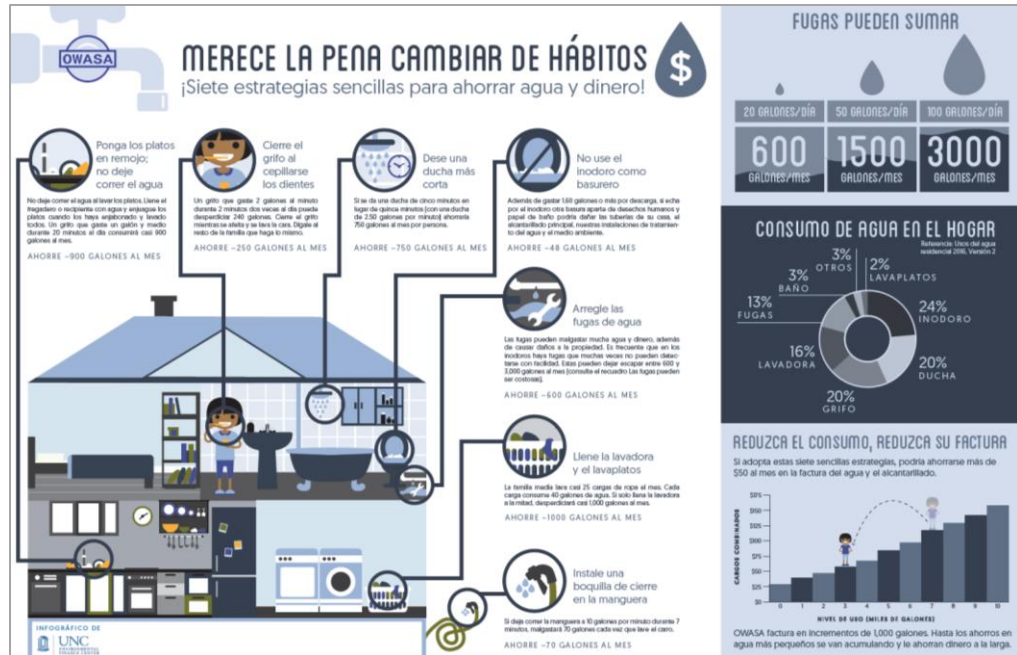


Figure 2: Snapshot of infographic in Spanish

Below is a summary of outreach initiatives where we distributed water conservation brochures and low-flow devices and shared water conservation tips. The Water Wagon has been a helpful “hook” to use in community outreach.

- Community Home Trust Monthly Newsletter (February), complemented by distribution of low-flow devices from CHT’s office
- Orange County Section 8 Tenant Engagement Session on Money Management, Budgeting, and Housekeeping (March 14)
- Town of Chapel Hill’s Water Week (March 21-24) in Chapel Hill Public Library
- Science Expo (April 18) with Water Wagon
- Chapel Hill Public Housing Spring Fling (June 2)
- Rogers Road Block Party (June 23) with Water Wagon
- Rogers Road Back to School Bash (August 11) with Water Wagon
- UNC Three Zero’s Day (September 25)
- Festifall (October 7) with Water Wagon
- Carrboro’s Citizen Academy (October 10)
- Chapel Hill People’s Academy (October 20)
- Central Piedmont Community Action’s Winter-Ready Workshop (November 1)

In 2019, we will continue to offer presentations to community members, particularly through our affordability partners. This year, we anticipate a lot of interest in the Agua Vista web portal and will focus our presentations and outreach on getting folks interested in and registered for the Agua Vista web portal. Additionally, we anticipate making the Agua Vista web portal a key focus of our outreach when we deploy the Water Wagon.



**Figure 3: OWASA Water Wagon set-up at Science Expo in front of the University of North Carolina’s South Building**

**Direct mail to recipients of bill assistance:** In June 2016, we began sending letters to recipients of assistance for OWASA bill payment. These letters show how a household’s water use has trended over the past 12 months compared to that of the average OWASA household, suggests tips for reducing water use, and invites the customer to request a home water use assessment. In 2018, we mailed 74 letters. We plan to continue to send these letters on a monthly basis over the next year. This year, the letter will be revamped to utilize information and analysis from the Agua Vista web portal and invite customers to register for it.

**Water use assessments:** In a water use assessment, we search for leaks and assess the efficiency of a household’s water-using infrastructure: toilets, faucets, appliances, etc. In addition, we discuss a household’s water-using behavior and provide tailored suggestions for reducing water use and reducing water and sewer bills. We also provide low-flow faucet aerators and low-flow showerheads. There was no demand for water use assessments in 2018. Although, we will continue to work with our community partners to offer in-home water use assessments to customers that need them most, the analysis provided by the Agua Vista web portal will allow for much easier (and accessible) desktop assessments.

**Neighborhood Conservation Challenge:** In partnership with the Town of Chapel Hill Public Housing, we launched a neighborhood conservation challenge event (called “Save2Gain”) to encourage community commitment to water conservation in 2017. In 2018, we challenged two additional neighborhoods in the Save2Gain Challenge: Rainbow Heights and Eastwood. On June 2<sup>nd</sup>, we kicked off the Save2Gain Challenge at the Town of Chapel Hill’s Public Housing Spring Fling, where we provided over 30 water conservation kits to tenants of public housing. We followed up with each resident of the two neighborhoods in the challenge with water conservation kits and door hangers.

Ultimately, the Rainbow Heights neighborhood won the 2<sup>nd</sup> annual Save2Gain Water Conservation Challenge. Compared to historical seasonal use, they reduced their water use by 12%. The Town of Chapel Hill awarded the most water-wise neighborhood with a community investment project.

Next year, we will challenge two more neighborhoods in the Save2Gain Water Conservation Challenge.

### **New Initiatives for 2019**

**Wyland National Mayor’s Challenge for Water Conservation:** The Towns of Chapel Hill and Carrboro have committed to a community-wide challenge to collect pledges from community members to reduce water use. OWASA is partnering with the Towns, as well as staff from the University of North Carolina at Chapel Hill, the Chapel Hill-Carrboro City School District, and others to promote water conservation and collect pledges during the month of April 2019. We are excited to have such a high-profile opportunity to advance water conservation tips for the entire community, as well as the Agua Vista web portal.

**Multi-Family Master Metered Customers:** Some of the larger apartment buildings in the service area are some of OWASA’s largest water-using customers. As part of OWASA’s larger Communications and Community Engagement Plan, we will be proposing direct outreach and engagement with some of these customers. Water conservation and efficiency will be a key component of this engagement. For example, the EnergyStar Portfolio Manager (an online tool to measure and track energy use) has just been expanded to collect and benchmark water use data (and Water Score) for multi-family housing units. <https://www.epa.gov/watersense/water-score-multifamily-housing>

### **Bill Assistance**

Temporary bill assistance programs offer help to customers during their greatest time of need and help them avoid service cut-off and reconnection fees. As described earlier in the document, the Care to Share program provides OWASA customers the opportunity to voluntarily contribute to a bill assistance program administered by the Inter-Faith Council for Social Services (IFC). In 2018, Orange County designated the IFC as the entity that will distribute their utility bill assistance funds in Chapel Hill and Carrboro, making the IFC the principal provider of utility bill assistance.



