UPDATED 1/28/16

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 28, 2016, 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.

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/400 Jones Ferry Road, Carrboro, NC 27510).

Public speakers are encouraged to organize their remarks for delivery within the three-to-five minute time frame allowed each speaker. Additional time may be allowed at the discretion of 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.
   - B. Consideration of Advanced Metering Infrastructure including information for citizens and invitation to comment and ask questions in the February 25 Board meeting
2. Announcements by Board Members
   - A. Update on the January 19, 2016 OWASA Orientation for Newly Elected Town of Chapel Hill Officials (Heather Payne)
3. Announcements by Staff
   - A. Eric Oldham, Maintenance Supervisor at the Water Treatment Plant, received the Safewater Maintenance Technologist of the Year Excellence Award at the NC American Water Works Association and Water Environment Association (AWWA-WEA) (Kenneth Loflin/Julie Hellmann, Chair, NC AWWA-WEA)
   - B. Mason Farm Wastewater Treatment Plant Awards: 1) Platinum Performance Award for Five Years of Excellence in Permit Compliance and 2) Operations & Maintenance Excellence Award (Todd Taylor/Julie Hellman, President of the North Carolina American Water Works Association-Water Environment Association)

Petitions and Requests

1. Public
2. Board
3. Staff

CONSENT AGENDA

Information and Reports

1. Quarterly Report on Attendance at Board and Committee Meetings (Andrea Orbich)
2. Semiannual Status Report for Various Capital Improvement Projects (Vishnu Gangadharan)
3. 2015 Annual Recreation Report for University Lake and Cane Creek Reservoir (Kenneth Loflin)

Action

4. Approval of the Minutes of the December 10, 2015 Work Session of the Board of Directors (Andrea Orbich)
5. Approval of the Minutes of the January 14, 2016 Work Session of the Board of Directors (Andrea Orbich)

REGULAR AGENDA

Discussion

6. Discuss Potential Rate Structure Modifications (Stephen Winters)
7. 2015 Customer Survey Results (Greg Feller)
8. Review of OWASA's Capital Improvement Program Investment Practices (Vishnu Gangadharan/Adam Haggerty)

Information and Reports

9. Financial Report for the Six-Month Period Ended December 31, 2015 (Stephen Winters)

Summary of Board Meeting Action Items

10. 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

ORANGE WATER AND SEWER AUTHORITY - QUARTERLY REPORT

ATTENDANCE AT BOARD AND COMMITTEE MEETINGS

BOARD OF DIRECTORS	OCTOBER 2015	NOVEMBER 2015	DECEMBER 2015
JOHN A. YOUNG CHAIR	October 8 WS (Meeting) October 13 CEC (Absent) October 20 NRTS (Absent) October 22 Board (Absent)	November 4 CS (Meeting) November 12 WS (Absent)	December 7 CEC (Meeting) December 10 HR (Meeting) December 10 WS (Meeting)
ROBERT MORGAN VICE CHAIR	October 8 WS (Meeting) October 13 CEC (Meeting) October 20 NRTS (Meeting) October 22 Board (Meeting)	November 4 CS (Meeting) November 12 WS (Meeting)	December 7 CEC (Meeting) December 10 HR (Meeting) December 10 WS (Meeting)
HEATHER PAYNE SECRETARY	October 8 WS (Meeting) October 22 Board (Absent)	November 4 CS (Meeting) November 12 WS (Meeting)	December 10 HR (Meeting) December 10 WS (Meeting)
TERRI BUCKNER	October 8 WS (Meeting) October 13 CEC (Absent) October 20 NRTS (Absent) October 22 Board (Meeting)	November 4 CS (Meeting) November 12 WS (Meeting)	December 7 CEC (Meeting) December 10 WS (Meeting)
JEFF DANNER	October 8 WS (Meeting) October 20 NRTS (Meeting) October 22 Board (Meeting)	November 4 CS (Meeting) November 12 WS (Meeting)	December 10 HR (Meeting) December 10 WS (Meeting)
BARBARA M. FOUSHEE	October 8 WS (Meeting) October 13 CEC (Meeting) October 20 NRTS (Meeting) October 22 Board (Meeting)	November 4 CS (Meeting) November 12 WS (Meeting)	December 7 CEC (Meeting) December 10 HR (Meeting) December 10 WS (Meeting)
QUINTON HARPER	October 8 WS (Absent) October 13 CEC (Absent) October 22 Board (Absent)	November 4 CS (Absent) November 12 WS (Meeting)	December 7 CEC (Meeting) December 10 HR (Meeting) December 10 WS (Meeting)
DAVE MOREAU	October 8 WS (Meeting) October 20 NRTS (Meeting) October 22 Board (Meeting)	November 4 CS (Meeting) November 12 WS (Meeting)	December 10 WS (Meeting)
RUCHIR VORA	October 8 WS (Absent) October 13 CEC (Meeting) October 20 NRTS (Meeting) October 22 Board (Meeting)	November 4 CS (Absent) November 12 WS (Meeting)	December 7 CEC (Meeting) December 10 HR (Meeting) December 10 WS (Meeting)

JANUARY 28, 2016

BOARD OF DIRECTORS	OCTOBER 2015	NOVEMBER 2015	DECEMBER 2015
TOTAL MEETINGS HELD:	4	2	3

Board – Board of Directors
FC – Finance Committee
HR – Human Resources Committee
CE – Community Engagement Committee
CS – Closed Session
N – Nominating Committee
NRTS – Natural Resources/Technical Systems Committee
WS – Work Session

ORANGE WATER AND SEWER AUTHORITY

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

TO: Board of Directors

THROUGH: Ed Kerwin

FROM: Vishnu Gangadharan, P.E., PMP

DATE: January 21, 2016

SUBJECT: **Semiannual Status Report for Various Capital Improvement Projects**

PURPOSE

This semiannual status report summarizes project and program performance for OWASA's Capital Improvements Program (CIP) for the first two quarters of fiscal year (FY) 2016.

DISCUSSION

Summary

CIP activity for this reporting period was notably increased over the prior period, with over 65 projects active at some point during the first two quarters of FY 2016. Staff maintained schedules on several notable and/or larger projects in the design phase, including the Cane Creek Permanganate Facility, Rosemary Street Water Main Replacement, and the Rogers Road Gravity Sanitary Sewer Extension. Construction contracts were awarded on the Purefoy Road Water Main Replacement project and the Evergreen and Ridge Lanes Water Main Replacement, which along with active construction on the Little Creek Interceptor Replacement, Digesters 1 and 2 Rehabilitation, and Sanitary Sewer Rehabilitation projects ensured that the largest construction projects planned for FY 2016 have now entered into construction.

The most noteworthy change to program operation during this reporting period was the hiring in early December of Simon Lobdell, P.E. to fill the vacant Utilities Engineer position. Mr. Lobdell's skills and prior experience allowed for seamless transitioning to the increased project workload mentioned above and is a key reason why current the expenditure projection remains roughly unchanged from prior projections.

Project Performance

Attachment A summarizes project performance for all active projects during this reporting period. This table has been simplified slightly from prior reports both to eliminate subjectivity in schedule variance reporting and also to allow for quicker identification of project performance issues. Project schedule performance is assessed against overall project completion targets for projects which are far enough along to have a final completion date established. Conversely, budget performance is assessed against the budgeted funds for the current fiscal year. Variances are indicated by red stoplights and are explained in Attachment B; yellow stoplights are no longer used.

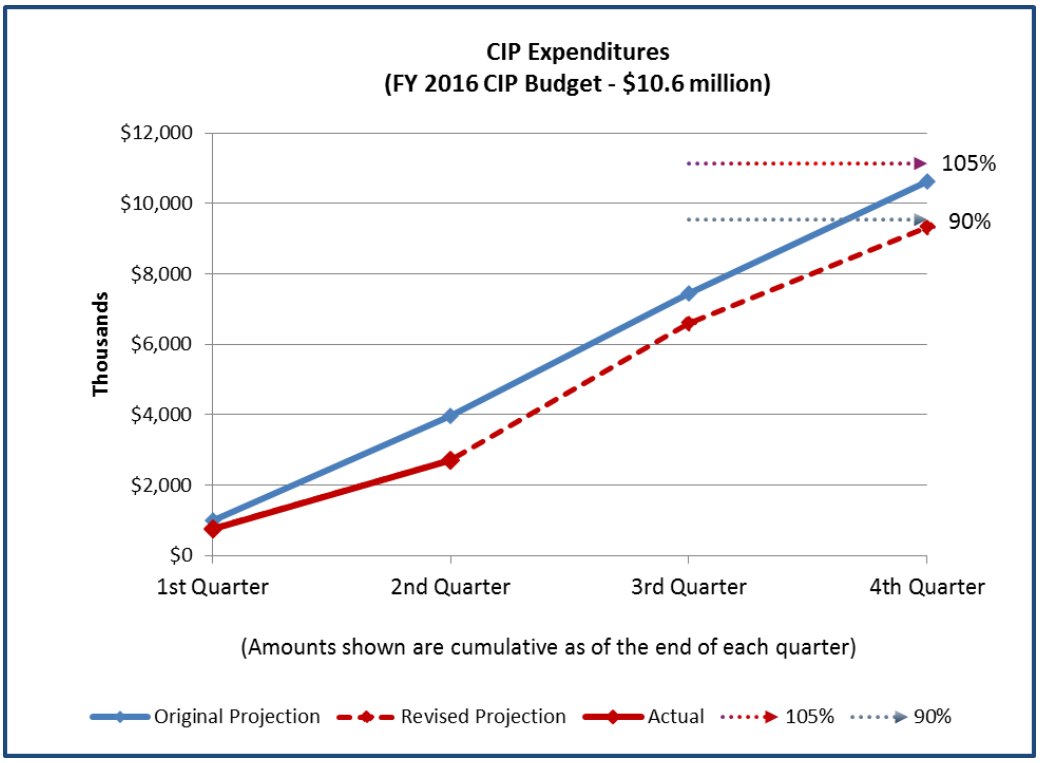
Minority and Women Business Enterprise (MWBE) Participation

MWBE participation on formal and informal construction contracts during this reporting period included roughly $1.0M of MWBE businesses, with the 10% participation goal being met on 2 out of 4 issued

contracts. The overall participation rate since FY 2011 increased from 28% to 31% ($11.6M out of $37.2M), and 58% (28 out of 50) of the contracts during this same period met or exceeded OWASA's MWBE participation goal (10% of contract value). In accordance with statutory requirements, 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.

FY 2016 Expenditure Projection

Expenditures for FY 2016 are projected to be at 88% of the CIP budget even though significant rainfall during second quarter affected the progress of many of the active construction projects and despite some schedule delays on two of the largest construction projects (Digesters 1 and 2 Rehabilitation and Little Creek Interceptor Replacement) during the second quarter. The chart below tracks the planned, actual, and projected expenditures for FY 2016.



Customers may visit our web site (www.owasa.org) for information about our current major CIP projects and our FY 2016 - 2020 CIP book that provides additional information about the CIP and projects planned for the next five fiscal years.

If you have any questions regarding these projects, please contact me at (919) 537-4248 or vgangadharan@owasa.org.

Vishnu Gangadharan, P.E., PMP
Engineering Manager - Capital Improvement Projects

Attachments

PROJECT PERFORMANCE

CIP No.	Project Name	Status	Final Completion[1]	Budget	Schedule
270-04	Jordan Lake Raw Water Supply Allocation	n/a	*n/a*	🟢	🟢
270-09	Stone Quarry Reservoir Development	n/a	*n/a*	🟢	🟢
270-26	Cane Creek Permanganate Facility	Design	**Nov-16**	🔴	🟢
270-27	Cane Creek Reservoir Office HVAC Replacement	Construction	**Feb-16**	🟢	🟢
272-10	WTP Hypochlorite Tank Replacement	Design	**May-16**	🔴	🟢
272-31	WTP and Adjacent Facilities Paving	Design	**May-16**	🟢	🟢
272-32	WTP Secondary Chemical Spill Containment	Design	**Mar-16**	🟢	🟢
272-33	WTP Pulsator Controls Electrical Upgrades	Design	**May-16**	🟢	🟢
272-34	WTP Generator Building Louvers Replacement	Planning	*Mar-17*	🟢	🟢
274-13	Nunn Mountain Pump Station Evaluation	Planning	**May-16**	🟢	🟢
275-15	Water Main - Road Improvement Projects	n/a	**Jun-16**	🟢	🟢
275-20	Water Main Rehabilitation and Replacement Program	n/a	*n/a*	🟢	🟢
275-20	*Briarbridge Water Main*	Complete	**Jun-15**	🟢	🟢
275-20	*The Glen*	Complete	**Jun-15**	🟢	🟢
275-20	*Village Plaza Water Main*	Complete	**Jun-15**	🟢	🟢
275-20	*Ridgewood Lane Water Main*	Complete	**Jul-15**	🟢	🟢
275-20	*Plum Lane Water Main*	Construction	**Feb-16**	🟢	🟢
275-20	*Evergreen and Ridge Lane Water Main*	Construction	**Mar-16**	🔴	🟢
275-20	*Halifax Rd 2" Water Main*	Design	**May-16**	🟢	🟢
275-20	*Purefoy Rd Water Main*	Construction	**Jun-16**	🟢	🟢
275-20	*Hilltop Area WM Eval*	Planning	**Jun-16**	🔴	🟢
275-20	*Porthole Alley Water Main*	Design	**Sep-16**	🟢	🟢
275-20	*Hillview Water Main*	Planning	**Dec-16**	🟢	🔴
275-20	*Emory Dr Water Main*	Design	*Mar-17*	🟢	🟢
275-20	*Brandywine Rd Water Main*	Planning	*Jun-17*	🟢	🟢
275-20	*Stancell Dr Water Main*	Planning	*Jun-17*	🟢	🟢
275-46	Dobbins Drive Water Main	Planning	*Jun-18*	🟢	🟢
275-53	Water Distribution System Modeling	n/a	*n/a*	🔴	🟢
275-71	Rosemary Street	Design	*Aug-17*	🔴	🟢
275-76	Advanced Meter Infrastructure (AMI) System	Planning	*Jun-18*	🟢	🟢
275-77	Galvanized Water Main Replacements	n/a	*n/a*	🟢	🟢
275-77	*E Main St / Roberson (Armadillo) abandonment*	Design	**Mar-16**	🟢	🟢
275-77	*Dogwood Drive Galv Water Main*	Complete	*May-16*	🟢	🟢
275-77	*Chase Park 2" Water Main*	Design	**May-16**	🟢	🟢
275-77	*W Main Street Water Main (Autologic)*	Design	**May-16**	🟢	🟢
275-77	*Weiner St 2" Water Main*	Planning	*May-16*	🟢	🟢
275-77	*Valentine Rd Galv Water Main*	Planning	*Jun-16*	🟢	🟢
275-77	*Hillsborough St 2" Water Main*	Planning	*Jun-17*	🟢	🟢
275-79	Barnes Street Water Main Valve Insertions	Complete	**Dec-15**	🟢	🟢
276-17	Gravity Sewer Evaluation	Complete	*n/a*	🔴	🟢

NOTES

[1] **Established baseline completion dates are shown in bold.**

KEY

Budget 🟢 **On Budget** 🔴 **> 5% over FY 2016 budget**

Schedule 🟢 **On Schedule** 🔴 **> 2 months delay to baseline scheduled completion**

PROJECT PERFORMANCE (continued)

CIP No.	Project Name	Status	Final Completion[1]	Budget	Schedule
276-18	Sanitary Sewer Rehabilitation	Construction	**Mar-16**	🔴	🟢
276-45	Bolinwood Dr Interceptor	Planning	*Aug-17*	🟢	🟢
276-47	Little Creek Interceptor	Construction	**Dec-15**	🔴	🔴
276-53	Gravity Sanitary Sewer Creek Crossings Upgrades	Design	*Mar-17*	🟢	🟢
276-54	Rogers Road Gravity Sanitary Sewer Extension	Design	*Jan-18*	🔴	🟢
276-54	(Credit for Rogers Road Sanitary Sewer Extension)	n/a	*n/a*	🟢	🟢
276-55	Easement Acquisition Program	Planning	**Jun-16**	🟢	🟢
277-21	Force Main Condition Evaluation	Planning	**Jun-16**	🟢	🟢
277-24	Eastowne/Meadowmont/Eubanks Pump Station Rehab	Planning	*Sep-17*	🔴	🟢
277-31	Rogerson Drive Pump Station Rehabilitation	Planning	*Jun-17*	🟢	🟢
277-34	Piney Mountain Pump Station Rehabilitation	Design	**Jun-16**	🟢	🟢
277-35	Knolls and Manning Pump Stations - Rehabilitation	Design	**Jun-16**	🟢	🟢
277-36	Heritage Hills Pump Station Rehab	Construction	**Mar-16**	🟢	🟢
278-46	Comprehensive Coatings Program	Construction	*n/a*	🟢	🟢
278-51	WWTP Polymer Feed System (FY16) and GBT's (FY17-19)	Planning	*Jun-18*	🟢	🟢
278-52	WWTP Digesters #1 & #2 Rehabilitation	Construction	**Apr-16**	🟢	🔴
278-54	WWTP Intermediate Pump Stations Rehab/Replacement	Planning	**Jun-16**	🔴	🟢
278-57	WWTP Stormwater Pump Station Electrical Rehab	Design	**Jun-16**	🟢	🟢
278-58	WWTP Non Drinking Water Pump Replacements	Construction	**Jun-16**	🟢	🟢
278-59	WWTP and WW PS LED Lighting Upgrades	Construction	**Jun-16**	🟢	🟢
278-61	WWTP Pavement Improvements	Planning	**May-16**	🟢	🟢
278-62	WWTP Administration Building Renovations	Construction	**Feb-16**	🟢	🟢
278-63	WWTP Secondary Clarifier Algae Sweep System Upgrade	Construction	**Feb-16**	🟢	🟢
278-64	WWTP Solids Handling Biofilter Rehab/Replacement	Planning	**Mar-16**	🟢	🟢
278-65	WWTP Mixer Hyper-Pitch Blades Attachments	Complete	**Mar-16**	🟢	🟢
278-66	WWTP Piping Heat Tracing and Insulation	Construction	**Feb-16**	🟢	🟢
278-68	Comprehensive Roof Systems Replacement Program	Construction	*n/a*	🟢	🟢
278-69	WWTP Biosolids Conveyance and Loading Improvements	Planning	*Jun-17*	🟢	🟢
278-71	WWTP Filtrate Side Stream Treatment	Planning	*Jun-17*	🟢	🟢
280-06	Administration Building HVAC System Upgrade	Planning	*Jun-18*	🟢	🟢

NOTES

[1] **Established baseline completion dates are shown in bold.**

KEY

Budget 🟢 **On Budget** 🔴 **> 5% over FY 2016 budget**

Schedule 🟢 **On Schedule** 🔴 **> 2 months delay to baseline scheduled completion**

NARRATIVES FOR RED STOPLIGHTS IN ATTACHMENT A

CIP No.	Project Name	Project Performance Comment
270-26	Cane Creek Permanganate Facility	FY 2016 budget overrun due to required additional structural, electrical, and architectural design effort, as well as acceleration of construction phase.
272-10	WTP Hypochlorite Tank Replacement	FY 2016 budget overrun due to schedule delay. Project was initially planned for completion as a repair (vs. replacement) in FY 2015.
275-20	Evergreen and Ridge Lane Water Main Replacement	FY 2016 budget overrun due to construction bids exceeding projected costs.
275-20	Hilltop Area Water Main Evaluation	Unplanned minor modeling effort to determine need for a project to address potential hydraulic issue.
275-20	Hillview Water Main Replacement	Schedule delay due to need for extensive coordination with directly affected customers.
275-53	Water Distribution System Modeling	Unplanned distribution system modeling tasks as needed to support design efforts on various other water main projects.
275-71	Rosemary Street Water Main Replacement	Unplanned for FY 2016, this project was accelerated to accommodate a Town of Chapel Hill resurfacing project.
276-17	Gravity Sewer Evaluation	Unplanned minor hydraulic modeling task to support planning and design efforts on other projects.
276-18	Sanitary Sewer Rehabilitation	An ongoing unit price construction contract was extended to address previously identified sanitary sewer rehabilitation needs.
276-47	Little Creek Interceptor	Construction delays due to contract execution issues, material procurement, and weather increased the amount of construction costs falling within FY 2016 as opposed to FY 2015.
276-54	Rogers Road Gravity Sanitary Sewer Extension	Additional scope was added during initiation of design phase, in conjunction with discussions with project partners. (Project expenditures are reimbursable under terms of agreement with Orange County.)
277-24	Eastowne/Meadowmont/Eubanks Pump Station Rehabilitation	Eubanks Pump Station scope, initially funded under a separate CIP project, will instead be contracted under Eastowne project due to scope similarities.
278-52	WWTP Digesters #1 & #2 Rehabilitation	Construction progress has been slowed due to weather and unforeseen conditions within the digesters.
278-54	WWTP Intermediate Pump Stations Rehab/Replacement	Study was initiated within FY 2015. A greater proportion of study costs will fall within FY 2016 (vs. FY 2015) than was initially projected and budgeted.