## 2018 Update and Continued Initiatives for 2019

**Contractor solicitation letter for Care to Share donations:** In December 2018, OWASA's Executive Director sent a letter to contractors and consulting firms with whom OWASA does business asking that they consider donating to the Care to Share Program. Donors remain anonymous to OWASA and in years past, this letter has resulted in about \$1,400 in direct contributions to Care to Share. Although it is too early (as of the writing of this plan), to know the result from the 2018 mailing, we intend to send this letter again in 2019.

**Marketing for Care to Share:** In an effort to encourage existing customers to contribute to Care to Share, we used existing marketing channels to promote participation in the Care to Share Program. We promoted Care to Share in the [Spring edition of the Blue Thumb newsletter](#), as well as in presentations to Town of Chapel Hill's and Carrboro's Citizens Academies and at events for which we deployed the Water Wagon. We collected over \$65 from countertop collection boxes at the Cane Creek Reservoir and University Lake Offices. We developed and shared a promotional email with elected officials. We will continue to use existing forums, including our Water Wagon events, to promote participation in the Care to Share Program. We will collect donations during lake recreation season at the University Lake and Cane Creek Reservoir counters, and we will continue to work with Invoice Cloud to identify a viable strategy for collecting one-time donations with online bill payments.

Beyond this, Care to Share outreach will be a key consideration in our overall Communications and Community Engagement Plan.

**Care to Share Thank You and Contribution Summary Letter:** Currently, OWASA customers can choose to round up their bill to the nearest dollar and donate the difference to Care to Share or to donate a fixed dollar in addition to their billed amount. Although the vast majority of participants in the program are "round up" contributors, more total donations come from "fixed amount" contributors.

In 2018, we mailed a letter to all current on-bill donors to Care to Share. The letter thanked them for their contributions and encouraged them to consider contributing a fixed amount, rather than rounding up.

After sending the letter, we had 37 customers request to change their round-up contribution to a fixed contribution. These changes resulted in the collection of about \$170 more per month (\$2,000 more per year) for Care to Share. Additionally, we are encouraging new Care to Share donors to sign-up as fixed on-bill contributors, rather than round-up contributors. Twelve of the 59 new Care to Share contributors (20%) signed up as fixed contributors.

The following table summarizes the change in monthly contributions of these two types of donations.

	“Round up” contributors		Fixed dollar contributors	
	2017	2018	2017	2018
<b>% of participating customers</b>	<b>96%</b>	<b>92%</b>	<b>4%</b>	<b>8%</b>
<b>% of total contributed amounts</b>	<b>65%</b>	<b>50%</b>	<b>35%</b>	<b>50%</b>
<b>Median amount of monthly contributions</b>	<b>\$0.21</b>	<b>\$0.33*</b>	<b>\$5.00</b>	<b>\$5.00</b>

*\*The increase in the median “round up” contribution is likely attributable to the rate change that went into effect in October 2018.*

Given the success of the 2018 letter campaign, we sent “thank you letters” earlier this month (at a cost of about \$600).

**Piloted a LIFT-UP Financial Coaching Program:** Through a partnership with the Community Empowerment Fund (CEF), we piloted a concept this year based on a model developed by the National League of Cities. Through LIFT-UP, OWASA customers with bill payment challenges are referred to a financial advocate at CEF. If they participate in financial coaching with CEF, OWASA works with the customer and CEF to develop a personalized deferred payment plan. (Our typical deferred payment plan is only about two weeks. By engaging with a CEF financial advocate, customers can negotiate a longer deferred payment plan.)

We had limited participation in the LIFT-UP Program this year. This program has been more successful with utilities that have no cut-off polices, under which customers can accumulate large arrears. Although we see no reason to abandon the partnership with CEF, we will continue to explore other methods to assist customers.

### Water Efficient Retrofits

Ultimately replacing inefficient water-using equipment (primarily toilets) in a home can help a household consistently reduce their water use and bill. In 2015, the Interfaith Council for Social Services and Wilkinson Supply Company sponsored a retrofit pilot project that demonstrated success at reducing monthly water use bills. The following strategies are designed to assist in the identification and pursuit of outside funding and purchase arrangements for water-efficient fixtures.

## 2018 Update and Continuing Efforts

**Pursue outside funding for retrofits of those receiving bill assistance:** OWASA partnered with the Town of Carrboro, EmPOWERment Inc., Advanced Energy, and private citizens to collaborate on a grant proposal submission to the Southeast Sustainable Communities Fund. The focus of the grant proposal was to “Address the Split Incentive Problem in Affordable Rental Units in Carrboro, NC”. In the grant proposal, funds were requested to retrofit rental units in Carrboro.

Although the proposal advanced to the final round, it was ultimately not selected for funding. We will continue to engage through this partnership and others to seek other funding for water efficiency retrofits.

Additionally, moving forward, we will engage with the Orange County Home Preservation Coalition, comprised of regional agencies that provide home repair in the region (e.g. Orange County’s Handy Helpers Program and ReBuilding Together) to communicate the cases where water efficient retrofits can have a large return on investment in the affordability of the home.

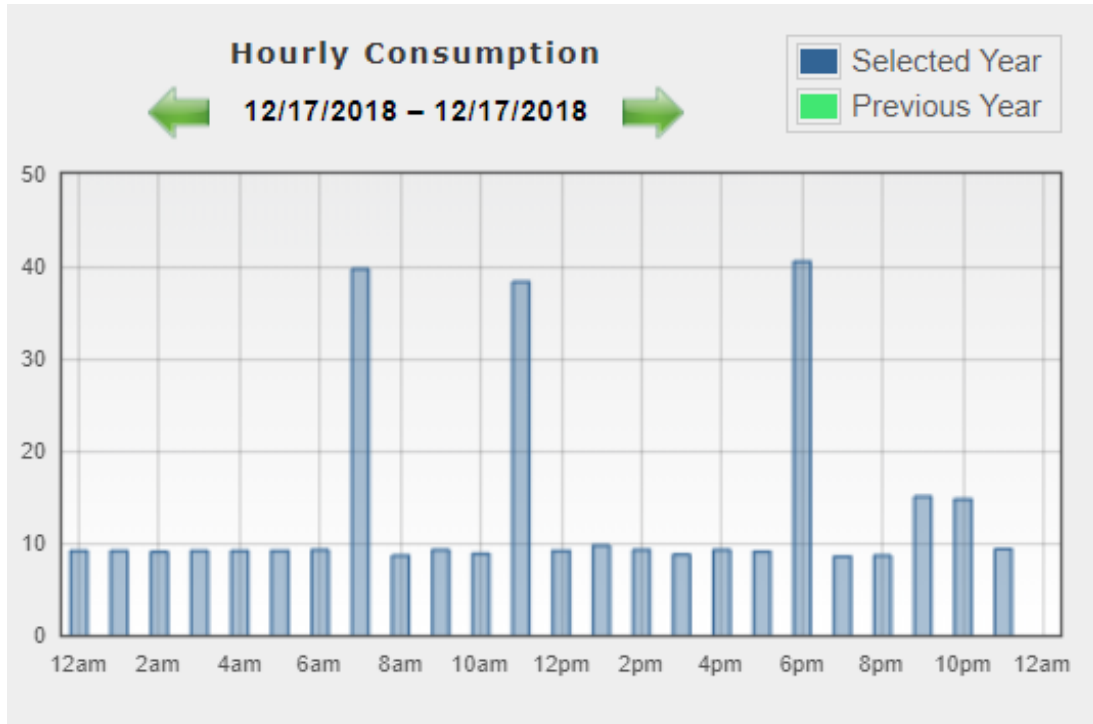
### Leak Detection

Proactive leak identification can help our customers avoid high bills, home damage, and water waste and is good customer service. The data collected through our investment in Advanced Metering Infrastructure (AMI) allows for faster notification of leaks – before they have a devastating affect on customers’ bills.

## 2018 Update

**Advanced Metering Infrastructure:** Throughout 2018, OWASA upgraded the majority of our water meters with AMI, a technology that reports hourly water use data. Currently, this data is analyzed in a web platform available to OWASA staff. With information provided by this platform, OWASA Customer Service staff have been proactively reaching out to customers whose water use indicates a leak. Over the course of 2018, OWASA initiated about 1,600 leak notifications. Currently, we are making an average of about 220 leak notifications per month.

The data provided by AMI empowers our Customer Service Team and customers with information that helps identify leaks that may not otherwise be detected. For example, the graph below shows hourly water use data for a single-occupancy residence. For many years, the bill has consistently been higher than the average OWASA customer, but the customer had not been able to find the cause.



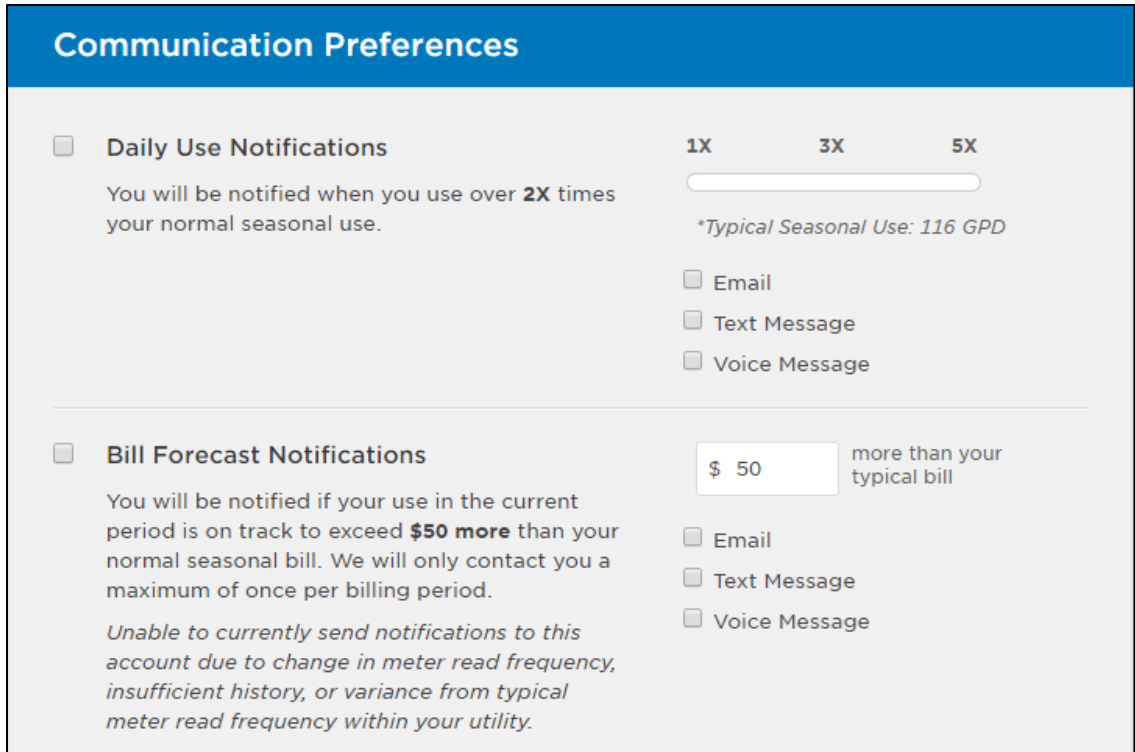
**Figure 4: Hourly water use graph for a customer with a 9 gallon per hour leak**

Empowered with hourly water data, the customer was better able to prove that there was a leak and then troubleshoot the source with the property’s landlord.

**New Initiatives for 2019**

**Agua Vista Web Portal:** In March/April 2019, OWASA plans to roll out a customer-facing web portal, putting the hourly water use data (like that shown in Figure 3) at the fingertips of customers. This portal will make the data available to interested customers and will proactively notify customers (via email, text, voice, or post, if necessary) of water use indicative of a leak.

Moreover, customers will have the ability to set up communications preferences to be notified when their water use is on track to exceed a typical bill, as shown in Figure 4.



**Figure 5: Snapshot of Agua Vista web portal settings for custom alerts**

The Agua Vista web portal will be a powerful tool for our customers to identify leaks and opportunities to save water and money. Through an active outreach program and our partnerships in the community, OWASA will work to introduce the potential of Agua Vista.

### Partnership

Critical to the relevancy and acceptance of OWASA’s affordability outreach is partnership: partnership with our customers and the social service agencies that serve our community.

### Ongoing

#### With customers:

**Proactive Customer Communication:** OWASA proactively communicates with customers regarding impending cut-offs. One day after a customer misses a second month of bill payments, OWASA contacts the customer via telephone to let them know that if payment for at least one month is not made within the next ten days, their service will be cut-off and they will incur a \$45 fee for non-payment. If payment has not been received within ten days, the customer is re-notified that if prompt action is not taken, their service will be cut-off.

**Social Agency Referral and Collaboration:** OWASA’s Customer Service Department maintains a list of social service agencies that provide bill payment assistance to customers in need. If a customer contacts OWASA to express difficulty in paying their bill, Customer Service refers the customer to those



agencies. Additionally, we inform our customers that if they are working with an agency to obtain financial assistance, they may authorize us to release their billing information to that agency, so that agency can better assist the customer.