PROJECT PERFORMANCE EXCEPTIONS

CIP No.	Project Name	FY'16 Budget ($k)	FY'16 Projected ($k)	Budget Overrun (%)	Baselined Schedule Completion	Schedule delay (months)	Project Performance Comment
270-26	Cane Creek Permanganate Facility	64	200	213%			FY 2016 budget overrun due to required additional structural, electrical, and architectural design effort, as well as acceleration of construction phase.
272-10	WTP Hypochlorite Tank Replacement	0	231	-			FY 2016 budget overrun due to schedule delay. Project was initially planned for completion as a repair (vs. replacement) in FY 2015.
275-20	Evergreen and Ridge Lane Water Main	376	478	27%			FY 2016 budget overrun due to construction bids exceeding projected costs.
275-20	Hilltop Area WM Evaluation	0	5	-			Unplanned minor modeling effort to determine need for a project to address potential hydraulic issue.
275-20	Hillview Water Main				Mar-16	3	Schedule delay due to need for extensive coordination with directly affected customers.
275-53	Water Distribution System Modeling	0	10	-			Unplanned distribution system modeling tasks as needed to support design efforts on various other water main projects.
275-71	Rosemary Street	0	110	-			Unplanned for FY 2016, this project was accelerated to accommodate Town of Chapel Hill resurfacing project.
276-17	Gravity Sewer Evaluation	0	14	-			Unplanned minor hydraulic modeling task to support planning and design effort on other projects.
276-18	Sanitary Sewer Rehabilitation	1057	1327	26%			An ongoing unit price construction contract was extended to address previously identified sanitary sewer rehabilitation needs.
276-47	Little Creek Interceptor	833	1087	30%	Dec-15	5	Construction schedule delays due to delays in contract execution, material procurement, and weather increased the amount of construction costs falling within FY 2016 as opposed to FY 2015.
276-54	Rogers Road Gravity Sanitary Sewer Extension	370	415	12%			Additional scope was added during initiation of design phase, in conjunction with discussions with project partners. (Project expenditures are reimbursable under terms of agreement with Orange County.)
277-24	Eastowne/Meadowmont/Eubanks Pump Station Rehab	32	46	44%			Eubanks Road scope, initially funded under a separate CIP project, will instead be contracted under Eastowne project due to scope similarities.
278-52	WWTP Digesters #1 & #2 Rehabilitation				Apr-16	5	Construction schedule delay due to weather and unforeseen conditions within the digesters.
278-54	WWTP Intermediate Pump Stations Rehab/Replacement	40	75	88%			Study was initiated within FY 2015. A greater proportion of study costs will fall within FY 2016 (vs. FY 2015) than was initially projected and budgeted.

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: Kenneth Loflin

DATE: January 22, 2016

SUBJECT: 2015 Annual Recreation Report for University Lake and Cane Creek Reservoir

Purpose

To provide information about lake recreation in 2015 including patronage, costs, and revenues.

Operating Schedule

During the 2015 lake season (March 21st through November 8th) 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 2014 and 2015 seasons. Fees remained unchanged for the 2015 recreational season.


Cane Creek

Revenues & Attendance

University Lake generated $34,889 in total revenue during 2015. This is a 2% increase from the 2014 season, in which $34,114 was collected. Usage of University Lake during the 2015 season totaled 3,977 visitors, a 4% decrease from the 4,138 visitors in the 2014 season. Average revenue per University Lake visitor in 2015 was $8.77, 6% higher than for the 2014 season. This increase over the previous year may be a result of visitors availing themselves of higher priced services such as kayak rentals.

In 2015, Cane Creek generated $30,234 in total revenue, a 0.5% increase from the $30,079 collected in 2014. Cane Creek received 3,288 visitors, a 0.1% increase from the 3,285 visitors in 2014. Revenue per Cane Creek visitor in 2014 was $9.20, a 0.4% increase from the $9.16 in the 2014 season.


University Lake

A total of $65,123 was received at the two facilities. This is approximately 1.5% more than the $64,193 in 2014.

The facilities had a total of 7,265 visitors during 2015 representing a 2% decrease from 2014. Combined attendance at the lakes had declined since 2004; however, over the most recent years attendance has been fairly consistent.

The table below compares historical daily attendance averages (2004-2014) to the 2015 daily attendance averages for each lake:

Comparison of Attendance by Day of the Week

Cane Creek	Friday[1]	Saturday
Average 2004-2014	24	64
2015	34	59

[1]Cane Creek closed on Fridays following the 2007 season and reopened in the 2013 season.

University Lake	Friday	Saturday	Sunday
Average 2004-2014	21	51	60
2015	14	43	55

Kayak Rental

On April 4, 2014 both lakes began offering the rental of kayaks for patrons to enjoy. In 2015 revenue from the rental of kayaks totaled $7,275. University Lake generated the most revenue at $6,290 while Cane Creek received $985. In 2015 three tandem kayaks were add to the fleet, two were placed at University Lake and one at Cane Creek. The total cost to purchase both single and tandem kayaks with paddles and life jackets was $7,945. Total revenue from the past two seasons has equaled $11,530.

Dock and Boat Launch Area Improvements



Cane Creek Improvements

On March 20, 2014 a new fishing pier was available to patrons visiting Cane Creek. In 2014, 320 visitors to the lake used the pier for fishing. In 2015, 439 visitors used the pier.

By opening day of the 2015 recreational season, construction of a larger boat launch area and additional handicap parking spaces was compete. Staff received many positive comments from visitors about the expanded boat launch area.

Birdwatching

On September 10, 2015 the Board of Directors approved birdwatching at the Cane Creek Reservoir on Wednesdays between 7 and 11 AM from November 11, 2015 to March 16, 2016 when the lake is normally closed for recreation. So far this period, the lake has received a total of 54 visitors (6 per day average).

Demographics

98% of the visitors (3,977) to University Lake came from 21 of the 100 North Carolina counties. The remaining 2% of the visitors (80) came from outside of the State/country. The largest segment of visitors at University Lake continue to be Orange County residents (83%), followed by Durham County residents (6%), Chatham Country residents (4%), Alamance County residents (1%), and others (6%).

96% of the visitors (3,288) to Cane Creek Reservoir came from 31 of the 100 North Carolina counties. The remaining 4% of the visitors (131) came from outside of the State/country. The largest segment of visitors at Cane Creek Reservoir continue to be Orange County residents (40%), followed by Alamance County residents (17%), Robeson Country residents (7%), Guilford County residents (8%), and others (28%).

Expenses versus Revenues

Exhibit A in Attachment 3 provides an overview of revenues from 2007 through the 2015 lake seasons. Exhibit B in Attachment 3 summarizes the expenses to operate the reservoirs and the cost of providing recreation. 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.

As shown in Exhibit B, expenses exceeded revenues by $73,320 in 2015. The ratio of cost to revenues was 2.13, indicating that expenses totaled $2.13 for every $1.00 in revenues generated. Labor remains the largest expense in the operation of the lakes.

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



Kenneth Loflin
Manager of Water Supply and Treatment

Attachments

Attachment 1 – Lake Use Fees and Pass Information

2014 and 2015 Lake Use Fees

LAKE USE FEES:		**2014 Season**	**2015 Season**
Boat Rental Fee	Orange County Resident	$4.50[1]	$4.50[1]
	Non-county Resident	$8.00[1]	$8.00[1]
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

[1] Rental Fee does not include Lake Use Fee

Season Passes

For the 2015 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	**2015 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	$45.00

The most popular type of pass is for a single boat only, with a total of 30 passes sold. This is a 200% increase from the 2014 season when 10 single boat only passes were sold. The following table shows the number of passes sold by type during the 2011 to 2015 lakes seasons.

Attachment 2 – Lake Use Fees and Pass Information

Number of Passes Sold by Type

	2011	**2012**	**2013**	**2014**	**2015**
Single boat only	12	9	16	10	30
Single boat and motor	3	2	0	1	3
Group boat only	3	2	3	3	3
Group boat and motor	1	2	0	2	1
Lake Use	0	1	0	3	0
TOTAL	19	16	19	19	37

Overall a total of 37 passes were sold in 2015. Passes generated $3,683 in total revenue. The 37 passes sold were used an average of 12 times.

Attachment 3: Annual Revenues and Expenses from Lakes Operations

Exhibit A

Total Revenues from Lakes Operations

	2007	2008	2009	2010	2011	2012	2013	2014	2015
Boat Rentals[1]	$32,961	$ 23,534	$ 24,885	$12,712	$11,952.50	$12,736	$15,127	$14,004	$12,448
Lake Use & Boat Launch Fees	$12,609	$ 15,514	$ 18,524	$28,093	$25,327.50	$26,276	$29,650	$30,544	$29,957
Electric Motor Rentals	$15,212	$ 10,144	$ 11,029	$10,431	$9,180	$9,444	$13,475	$13,290	$11,760
Lakes Use Passes	$2,898	$ 1,760	$ 1,690	$1,540	$2,160	$1,926	$1,801	$2,100	$3,683
Kayak Rentals[2]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 4,255	$7,275
TOTALS:	**$63,754**	**$50,952**	**$56,128**	**$52,776**	**$48,620**	**$50,382**	**$60,053**	**$64,193**	**$65,123**

NOTES:

[1] Lake Use Fee for individuals renting a boat is included in the Boat Rental revenues for the period 2007 to 2009.
[2] Kayak rentals began in April of the 2014 recreational season.

Exhibit B
2015 Lake Operating Expenses

Description	Expenses		
	Total	Non-Recreational	Recreational
Full Time Employee Salaries	$171,132	$88,140	$82,992
Fringe Benefits	$54,762	$28,205	$26,557
Part Time Employee Salaries	$13,437	$2,947	$10,490
Utilities	$11,333	$7,434	$3,899
Materials and Supplies	$16,971	$7,335	$9,636
Maintenance of Facilities	$2,897	$2,897	$0
Annual Amortization of equipment	$8,000	$4,000	$4,000
Miscellaneous Expenses	$3,220	$2,351	$869
Totals	**$281,752**	**$143,309**	**$138,443**

2015 Revenue (from Exhibit A) **$65,123**

Deficit (Total Revenue - Total Recreational Expense) **-$73,320**

Operating Ratio (Total Recreational Expense/Total Revenue) **2.13**

ORANGE WATER AND SEWER AUTHORITY

WORK SESSION OF THE BOARD OF DIRECTORS

DECEMBER 10, 2015

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a Work Session on Thursday, December 10, 2015 at 6:00 PM in OWASA's Community Room in the Administration Building, 400 Jones Ferry Road, Carrboro.

Board Members present: John Young, Chair; Robert Morgan, Vice Chair; Heather Payne, Secretary; Terri Buckner; Jeff Danner; Barbara Foushee; David Moreau; Quinton Harper and Ruchir Vora.

OWASA staff present: Ed Kerwin; Mary Darr; Patrick Davis; Randy Horton; Andrea Orbich; Dan Przybyl; Ruth Rouse; Todd Taylor; Kelly Satterfield; Stephen Winters; and Robert Epting, Epting and Hackney.

Others present: Ben Poulson, Associate Director of Energy Services and Meg Holton, Water, Wastewater, and Stormwater Manager, University of North Carolina at Chapel Hill; Larry Mitchell, Dewberry; Ian Howes, Chapel Hill resident; and Braxton Foushee, Carrboro resident.

DRAFT

ANNOUNCEMENTS

John Young said 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; none were disclosed.

Mr. Young announced updates in the membership of the Standing Committees of the Board of Directors: Barbara Foushee is assigned to the Human Resources and Finance Committees and Quinton Harper is assigned to the Natural Resources/Technical Systems Committee. Mr. Young also said that Terri Buckner volunteered to serve as OWASA's representative on the Intergovernmental Parks Work Group.

Mr. Young announced that the OWASA orientation for the newly elected Town of Chapel Hill Mayor and Council Members (Mayor Hemminger, Council Members Anderson, Oates and Parker) will be scheduled in January 2016.

Mr. Young announced that Terri Buckner, Barbara Foushee and he will provide OWASA's annual update to the Orange County Board of County Commissioners on Tuesday, February 16, 2016 at 7:00 PM at Southern Human Services Center.

The Board agreed to have two e-mail groups for the Board: boardmembers@owasa.org and board_and_leadership@owasa.org. The first will include only Board Members and the second will include Board Members, Executive Director, General Counsel and Clerk to the Board.

Terri Buckner reported on the December 2, 2015 meeting of the Inter-local Energy Collaboration Work Group. Patrick Davis will send an e-mail on the energy initiatives the group is considering.

Ruchir Vora reported on the December 7, 2015 meeting of the Community Engagement Committee.

Robert Morgan said the Human Resources Committee met prior to the Work Session to discuss Executive Director's Performance Goals, which will be discussed later on in agenda item 3.

Ed Kerwin said that 2015 Customer Survey will close on December 15, 2015 and the response has been good; the results will be presented to the Board on January 28, 2016.

DISCUSSION

ITEM ONE: DRAFT ADVANCED METERING INFRASTRUCTURE (AMI) FEASIBILITY STUDY

The Board discussed the draft AMI Feasibility Study with staff and the consultant and requested a summary of the key information which will be provided in a supplement to the AMI Feasibility Study at the January 14th Board Work Session. The supplemental information will include: sensitivity analysis of the return on investment in AMI to key variables; analysis of the currently Automated Meter Reading implementation strategy; AMI unit cost trend; evaluation of customer service representative compensation relative to the additional job requirements for AMI; proportional components of project costs; comparison of key benefits, both financial and non-financial, of alternatives; and summary of lessons learned.

ITEM TWO: DISCUSSION OF COST ALLOCATION STUDY

The Board discussed a draft cost of service analysis by Burton and Associates that includes a review of customer rate classes and how the classes were determined. This information will inform future water and sewer rate structure decisions.

The Board received comments from Ian Howes and Braxton Foushee.

Following discussion, the Board requested additional information on a wider range of customer rate class options. This information will be provided and discussed at a Special Board meeting to be held in January 2016.

ITEM THREE: DISCUSS DRAFT EXECUTIVE DIRECTOR'S PERFORMANCE GOALS

The Board received and discussed changes proposed by the Human Resources Committee to Executive Director's Draft Performance Goals. The Board recieved the proposed changes and suggested that they be shared with Board Members and the Executive Director for comments before finalizing.

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ITEM FOUR: REVIEW BOARD WORK SCHEDULE

The Board agreed to the following changes on the 12 Month Board Meeting Schedule:

- Change the title of the January 14th Work Session item for Considering Approval of AMI Feasibility Study to include "and discuss next steps."
- The Discussion of Financial Reserves will be moved from January 14th to the February 25th Board meeting.
- Discussion of Community Engagement be moved from the January 28th to the February 25th Board meeting.
- Due to the amount of Board discussion on potential rate structure modifications, the Board agreed to schedule a Special Meeting of Board in January 2016 to continue the discussions.

ITEM FIVE: EXECUTIVE DIRECTOR WILL SUMMARIZE THE KEY STAFF ACTION ITEMS FROM THE WORK SESSION

Ed Kerwin summarized the key action items for staff as follows:

- Staff will establish two Board e-mail distribution lists (one of Board Members only; and one of Board Members, Clerk, General Counsel and Executive Director).
- Patrick Davis will provide the Board an update on the energy initiatives of the Inter-local Energy Collaboration Working Group.
- Todd Taylor will provide the Board a summary of the key information that will be part of the supplement to the AMI Feasibility Study for discussion on January 14, 2016.
- Stephen Winters will provide the Board information about alternatives for customer rate classes and rate structure alternatives to analyze.
- Andrea Orbich will distribute the Human Resources Committee's proposed changes to the Executive Director's Draft Performance Goals to Board Members and the Executive Director for comments before finalizing.
- Andrea Orbich will poll Board Members to schedule a Special Meeting of Board in January 2016 to continue discussions on potential rate structure modifications.

The work session was adjourned at 9:55 PM.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

DRAFT

ORANGE WATER AND SEWER AUTHORITY

WORK SESSION OF THE BOARD OF DIRECTORS

JANUARY 14, 2016

The Board of Directors of the Orange Water and Sewer Authority (OWASA) held a Work Session on Thursday, January 14, 2016 at 6:00 PM in OWASA's Community Room in the Administration Building, 400 Jones Ferry Road, Carrboro.

Board Members present: John Young, Chair; Robert Morgan, Vice Chair; Heather Payne, Secretary; Terri Buckner; Jeff Danner; Barbara Foushee; David Moreau; Quinton Harper and Ruchir Vora.

OWASA staff present: Ed Kerwin; Mary Darr; Patrick Davis; Greg Feller; Stephanie Glasgow; Andrea Orbich; Dan Przybyl; Ruth Rouse; Todd Taylor; Stephen Winters; and Robert Epting, Epting and Hackney.

Others present: Ben Poulson, Associate Director of Energy Services and Meg Holton, Water, Wastewater, and Stormwater Manager, University of North Carolina at Chapel Hill; Don Schlenger and Kevin O'Connor, Don Schlenger and Associates; and Bryan Jones, Ferguson Enterprises Inc.

MOTIONS ACTED UPON

1. BE IT RESOLVED THAT the Orange Water and Sewer Authority Board of Directors adopts the Resolution Creating a Solids Handling Supervisor Position for the Biosolids Management Program. (Resolution so titled attached hereto and made a part of these minutes. Motion by Quinton Harper, second by Jeff Danner and unanimously approved.)

2. Quinton Harper made a motion to approve the Minutes of the October 22, 2015 Meeting of the Board of Directors; second by Jeff Danner and unanimously approved.

3. Quinton Harper made a motion to approve the Minutes of the November 4, 2015 Special Closed Session of the Board of Directors for the purpose of discussing a personnel matter; second by Jeff Danner and unanimously approved.