Customer Payment Deferral Agreements (Extensions of Credit): Customer Service staff have the authority to arrange an individual payment plan that will allow a customer to spread payments in arrears over a timeframe that is more manageable for them (typically a few weeks). Customers must sign a payment deferral agreement and meet the terms of repayment specified in the agreement. We enable agencies providing financial assistance to initiate, on behalf of their clients, requests for extension of credit for customers to pay their bills. The agency can have a client sign the agreement while the client is in the agency's office. This facilitates the process and eliminates the need for the customer to make a separate trip to OWASA to enter in to such an agreement. Furthermore, the assisting agency likely has a better understanding of a plan that will work best for a customer's circumstances. As mentioned earlier in the update, the LIFT-UP Program creates an opportunity for customers in-need to receive an extended deferred payment arrangement, in exchange for engaging with a financial advocate at the Community Empowerment Fund.

**With community:** Our community partners are the foundation of the Affordability Outreach Program. They provide insight and input on strategies needed to help improve the affordability of water and sewer services. In collaboration with them, we can more effectively provide relevant information to the community and attract funding. Our partners include:

- Town of Carrboro
- Binkley Baptist Church
- CASA
- Town of Chapel Hill
- Community Empowerment Fund
- Community Home Trust
- Compass Center for Women and Families
- El Centro Hispano
- EmPOWERment Inc.
- Habitat for Humanity of Orange County
- Hillsong Church
- InterChurch Housing Corporation
- Inter-Faith Council for Social Services
- Love Chapel Hill
- Marion Cheek Jackson Center
- Central Piedmont Community Action
- Orange County Affordable Housing Collaborative
- Orange County Family Success Alliance

- Orange County Home Preservation Coalition
- Orange County Justice United
- Orange County Department on Aging
- Orange County Department of Housing and Community Development
- Orange County Department of Social Services
- Rebuilding Together of the Triangle
- St. Thomas More Catholic Church
- University Presbyterian Church
- Waste Reduction Partners

On May 4, 2018 we hosted a large group meeting of our Affordability Outreach Community Partners to discuss the LIFT-UP Program and the value of water efficiency retrofits. During November 2018, we hosted a series of round-table discussions with smaller groups of Partners to discuss community priorities and opportunities to address utility affordability.

In 2019, the Affordability Outreach Program will shift its focus to integrate OWASA into and participate in already-organized meetings of Affordability Outreach Partners, as well as host another round of small, round-table discussions.

### Resources Required

Successful implementation of this program will require approximately 1/6 of Sustainability Manager's time to manage and implement aspects of the program, the assistance of the Communications and Community Relations Officer, the commitment and support of OWASA staff, and a modest budget of \$2,000 to reproduce outreach material, purchase water-saving devices and demonstration material, mail Care to Share "thank you letters", and host meetings with our Community Partners.

**Agenda Item**

Fiscal Year (FY) 2020 Budget Calendar and Assumptions

**Purpose**

The following pages include:

- FY 2020 Budget Calendar – the proposed dates of Board meetings and work sessions at which budget matters are expected to be discussed. It also lists the dates by which major budget tasks are to be completed by staff.
- FY 2020 Budget Planning Assumptions – a high-level list of assumptions that are planned to be considered in preparing the budget.
- Financial analysis reviewed by the Finance Committee of the Board of Directors on December 5, 2018.

**Action Requested**

Review the budget calendar and planning assumptions and provide guidance to staff.


January 24, 2019



# ORANGE WATER AND SEWER AUTHORITY

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

## MEMORANDUM

**TO:** Board of Directors  
**THROUGH:** Ed Kerwin   
**FROM:** Stephen Winters, CPA  
**DATE:** January 18, 2019  
**SUBJECT:** Discussion of Fiscal Year 2020 Budget Calendar and Assumptions

### Purpose

The Finance Committee of OWASA Board of Directors met on December 5, 2018 to:

- Discuss the Fiscal Year (FY) 2020 budget calendar and budget planning assumptions.
- Explore alternatives for reducing operating expenses.

After review and discussion of the budget calendar and planning assumptions, the Committee asked staff to include the following draft as well as the rest of the December 5th Finance Committee meeting agenda material in the Board's packet (see Appendix A) for January 24, 2019.

The information in Appendix A highlights the operating expense categories that make-up most of OWASA's total annual operating expenses and identifies the primary drivers that determine the amount of the expenses. Based on a review and discussion of this analysis, and the organization's commitment to focus on system resiliency, the Committee chose not to undertake a project or projects to identify and implement new innovative approaches to operating the utility. However, we will continue our practice of looking for ways to optimize operations, manage costs, and watch for innovations (e.g., advanced metering infrastructure).

### **Budget Calendar**

The following is a schedule of the key dates related to developing the budget for FY 2020.

December 2018	Distribute templates for the preparation of operating expense appropriations, capital equipment requests and departmental budget narratives.
January 24, 2019	<b>Board of Directors Meeting</b> – review FY 2020 Budget Calendar and Assumptions, and the FY 2019 financial report for the six-month period ended December 31, 2018
February 2019	Staff submission of capital equipment requests, budget narratives and departmental operating budget requests to Director of Finance and Customer Service.

- March 14, 2019 **Board of Directors Work Session** – discussion of *Draft Annual Budget* and, if available, staff recommendation of rate adjustment.
- March 28, 2019 **Board of Directors Meeting** - discussion of *Draft Annual Budget* and staff recommendation of rate adjustment, as necessary. Set date for public hearings on budget.
- April 11, 2019 **Board of Directors Work Session** – discussion of *Draft Annual Budget* and staff recommendation of rate adjustment.
- April 25, 2019 **Board of Directors Meeting** – review FY 2019 financial report for the nine-month period ended March 31, 2019. Discuss FY 2020 budget and rates and authorize staff to publicize draft budget and rate information.
- May 23, 2019 **Board of Directors Meeting** – public hearing on the *Draft Annual Budget* and proposed adjustments to rates, fees, and charges.
- June 13, 2019 **Board of Directors Work Session** – adoption of *FY 2020 Annual Budget* and *Schedule of Rates, Fees and Other Charges*.
- July 2019 Distribute *FY 2020 Annual Budget*.

### Budget Assumptions

The following are key focus areas of the organization for the near future; the possible operating expense and capital improvements program (CIP) budget impacts are noted.

Key Focus Area	Budget Impact for FY 2020+
A. Reliable and resilient services:	
i. Consider recommendations from the independent consultant review on why pipe in front of water plant broke on November 5, 2018 and why it took eight hours to stop the loss of water. As needed, implement action plan to address consultant findings.	Possible additions will be needed to operating expense and CIP budgets, pending review of consultant’s findings, staff evaluation, and direction from the Board.
ii. Fast-track reliability improvements for water distribution piping leaving the water treatment plant as it pertains to the November 5, 2018 water main break.	New CIP Project
iii. Develop new water main replacement/renewal prioritization model. The scope of this work may include system redundancy and resiliency work.	Existing CIP project, but its scope may be expanded
iv. In coordination with (A)ii) and (A)iii), evaluate options to improve the reliability and resiliency of the water distribution system with community input and involvement.	Possible operating expense and CIP budget impacts

Key Focus Area	Budget Impact for FY 2020+
v. Fast track priority action items recommended in the water and wastewater treatment plants reliability and risk evaluation.	Possible operating expense and CIP budget impacts.
vi. Enhance distribution system valve maintenance and related component program and propose needed resources to the Board.	Possible operating budget impact in addition to the resources the Board approved in December 2018.
B. Agua Vista – AMI	With Agua Vista fully implemented, operating expense savings related to meter reading will be achieved.
C. Energy Management	Budget impact uncertain as this time. The Energy Management Program underway is designed to promptly pursue cost-effective clean energy strategies.
D. Long-Range Water Supply Plan (LRWSP) expected to be completed in FY 2020	Continued consultant assistance will be needed in FY 2020.  Future operating expense and CIP budget impacts will depend on future Board decisions guided by findings and recommendations in the LRWSP.
E. Forestry Management – path forward for sustainable forestry management expected to be determined in FY 2020	Budget impacts to be determined.
F. Diversity and Inclusion work continues	Ongoing consultant support expected in FY 2020.
G. Employee 457 deferred compensation and retiree health insurance plans to be evaluated in FY 2019	Future operating expense budget impact to be determined.
H. Communications and Community Engagement Plan expected to be completed in FY 2019	Additional operating expenses and resources will be needed depending on Board decisions about future communications and community engagement work.
I. Banking Services will be evaluated in FY 2019/2020 and may result in new service provider(s)	Operating expense budget impacts, if any, to be determined.

Additional assumptions

The following will also be considered as we develop the FY 2020 budget.

- The budget will be developed to meet the financial performance objectives stipulated in our Financial Management Policy.
- Current service levels will be maintained (but new expenses for system reliability and resiliency may be needed).
- Cost of labor adjustments for employees will be based on market analysis.
- Merit pay adjustments, according to the Board’s guidance, will be at least 2.9% greater than the cost of labor adjustment.
- Drinking water and reclaimed water sales are not expected to increase or decrease significantly.
- Wastewater treatment nutrient removal requirements in the Jordan Lake Rules have been delayed by the NC General Assembly until 2024.
- The regulatory environment will remain the same.
- Construction costs in CIP are expected to continue to increase as a result of market conditions.

- We have not been notified of unit cost increases for energy or chemical costs but each has increased over the last few years.

**Action Requested**

Review information and provide guidance to staff.



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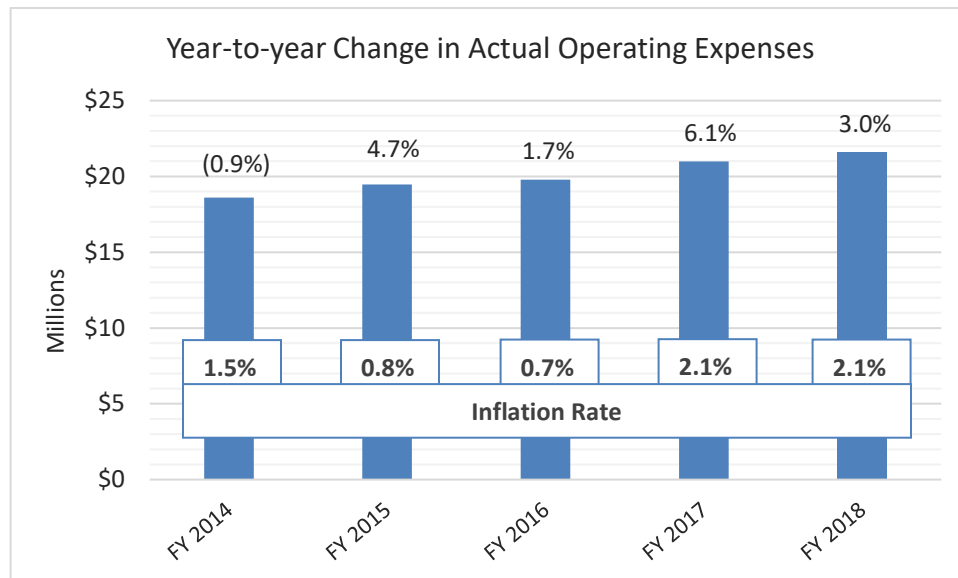
Stephen Winters, CPA  
Director of Finance and Customer Service

Enclosures:

Appendix A Financial Analysis  
Appendix B Memo by John Young

**Operating Expense Analysis**

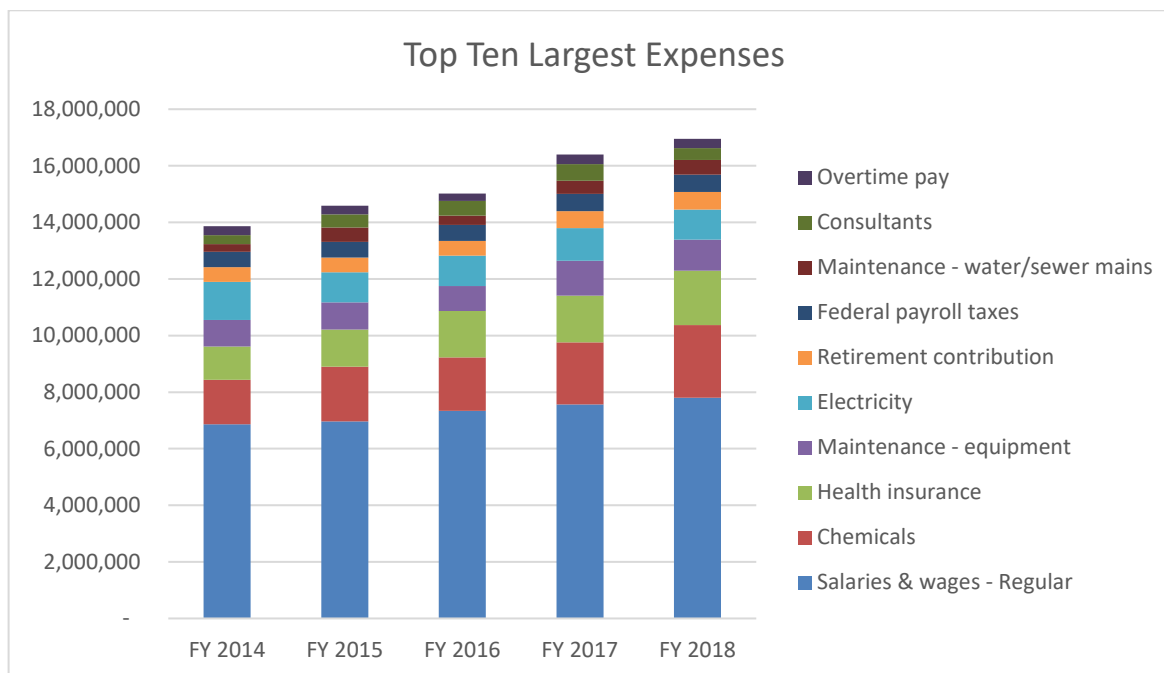
On average, OWASA's operating expenses have increased by about 3% per year over the last five Fiscal Years (FY).