4. Quinton Harper made a motion to approve the Minutes of the November 12, 2015 Closed Session of the Board of Directors for the purpose of discussing a personnel matter; second by Jeff Danner and unanimously approved.

5. Quinton Harper made a motion to approve the Minutes of the November 12, 2015 Work Session of the Board of Directors; second by Jeff Danner and unanimously approved.

6. Terri Buckner made a motion that the Board of Directors accept the AMI Feasibility Study and supplemental information as complete; second by Heather Payne and unanimously approved.

7. Terri Buckner made a motion the Board of Directors accept the AMI project schedule as reflected in the staff memorandum; second by Jeff Danner and unanimously approved.

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ANNOUNCEMENTS

Robert Morgan said he will Chair the meeting tonight at the request of John Young.

Mr. Morgan said 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; none were disclosed.

Mr. Morgan said the Board of Directors will hold a special meeting on Thursday, January 21, 2016, at 6:00 PM in the OWASA Board Room to continue discussing potential rate structure modifications.

The Board agreed to move Item Two, Fiscal Year 2017 Budget Calendar and Planning Assumptions, from the Consent Agenda to the Regular Agenda and discuss as Item Nine.

Mr. Kerwin said that Eric Oldham, Maintenance Supervisor at the Water Treatment Plant, would be recognized at the January 28, 2016 Board meeting for receiving the Safewater Maintenance Technologist of the Year Excellence Award from the NC American Water Works Association/Water Environment Association.

CONSENT AGENDA

ITEM ONE: RESOLUTION CREATING A SOLIDS HANDLING SUPERVISOR POSITION FOR THE BIOSOLIDS MANAGEMENT PROGRAM

Quinton Harper made a motion to approve the resolution; second by Jeff Danner and unanimously approved. Please see Motion No. 1 above.

ITEM TWO: FISCAL YEAR 2017 BUDGET CALENDAR AND ASSUMPTIONS

The Board agreed to move this item from the Consent Agenda to the Regular Agenda, Item Nine.

ITEM THREE: MINUTES

Quinton Harper made a motion to approve the Minutes of the October 22, 2015 Meeting of the Board of Directors; second by Jeff Danner and unanimously approved. Please see Motion No. 2 above.

ITEM FOUR: MINUTES

Quinton Harper made a motion to approve the Minutes of the November 4, 2015 Closed Session of the Board of Directors for the purpose of discussing a personnel matter; second by Jeff Danner and unanimously approved. Please see Motion No. 3 above.

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ITEM FIVE: MINUTES

Quinton Harper made a motion to approve the Minutes of the November 12, 2015 Closed Session of the Board of Directors for the purpose of discussing a personnel matter; second by Jeff Danner and unanimously approved. Please see Motion No. 4 above.

ITEM SIX: MINUTES

Quinton Harper made a motion to approve the Minutes of the November 12, 2015 Work Session of the Board of Directors; second by Jeff Danner and unanimously approved. Please see Motion No. 5 above.

REGULAR AGENDA

ITEM SEVEN: CONSIDER APPROVAL OF THE ADVANCED METERING INFRASTRUCTURE (AMI) FEASIBILITY STUDY AND DISCUSS NEXT STEPS

After discussion, Terri Buckner made a motion that the Board of Directors accept the AMI Feasibility Study and supplemental information as complete; second by Heather Payne and unanimously approved. Please see Motion No. 6 above.

After discussion, Terri Buckner made a motion the Board of Directors accept the AMI project schedule as reflected in the staff memorandum; second by Jeff Danner and unanimously approved. Please see Motion No. 7 above.

Staff will submit to the Board a draft plan for informing and seeking comments from the community about a possible AMI system implementation by OWASA including public participation in the February 25 Board meeting.

ITEM EIGHT: DISCUSSION STRATEGIES OF EMPLOYEE HEALTH INSURANCE FOR FISCAL YEAR 2017

The Board discussed cost factors, the process and options for employee health insurance from July 2016 through June 2017. The Board will receive additional information in coming months including the cost proposal which Blue Cross-Blue Shield of North Carolina will submit.

ITEM NINE: FISCAL YEAR 2017 BUDGET CALENDAR AND ASSUMPTIONS

The Board discussed OWASA's budget calendar and planning assumptions for the fiscal year beginning in July 2016.

ITEM TEN: REVIEW BOARD WORK SCHEDULE

Ruchir Vora requested that the Board consider whether a formal discharge permit should be required of the University of North Carolina at Chapel Hill for its discharges to the sanitary sewer system.

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The Board asked staff to work with the University regarding the use and disposal of toxic chemicals to help ensure harmful substances are not discharged into the public sewers and report back to the Board.

The Board agreed with the draft agendas for January 28 and February 11, 2016 meetings.

ITEM ELEVEN: EXECUTIVE DIRECTOR WILL SUMMARIZE THE KEY STAFF ACTION ITEMS FROM THE WORK SESSION

Ed Kerwin summarized the key action items for staff as follows:

- Staff will distribute to the Board by January 21st the draft engagement plan for considering AMI and this topic will also be added to the January 21st Special Meeting of the Board if additional discussion is needed.
- Staff will follow up with UNC to provide information regarding discharges into the public sewers.

The meeting was adjourned at 8:10 PM.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Attachments

DRAFT

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 28, 2016

SUBJECT: Discussion of Potential Rate Structure Modifications

Purpose

This topic is a continuation of the discussions on potential rate structure modifications from the January 21, 2016 Board work session. The following information is included in this memo.

- Additional consulting fees resulting from expanding the scope of the project
- Rate structure scenarios to analyze
- Update on the cost of service analysis of University of North Carolina (UNC) Accounts

Revised Consulting Fee Estimate

The potential scope of the rate study project has expanded from what was originally contemplated. Based on the January 21 work session, there may be considerably more scenarios to model and more consultant onsite visits than initially planned. The consultants estimate that the expansion of the scope of the project to include the full range of scenarios identified above, including preparing work products and being onsite for additional meetings, will add about $33,000 to the project's cost. The original proposal for the consultant's work was approximately $50,000. If the Board decides that UNC does not need to be modeled as a separate class, the additional cost would be about $10,000 less.

Rate Structure Scenarios to Analyze

The tables below summarize the rate class and rate structure scenario modeling guidance provided by the Board at the January 21 meeting. Modeling each of the scenarios, including analyzing UNC as a part of the General Services rate class as well as its own rate class, will result in 53 rate structure scenarios (and associated customer impact analyses) for the Board's consideration. A detailed list of the potential scenarios is attached. The following two tables summarize the attached detail.

Number of Rate Structure Scenarios to Model		
UNC included in General Services	UNC as a rate class	UNC within General Services and as a separate rate class
25	28	53

Rate Class	Board of Directors Modeling Guidance		
	Commodity Charge	**Service Charge**	**Service Charge Basis**
General Service	Uniform Seasonal	No service charge 10% cost recovery 20% cost recovery	Meter size
Single-family, individually-metered	Increasing block Uniform	No service charge 10% cost recovery 20% cost recovery	Meter size
Multi-family, master-metered	Increasing block Uniform	No service charge 10% cost recovery 20% cost recovery	Meter size Number of dwelling units
Irrigation	Uniform	No service charge 10% cost recovery 20% cost recovery	Meter size
UNC *	Seasonal	No service charge 10% cost recovery 20% cost recovery	Meter size

* The Board has not yet decided whether to separate UNC into its own customer rate class. The Board is expected to provide final guidance once it considers the costs, timetable, and level of effort required for modeling all or a subset of the above scenarios

Update on the Cost of Service Analysis of UNC Accounts

Our consultants have provided staff a draft of the cost of service analysis the Board requested but staff needs additional time to review. We anticipate being ready to discuss further at the February 11 Board work session.

Action Requested

Provide guidance to staff regarding the rate classes and rate structure scenarios that are to be modeled for further analysis.

Stephen Winters, CPA
Director of Finance and Customer Service

Attachment: Summary of Potential Rate Scenarios to Model

Potential Rate Scenarios to Model
UNC as a Separate Rate Class

	Structure	Service Charge	Basis
Single Family Residential			
1	Increasing Block Rate	No service charge	Meter size
2	Increasing Block Rate	10% fixed	Meter size
3	Increasing Block Rate	20% fixed	Meter size
4	Uniform	No service charge	Meter size
5	Uniform	10% fixed	Meter size
6	Uniform	20% fixed	Meter size
Master-Metered, Multi-Family			
7	Increasing Block Rate	No service charge	Meter size
8	Increasing Block Rate	10% fixed	Meter size
9	Increasing Block Rate	20% fixed	Meter size
10	Increasing Block Rate	No service charge	Number of units
11	Increasing Block Rate	10% fixed	Number of units
12	Increasing Block Rate	20% fixed	Number of units
13	Uniform	No service charge	Meter size
14	Uniform	10% fixed	Meter size
15	Uniform	20% fixed	Meter size
16	Uniform	No service charge	Number of units
17	Uniform	10% fixed	Number of units
18	Uniform	20% fixed	Number of units
Irrigation			
19	Uniform	20% fixed	Meter size
General Service			
20	Uniform	No service charge	Meter size
21	Uniform	10% fixed	Meter size
22	Uniform	20% fixed	Meter size
23	Seasonal	No service charge	Meter size
24	Seasonal	10% fixed	Meter size
25	Seasonal	20% fixed	Meter size
UNC			
26	Seasonal	No service charge	Meter size
27	Seasonal	10% fixed	Meter size
28	Seasonal	20% fixed	Meter size

Potential Rate Scenarios to Model
UNC Included in the General Services Rate Class

	Structure	Service Charge	Basis
Single Family Residential			
29	Increasing Block Rate	No service charge	Meter size
30	Increasing Block Rate	10% fixed	Meter size
31	Increasing Block Rate	20% fixed	Meter size
32	Uniform	No service charge	Meter size
33	Uniform	10% fixed	Meter size
34	Uniform	20% fixed	Meter size
Master-Metered, Multi-Family			
35	Increasing Block Rate	No service charge	Meter size
36	Increasing Block Rate	10% fixed	Meter size
37	Increasing Block Rate	20% fixed	Meter size
38	Increasing Block Rate	No service charge	Number of units
39	Increasing Block Rate	10% fixed	Number of units
40	Increasing Block Rate	20% fixed	Number of units
41	Uniform	No service charge	Meter size
42	Uniform	10% fixed	Meter size
43	Uniform	20% fixed	Meter size
44	Uniform	No service charge	Number of units
45	Uniform	10% fixed	Number of units
46	Uniform	20% fixed	Number of units
Irrigation			
47	Uniform	20% fixed	Meter size
General Service			
48	Uniform	No service charge	Meter size
49	Uniform	10% fixed	Meter size
50	Uniform	20% fixed	Meter size
51	Seasonal	No service charge	Meter size
52	Seasonal	10% fixed	Meter size
53	Seasonal	20% fixed	Meter size

AGENDA ITEM

- **2015 CUSTOMER SURVEY**

PURPOSE

- To provide information on responses to the 2015 customer survey and propose actions in light of the survey.

BACKGROUND

- As authorized by the Board of Directors on April 9, 2015, we invited customers and other system users to participate in a brief survey from October 15 to December 15.

- The survey was anonymous, open to anyone and available in English and Spanish.

- More than 800 citizens participated.

- We publicized the survey through news releases, notices on electronic and paper bills, our website, the Blue Thumb newsletter, mailings to managers of master-metered multi-family neighborhoods, and with the help of two organizations which serve Hispanic citizens.

- The survey was not designed to indicate the views of a representative sample of customers/ system users.

- The survey is part of the Strategic Plan initiative to "Engage stakeholders to understand their perceptions and expectations so that we make well-informed decisions about our services and so that we maintain their trust."

ACTION NEEDED

- We request your comments on the survey results and guidance regarding action items in light of the survey.

January 28, 2016

ORANGE WATER AND SEWER AUTHORITY

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

M E M O R A N D U M

TO: Board of Directors

THROUGH: Ed Kerwin

FROM: Greg Feller

DATE: January 21, 2016

SUBJECT: **2015 Customer Survey**

PURPOSE

To provide information on responses to the 2015 customer survey and propose actions in light of the survey.

BACKGROUND

As authorized by the Board of Directors on April 9, 2015, we invited customers and other system users to participate in a 9-question survey from October 15 to December 15. The survey was anonymous, open to anyone and available in English and Spanish. More than 800 citizens participated.

We publicized the survey through news releases, notices on electronic and paper bills, our website, the Blue Thumb newsletter, mailings to managers of master-metered multi-family neighborhoods, and with the help of two organizations which serve Hispanic customers.

The survey was not designed to indicate the views of a representative sample of customers/ system users. The survey is part of the Strategic Plan initiative to "Engage stakeholders to understand their perceptions and expectations so that we make well-informed decisions about our services and so that we maintain their trust."

DISCUSSION

Strong majorities of survey participants gave positive ratings on the taste and safety of our water and the value of our services.

Attachment 1 presents the survey results with staff observations and proposed actions for each question.

The survey gave citizens the opportunity to provide additional comments and we received more than 800. The comments are in attachment 2, which begins with staff's list of key themes and action items.

We will publicize the survey results and follow-up action plan in a Blue Thumb newsletter, on our website, with a news release, etc.

We look forward to your discussion and guidance.

Greg Feller

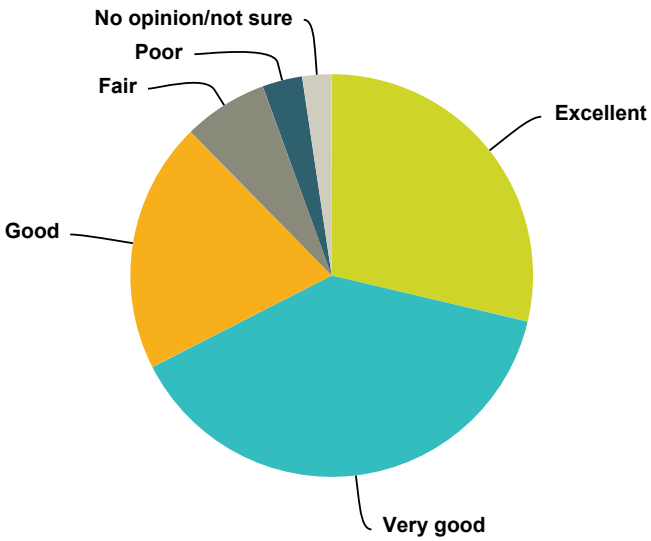
Greg Feller
Public Affairs Administrator

Attachments

1. Tabulation of responses to the customer survey, combined for English (791 participants) and Spanish (23 participants) versions; with comments and action items
2. Comments from citizens in the 2015 customer survey

Q1 How do you rate the taste of OWASA's drinking water?

Answered: 809 Skipped: 5



Answer Choices	Responses	
Excellent	28.68%	232
Very good	38.81%	314
Good	20.15%	163
Fair	6.80%	55
Poor	3.21%	26
No opinion/not sure	2.35%	19
Total		809

Staff observations

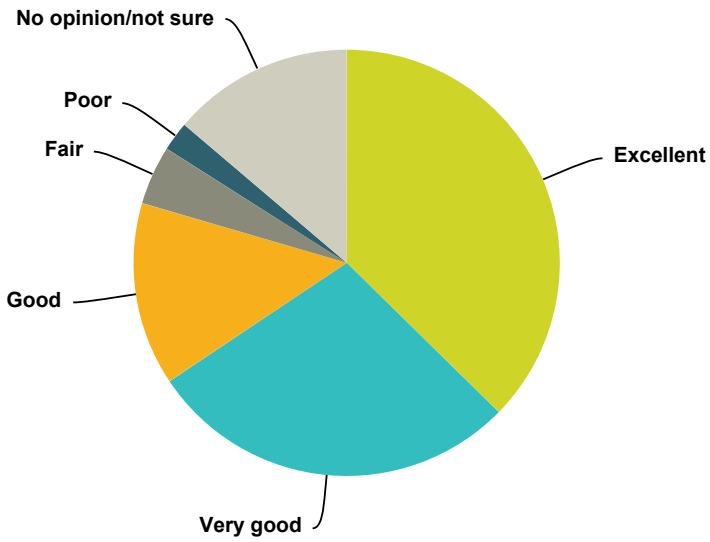
- 88% rated taste as good to excellent.
- Only 3% rated water taste as poor.
- In the 2012 customer survey, ratings were very similar (89% rated taste as good to excellent, 3% poor).

Staff action items

- Continue current drinking water treatment practices.
- Continue to seek opportunities to improve.

Q2 How do you rate the quality (health and safety) of OWASA's drinking water?

Answered: 806 Skipped: 8



Answer Choices	Responses	
Excellent	**37.34%**	301
Very good	**28.29%**	228
Good	**13.90%**	112
Fair	**4.47%**	36
Poor	**2.23%**	18
No opinion/not sure	**13.77%**	111
Total		**806**

Staff observations

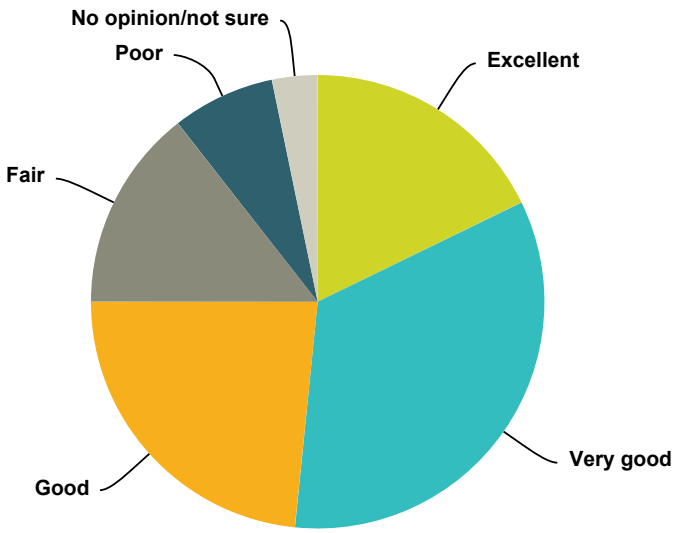
- 80% rated water quality (health and safety) as good to excellent. In 2012, 82% gave good to excellent ratings.
- 14% had no opinion.

Staff action items

- Continue to inform our customers at least annually on our water quality (Water Quality Report Card published each spring) and seek opportunities to report on related items such as any future improvements in the treatment process, recognition of excellence in water treatment, etc.

Q3 Considering the overall quality, reliability and cost of OWASA drinking water and wastewater (sewer) services, how do you rate their value?

Answered: 804 Skipped: 10



Answer Choices	Responses	
Excellent	17.79%	143
Very good	33.83%	272
Good	23.38%	188
Fair	14.43%	116
Poor	7.34%	59
No opinion/not sure	3.23%	26
Total		804

Staff observations

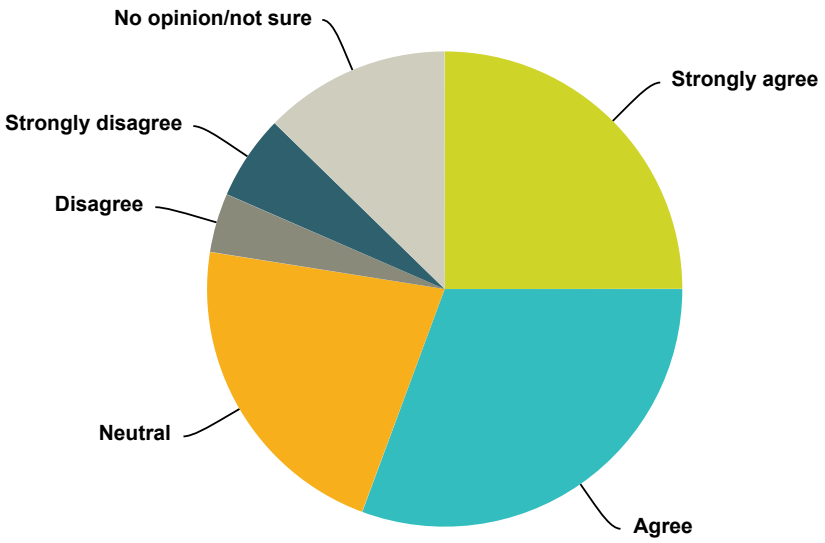
- 75% rated our service value as good to excellent. In 2012, 73% gave good to excellent ratings.
- 7% reported value as poor.