Each year, ten expense items comprise about three-fourths of total operating expenses.

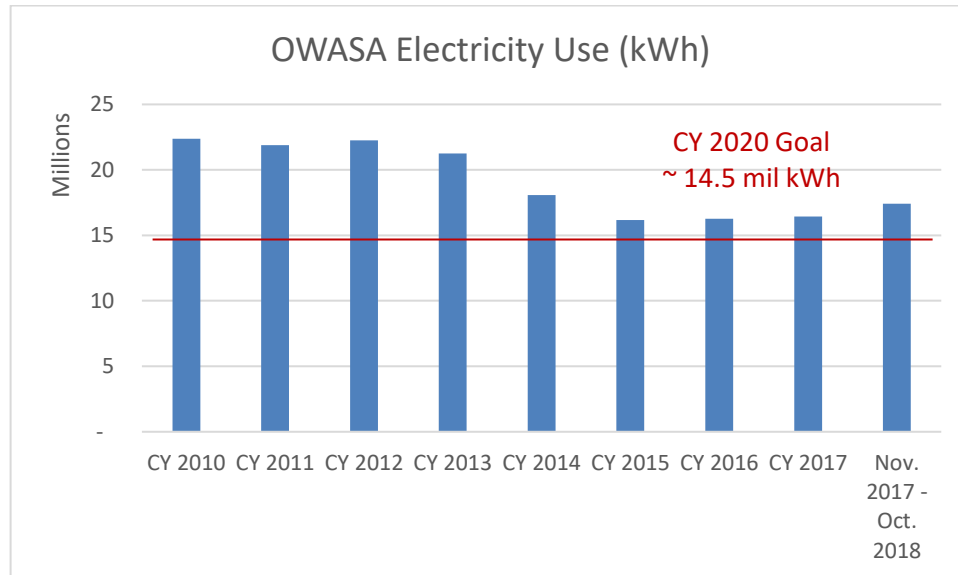
<b>Operating Expenses</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY18 % total</b>
Salaries & wages - Regular	6,863,364	6,966,000	7,343,784	7,564,689	7,799,169	36%
Chemicals	1,567,914	1,934,688	1,888,608	2,190,143	2,576,433	12%
Health insurance	1,183,049	1,312,418	1,631,609	1,654,664	1,922,043	9%
Maintenance - equipment	938,082	961,766	890,594	1,235,064	1,096,049	5%
Electricity	1,345,378	1,062,455	1,075,155	1,148,288	1,061,802	5%
Retirement contribution	515,183	519,888	510,262	598,984	617,219	3%
Federal payroll taxes	550,789	557,019	569,007	619,190	615,629	3%
Maintenance - water/sewer mains	266,695	506,518	331,459	465,747	521,595	2%
Consultants	320,404	467,490	514,344	583,365	418,381	2%
Overtime pay	309,038	300,974	267,682	339,114	329,755	2%
<b>Top 10 expenses total</b>	<b>13,859,896</b>	<b>14,589,216</b>	<b>15,022,504</b>	<b>16,399,248</b>	<b>16,958,075</b>	<b>78%</b>
<b>Total operating expenses for FY</b>	<b>18,764,701</b>	<b>19,588,099</b>	<b>20,054,246</b>	<b>21,291,854</b>	<b>21,877,244</b>	<b>100%</b>
<b>Additional information</b>						<b>Decision-Maker</b>
Funded positions	129.0	130.0	127.5	132.5	134.0	OWASA Board
Cost of labor adjustment	1.0%	NA	NA	1.5%	1.0%	OWASA Board
Merit adjustment	1.5%	2.0%	3.0%	1.5%	3.0%	OWASA Board
Health insurance adjustment	6.4%	8.2%	21.4%	15.0%	6.8%	OWASA Board and Insurer
Retirement system contribution	7.07%	6.67%	7.00%	7.31%	7.50%	LGERS Board
Payroll taxes - soc. sec. & medicare	7.65%	7.65%	7.65%	7.65%	7.65%	Fed. Govt.
Drinking water treated (MGs)	2,477	2,522	2,441	2,397	2,463	
Wastewater treated (MGs)	3,028	2,954	3,149	3,095	2,843	
Number of customers	21,105	21,239	21,385	21,526	21,585	
Miles of water and sewer pipe	737	740	741	743	744	



### Observations

1. Employee compensation, taxes and benefits account for about 56% of our annual operating expenses.
  - a. Regular salaries and wages make up about 36% of annual expenses. Over the last five years, the average annual increase in salaries and wages has been between 2% and 4%. Based on the Board's stated intentions, future merit increases will be at least 2.9%. Cost of labor will be determined based on market data.
  - b. Health insurance makes up about 9% of annual expenses. Health insurance rates are a function of benefits offered and claims experience.
  - c. Mandatory employer contributions to the Local Government Employees Retirement System are currently 7.5% of total employee wages. (While not an OWASA expense, employees are required to contribute 6% of wages.) OWASA's contributions average about 3% of total annual expenses.
  - d. Employer-paid federal payroll taxes are 7.65% of total wages and also average about 3% of total annual expenses.
2. Chemicals expense averages 10% to 12% of total expenses each year. The unit price of chemicals is somewhat volatile, and the quantity used by our drinking water and wastewater treatment plants is impacted by the volume and condition of the water entering the plants. Recent levels of organic compounds in our raw water supply have required the use of more chemicals in treating drinking water. Increased flows from rain events have also required higher volumes of chemical-use to treat wastewater.
3. Total maintenance expenses make up about 13% of annual expenses. We separately track maintenance for different types of assets. Maintenance of equipment (everything other than pumps, reservoirs and tanks, buildings, pipelines, and vehicles) is the largest maintenance line-item and averages about 5% of annual operating expenses.
4. Electricity costs average about 5% of total annual expenses. The Board has set a goal to reduce purchased electricity by 35% by the end of Calendar Year (CY) 2020 compared to the CY 2010 baseline. In 2017,

we used 5.9 million kWh less than in 2010 (a 27% reduction), which avoided over \$400,000 in annual expenses.