Staff action items

- Continue to seek opportunities to improve efficiency throughout the organization, and to report to the community on cost reductions and efficiencies.
- Increase communications about the value of our services.

Q4 How much do you agree or disagree with the following statement? “If I could choose my water and wastewater provider, I would select OWASA.”

Answered: 796 Skipped: 18



Answer Choices	Responses	
Strongly agree	25.00%	199
Agree	30.65%	244
Neutral	21.86%	174
Disagree	4.02%	32
Strongly disagree	5.78%	46
No opinion/not sure	12.69%	101
Total		796

Staff observations

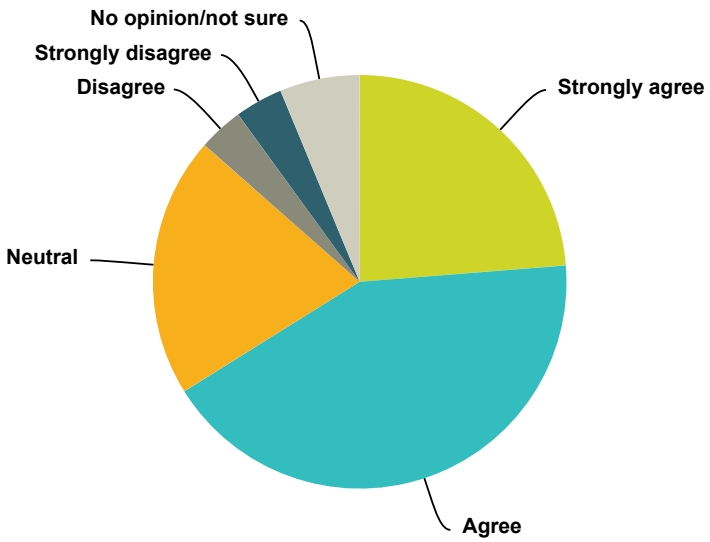
- 56% agreed or strongly disagreed, 22% were neutral and 10% disagreed or strongly disagreed.
- We have the opportunity to change perceptions from neutral to agree.

Staff action items

- Increase communications, information and engagement with customers.
- Initiatives such as advanced metering infrastructure, affordability outreach, energy management and the long-range water supply plan update will be key opportunities for success.

Q5 How much do you agree or disagree with the following statement? “I trust OWASA to make good decisions about providing its services for the community.”

Answered: 800 Skipped: 14



Answer Choices	Responses	
Strongly agree	**23.75%**	190
Agree	**42.38%**	339
Neutral	**20.38%**	163
Disagree	**3.50%**	28
Strongly disagree	**3.75%**	30
No opinion/not sure	**6.25%**	50
Total		**800**

Staff observations

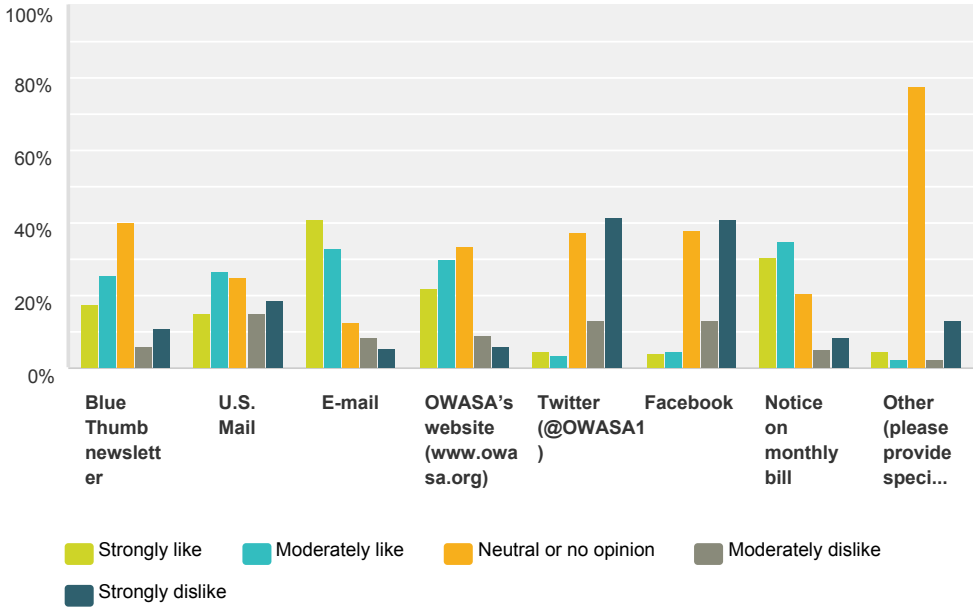
- 66% agreed or strongly agreed, 20% were neutral and 7% disagreed or strongly disagreed.
- We have the opportunities to increase trust in OWASA’s decisions.

Staff action items

- Please see the action items for Question 4.

Q6 Please give us your preferences for receiving information from OWASA by checking the appropriate box (one check in each row please).

Answered: 789 Skipped: 25



	Strongly like	Moderately like	Neutral or no opinion	Moderately dislike	Strongly dislike	Total
Blue Thumb newsletter	**17.42%** 124	**25.42%** 181	**39.89%** 284	**6.18%** 44	**11.10%** 79	712
U.S. Mail	**15.13%** 107	**26.45%** 187	**24.89%** 176	**14.85%** 105	**18.67%** 132	707
E-mail	**40.94%** 305	**32.75%** 244	**12.62%** 94	**8.32%** 62	**5.37%** 40	745
OWASA's website (www.owasa.org)	**21.86%** 155	**29.90%** 212	**33.43%** 237	**8.89%** 63	**5.92%** 42	709
Twitter (@OWASA1)	**4.32%** 30	**3.74%** 26	**37.41%** 260	**13.09%** 91	**41.44%** 288	695
Facebook	**3.93%** 27	**4.51%** 31	**37.85%** 260	**12.81%** 88	**40.90%** 281	687
Notice on monthly bill	**30.27%** 221	**35.21%** 257	**20.68%** 151	**5.21%** 38	**8.63%** 63	730
Other (please provide specifics in additional comments below)	**4.72%** 12	**2.36%** 6	**77.56%** 197	**2.36%** 6	**12.99%** 33	254

Staff observations

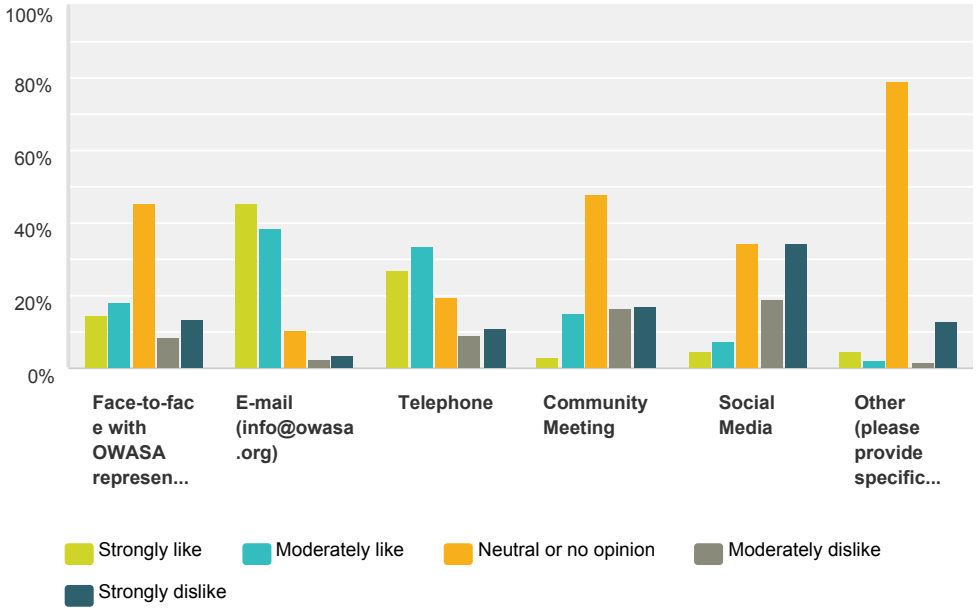
- E-mail and notices on bills are the most preferred communication method.
- Facebook and Twitter are least preferred.

Staff action items

- We have begun using about 10,000 e-mail addresses from our customer database and will continue to do so.
- We will continue to encourage citizens including new customers to share their e-mail addresses with us for notices on topics of interest.

Q7 How do you prefer to provide feedback and/or ask questions of OWASA? One check in each row please.

Answered: 785 Skipped: 29



	Strongly like	Moderately like	Neutral or no opinion	Moderately dislike	Strongly dislike	Total
Face-to-face with OWASA representative	**14.31%** 102	**18.09%** 129	**45.30%** 323	**8.56%** 61	**13.74%** 98	713
E-mail (info@owasa.org)	**45.48%** 342	**38.30%** 288	**10.37%** 78	**2.39%** 18	**3.46%** 26	752
Telephone	**26.82%** 195	**33.43%** 243	**19.53%** 142	**9.22%** 67	**11.00%** 80	727
Community Meeting	**2.86%** 20	**15.16%** 106	**48.21%** 337	**16.74%** 117	**17.02%** 119	699
Social Media	**4.32%** 30	**7.63%** 53	**34.39%** 239	**18.99%** 132	**34.68%** 241	695
Other (please provide specifics in additional comments below)	**4.73%** 13	**1.82%** 5	**78.91%** 217	**1.45%** 4	**13.09%** 36	275

Staff observations

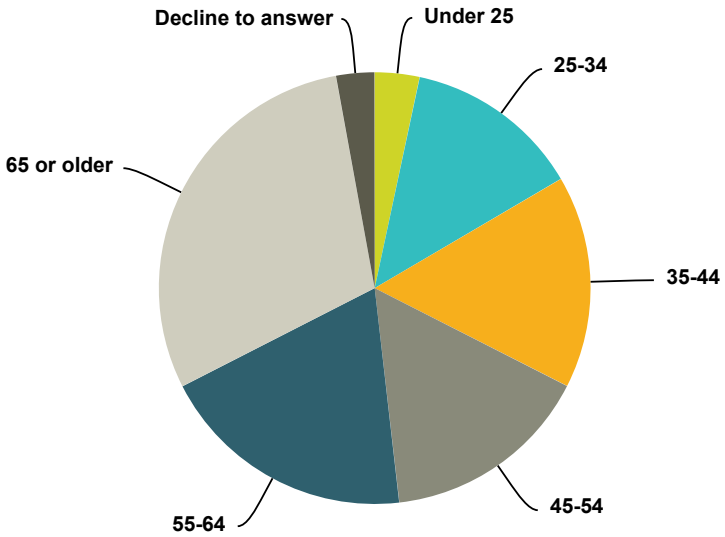
- E-mail and telephone are most preferred. Social media and community meetings are least preferred.

Staff action items

- Please see actions for Question 6 about increasing e-mail communications.

Q8 What is your age?

Answered: 803 Skipped: 11



Answer Choices	Responses	
Under 25	3.36%	27
25-34	13.20%	106
35-44	15.94%	128
45-54	15.69%	126
55-64	19.30%	155
65 or older	29.64%	238
Decline to answer	2.86%	23
Total		**803**

Staff observation

- About 30% of survey participants were 65 or older, compared to less than 10% in this age group in Chapel Hill and Carrboro in the 2010 Census.

Staff action items

- We think it is important to ask this kind of question to be aware of how survey participants may differ from the community's overall demographics.

Q9 What suggestions do you have for OWASA to improve its service?

Answered: 286 Skipped: 528

Please see Attachment 2 in the January 28, 2016 agenda item on the 2015 Customer Survey for the comments received in response to this and other questions.

Staff observations and actions

- Please see Attachment 2 of this agenda item (Customer Survey Report, January 28, 2016) for the comments received in response to this and other questions and staff's action items.

Attachment 2

Comments in the 2015 customer survey

(Individual comments follow the table below.)

Survey questions, themes from citizens' comments	**Proposed actions**
1. Taste of water (100 comments)	
Theme: Chlorine taste/odor in drinking water in March (during change from chloramine to chlorine disinfection) is unpleasant.	Continue to publicize the need for and benefits of the annual change to chlorine disinfection, and how customers can neutralize chlorine in our water.
Theme: Many respondents use water filters.	Address chlorine concerns as noted above, continue to report on drinking water quality, maintain information on the website about filters, respond to customers' questions about water quality and test water on request at no charge.
2. **Safety of water** (79 comments)	
Stop fluoridation	OWASA researched and received comments from citizens about fluoridation in 2012 and 2013, and decided to continue fluoridation in accord with Federal and State guidance. We monitor scientific knowledge about water quality items including fluoridation.
3. **Value of services** (113 comments)	
Theme: Rates are high/higher than in other communities.	Continue to increase efficiency and cut costs where practical without affecting core services; keep rates stable to the extent possible given service, conservation, capital investment, sustainability and other objectives.

4. Choose OWASA if customer had choice of water/sewer utility (94 comments)	
Theme: Cannot answer this question because no alternatives to compare to OWASA.	Staff believes this question should not be repeated in future surveys.
5. Trust OWASA to make good decisions (49 comments)	
Theme: Comments on fluoridation and rates/bills.	Please see 2 and 3 above.
6. Preferences for receiving OWASA's information (67 comments)	
Theme: Do not use social media	OWASA's present use of Twitter has no dollar cost. We will continue to learn about customers' preferences regarding social media in the future through surveys, etc.
7. Preferences for giving OWASA feedback (36 comments)	
Theme: Do on-line surveys	The timing of future surveys will be determined.
8. Age group of survey participant (no comments on this question)	
9. How can OWASA improve (283 comments)	
Theme: Difficulties with on-line account access/bill payment	Identify improvements for discussion with the company which hosts the customer web.
Theme: OWASA should bill in amounts less than the present thousands of gallons.	To be addressed in considering Advanced Metering Infrastructure; existing system can accommodate billing in smaller increments but with more chance of error due to manual entry of meter readings
Theme: Help customers conserve water with incentives, more water use information, etc.	OWASA will enhance information for customers about conservation opportunities and benefits through the Affordability Outreach Program

Comments from survey respondents

1. How do you rate the taste of OWASA's drinking water?

Althou I have been experiencing a rotten egg smell.

Although it's improved over the years (or maybe I've gotten more used to it), I still think the water tastes of chlorine.

although you have replaced some chlorine with ammonia, it still has a lot of chlorine

At home we filter it with a MultiPure filter, but the OWASA water doesn't disgust me like most other city water does, and I'll drink it from the tap when I don't have filtered water available.

Bleh!

chlorine evident; i switched to retail RO water for coffee, tea, cooking.

Chlorine like smell so strong that it is nauseating persists for as long as a week after absence from home (non use of water) for periods of time from several days to several weeks.

Depends heavily on the season. It's worse than poor during the month you switch to chlorine.

don't use for drinking

Even after filtering it with Brita, it still has a taste to it. Also, I have to add lots of chemicals to neutralize the water when I change the water of my aquarium. I had diseases appearing in the tank prior to that because of the quality of the water.

Excellent, after putting it through my activated carbon filter.

Except in March (but that's OK given the necessity)

Fluoride should be removed

For some reason, Durham water tastes better to me

Hard to say, really - taste is fine to me, though I've got nothing to compare it to.

However, I only drink it after purifying it.

http://www.sludgevictims.com/SV2002-2005/0138-069f-North-Carolina.html

I ACTUALLY USE THE ZERO WATER SYSTEM WHICH FILTERS OUT THE CHEMICALS AND THE TASTE IS AWSOME.

I always filter the water with a Brita

I always filter water. But OWASA from the tap is okay.

I am renting and have just recently found out that the plumbing in the building is galvanized pipe.... I have heard that is not healthy to drink water from that kind of plumbing... Is that correct? Perhaps this has something to do with the Fair taste rating.

I am used to wellwater home and think OWASA water tastes of chemicals.

I can taste the chlorine.

I can't believe how much bottled water I see people buying when our tap water is just as good or better than the bottled stuff, at a tiny fraction of the cost.

I can't usually even taste it unless I've been out of town and come back home.

I chill the tap water for better flavor

I do not want fluoride in my water.

I do use a Brita filter mostly for concern about inorganic material that you may not get out of out water.

I don't drink directly from the tap, I filter the water first. I've had guests who think the water has a taste.

I don't filter my water anymore. I appreciate that it isn't too "swimming-pool-y". :)

I don't understand why people use bottled water. It's so wasteful .

I drink a lot of water and I do like the taste of the OWASA's drinking water.

I drink bottled water habit have for years

I drink only bottled water, because of the fluoride that's added to the municipal water supply. I also have osteoporosis, and the fluoride in the water only contributes to skeletal fluorosis. Fluoride is needed only topically on teeth, and should not be ingested through a water supply.

I filter my water prior to drinking

i filter the water cause it taste awful

I grew up in Europe where the distribution systems are much shorter and the residual disinfectant level non discernible to the palate. I know OWASA is within federal regulations but the chloramine taste is unpleasant and produces a metallic off-taste in the water (likely from reaction with the piping material).

I grew up on well water, but I like this water better than most cities.

I grew up with Lake Michigan as the drinking water source and nothing can compare to that.

I have always enjoyed our town's water from the spicket! It very rarely tastes funny but I have noticed an unpleasant odor at times recently.

I let mine sit overnight to out gas. Don't like to drink it straight from the tap.

I think the OWASA's drinking is best in the nation.

I travel around a lot and really taste bad water in so many places - my water here is best!

I use a britta on my kitch faucet to take out some of the residual 'taste,' and it does improve the taste. that thing in March is awful -- but I'm glad it doesn't happen all year long!

I use a filter to improve the taste

I use a water filter on my kitchen sink faucet in order to be able to drink the OWASA water. Will not drink without this filter.

I use filtered water for drinking and cooking.

I'm very happy with OWASA.

In our household, one of us is fine with the taste, one really dislikes it.

It has tasted of chlorine for some time now.

It is not offensive but it does not always taste fresh. We use a Brita filter at home in order to help the taste a little bit. Often has chemical elements.

It often taste musty or swampy.

Its fine I like cold water so I put it in the brita and then in the fridge and its good to me then

It's ok. But we filter the water we drink or use in cooking, or we use bottled water.

I've known worse (i.e. safe potable water with somewhat unpleasant smell or taste) but it does not taste great; New York City has famously great tasting water for instance.

Most of the time it is very good. However, when the chlorine is used in the Spring, it is terrible

My wife does dislike the taste of the chlorine in March, but we have no issues during the rest of the year.

Nasty taste when pipes are being flushed in March.

Not the best I've had, not the worst

Nothing exceptional.

Occasionally, a whiff of chlorine is noticeable, but that doesn't affect quality, which is about the same as bottled water.

odor is another issue. Certain times of year it's bad

Often notice chlorine smells and taste.

Often tastes and smells like chlorine. I try not to drink it and try to avoid cooking with it.

OWASA water is comparable to bottled water, and in taste to seltzer or sparkling water, not counting the fizz.Familiar with filtration, etc. by OWASA--glad to imbibe OWASA water instead of bottled water. OWASA water is part of the attractiveness of living here.

Smells and tastes not as good as I'm used to

Some chlorine taste

Sometimes in late summer the water gets a hint of lake flavor.
Sometimes is a foul smell to the water.
Sometimes it has a strong "chlorine" taste.
Sometimes it is so chlorinated that you can smell it and taste it.
Sometimes the taste of the "chlorine" is strong.
Sometimes the water from the bathroom faucet tastes odd.
Taste like city water.
Tastes chemically sometimes
Tastes like chlorine
Tastes like poison
Tastes like water
Tastes OK
Thanks for asking
The chlorine taste and smell is unpleasant.
The smell/taste is poor when you change to the organic purification method once or twice per year, but I understand why you have to do that.
The taste seems to vary, but we have an older house and we filter our water.
The water has a strong smell and taste that we need to use water filters for drinking
Too much chlorine.
use a filter for drinking water
Use a full house filtration system.
Use an in-line filter. Unfiltered water tastes OK
usually excellent with a few dips with changes
Very strong chemical taste. Must filter or use bottled water.
Way too much chlorine odor!
We don't drink tap water
We filter all of our drinking water.
We filter our drinking water.
We filter our water before we drink it.
we filter our water but I HATE it during the chlorine months- the smell is awful
We only drink straight from the tap- we let it sit about a minute first then drink it
We recently had our water tested and were shocked to find that the chlorine level in our water was higher than a swimming pool. We also learned that it was hard and had lots of particulates. I don't want to spend 5K on a filtration system to fix this problem.
we use a Britta filter for drinking water
We use a filter
We use a filter to make our water better.
we're previously from an area of michigan that got water from pipeline deep into lake huron. we feared your water would taste poor by comparison, but i can honestly say it tastes pretty good

2. How do you rate the quality (health and safety) of OWASA's drinking water?

As a primary resident in Iowa, I receive pperiodic assessments of the water safety as measured against gov't standards.

As far as I know and hope the quality of the drinking water is fine.

As far as I know!

As I said in the first question, I do drink a lot of water and as for as I am concerned the water is health and safety.

Chlorine level is higher than a swimming pool!

Don't you guys know this? Is the water safe? Shouldn't you be testing for health and safety?

Flouride damages the glands of our bodies

Fluoride in our drinking water is medication without permission.

Fluoride is hazardous waste, and should never be put in a public water supply. Chlorine is hardly better.

Fluoride should be removed

For the typical user, quality comes down to color and taste. Outside of that, determining whether it is healthy/safe is very difficult. We apply a filtration to our OWASA water before we drink it.

Good compared to tap water I've had in many other locations.

Had to put whole house water filter because of reaction to chloromine. We shouldn't have had to incurr that cost to have acceptable water,for personal use.

Hard to say, really, absent other current comparisons to other drinking water providers, with whom I have no experience for obvious reasons (since I live here in Orange Co.!)

Hasn't killed me. Yet.

have not explored the specific standards that you use or what the laws of NC are versus where we moved from

Have not seen any data on it's safety or quality

How would I know it there was a health or safety issue?

How would I know that?

However, I use a filter

http://www.sludgevictims.com/SV2002-2005/0138-069f-North-Carolina.html

I am afraid to drink my tap water because of the poisons that OWASA puts in the water

I am only guessing as we don;t test the water. Can OWASA send consumers test results from an independent source so it isn't just people's opinion?

I assume it is good but don't know how to tell...

I assume it's good.

I base this rating on the water analysis owasa sends out. I have faith that it is acurate.

I didn't read this year's report, but I know that in the past it seemed very good.

I do not want flouridated water.

I don't know of anything bad that has happened by drinking it...

I don't know!! But I trust OWASA...so I suspect it is fine.

I don't want fluoride in my water.

I guess it's good- haven't had problems yet

I have no reason to believe it is unsafe, but no measure of my own of its quality.

I have no way of answering that kind of question without some scientific tests.

I imagine the taste of chemicals means its cleaner than my water back home.

I know that there is a water quality report sent out every year, but I the chemicals listed in the report only cover a fraction of those outlined in the EPA National Primary Drinking Water Regulations. Additionally, MCLs are not health based standards but merely those that are economically feasible. Several of them are also outdated. So while I'm not overly concerned about the health and safety of the drinking water, as a consumer, the information OWASA provides is insufficient for me to determine if the water is healthy and safe.

I really can't speak to that, but I trust that OWASA is monitoring that.

I think it is safe, but very harsh in quality. This results not only in residue on bathroom fixtures but also has a negative impact on skin and hair health.

I trust you to sure quality and believe you when you say you do.

I use unfiltered water to make coffee and have no complaint.

I would like to see fluoride removed from OWASA's drinking water.

I would not drink it without filtering through a reverse osmosis machine.

I'm fairly new here - hope I will get a report of water quality testing occasionally.

I'm not aware of any reason to doubt its health or safety.

In addition to the above, I have compared the month of chlorination (March) to the rest of the year and found a difference in the odors emanating from the sink. Chloramine definitely is worse in this respect (and who knows how many others since there is so little research).

In the past 6 months , it has smelled like sulfur once.

It hasn't caused any health problems but pink shows where water comes from my refrigerator in the water dispenser.

It is unsafe and unhealthy. It contains two known health hazards, chloramines/chlorine and fluoride. I had hypothyroidism for years and had to take thyroid medicine until I found out that fluoride interfered with thyroid and other hormones. Now that I have stopped ingesting OWASA water, I no longer need thyroid medicine and my thyroid is functioning normally. Fluoride is an inessential and unwarranted addition to drinking water. Chlorine is a known human carcinogen. There are far superior ways to disinfect water, but OWASA uses poisons.

It tastes fine. I assume that is both healthy and safe without doing a personal test on the water.

My assumption is that it is safe, but I have never seen any data. I suppose I should be seeking that out.

My doctor told me my kidney stones are probably from the Chapel Hill/Carrboro water supply.

My opinion is uninformed. Never made me sick to my knowledge.

no particulates larger than a baseball have been found in my sinks.

No qualms in using OWASA water for cleaning, medicinal purposes.

OWASA puts toxic chemicals in the water and doesn't test for or do anything about the toxins that are in its water from outside sources.

OWASA's need to cling to the "party line" that fluoridation of drinking water for ALL people using it's water is sad and out-dated, especially given that it is making a health choice for everyone in the community, a health choice that OWAS has no real right to make. Many progressive communities' public water has stopped fluoridating water given the concerns about it, but OWASA (possibly under the influence of the medical/drug community here?) had a chance to do the same but didn't. I asked my dentist about it (he's a local, main-stream dentist trained at UNC) and he said that fluoridation only helps topically, not systemically. It is well-known that fluoridation does depress the immune system, among other things, and it's clear that in this day and age, everyone needs to be STRENGTHENING their immune system, not depressing it more.

recently an acquaintance got an amoeba in his eye from OWASA water and had to eventually have his eye removed. This is very disturbing and have read nothing in the newspaper about the incidence. I hear there are at least 4 more people who have also been affected

Remove fluoride

See above.

See comments above about fluoride. New research has proven that fluoride is not necessary in a municipal water supply for public health.

So far, there have been no health or safety problems I know of. But security is an increasing concern in this day and age. How safe is the water supply against a terrorist attack? You tell us.

Some people near me still have wells and live in the Chapel Hill City limits.

Staff in engineering and field are great, very informative, knowledgeable

Thank you for providing a report each year.

Thank you for sending the water quality reports!

There is no way for me to know this as I have no means of testing the water, but I trust and know that OWASA takes great care for the health and safety of the water we drink.

This question is not really relevant. The general customer ASSUMES the health and safety of the water is good. Unless they read the report card how would they know?

though how would I know?

Too many drugs and pollutants in the water.

Unhappy about the fluoride content

Unsure where to find information about the quality of the water.

Use a full house filtration system.

Very broad statement without any detail. I am sure all the above boxes could be marked.

Water fairly hard.

we drink owasa water after RO filtering, with some mineral water added for taste and nutrition

We use a filter in our fridge before drinking.

Wife prefers to drink filtered water from refreigrator

worry about the chlorine? Is it safe for imuno-compromised people?

would like less fluoride

Wouldn't know as am just new to the area and are not familiar with your standards.

3. Considering the overall quality, reliability and cost of OWASA drinking water and wastewater (sewer) services, how do you rate their value?

I think the water bill is way too high though I have resorted to Flushing every other time

A significant component of the cost is what I pay in filtration systems and media to remove fluorine and chlorine.

Among the most expensive water companies in NC

April - October prices are too high.

Compared to what? You need a baseline here.

Conservation pricing has worked too well. Most people don't water their landscaping because it's too costly.

Cost far too much compared to other areas around the state

Cost is extremely expensive, quadruple of what I normally paid from my previous residence for what I feel like the same quality.

cost is too high-- we conserved water and then yoiu raised water rates because you were not making enough money. Shame on you!!!!!!!!

cost is too much.

cost is very high compared to otherlaces we have lived. I wold love to see a P&L statement and balance sheet to understand how costs relate to other similar size cites/entities.

Cost is very high even given the good quality.

Customers seem to be punished for conserving water. It is not clear Owasa makes a strong effort to keep rates under control. One way to save money would be to eliminate mailing self-serving brochures. Just make this type of info available on your web site.

Don't like increases based on usage, especially if it is rare or you have a problem. It is very expensive, i.e., my bill doubled for two months before OWASA could find the problem.

Expensive

Expensive

Expensive!

Far to expensive

Far too expensive!!

Fluoride should be removed

For some reason my water bill has been higher over the last year, for some months I can account for it but others it is quite unclear to me. It would be nice to have more data on why that would be.

Have had trouble in the past getting my people explained but that is resolved. I do wonder why it is much higher than previously. (No change on my part).

Haven't had an issue yet.

However, it is expensive.

I am of the opinion that the rate change for certain months is unnecessary. When I conserve water, which I have always done, I am charged a higher rate since my consumption decreases, ostensibly to make up for lost revenue lost during this period. It appears to be a catch 22 situation. In this case, the consumer is penalized.....use less water and services but pay more for the privilege.

I don't know much about the wastewater services, so can't make a judgment.

I don't really worry about whether the water mains or sewers will work, nor about contamination, so OWASA gets good marks for that. People tell me OWASA services are expensive - I don't know whether that is true or not.

I feel that water has become unbelievably expensive even though we haven't had drought conditions in two years.

I have been away for three/four weeks in February, August/September, turned off the water and still was charged the same amount... Surprising!

I have lived all over NC and have never paid so much for water. I am a social worker and know of people who have moved b/c they could not afford OWASA

I have lived here a long time so I don't really know how we compare price wise but it does seem that the rates have risen over the years to a point where it might be hard on older people and low income people. Water is essential to life so it's not a luxury. It should be affordable to all.

I have rated this good because I do think our water/sewage rates are high. My average is 2,000 galls and I pay nearly $45 which seems a little costly.

I have seen times where my meter has not been touched for months.

I like that you pay more if more water is used.

I live in Hillsborough - and the rates are too expensive!

I lived in Durham and my water bill was about half what it is now.

I must admit I find your water and service good, but your rates seem high compared to other places I have lived.

I probably value water services more than others and know how inexpensive they are in proportion to what I value.

I say this because my water bill in the past ten years has gone from $65 per month to over $100 per month.

I should not need to purchase a filter to remove the organic materials.

I think the price we pay for water is extremely high. I think that all would be better served if water was priced with less extreme tiers. I would reserve the 'dis-incentive' rates for times of drought or when system is out of capacity. I believe that the UNC investment, eliminating major demand for CHP water, could have been better integrated into long term planning. We have a system, I believe, that is overbuilt and excess costs are unfairly shifted to irrigation users.

I understand that at $1 a bottle, I am getting a deal for 1000 gallons for just a few pennies. Problem with tiered pricing is if I am not using even near that amount, I end up paying more in service charges than for water in the first place. In my scenario, this is a bad deal. I probably could just use bottled water for showers.

I usually use less than 1000g/ month and feel I pay proportionally much more than I should due to basic service charges. If those were less and actual usage charges higher it would incentivize customers to use less water.

I would assume OWASA is a reasonable value, but I have no local experience with another water company for comparison. On moving from Michigan in 2001 we got quite a water bill shock, but then we don't live next to a large lake here.

I would have said 'Excellent' if the cost of water was less.

I'm not familiar with other water-providers' typical costs for consumers.

I'm sure it's better in some places, not as good in other places, and about the same in still other places. but I do not have information I need to make that judgment.

In my opinion the rate is somewhat high for water service

It is of low value because we have to spend time and money to remove the toxic substances OWASA adds to the water.

It seems like OWASA raised their rates during the drought years 2008 - to get people to stop watering their lawns - but once the drought ended - the rates never went back down.

it seems that OWASA is a well-run business. I have found employees responsive to my needs and requests. It's probably the best-tasting city water I know of. Get rid of the fluorine and it's 5 stars!

I've never compared the cost of water services elsewhere.

Looking at my bill they do not check the meteres

Maybe a lower connection fee and more rapidly scaled consumption charges would be my preferred pricing model.

more expensive here than where we moved from

Most people don't know how valuable clean, pure drinking water is - thanks for all you do.

Moved to chapel hill from Durham and the price doubled, even though it's not all that expensive per day, felt like a big increase.

My complaint is that although I use very small amounts of water, I pay a fairly high rate. I believe this is because you have a fixed service charge. I have no incentive to conserve water because this service charge is so high that my water usage makes little difference.

my water bill is higher than my gas and electric bill combined.

Never had a problem with it. It's not cheap, but not outrageous either.

No, my selection to rate their value says it all.

Our bill keeps going up

Our water bills are still too expensive.

Our water has been very reliable, even through years with rainfall shortage.

OWASA continues to have some of the highest overall cost for water in the area.

OWASA has a very well put together team. Good shepherding of who's out on the roads. Staff in the office is very good. Could not be more impressed. Staff is very trustworthy.

OWASA is twice as much as anywhere I have ever lived

OWASA is very high, esp being charged for sewer in summer high water days.

OWASA is WAY more expensive than where we lived in Maryland, 3 times more!! It's like liquid gold.

OWASA prices are very high compared to my previous utilities.

POOR, because OWASA does not provide sewage services to my street (Martha Lane) in Chapel Hill. Yet I pay full freight for OWASA services.

Poor: higher water usage charge from May to September.

Pressure varies a lot in my house.

price is high. Too bad we have to pay to flush good drinking water down the toilet.

price is twice that of what I pay in landlocked Iowa; the midsize city (same size as CH) is not on well water. Quality is OK, but cost is high. Compare OWASA rates to others in Triangle such as Raleigh.

Quite expensive.

rates seem to be going up for similar usage of water on monthly basis

reliability is very good; quality OK; but the fixed charges are too high on residential accts., since UNC switched over to highly treated for irrigation and cooling, thus shifting much cost burden of potable onto residences.

Reliable service, seemingly fair price, no-frills (no complications) website and billing issues. And I assume that the water quality is as reported. Pretty much what I'd expect in a local utility.

Seems a lot more costly than my water/sewer was in Durham.

Seems expensive

Seems my bill keeps going up.

service charges plus use charges plus connection charges plus meter charges!

The cost in Chapel Hill/Carrboro is much higher than in surrounding towns but I understand the need to maintain infrastructure etc with such a small population base. Now if only you had the customer service to go with this!!!

The cost is a little high

The cost is much higher than other municipalities

THE COST IS NOT FAIR. I MOVED HER FROM PENNSYLVANIA WHERE WE ARE BILLED FOR THE EXACT AMOUNT OF WATER AND SEWER USED. NOT ON A TIER SYSTEM. OWASA SHOULD AT THE LEAST SHOW THE EXACT AMOUNT USED TO BE FAIR TO IT'S CUSTOMERS. IT IS NOT FAIR THAT I PAY THE SAME RATE AS SOMEONE USING LESS WATER THAN I PER MONTH.

The cost of OWASA is expensive.

The rates are way too high for what you do. Water is a human right.

The rates for months when I use little water are a bit high but otherwise I am satisfied

Too expensive. Although the quality and reliability are both good, the increase in price for increased usage is too steep (increasing block rates are too expensive). Having a large family puts us in too expensive of a block. Additionally, having friends and extended family visit us bumps us into a significantly higher price block that is even more expensive. When not in times of drought, the increasing block rates are unreasonably high.

Too expensive. Three times what we paid in Memphis.

Very expensive. If you use an irrigation system you pay big $$$

Very good compared to ...? bottled water?

Very high costs. The monthly price rose significantly without any explanation from OWASA.

water bill is too high...

Water in Orange County, NC is high cost

water should be free. it falls from the sky

way too expensive

way too expensive for people on a fixed income

We pay almost like we are buying liquid gold. OWASA is taking full advantage of sole provider/distributor of water supply,

We pay so much more than other communities, it's criminal. I have never lived anywhere where the water cost so much. My family in the Washington, DC area pay a third of what we do. It's ridiculous.

We should all be charged more for water.

We still do not have sewer and live in the OWASA district, Chapel Hill City limits on Old Durham Chapel Hill Rd.

When excluding my comment above.

When ordinary household water costs almost the same per year as heat, something is wrong.

while I have no background to speak to the water quality, and the fact that I have water when I turn on a tap, I guess speaks to its reliability. As to cost, I can only compare it to Chicago as that is where I moved from a year ago; and pricing here is outrageous.

While I realize pricing is based on cost, the current tiered rates are well out of line with surrounding municipalities.

You always want the cost to be cheaper, but the service you provide is really "very good".

Your rates for anything over 2,000 gallons are ridiculous.

Your services are priced too high.

Your water and sewer rates are among the highest in the state.

4. How much do you agree or disagree with the following statement? "If I could choose my water and wastewater provider, I would select OWASA."

Didn't know there was any other options

Although it works right now, in the past I've had problems wit the web site trying to pay my bill. At times I felt you couldn't care less

at least in this community

but I hae nothing to compare with in the selection.

Compared to what/who? If I could get same for lower rates I'd go with the lower rates.

compared to what?

Competition would be better

Couldn't answer until I knew what the other companies were offereing

depends on wat te alternatives are...i'd love to have low cost irrigation source

Don't have a comparison!

Don't have any choice so why ask.

expensive

Fluoride should be removed

For what I get, I would choose someone cheaper.

Go with what I know than the unknown. STrange question though. Is there some thought that Aqua might bid (that would be a disaster)

Good customer service.

Hard to know, never having done a side-by-side comparison with other providers. I believe OWASA is more expensive.

Have nothing to compare with because an monopoly exist.

Having my drinking water not treated with fluoride is extremely important to me.

Horrible customer service.

How can we compare to any other company?

How does OWASA provide wastewater?

http://www.sludgevictims.com/SV2002-2005/0138-069f-North-Carolina.html

I agree but would make some significant modifications in its fee strjucture. See below.

I can't pay on the website I used to be able to do.

I did not think that I had an option. I was under the impression that OWASA is the only game in town, other than bottle water

I do not have anything to compare it to.

I don't have a choice so i don't see how it matters

I don't have a choice so why the question? If I could find a cheaper price with another provider, I would take it.

I don't have anything to compare this water to in terms of other providers in the area, which makes it difficult to respond to this question.