5. In FY 2018, we transferred approximately 498 million gallons of treated drinking water to Durham which resulted in higher than normal energy and chemical use and expense. However, the additional costs were more than offset by the \$1.3 million Durham paid OWASA for the water transferred.
6. For FY 2018, maintenance on water and sewer mains, consultants, and overtime were each about 2% of total expenses.
7. For FY 2018, no other expense line-item represented more than 1% of total operating expenses. In aggregate, these expenses were about \$4.9 million or 28% of the total for the year.

### Continuous Improvement Initiatives

Over the years, OWASA has continued to evaluate and implement measures to improve the efficiency and effectiveness of our operation and business practices. Some examples include:

- Water treatment optimization through the Partnership for Safe Water (ongoing)
- Wastewater treatment optimization through the Partnership for Clean Water (ongoing); energy efficiency improvements (2014); modified nutrient removal process (2010); and rotary press for biosolids dewatering (2008)
- ADP payroll, time and attendance (2015)
- Comprehensive Asset Management (ongoing)
- Agua Vista/Advanced Metering Infrastructure (AMI) (2018/2019)

These efficiency/effectiveness measures were initiated and evaluated in a variety of ways. The Partnership for Safe/Clean Water optimization was initiated by staff soon after these programs began by the respective professional organizations. Other projects such as the rotary press and energy efficiency improvements were initiated by staff during the annual development of the Capital Improvements Program. The Agua Vista project was initiated by our 2014 Strategic Plan.

Each year during the development and review of our operating expense budget and our Capital Improvements Program (CIP), staff evaluates opportunities for improvement for the Board to consider. Staff believes this process has worked well and plans to continue it.

### **Operational Innovations**

On October 8, 2018, the Finance Committee discussed John Young's memo: "Preliminary Ideas for How to Conduct a Strategic Cost Review" (attached as Appendix B). The committee and staff agreed that a periodic strategic cost review of OWASA expenses is desired and that staff will conduct an initial analysis to help identify areas for further review.

Our initial assessment of the major expense categories in our operating expense budget did not reveal areas of significant cost-saving opportunities (e.g. nothing on the scale of savings expected from the Agua Vista project). Given the need to focus our time and attention on the reliability and resiliency of our operations and business practices, staff currently does not have the time and resources for an in-depth review of potential operational innovations. However, we want to make sure we are doing the right things, the right way, throughout our operations and business practices for the customers and community we serve. As John Young's memo noted, the Board and staff share the goal of delivering high-quality and reliable services to customers at the lowest costs and we want to improve where we can.

**Operating Expenses – FY 2014-2018, Largest to Smallest Amount**

<b>Operating Expenses</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>FY 2018</b>	<b>FY18 % total</b>
Salaries & wages - regular	\$6,863,364	\$6,966,000	\$7,343,784	\$7,564,689	\$7,799,169	36%
Chemicals	1,567,914	1,934,688	1,888,608	2,190,143	2,576,433	12%
Health insurance	1,183,049	1,312,418	1,631,609	1,654,664	1,922,043	9%
Maintenance - equipment	938,082	961,766	890,594	1,235,064	1,096,049	5%
Electricity	1,345,378	1,062,455	1,075,155	1,148,288	1,061,802	5%
Retirement contribution - employer	515,183	519,888	510,262	598,984	617,219	3%
Payroll taxes - social security and medicare	550,789	557,019	569,007	619,190	615,629	3%
Maintenance - mains	266,695	506,518	331,459	465,747	521,595	2%
Consultants	320,404	467,490	514,344	583,365	418,381	2%
Salaries & wages - overtime	309,038	300,974	267,682	339,114	329,755	2%
Legal	243,925	251,452	258,420	280,300	287,796	1%
Financial services	216,435	233,580	251,042	233,949	262,756	1%
Laboratory expense	187,188	177,856	229,663	233,071	247,944	1%
Maintenance - pumping equipment	245,315	255,468	189,509	336,491	239,682	1%
Maintenance - Buildings	237,457	305,651	311,601	263,701	238,353	1%
Insurance	220,214	287,203	232,404	230,788	226,495	1%
Maintenance - reservoir and tanks	355,388	122,106	148,619	153,520	226,114	1%
Waste disposal (biosolids)	206,690	480,254	534,313	253,596	225,665	1%
Retirees insurance	157,124	170,220	209,881	198,402	196,582	1%
Workers' compensation	99,604	119,208	158,240	173,042	188,876	1%
Deferred compensation	279,453	291,867	180,045	187,565	179,845	1%
Maintenance - vehicles	230,329	176,864	177,780	201,735	175,214	1%
Fuel - vehicles	234,321	148,722	95,949	118,979	169,383	1%
Maintenance - meters	348,114	253,023	295,046	162,006	140,033	1%
Dues and memberships	49,194	41,544	43,110	37,769	135,737	1%
Telephone	93,535	109,638	110,744	106,991	125,990	1%
Education and Development	117,550	126,216	105,540	103,682	101,637	0%
Maintenance - grounds	68,944	73,557	81,547	75,289	97,616	0%
Postage and freight	111,256	103,660	105,814	79,590	93,752	0%
Part-time summer labor	30,901	25,544	80,193	158,426	91,226	0%
Fuel (natural gas)	78,253	89,270	92,310	108,749	89,042	0%
Computer equipment and parts	99,344	72,243	73,146	90,410	80,778	0%
Maintenance - Facilities	23,082	36,236	41,135	8,434	74,360	0%
Advertising	19,228	34,774	30,952	36,924	69,737	0%
Uniforms	58,552	54,927	59,251	61,125	69,087	0%
Maintenance - service lines	43,906	33,144	61,036	83,280	60,704	0%
Uncollectible accounts	36,004	31,155	23,197	27,717	59,649	0%
Rents and leases	43,986	53,903	59,351	66,171	59,374	0%
Cell phone expense	46,671	49,974	50,718	53,440	55,523	0%
Dental insurance	54,662	57,976	53,428	46,651	53,232	0%
Miscellaneous	31,851	42,824	47,397	70,740	50,637	0%
Standby pay	43,959	46,538	44,116	48,428	49,995	0%
Professional services	46,291	51,838	61,025	61,858	47,492	0%
Safety supplies	43,557	33,723	48,336	59,564	46,511	0%
Group life and AD&D	42,963	38,554	39,488	41,127	40,994	0%
Disability salary continuation	31,674	32,080	33,045	33,832	34,621	0%
Lake supplies	17,353	18,889	25,485	21,340	33,029	0%
Accounting (annual audit)	29,875	29,750	23,688	38,263	30,756	0%
Vision insurance	37,067	32,422	31,120	34,411	27,566	0%
Collection services	44,070	35,144	35,468	34,624	27,332	0%
Other material and supplies	45,281	31,611	27,328	26,476	27,060	0%
Office supplies	34,332	25,473	37,323	34,922	24,902	0%
Customer information	14,709	18,468	29,162	41,575	22,852	0%
Small tools	13,710	15,701	31,586	16,270	22,733	0%
Other employee expenses	16,527	31,383	34,320	17,724	21,740	0%
Maintenance - hydrants	21,234	21,618	18,733	37,695	16,867	0%
Forest management	6,062	87,178	43,960	(560)	12,280	0%
Per diem (Board of Directors)	17,400	14,050	12,750	11,550	11,900	0%
Trustee services (bonds)	20,800	22,425	17,050	11,561	11,900	0%
Land application (chemicals)	50,218	75,699	25,265	54,340	11,634	0%
Other communications	5,009	7,959	11,454	12,980	8,699	0%
Engineering	6,727	86	1,550	970	4,794	0%
Board expense (meals, etc.)	2,251	2,274	2,743	3,378	3,721	0%
Unemployment tax	38,931	11,586	1,486	1,968	3,290	0%
Wellness program reimbursement	1,893	2,080	2,421	2,074	2,087	0%
Conservation (low-flow fixtures, etc.)	4,436	2,295	1,459	3,703	1,595	0%
<b>Total</b>	<b>\$18,764,701</b>	<b>\$19,588,099</b>	<b>\$20,054,246</b>	<b>\$21,291,854</b>	<b>\$21,877,244</b>	<b>100%</b>