I don't know of another water provider. But I don't dislike OWASA and I think it does a very good job.

I HAVE NO OPTION.

I have no other choices to compare it to.

I would look for someone cheaper or more environmentally/socially conscious.

I would never choose a company that is trying to poison me.

I would probably choose by taste and fluoride. What's the other hypothetical organization offering. It's also a major factor to me that OWASA is community-owned and not privately (criminally) owned.

I would rather be drinking untreated well water

I'd be happy with ANYBODY's sewer connection. Are you kidding me? Take your rose colored glasses off. Service is still lacking within Chapel Hill

I'd have to research other providers

If I could chose another carrier (municipality) at their current rates, I would select a lower cost provider.

If I had an option I would have left already.

If there were a cheaper solution with the same quality, I'd switch.

if there were a choice for similar municipal water service at, say, Raliegh rates, we'd switch

In contrast to another "monopoly" provider (my local cable company), I very much like and trust OWASA. In my experience, you've been 100% reliable, and you provide your services at what seems to me to be a fair monthly cost.

Is there a choice?

Is there another water company to choose from?

It seems a reasonable statement but again, as above, I don't have an informed opinion.

It would depend on the cost

It would depend on the other options

I've had better and worse, so it would depend upon the other choices available.

I've never had a choice, so it would depend on what the other service was like/how much it cost.

lousy question; I'd hate to see the results of this drive policy decisions at OWASA

Most expensive water in NC

My only issue is when there is a problem it is hard to get them to fix it or respond.

My other choice would be ___ ?

never thought about it; have no informed opinion

No alternative available

No choice in town

No, my selection says it all.

owasa forces me to buy their services. i don't have a choice

OWASA has made the life of our neighborhood a complete nightmare for 4 straight months at night. I am a resident at Sunstone Apartments. Your workers have been nothing but rude to all of us as we tried to "survive" your terms of work.

OWASA's water and sewage services are too expensive.

Please do not sell off to a private company.

Please see comments above.

Pricing is too high. For both usage and hook-ups.

Quality is very good; however, us OWASA customers pay too much - we are the highest priced water in the area....

Really? Compared to what? We don't have a choice. This is not a professional question.

seem to be on top of everything

Services are very good

Since I have not had much experience with any other provider over the past 24 years it is once again difficult to judge this.

Sorry, but I find this a nonsensical question. Water is local.

Tell me the alternative and I'll give you an answer

That would depend on the alternatives available.

that would depend on the options that I am provided as opposed to what I currently have in Iowa & have had in other States in which I have lived.

The water is fine, but OWASA's customer service is terrible.

There are a lot of unknown factors for a question like this.
There are no other options. I would choose the most environmentally forward thinking, economic responsible, most affordable option
There is no choice, so it's a silly question.
There is no other alternative!
this is a bad question, is there another choice. Can I compare the two providers?
This is just a weird question. You are the water people. I never think about this...
Too expensive. Have stopped raising cost lately though. Way to high a cost. Need consolidate with other providers
We don't really have a choice
What a stupid question. What other options do we have?
What are the options?
What is the alternative? Meaningless question without that information.
what other choice is there
What other options are there besides drilling a well and installing a septic tank?
What other provider is there?
what's the alternative?
When we moved we looked for places with well water to avoid you
Who else is there?
Who would compete?
Without any alternative for comparison, I don't have the information necessary to answer this question.
Would depend on what alternative sources were available.
Would have to learn about the alternatives.

5. How much do you agree or disagree with the following statement? "I trust OWASA to make good decisions about providing its services for the community."

"Trust" implies a relationship. We do not have much of a relationship.

Again, the fluoride thing, but other than that, the business decisions and energy- , land- and water-conservation decisions of OWASA have been great!

All OWASA employees seem to not be interested in what they do based on my interactions and observations.

By putting fluoride (essentially rat poison) in our drinking water, OWASA has demonstrated an inability to make good decisions.

Considering I have not choice in the matter, I EXPECT you to make the best decisions.

except for price structuring, with fixed cost this high

Fluoride is a totally unnecessary to drinking water and should be a matter of personal choice. There is no good reason that OWASA should force the community to ingest poisons on the basis of lies about benefits promoted by greedy corporations to sell toxic waste products from industrial processes.

Fluoride should be removed

http://www.sludgevictims.com/SV2002-2005/0138-069f-North-Carolina.html

I also appreciate all the good communications -- but I need to opt out of receiving reports in the mail, so much paper waste. my bad, I'll do it a.s.a.p.

I believe that OWASA's intentions are good but feedback to leaders is futile.

I don't feel that you provide a viable assistance when people cannot pay for their bills. The half down and the rest in two weeks is not ideal for a person who gets paid monthly. Better working terms should be available to the public in times of crisis.

I don't trust your political appointees that have their buddies put them at OWASA.

I don't worry a lot about it, which translates into some trust.

I feel the community should be involved to some degree.

I have lived in many other counties and never had an issue until I came to Orange County. That says a lot.

I have to expect that your first concern is profitability

I haven't trusted OWASA since the year of the big drought (2007?) when there was all the pressure to conserve water and then, when water use dropped, everyone was charged at higher rates. Did those rates ever go down again? I think not.

I hope OWASA takes in consideration the feedback from this and other surveys

I like the energy and climate awareness that I hear about from you.

I think OWASA makes decisions on what's best for itself.

I understand the do the best they can

I worry providers will get behind on maintenance of the system to avoid raising rates.

I would like to have clear and timely communication on drinking water treatment status, additives, changes, current test results. Create a public "dashboard" web site with summary tables and provide links to detail data.

In the things I've read, it seems that OWASA makes many judicious decisions about its services.

It's a monopoly. We have no choice.

I've had bad experiences with OWASA in the past

I've seen no evidence that OWASA like any other bureaucracy would do anything other than what OWASA thought was best for OWASA.

Let me hear from you regarding cessation of fluoridation, with scientific studies backing up OWASA's policy.

Many good decisions, but decisive action to obtain Jordan Lake water during shortages puts an artifical barrier to legitimate water uses. This is not necessary, nor is it serving the customer base.

Maybe it is the contrast with the other utilities, but OWASA is clearly the winner for me... more a sense of local-ness, perhaps than anything else. Or maybe the contrast with (awful and mean) Duke Energy...

Mostly trust except skeptical about spraying treated water on farmland

No, my selection says it all.

One can only hope that those who make the decisions know what they are doing.

OWASA is small enough and well governed by the OWASA board.

OWASA should consider removing any fluoride from it's water supply.

See above. I am paying OWASA fees but do not have sewage service here in Chapel Hill.

sorry, but do not know enough about your company in terms of previous policies, changes and future plans to make a sound decision

Sorry, I don't really know about OWASA's decisions.

The computer changeover was a disaster. It mangled my information including my customer number. Poor management.

The times water service has disrupted our supply, communication was fast. However, I think owasa should consider a quick text program where you could text your customers all at once if a main has broken, etc. would save paper, labor, etc.

The use of motor boats on reservoirs should be highly regulated and extremely limited.

They should verbalize opposition to fracking in Orange County.

Transparency.

We do not trust our representatives, we expect them to make decisions inline with the community demands. When there is conflict those issues are brought back to the community. This is not trust, this simple process - no faith required.

We live on the Cedar Fork Creek easement. In the past OWASA has coordinated with us re. trimming the easement beyond our lawn but this year has not..

You are a monopoly.

You have good and sincere people on your board and Ed Kerwin has an established reputation.

You've failed so far. Old Durham Chapel Hill Road and N. White Oak are without sewer. Go to ____.

6. Please give us your preferences for receiving information from OWASA.

Yikyak

All of these PR effort making it so costly for the consumer

Annual report.

Annual water & sewer treatment report card is excellent.

as long as water it provided to and waste water removed, I really don't want to hear from you.

Better communication somrtimes means having to knock on the door of the customer whose water is about to be turned off because of work on an easement for a neighboring property. You REALLY have to work on better training for your engineers in the field!!!

Blue Thumb newletter seems wasteful to me.

Brief emails or texts which direct to full information at website or Facebook are good!

Build a kiosk at the stairs to OWASA, out of the rain, with a video monitor of current and frequently requested information. Also consider video monitor at libraries and cybraries. These would be alternatives to paper mail.

Customer service accessibility

Depends on what is communicated and how easily it can be found/retrieved.

Don't do Twitter

Don't hurt yourselves patting each other on the backs.

don't receive a printed bill

don't waste paper

email

e-mail option for blue thumb?

For important information, I prefer direct electronic contact. I'm too likely to miss a social media post.

I appreciate you making it easy for me to learn about OWASA...sometimes I feel bad that I just do not have time to read the newsletter.

I can state that my recent interactions with your website was an extreme disappointment. But then I phoned your customer service area and they were worse. Includes base line customer rep (who didn't know your rules to the supervisor who swore that she would respond to my email and despite going out 3x before giving up over 2 days she simply lied to me.

I do not have any additional comments.

I don't know what the blue thumb newsletter is.

I don't twit or face so don't use that stuff

I don't use Facebook or Twitter much.

I don't use Facebook or Twitter, but I do read enclosures with the monthly bill. I have used the website, but it is not well organized to find information.

I don't use Twitter or Facebook.

I have not seen the Blue Thumb newsletter. How do I get a copy?

I just always need a paper copy of bill -sometimes computers die

I only go to website to get bill. Don't have twitter or facebook. OWASA information would not be seen if it were on social networks.

I only need one *New Invoice* notice for a bill. It is very confusing when the email is sent multiple times before the due date. And the new web interface/billing portal is not terribly user friendly. It is not intuitive and a step backwards from the old interface - from a UX perspective

I shouldn't have to go looking for your information, and I shouldn't have to have a twitter or facebook account to get it.

I'm all for saving the trees! :) Electronic is better than paper.

In general, I like it to be paperless and consolidated/consistent so I can easily reference it later if needed (basically the opposite of Twitter)

Independent test results on quality of water

It depends on what type of information - my only really strong preference for this is emergency notices should be on Twitter and email. Maybe even text!

It would be great to get the exact mirror images of my paper mail by email as well.

Keep a low tech option.

like auto bill pay on credit card

like the Blue Thumb--water data, new people. Nice to hold in hand. Things get lost in mail. Everyone is gracious.

Like the water statement text

Minimum of 1,000 gallons should be lower for one person households.

My account is set up on draft and I selected not to receive a paper bill.

N/A

new website much more annoying to use

no opinion on other options

Owasa bill lead time to due is shorter than all others.

Please don't use social media as the only method of transmitting mandatory information.

Please stop spending money on fancy and expensive color publications, and reduce the monthly water bills.

Please, no "social" media for information. I do not and don't expect to be involved in "social" media.

Prefer bills by us mail, all other by email.

Public Announcement

Really like the Blue Thumb - keep up the great work!

Recently we had a leak around the water meter. Within an hour it was inspected and corrected

Since my relationship with OWASA is for business, I do not want to be involved via a "social network" such as twitter or face book. My interaction with OWASA is not for public or social viewing.

Text messaging to phone but only in case of emergency or notice might also be preferred

The new billing system transition was a pain

The new website interface for viewing bills, etc., is much less user friendly than before. You need to go back to the drawing board on that one.

tried to sign up for emergency notice but my computer would not recognize it

Twitter should be for emergency notifications and all-clear messages only. Don't sent paper junk mail. Do improve content and communication on web site, add a "dashboard".

via a smart water meter display inside my house

Website was much more user friendly before you changed it!!!

what if bill comes with apartment bill? will they include notices?

Why do you mail anything

Why doesn't OWASA have a Facebook page? I live in Carrboro and they and Chapel Hill have great Facebook pages.

With a printed copy one can read the information when time allows.

You need an N/A category (I don't have a Twitter account

YouTube? Instagram?

7. How do you prefer to provide feedback and/or ask questions of OWASA?

comment form on OWASA website

Contact through the website would be good, but the website is not easy to navigate!

Depends on what we need to discuss.

Existing newsletter link to web site

Face-to-face is really the only way to guarantee a response.

Face-to-face? Are you kidding? You don't answer the phone only email seems to work.

Fluoride should be removed

Form on the website

I communicate by phone.

I do not have any additional comments.

I have attended Board meetings to express my views and prefer this method to communicate with the Board because I am able to get a direct response.

I have attended very productive meetings for my neighborhood when OWASA had to do some work that would affect us

I have tried a couple of times over the last 10 years to arrange for some service with no success whatsoever...

I like this survey

I think feedback is important, and I am willing to concede my preferences to do so. Any alternate means should be easy to access and be available either frequently or open for a long period of time to help busy people work around their schedules, which can, periodically, be prohibitive in allowing sufficient time to participate. Frequent reminders can also be helpful. Additionally, some sort of incentive (either in the form of a reasonable/appropriate credit on the customers' bills or a prize of some sort) should be offered in exchange for taking the time to participate. Of course, it seems reasonable to me to impose limits/restrictions based on the quality of feedback. It would also be helpful to, at least occasionally, and as appropriate, communicate OWASA's goals in seeking feedback and, again as reasonable/appropriate, communicate any proposed changes/initiatives they are considering, allowing customers to indicate their preferences, concerns, and suggestions about the questions at hand. Also, updates from OWASA about the health, quality, and amount of available water/estimates of water "surplus"--if indeed such a thing exists--or relative scarcity would be helpful and appreciated. I think it may lead some to monitor/regulate their own water use if they are kept apprised of current trends in water supply, both in quality and amount of available (drinking) water supply. Again, some sort of credit/incentive for making positive changes in personal water usage would encourage/motivate some to change some of their habits/behavior. These changes can be hard to make, especially for large, busy families with children, which can be difficult to monitor/regulate their water use. Also, decreasing water use, or more accurately, "water waste," can cost customers a good deal of money, especially those in older homes with old and ageing pipes and fixtures. Making positive changes can be be time consuming and costly, preventing/delaying customers who may want to decrease their burden on the system from doing so. Free, or subsidized/cheap, household "water audits"/walkthroughs would be convenient, beneficial, and appreciated. They would also offer customers a chance to provide, more useful, higher quality feedback to OWASA. These could primarily target those homes/customers whose water usage is either significantly lower or significantly higher than either the overall average for OWASA customers or for the specific area/neighborhood in which they live.

It all depends on the subject matter at hand.

It doesn't do any good to call OWASA, the people on the phone ard no help.

Like telephone but too long a wait when first dial to get someone in customer service

Live chat might be a nice option if it's cost-effective.

local newspaper media (i.e., Chapel Hill News)

My responses to the above questions would depend largely on the nature of the questions and the seriousness of the issue.

My time is precious, so I appreciate flexibility in options.

online chat

OWASA's job is many times thankless. The priority is water quality. Avooid something technological [social media] which could throw a monkey wrench. Great outreach to the community.

So far I have not felt the need to provide feedback or ask questions.

Survey is good, web site feedback would be good.

Survey monkey

Surveys like this are OK

Telephone if necessary; generally prefer email

The OWSA website - e.g., responding to this survey

The workers have always been rude to all of us at Sunstone. Also, your drivers are always on the phone while driving!!!

U. S. Mail

US mail is fine

Via website, such as this survey.

Why should I have to contact OWASA for anything?

you have good customer service people.

You have the best phone customer service in the universe and I mean that. I love calling OWASA! Too funny...but it is true, y'all are so kind and friendly.

(Question 8 was about age--no comments)

9. What suggestions do you have for OWASA to improve its service?

I am happy to have my water bill include money for those who need help with their water bill. I sincerely hope these families are also being regularly encouraged to conserve water

1. Recently I had 3 months of OWASA bills that were unusually high. I had considerable difficulty to talk with someone regarding this matter. 2. When the water meter reader comes by the house, he does not greet me when I happen to be outside in the yard.

A better website.

actually read the meters monthly, stay strong in making the water as clean as possible.

Add 1 week between bill date and due date. Owasa bill is always due ahead of all others (shorter lead time), inconvenient for cash flow and for travel planning.

Add usage data to the new website and make it easier to see in detail how a dwelling uses water. Also, engage more to show the community how to reduce its water usage.

Additional water usage during the summer is almost always due to outdoor watering, so it would be nice if that would be taken into consideration when computing sewer services.

Advanced metering

Allow a community garden at the top of Nunn Mountain. It looks like the antenna field has now been relocated to the water tower itself.

Allow further public use of OWASA lands for low to moderate recreational uses. Access to University lake in particular should be expanded to include hiking and mountain biking.

Already given. Keep going. For the most part OWASA is a great local, community-owned organization.

Although we are relocating to FL, we'd still like to see owasa customers get a fee structure that has lower fixed fees, and thus rewards conservation. As it is now, residents still have to pay ~$26/mo if they don't use a single drop of water.

As mentioned, the minimum water amount of 1,000 gallons should be lower as my home is a one person household and rarely do I use 1,000 gallons unless I have family visiting me. Thank you.

Automate meter reading. Explore automating other tasks. Merge with Durham Water Utility.

Bank of America has a "keep the change" savings option, where if you spend only $6.21 on something, it will take the change rounding up to the next dollar (in this case, .79) and add it to your savings account. This would be a neat feature for the donation section of your payment process. So if my bill was only $30. 55, I could choose to just bump up the cost to $31, donating .45 to the fund.

Be forthcoming with information regarding status of service, improvements, interruptions and quality of product. No gobbledegook.

Be proactive in opposing fracking.

Being mindful of the rates such that is is affordable to all.

Better customer service people. Yours are rude and never help anyway.

Better tasting organic purification protocol?

Can the water be made to be less harsh? That is a question and not a request, because I don't know if it would even be possible or financially feasible.

Can you eliminate the orange tinge that is left in a white glass?

Can't think of any—I appreciate the way OWASA communicates with and responds to customers. I've been a customer since 1980!

Can't wash soap off very well. A little too expensive. Always helpful when I call with a question or need.

Cease fluoridation.

Change policy of not adjusting charge after a leak is found and repaired if adjustment made in the past even when documentation is provided for another incident.

Change the water billing to be per gallon, not 1000 gallons, so our bills doesn't fluctuate so wildly each month.

Charge the same rate for all water.

CHEAPER

Clarify the rights and responsibilities of property owners who live on an easement, the Town of CH, and OWASA.

Come up with a fairer system of charging users with very low water usage.

Complimentary testing quarterly.

Consumers perspective should be consider during for the pricing of the OWASA products.

Continue the pattern of not raising rates.

Continue to look at who is and isn't on OWASA and for what reasons. I'm glad to hear Rogers Road is beginning to get service....

Continuous feedback to homeowner of water usage via Internet (IoT) would help spot leaks early and moderate usage behaviors.

Create a web site dashboard.

Customer service, the one time I stopped in, to inquire about Taste of Hope program, was inadequate to poor. It was so off-putting that the thought of calling OWASA up to ask a question about my bill is unpleasant (given that I might get someone as dismissive and uncommunicative as I got last time when I visited).

Decrease the price for water usage. The increase in price for increase usage is too steep (increasing block rates are too expensive). Having a large family puts us in too expensive of a block. Additionally, having friends and extended family visit us bumps us into a significantly higher price block that is even more expensive. When not in times of drought, the increasing block rates are unreasonably high.

Distribute blue tabs to check toilet leaks when monthly total water use seems out of wack but cannot hear water leaking from toilets (and have checked for faucets leaking).

Do not allow water quality to suffer due to lack of funds or funding. "Work smarter."

Doing a wonderful job--expensive but I know it has to be.

Don't like new website. Prefer username instead of email address for log in. Don't like captcha.

Don't pump chemicals through the drinking water system.

Educate the public about the value they are getting for their money. include comparisons of bottled water cost v. OWASA.

Education on: conservation, and water quality (softening during certain times of year).

Estimated readings need to be fully reconciled in subsequent months with actual readings. Consistently over estimating water usage results in consistent over charging of customers because the cost of water goes up, per unit, with usage and does not simply average out during months of actual readings. Systematically over charging customers could result in legal action, so OWASA should take measure to avoid this.

Find a way to get rid of red rings that water leaves in toilets, sinks, tubs, water bowls, etc

Find a way to lower our bills and provide smaller usage amount divisions (by 500 gallons) on the rate structure of our bills.

Find creative ways to lower the monthly price - those service fees, even if I don't use a drop of water or ever flush the toilet, are still VERY high (higher than my previous TOTAL bills, on average, at my previous two apartment homes in Carrboro over the last 8 years).

Fire whomever made your webpage or at least the logic behind it. I can think of no better example of how the exigencies of computer programming have made a ___ out of common sense, simple human interaction.

First, improve the taste of the water. I am currently in Paris for 2 months. Tap water is absolutely delicious. No aftertaste. Second, have a billing system that makes sense... As stated above, when I am away and turn off the water at the main, I still get charged the same thing or something which seems high given the lack of use.

Fluoride should be removed

Get better billing systems in place.

Get the cost of water down. We pay far too much. Just provide water, get out of the social engineering business.

Give more warning when y9u are going to overhaul your website and will require things like account numbers to access the new website. I HAD NO COMMUNICATION FROM YOU THAT HAD MY ACCOUNT NO ON IT NOT EVEN A BILL. I had to call you office to get the number so I could look at my bill.

Give people incentives to save water. The amount of water I use seems to have little impact on my bill.

Inform people of the costs for using water.

Go to websites of other vendors to see how fast and easy it is to pay a bill from them. Then fix your website to make it just as quick and easy.

Great service already.

Great service, thanks for the updates to the website.

Have a better online system to pay bill because this new system takes way too long.

Hire an external consulting agency to show you what you should be doing to satisfy the customers.

Hire new customer service people. Yours are useless when I call.

How about a joint venture with the towns of Carrboro and Chapel Hill to install drinking fountains specially designed to refill water bottles. The continued sale of water in plastic bottles in unnecessary and environmentally unsound. This would be great PR for OWASA - we would actually be drinking local water!!

How do I get a copy of your Blue Thumb newsletter?

I appreciate you asking for our input on these issues via this survey, which is why I chose to respond. No other suggestions at present. Keep up the good work!

I asked for a check on my meter- which apparently was done but no one told me. I had to call back and ask.

I can think of none. Thank you for your excellent product and service.

I consider OWASA to be a well-run organization and its Board willing to entertain resident suggestions.

I do not have any suggestions except that OWASA should continue the work that they are doing which is excellent.

I do think it's interesting how, over the years, when we've been asked to conserve water (and do!), the price goes up. Everything else, though, is lovely!

I don't feel the "improved" billing site was an improvement. It is more confusing than the old one.

I don't have any basis to form an opinion of OWASA, which I think shows that you could do a better job of telling your story. No Facebook, no YouTube, and your Twitter feed is just boring news release type stuff. It is not engaging at all, feels very old/stale. I have no idea what you guys are doing over there because you are not were I am: on the internet in the 21st century.

I had a challenge in that I could not make an advance payment on my account. I was able to speak to an OWASA Representative, the challenge was resolved. "Thank You!!!"

I have been pleased with response when there are problems with burst pipes and such

I have heard you will be installing meters that are more precise, and if so that will be an improvement. It would be nice if you had a service like Duke Energy where someone came out and told you how you could save water.

I have no suggestions.

I have not been sure that my meter is always read accurately. We are VERY mindful of water usage and conservation and sometimes it seems that our usage on the bill doesn't reflect our actual usage. As a matter of fact, one month when I questioned the bill, I was told it had not been correct and was given a refund. I have been VERY impressed with the customer service representatives overall. Very responsive. Thanks.

I have only lived here two months and so my answers are vague for now You should ask in survey how long someone has had your services
I know that OWASA only has to meet federal drinking water standards, EPA MCLs, but it would be nice to see OWASA take additional steps that exceed these minimum standards of quality.
I like OWASA which i perceived as a community/customer/service caring company. Thanks for our quality services and quick responses.
I like the way OWASA staff relates to the public and tries to keep up informed
I live alone and have a $100 monthly bill, are you kidding me???
I live in Timberlyne. My basin and shower head have orange-colored stains from the water. ???
I love OWASA. Please never become like Duke Energy. I hate them and my mom taught me not to use the word "hate" but I hate Duke Energy. They screwed up our beautiful state and made a profit off it. Owasa, on the other hand, is kind. The people are nice, when you are late with your payment. They understand that this is their community and that the customer is an important part of the equation. I am a business customer of OWASA too. I'm serious that I love y'all - thank you!!!
I love the new on-line portal, although I feel like I have to take too many steps to see my current bill and whether my past payment posted.
I paid my bill last month using your "improved" online bill payment. Apparently, the charge didn't go through, but I got no notification until today, when I received a notice that I'm past due. I went to try to pay again, and the website will NOT let me pay. This is completely ridiculous; the old website worked just fine. In trying to "improve" something, you've made it impossible to use. Your water quality is fine, but you appear to think that it's 1970. Catch up, and get a usable online payment method.
I plan to send out a sample of our water for independent testing as a precautionary testing; nothing to say at present that anythink is amiss. If there are specific educational letters, memos etc, it is useful to receive a notice by email giving the URL to where to find the note. Thanks
I question the accuracy of OWASA's meter reading. There are no fluctuations in our habits but there certainly are on the monthly bill.
I still am not sure why I receive a bill when I use <1000 gallons a month (which owasa considers essentially no measureable water useage). I try hard to conserve. one might think that is a good thing thanks
I suggest that OWASA use ultraviolet light, proven effective by the Boston Water and Sewer Commission for years, to disinfect water. And for everyone's health, stop adding fluoride.

Continued on the next page

I think it would help if customers were more aware of the costs associated with both their personal water use and for the community overall and how how this affects OWASA's bottom line and customer water bills. Feedback on what individuals/communities can do to help OWASA decrease the cost of their services for everyone, I think will significantly increase our collective efforts to preserve/protect water security for the region and control/sustain/reduce costs for individual customers. It may be that price increases are inevitable, and in this case, it would be helpful for customers to understand the reasons for this, projections/estimates (presented in both percentages and projected dollar amounts) of future costs to customers if current levels of individual/community water use is sustained, or system efficiencies/improvements not developed (OWASA and OWASA customer might be able to partner/work collaboratively to achieve these goals). These projections could be reflected in a separate communication presented with monthly water bills, along with periodic--either quarterly or yearly--updates of collective progress, stagnation, or regression in collective progress toward these goals. In essence, better communication about process/system improvements, challenges--structural, financial, political or otherwise--and/or bottlenecks/stagnation/deadlocks in or with OWASA's service(s) would be helpful, appreciated, motivating, etc. If we understand more about the current "state of things," what when can do collectively/individually to help actualize positive change (if needed), the consequences (financial or otherwise) of failing to do so, and what this means for everyone's bottom line/existential security lays out what is at stake, how it will affect individuals/families personally, whether we're moving backward or forward, and motivate customers to do more, knowing they have "skin in the game" and how much it will hurt/put them at risk if it is torn away. Personal change, community activism, and collective political action may be needed, now or in the future, and this can help inspire, motivate, drive these efforts toward progress/benefit for all. Also, the pipe dream (pun intended) of heated water pipes/sewer systems, or alternative free household means to save water in the winter by not having to wait "forever" for freezing cold water to heat up enough to create a sufficient amount of steam would be wonderful! But also nigh near impossible. Thus, I've been hoarding away pennies to eventually figure something out (I think you have to buy some special water heater or electric add-on tank?). But, seriously, waiting for sink water to warm up enough to wash dishes/dissolve food stuck on plates, and bath/shower water to heat up probably wastes countless gallons of water. Any helpful/cost effective suggestions or solutions that OWASA could send out to customers would not only help individuals decrease water waste, but, more importantly show that OWASA is in touch with the real world/practical challenges customer face when it comes to decreasing water usage. This not only shows that OWASA is "tapped in" to the everyday reality of their customers but also that they understand and appreciate these challenges and are being proactive about helping their users conserve water in a significant, realistic way. Customers can only replace/fix/modify their toilets so much. What then? (Plus, the unfortunate reality that high-efficiency toilets are low-efficiency when it comes to successfully transporting solid waste down into the sewer system, often requiring two or more flushes. Does this, then, actually save water or use more of it? How can one even know? I reckon that almost everyone is in favor of conserving water, saving money, and improving their quality of life--but those things are hard to do, and absent awareness of real, achievable goals/actions individuals and families can make, people tend to think that they are already doing as much as they can. They'd like to do more, of course, but what can they do? Their hands are tied.The ropes may not be real, but we feel them all the same. I'm not sure if any of this is helpful, but it's the best that I can offer at this time. I've already "wasted" an hour and fifteen minutes of my workday completing this survey. What can I say? I care, I just don't know where I should direct it.

I think y'all are great. Keep up the good work!

I think you do an excellent job on your quality, maintenance and service and my only grumble is the cost of this service. When I have visitors to stay and the usage goes up the bill can be quite onerous to someone on a fixed retirement income.

I think you need second backup service that your measurement and bill is correct.

I turn on faucet, get water, pay, what's to say?

I was disappointed to learn that there are no credits offered for installing low-flow toilets recently. Incentivizing these kind of home improvements is win-win for customers and the utility.

I wish OWASA's PH were not kept so high. It is bad for plants, especially tropicals which prefer a PH of around 7, certainly not 8.2!

I wish we had the option to move off of septic.

I would like less chlorine in the water

I would love a smart water meter, so I can see my daily water usage (and daily bill), rather than having to wait until the following month. That would help me figure out where my water usage is coming from. Thanks!

I would love to get a report on the cleanliness/quality of the water or some kind of information on how much of the toxins you are able to remove. Also, I would be much happier if we did not fluorinate our water.

Identify and eliminate septic systems in older neighborhoods within the town limits. This should be a capital project designed to improve overall health to the environment. There are current homeowners in old neighborhoods who do not even know they have septic systems and therefore do not maintain them. This is a serious environmental issue. Please contact me for additional comment.

If possible, please send an e-mail notification when someone's water usage increases to an unusually high level. I had a running toilet but did not call a plumber for over a week after I shut off the water line to the toilet and thought that would stop losses. The line must have leaked because my water consumption skyrocketed to ~3000 gallons that month. If I had known the leak was that bad, I would have called the plumber ASAP.

If you manage the sewer lines in Chapel Hill, time for an upgrade. Hopefully the approved bond initiatives will help you do that!

I'll use this survey to again submit my opinion on the tiered rates. I think they are yet another tax on CH citizens that are burdened with high property tax values and rates. Your exorbitant 2nd (irrigation meter) install fee is too penal as are the sewer rates on water you can easily establish is being used for landscaping.

I'm concerned about the use of fluoride in our water. I would like to see it discontinued and wonder if this has been brought up as a possibility in the past. I'm also concerned that treated wastewater is returned to our drinking water sources. I'd like to know more why this is done. On the face of it, it just seem like a really bad idea to me.

I'm happy!

I'm not a huge fan of Duke Energy, but I love their light bulb program, both for the green initiative/motivation, and because who doesn't like free stuff? Do you have any programs like this currently or in the works?

I'm pleased with the service I received,and I really like that I can pay my bill on line☺

Improve on-line billing so it replicates a paper bill exactly

Improve your website and especially the methodology for accessing invoices. At present there are too many steps to get from the link in the email to the pdf of the account. And asking for a security "word" is just ridiculous; something that is not even needed by my bank and credit card companies

increase recreation opportunities

Information about water recycling, rain capture, grey water usage would be great.

It should be prohibited to put organic matter in the sink, it increases the load for sewage water treatment. Organic matter has to be composted, like in other parts of the civilized world. Water consumption should be reduced significantly.

It would be nice to have an on-line payment option where there is't an additional service fee and that doesn't involve automatic payments.

It would be nice to know exactly how much water we use each month rather than rounded off to the nearest 1000. Knowing exactly how much we use each month provides a way to gauge the effectiveness of any water conservation efforts on our part.

It's fine.

I've become concerned about the presence of chloramines in OWASA water since a plumber told me recently that chloramines were the cause of the degradation of valves in my tankless hot water system. Thank you for providing the information that you do about this topic on your website. I understand the public health benefit and accept the tradeoff. Please keep up to date on treatment technologies that might be developed that would allow OWASA to avoid this compromise, and continue to publicize what customers might be able to do to manage the impact on plumbing fixtures.

just to continue ensuring the reliability of safe drinking water to our community.

Keep easements cleared, where there is above-ground waste pipes, etc.

Keep it up. But lower costs please.

keep our drinking water safe and clean;fight against fracking; keep boats with engines out of University Lake; help the community conserve water;

Keep pressure constant.

keep the quality, but too expensive

Keep up the good work and make developers put in their own up-graded systems when the build.

Keep up the good work.

Keep up the great work!

Keep up the high quality work!

Keep up the infrastructure replacement and maintenance programs. Do not accept or allow the system to deteriorate. Thank you for the excellent water and services.

Keep up with the good work providing safe and clean drinking water to our community. It means a lot to your family and children growing up in this community that they have access to drinking water without harmful contaminants. Thank you

Less paper. Seems wasteful when asking to be conservative with water, but wasteful with mail and paper.

Let us know what you're doing to encourage residents to use less water and other environmentally-friendly measures; give away rain buckets!

Look at the town of Hillsborough - and fix the pricing/rate system. Why the town pays half the rate of those outside is crazy. Also, sporadic "increases in usage" causing high costs are all too common - the residents of Churton grove think the town is tweaking the meters to drive higher revenue. It happens all too often to the residents.

lower cost to consumer

lower its price!

Lower prices

Lower prices

Lower prices

Lower prices.

lower rates

Lower rates

Lower rates, especially for a standard, minimum usage. First 1000 or 2000 gal./month especially should be cheaper. You could structure rates so that total revenue was same overall, by at the same time increasing rates for the bigger users.

lower the cost

Lower the cost...Even homes that are trying to conserve water find the cost of OWASA services burdensome.

Lower the price

Lower the price of water. You had us all conserve water when we had the drought several years ago, but then you did not get enough revenue, so you charged us more for conserving. I consider that a punishment for conservation, not a reward.

LOWER THE RATES!!! You ask us to conserve, so we do, then you jack up the rates to cover lost revenue. Also, offer inspections if the customer suspects a leak - we had a huge water bill last month, you sent us a notice that it looked unusual, but offered no assistance to determine if it is a true problem or whether you mis-read our water meter last month ($83 one month, $558 next month, back down to $83 the third month - with no changes in our habits and no leaks.

Lower the rates.

Maintain your sewer easements so they have less impact on creeks-better vegetation management and less erosion

Make a category for domestic partner to put two names on bill

make easement maps available on your website thru a GIS service; also make it easier for non-sewer connected residents to get easements and connect to sewer at low cost (the connection costs and contractor costs are dissuasive). Make low interest loan options or information on where to get them easily available

Make he website more user friendly

Make the installation of non-potable water meters more affordable so people have the option to install those and avoid wasting water with less efficient watering methods in their yards. While we have a watering system already, others waste water because the installation of a new meter is prohibitively expensive.

Make the website easy and intuitive in terms of account access and payment of the bill. Do not utilize excess security because while it may help it's aggravating for the user who is trying to quickly assess what they owe and pay their bill.

Make the website more friendly.

Make your automate phone system a bit more speedy.

Mebane has better tasting water. More like spring water.

More flexibility with working with people to pay their bills lower prices

More information distributed on how the water is treated, kept clean, and how we know we can trust the water distribution system pipes.

More transparency of costs and optional choices that OWASA is making. This might be available but I haven't seen. To show value comparison to similar size cities/entities using retention means to hold water for drinking. Shouldn't be compared to similar size entities that pump well/ground water.

move toward becoming more energy independent.

My only criticism is that our water/sewer service is quite expensive. I use varyingly 2 or 3 units per month, and $45-ish or $57-ish is too much. I would expect $35-ish and $45-ish, respectively.

N/A

N/a

n/a

NO flouride in drinking water! Find some alternate to chlorine in drinking water!

No specific suggestions, but I would like to add that your employees are always so friendly and courteous. Our house is across from an OWASA easement and whenever OWASA employees are working there they are always pleasant and answer question as to the nature of the work they are doing. They also leave the area as they found it (no trash or debris) and are respectful of the neighborhood where they are working. I really appreciate their friendliness.

No suggestion regarding services. I understand demand is higher in the warmer months but think doubling the price of water is too high a price.

No suggestions.

No suggestions. Your service is excellent. Your staff is excellent in helping your customers.

none

none

None

none

none

none

none

None at this time.

None at this time. Service is reliable.

None at this time; service entirely satisfactory.

None. I think you do a good job!

None. So far as I can tell, you guys do a good job. Keep it up.

Nosuggestions; keep up the good work!

Not any complaints, have been consistently impressed with fast, clear communication with projects, water issues. Also, I love the sign outside owasa that tells how much water we have.

not knowledgeable enough to have a fair suggestion.

Not really enjoying the new online billing. Every month I get a notice that I don't need to do anything. Then a few days later get a notice that I need to fix something right now. It worked fine for me before the change.

Not sure whether chlorine smell noted above is system wide or local, but it is a distinct end-user problem.

Nothing at this time.

Once and for all, develop a culvert system that works on Umstead Dr, rather than one that backs up onto the road after 2 hrs of rain. Pedestrians get drenched!

Open lakes for fishing and boating during the week.

Open up to new innovative, natural, organic ways to purify the water. Discontinue the harmful clorine, fluoride and God knows what else you put in the water.

Over the last several years I have pleaded for a change in OWASA's sewage charge for outside water usage. I have met with the Executive Director and talked with the Chief Financial Officer. My concern and recommendation fell on deaf ears. It's unjust enrichment for sewage charges to be applied to outside water usage. I provided an almost no cost way to use the winter quarter usage as a baseline. OWASA officials continue to blow me off. It past time to make a change.

overall I'm very pleased with OWASA

OWASA does a very good job. I have no specific concerns.

OWASA doesn't charge customer by the water used on the meter. Customers are charged by the 1000's of gallon. If a customer used 1009 gallon, the customer will be charged as 2000 gallons (?) This is not fair.

OWASA is great! I have only good things to say about you guys. I had an issue earlier this year and called the number and the two men I spoke with were extremely nice friendly and caring, got it resolved asap. They were wonderful :D A+++ Thank you for what you do !!

OWASA's great.

OWASA's new website is not customer friendly at all. It's implementation was clumsy and illogical. OWASA blocked me from logging in because of the new website. I needed an account number to re-register, but all of my bills had been online for years. I couldn't find my account number without logging in. How did nobody at OWASA foresee that issue? When I called OWASA the people were not friendly, and acted like I had done something wrong. Then I would get emails saying my bill was ready. I'd login, and there was no bill. When I called I was told I just needed to re-register. I told her I had re-registered. She said I just needed to be patient because my bill would eventually be ready. Why would OWASA email me that my bill was ready, then act annoyed that I expected my bill to be ready? So my main suggestion is that OWASA needs to vastly improve its site with your customers in mind (ie making it easy to login, not locking customers out for no reason, getting rid of the illegible security numbers, making bills easily viewable, having bills be ready when you say they are ready). My second suggestion is to train your employees to be helpful and at least somewhat friendly. Encourage them to actually provide decent customer service.