## Preliminary Ideas for How to Conduct a Strategic Cost Review

John Young, October 6, 2018

### Goals

Earlier this year, when the Board approved the FY2019 budget and the first rate increases in 7 (?) years, some Board members expressed interest in looking at the organization's medium- to long-term cost structure.

Board and staff members share the goal of delivering high-quality services to customers at the lowest possible cost to them. Routine budgeting approaches tend to focus on continuous improvement and short-term costs. (See [Appendix, Why Routine Budget Approaches Won't Address Long-Term Expenses](#), for further explanation.) Therefore, we should deploy new tools and focused problem solving to identify operational *innovations* that achieve and sustain long-term affordability for our customers.

The outcomes of a strategic cost review might include special initiatives designed to improve the recurring operating expenses (the cost structure), or new budgeting practices, or both.

For example, major recurring operating expenses include the labor and vehicle costs that are tied to meter readings, activations, and deactivations. The AMI initiative is a strategy that will reduce these recurring expenses (and provide other customer benefits). Are there other strategic business *innovations* we could implement?

### Ideas on How to Conduct a Strategic Cost Review

A strategic cost review is appropriate on a periodic basis, but not annually.

A strategic review considers the possibility of business model innovation. It is different than continuous improvement efforts, which generally is a more incremental approach.

We could consider a 3-phase approach:

1. **Perspective:** build a shared understanding that will serve as our platform for generating and evaluating ideas
2. **Possibilities and proposals:** identify potential innovations; select the most promising innovations

3. **Performance:** develop programs to implement the innovations; track progress and improve

Here are some tools we might deploy in each of these phases. This is a menu for discussion; I do not recommend adopting all of the tools:

Tools for **Perspective:**

- A goal- or scenario-based 5-year budget exercise (For example, how would we allocate operating expenses if we held total expenses flat for the next 5 years?)
- “Cost driver” analysis. This means building a tree structure of total costs, then potentially performing a sensitivity analysis of individual tree leaves to find interesting areas for discussion
- A 5-year forecast of major expense line items + a 5-year history (even better to use cost driver tree leaves)
- Benchmarking other organizations (on-site interviews!, phone interviews, surveys, AWWA), especially in key categories identified by the cost driver analysis

Tools and steps for **Possibilities and Proposals:**

- Brainstorming; design thinking
- Prioritizing ideas (many tools)
- Outlining top proposals (many tools)
- Customer value and impact analysis (many tools)
- ROI and/or NPV analysis

Note: currently, we are evaluating retirement savings and health benefits

Tools for **Performance:**

- Program plans (many tools)
- Program-level KPIs, including explicit long-term expenses savings
- Program-level tracking, including long-term budget savings KPI

We are currently tracking, at a program level, the operating savings from the AMI program. Are we doing this for GIS? For Energy Management?

**Operating expenses, capital investments, or both?**

The review could examine both long-term operating expenses and capital investments. My own focus is primarily directed toward the operating expense cost structure, rather than capital investments, because:

- Capital investments are generally one-time decisions; operating expenses often become routine and built into the baseline of future annual budgets
- OWASA already has a rigorous, effective annual process to screen and prioritize individual capital investment projects. Presumably, the investments selected by the staff and board are required to maintain service levels or they have an attractive ROI (for example, AMI)
- In prior years, we looked at benchmark data for routine capital investments in distribution and collection; our capital investment policies and portfolio of projects are guided by this information
- Deferring a capital investment just postpones the costs; it doesn't actually eliminate them. In addition, some deferrals might increase operating expenses and/or reduce service levels during the deferral period
- Capital investments (hopefully) create assets with long-term value, similar to savings account investments. Operating expenses (hopefully) provide near-term value but generally not long-term value, similar to flying a commercial airplane, with or without passengers in the seats; the funds can't be recovered

Note that some of our innovations to reduce long-term operating costs might require new (more) capital investments. AMI is a great example of increasing capital investment to reduce operating expenses and improve service.



## **Appendix: Why Routine Budget Approaches Won't Address Long-Term Operating Expenses**

Through the annual budget review process, board members probe and review operating expense and capital investment (CIP) budget lines in the coming FY to identify and remove any low-value expenses.

The capital investment discussions are a critical part of the annual budget process. The staff and board ensure one-time capital investments are required to maintain service levels or they have an attractive ROI (for example, AMI). As explained in the last section, [Operating expenses, capital investments, or both?](#), the annual CIP probably works pretty well to address the key question: *Are there capital investment items that can/should be deferred or eliminated?*

But what about operating expenses? This portion of the annual review tends to address questions about near-term spending only, such as:

- *Are there extravagant or careless FY operational expenses to reign in?*
- *Are there individual discretionary items in the FY operational expense budget that are unnecessary?*

In OWASA's case, board members generally identify few cuts because the staff manages run-rate expenses effectively and because it is difficult for board members to have the perspective and time to tackle details of the line items.

In these discussions, we don't directly address long-term and recurring operating expenses (the operating "cost structure"). And the information and tools are not focused on the long-term operating expenses outlook.

Furthermore, any FY budget cuts that board and staff members identify generally don't make a material long-term difference. They simply don't add up fast enough and often they can't be sustained for multiple years without affecting service quality.

The annual budget process can be characterized as a continuous improvement approach, which has its merits. However, it does not provide the tools, information, time, and mind space for considering operational *innovations* that would lead to fundamental cost structure changes.