Passive solar water distillation

Pay attention to cost.

please be very mindful of the environment and wildlife along Bolin Creek and the other OWASA easements along creeks. Sometimes your workers appear careless with wildlife habitats.

Please check the drinking water quality regularly in my community, i.e., notting hill apartment on drew hill lane.

Please consider removing any added fluoride from your municipal water supply, for the health of the people.

Please reduce our monthly bills!!!

Please state on my invoice email that I am signed up for auto pay and no action is necessary

Pleased that on the morning of Aug. 24, 2015, received call from OWASA regarding a reference letter from [deleted]. Would like to get a copy.

Price reduction

Price! Responsiveness to web problems when someone tries to pay the bill.

Provide sewage service to my street and similar locations in Chapel Hill. I live well inside the town limits – [deleted].

Provide sewer connections to our house, like the town promised, when they annexed us. [deleted] N. White Oak Dr., and other properties like [house numbers deleted] Old Chapel Hill Rd

Quit adding fluoride. Consider the use of ultraviolet light instead.

Rate increase is more than we would like.

Read the National Research Council's 2006 report on "Fluoride in Drinking Water" available online at http://www.nap.edu/catalog/11571/fluoride-in-drinking-water-a-scientific-review-of-epas-standards There is clear evidence of the hazards of fluoride to childrens' developing minds, as well as other health issues in adults. Do your homework instead of spouting 70 year old propaganda. Reducing the concentration of fluoride in drinking water to 0.7 ppm isn't good enough. It needs to be gone from drinking water and limited to toothpaste, where it's actually been shown to have effect against cavities. Risking children's mental development for the sake of at best half a cavity in 5 year olds is not only ridiculous, it's obscene.

Reduce cost of montly water/sewer bill

Reduce costs to customers.

Reduce price of water Reduce fee to start billing in new tenant name Base connect fees (tap-on) on sq. footage not flat per residence

Reduce the cost. Water costs in orange county are astronomical and a negative to the community

Reduce the level of chlorine and particulates in the water.

Remember that you are a public Utility. Learn what that means and act it.

Remove fluoride and decrease the chlorine taste.

Remove fluoride from water!!!!!

Remove fluoride from water.

Remove the summer tier rate on apartment complexes. There is no indication of any increased use for these businesses.

Reply more quickly by email on customer questions. I never received a map of the location of a sewer on or near my property although it was suggested that I get this information.

Respond to customer emails.

revamp the website to be more user friendly

Review rate structure for low volume users

see comments above concerning your pricing

See my answer to (6) above. There really is no reason that customers water supply should be disrupted due to a planned event but that no communication is received. There also needs to be a clear policy that after such an event when several hundred gallons of water need to be wasted to clean the pipes, who should pay for that. Currently, I am paying to clean the pipes leading from the easement to my home from work on another property. I didn't receive an apology for the lack of communication which suggests that OWASA has not developed the algorithm to track customer issues.

Seek grants to assist with the installations for the residents of Rogers Rd.

Send us your official report/plan on how you will be adapting to climate change over the next 50 years.

service and quality are excellent, but the water is expensive, especially for watering the lawn

Service has been excellent

service is good; pricing is way too high

Since you asked, I noticed in a photo of your staff, that many are overweight. You would do a great service to them if you offered some incentives for exercise and weight loss to staff. And that would be good for the community as well, when more of our citizens are healthy.

Slower increase in cost of H2O bill.

some meters have sunk very low in neighborhood yards, providing catching space for breeding mosquitoes etc. Meters should be evaluated and raised where sinking.

Some more information about the data of our water usage if feasible to help know why it is higher or lower some months. Ways to reduce our water usage. I don't feel like I use that much but then some months it is higher.

Some years ago I understood OWASA had changed the water formula to less chlorine. I was told this might increase intestinal ailments in the community, especially among the elderly. Since there are so many retirees here, I hope OWASA is concerned about their health and will do everything possible to ensure it. Thanks for good water!

Stop all the expensive printing/ mailings - maybe this could lower our water/sewer bills...

stop charging for water by the 1,000 of gallons. WHy not charge people for the water they actually use?

Stop putting poison in the water.

stop the flouridation program, and rethink sludge disposal.

Strongly encourage members to go paperless with their billing to conserve the environment.

Study pricing available in nearby markets and adjust pricing accordingly.

Take flouride out!

Take out the Flouride.

Take steps now to gain access to OWASA's Jordan Lake allocation. During the next 20 years there will be shortages because of inadequate storage until the quarry becomes available, and legitimate needs of customers will not be met otherwise. That means inadequate service to customers. Duke Energy and PSNC are selling non-renewable energy; OWASA's water comes from surficial catchments, not wells into aquifers that will in time be drawn down because usage is greater than replenishment. Adequate supply is simply a matter of OWASA policy and lack of informed elected officials in local governments.

The billing is frustrating. It's often identical to previous months so you know it hasn't been read.

The block rates should be eliminates as long as there are problems with the accuracy of my meter reading, which there continue to be.

The cost of water and sewer bill is too high. The basic charge is too high for people who use very little water.

The cost of water/sewer is considerably more than my previous home in upstate NY. I am wondering if in an upcoming newsletter you might share how you determine that cost.

The drain on our street backs up at every rain. Not the house drain , the street drain at the end of Jones street.

The new billing system is cumbersome and difficult to use. I will likely be requesting a return to paper billing as a result.

The new billpay website is very nice! No other suggestions.

The new Web site was a big improvement.

The only complaint I have ever had is how terrible your website was for paying my bill. I like your new website and have no complaints about it. You have very nice people who answer the phone, and that is important to me. So, no complaints.

The only problem we have had is in the billing. We have set up an online account as we travel but it is not always easy to get into. I would prefer that I could make my payments through BofA like all my other bills.

The product, service. and resposiveness are excellent

The reason that most of my answers are neutral is that I have not experienced any problems

There seems to be no incentive to reduce water consumption. My understanding is that you are, for example, 1 or 2 units and you round up if you're somewhere in-between 1 and 2 to 2! What happens to the balance?

This is not a suggestion, just feedback. I really appreciated a few years ago when an OWASA engineer came to our home and thoroughly tested our water when we noticed an off taste. Very nice and helpful.

Try and lower your rates.

Unk

Upgrade lines and meters so they are accurate and consolidate with another provider so prices can be cheaper for those in CH

Vote Bernie

We are hoping it would be less expensive, so we do not have any burden.

We are hoping it would be less expensive, so we do not have any burden.

We have just moved to the OWASA area from Durham and, while I greatly appreciate the motivation to conserve water with the rate schedule, we have found it to be surprisingly more expensive than in Durham!

What can I do to prevent deposits in faucets that must be cleaned by a plumber every 3 years?

When I was looking to purchase a home in CH, my r. estate broker warned me of the high water rates; he knew rates elsewhere in the State in making that comment.

When there was sewer work in the street, everyone was nice about driveway access. The works were very nice, tried to work around the traffic, nice about directing traffic (Landerwood Drive). Lot of noise, but worked out nicely. Pipe rupture late years ago--OWASA came immediately at night. Blew pressure gauge in the house. Service is fast. You need a good pat on the back once in a while. Water is important. For two of us, bill is $35 or $44 per month by conserving. Drought when we first moved here. We keep gallon bottles in the bushes to fill with water.

why do you make it so hard to sign in to pay your bill it was find before now you got to use email but people do change them.

why does my bill vary so much. One month it is $49 and the next month it is $82. I understanding a variation of $10 a month due to summer, and etc., but $30?

Wish we could get a ball park figure of what it costs to irrigate a "average" size yard. We had seed put down this fall, and had a one month $500 bill - ouch... I don't know if that is "normal" or not.

Work more closely with your customers.

Work on the website, it is hard to navigate and get information from, in particular historical information

Work with residents to understand true water demand and provide additional tiers and pricing models. Also, work with people on fixed incomes (start with retired and social welfare places) and provide watersaving upgrades and installations. (ex. http://thewatersavior.com)

You are doing a great job! Keep up the good work and we are proud to have you as our water utility!

Your bill arrives closer to its due date than any other. For me it is an inconvenience, for low income families it is burdensome

Your company needs to get its arms around customer service. Telephonically they are terrible and your email is worthless as I was told that customer service does not acknowledge receipt of any email much less actually provide and answer or meaningful dialog. Poor training certainly, but it is usually the case that the front line people reflect the upper management ranks.

your new website is horrible- impossible to log in now to make payments

Your service is great, its just the rates seem high to me.

Your water is ridiculously expensive!!!!!!!!!

You're doing a good job.

AGENDA ITEM

- **REVIEW OF OWASA's CAPITAL IMPROVEMENT PROGRAM (CIP) INVESTMENT PRACTICES**

PURPOSE

- This memorandum provides information about the asset management tools and practices we use to develop the CIP in order to better inform the Boards' consideration of the CIP budget. The review of our CIP investment practices and completion of OWASA's comprehensive asset management program are part of Strategic Initiative 4 of the *OWASA Strategic Plan for Fiscal Years 2014-2017*.

BACKGROUND

- OWASA owns and operates a complex system of assets distributed across southern Orange County. We recognize that comprehensive asset management is essential to the sustainable operation of the water, sewer, and reclaimed water systems serving the Carrboro-Chapel Hill community. Capital investments are an integral part of the larger framework of OWASA's comprehensive Asset Management Program.

- OWASA's Asset Management Program is used to assess and prioritize infrastructure improvements needed to achieve desired customer and environmental service level objectives, minimize critical asset failures, and ensure the long-term viability of the water, wastewater, and reclaimed water systems.

- Capital project needs are identified by staff observation, regulatory or contractual requirements, work order evaluation, hydraulic models, risk/prioritization models, and master planning studies.

- Staff prioritizes potential projects using a weighted criteria model, while also accounting for project interrelationships, project implementation considerations, and other external schedule constraints.

- The CIP includes funds for the recapitalization of certain asset systems based on the current replacement value and theoretical service life of the assets to address not yet defined capital needs for asset renewal, replacement, or enhancement.

- OWASA's CIP document, updated annually, summarizes OWASA's planned capital investments for a 5-year period. Its objective is to help guide OWASA's efforts to meet the community's evolving needs for sustainable, reliable, and high quality water, wastewater, and reclaimed water services.

ACTION NEEDED

- The Asset Management Program tools and practices we use to develop the CIP are aligned with industry best practices and guide our investment decisions. We are requesting feedback and seeking concurrence from the Board on the following Strategic Initiative items:
    - *Draft OWASA Asset Management Program Report*
    - CIP Investment Practices
    - Service Level Targets

January 28, 2016

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: Vishnu Gangadharan, P.E. and Adam Haggerty, P.E.

DATE: January 21, 2016

SUBJECT: **Review of OWASA's Capital Improvement Program Investment Practices**

PURPOSE

Discussion of the *Draft Annual Budget* at the March 10th Board of Directors (Board) Work Session will be the Board's first opportunity to review the draft five-year Capital Improvement Program (CIP) budget currently being prepared by staff. This memorandum provides information about the asset management tools and practices we use to develop the CIP in order to better inform the Boards' consideration of the CIP budget. The review of our CIP investment practices and completion of OWASA's comprehensive asset management program are part of Strategic Initiative 4 of the *OWASA Strategic Plan for Fiscal Years 2014-2017*.

We use industry best practices to guide our asset management program in order to provide sustainable, reliable, and high-quality service to our customers. We are requesting feedback and seeking concurrence from the Board on the following Strategic Initiative items:

- *Draft OWASA Asset Management Program Report*
- CIP Investment Practices
- Service Level Targets

BACKGROUND

OWASA owns and operates a complex system of assets distributed across southern Orange County. We recognize that comprehensive asset management is essential to the sustainable operation of the water, sewer, and reclaimed water systems serving the Carrboro-Chapel Hill community. Capital investments are an integral part of the larger framework of OWASA's comprehensive Asset Management Program. This program guides the lifecycle of all of OWASA's assets (pumps, water mains, vehicles, etc.) from acquisition to replacement through either CIP or Operating budgets. Within this context, a prudent and well-informed CIP is critical to helping meet Strategic Initiative 4 - *Adopt financial management policies and budget decision processes to ensure affordable services and fiscal sustainability*, relevant excerpts of which are listed in Table 1.

Table 1. Strategic Initiative 4 (excerpt) - Adopt financial management policies and budget decision processes to ensure affordable services and fiscal sustainability

GOALS	ACTIONS	MEASURES OF SUCCESS
Efficient process which provides opportunities for stakeholder input and allows the Board of Directors to make well-informed budget and rate decisions.	Refine annual Operating and Capital Improvement Program (CIP) budget review and rate-setting process. Evaluate CIP investment practices. (Completion of comprehensive asset management program in 2015 may result in further update of practices.)	The Board of Directors has all the information it needs to approve budgets and rates no later than the first Board meeting in June. New or revised CIP investment practices are adopted, if appropriate.
The right investments at the right time to sustain the community's essential water, wastewater and reclaimed water assets.	Complete comprehensive asset management program to better inform investment decisions for all of OWASA's assets.	Service level targets – to be determined.

DISCUSSION

Asset Management Program

OWASA's Asset Management Program is used to assess and prioritize infrastructure improvements needed to achieve desired customer and environmental service level objectives, minimize critical asset failures, and ensure the long-term viability of the water, wastewater, and reclaimed water systems. While the asset management process cannot be used to predict failures, it can help identify and manage risk.

Our Asset Management Program is guided by the following principles.

- Maintain a reliable level of water, wastewater, and reclaimed water services to the community.
- Maximize the life of the facilities, equipment, and assets that OWASA is responsible for.
- Ensure that customer funds are wisely invested at the right time on the right assets.

The *Draft Asset Management Program* is provided in Attachment 1. The document provides an overview of OWASA's Asset Management Program which is framed around the following five key questions:

1. What is the current state of OWASA's assets?
2. What are the levels of service that these assets are required to sustain?
3. Which of these assets are critical to sustained performance?
4. What are the optimal CIP and operation and maintenance (O&M) strategies?
5. What is the optimal long-term funding strategy?

Over time, OWASA's Asset Management Program has incorporated various tools to help answer these questions including a geographic information system (GIS), computerized maintenance management systems (CMMS), hydraulic models, condition assessment, performance metrics, risk/prioritization models, standard operating procedures, preventive and corrective maintenance programs, emergency management plans, key performance indicators, and Capital Improvement

Program. These tools are used to guide the long-term renewal and replacement strategy for OWASA's assets. Assets identified for renewal, replacement, and/or expansion by models, studies, performance, etc. are addressed either through CIP or Operation and Maintenance (O&M) projects.

Capital Improvement Program Investment Practices
CIP projects are defined as any major (greater than $10,000), non-recurring (greater than 5 years) capital expenditures for the construction, expansion, improvement, repair or replacement of a building, utility system, or other physical structure or property.

OWASA's CIP document, updated annually, summarizes OWASA's planned capital investments for a 5-year period. Its objective is to help guide OWASA's efforts to meet the community's evolving needs for sustainable, reliable, and high quality water, wastewater, and reclaimed water services. For long-term financial planning purposes, the CIP extends out 15-years to include projects outside of the five year window.

Capital project needs are identified by staff observation, regulatory or contractual requirements, work order evaluation, hydraulic models, risk/prioritization models, and master planning studies. The tools used are specific to the asset or asset class, but are intended to answer some or all of questions 1 through 3 above. The following paragraphs discuss the tools and practices used.

- **Water Distribution System -** OWASA's water distribution system replacement program relies on information from the *2003/2010 AECOM Water Main Replacement and Prioritization Model* and *2011 AECOM Water Distribution System Hydraulic Model*. The former model uses a combination of actual and theoretical factors for asset condition (break history, pipe age, material, pressure, etc.) and criticality (location, customers served) to prioritize replacement needs in a risk-based framework. The latter model identifies capacity-driven projects, which are typically tied to projections of future demand.

  The 2003 water system prioritization modeling study recommended that OWASA would need to replace 1.7 miles of water main per year (over the next 50 years) using optimistic (long) life expectancy and 3 miles of main per year using the pessimistic (short) life expectancy in order to provide reliable, sustainable service to our customers. The average linear footage of water main renewal/replacement in the fiscal year (FY) 2016 to FY 2020 CIP is 2.6 miles per year. The pipe replacement program is currently focused on replacing galvanized water pipes due the water quality and reliability issues associated with this specific material.

- **Wastewater Collection System -** Wastewater collection system renewal and replacement projects are developed from the *2011 CDM Smith Sanitary Sewer Service Area Study* and subsequent field inspections. This study identified hydraulic capacity deficiencies in the critical portions of the sewer collection system (10-inch and larger pipe plus critical 8-inch pipe) through 2035. It also provided a risk-based framework for a prioritized program of evaluation and rehabilitation of all collection system assets (gravity sewer mains, manholes, pump stations, and force mains).

Since that program was instituted in FY 2012, OWASA has inspected over 80 miles of sewer main and rehabilitated or replaced a total of 8.2 miles of pipe. The 2011 study recommended that OWASA gradually increase the rehabilitation rate for the sewer system from 0.75% to 1.5% (from 2.4 to 4.9 miles) per year by 2025 to maintain or reduce the current levels of inflow and infiltration into the system.

The average linear footage of sewer main renewal/replacement in the FY 2016 - FY 2020 CIP is 2.7 miles per year.

- **Reclaimed Water System -** Since all of the reclaimed water pipes were installed since 2005 and have decades of useful life remaining, there is not a replacement strategy in place for the reclaimed water distribution system at this time.

- **Vertical Assets -** The vertical asset (treatment plants, pump stations, reservoirs, etc.) replacement program relies on information from the *2015 CH2M HILL Renewal and Replacement (R&R) Forecasting Model* and various hydraulic and capacity studies. The R&R Forecasting Model was built from asset inventory data such as asset type, installation year, condition, and assumptions such as life cycle, and replacement value. The R&R Forecasting Model, maintenance cost history from the CMMS, and risk scores are used by staff to develop CIP projects.

  Based on current demand projections, capacity expansion is not needed at the Jones Ferry Road Water Treatment Plant (WTP) within a 20-year planning horizon and capacity expansion is not needed at the Mason Farm Wastewater Treatment Plant (WWTP) until at least 2030. Demand projections will be revised as part of the ongoing Long-Range Water Supply Plan update (part of Strategic Initiative 1).

After CIP projects are identified, a staff committee prioritizes projects using a weighted criteria model developed by CH2M HILL as part of the *2013 Asset Management Project Implementation*. Criteria include:

- Safety
- Customer service/level of service
- Operation and maintenance efficiency/cost savings
- Risk management
- Regulatory compliance
- Capacity obligation
- Environmental enhancement

In addition to the results of this project prioritization, staff also accounts for project interrelationships, project implementation considerations, and other external schedule constraints when programming projects into the CIP.

Aside from the programming of known CIP project needs, funds are also set aside for not yet defined capital needs for asset renewal, replacement, or enhancement. To accomplish this objective, the CIP includes funds for the recapitalization of certain asset systems based on the current

replacement value and theoretical service life of the assets. A recapitalization rate of 2% of the asset system value is used for long-term financial planning for the following asset systems:

- Administration Building
- Operations Center
- Jones Ferry Road WTP
- Mason Farm Road WWTP
- Pump Stations

Recapitalization funding for these asset systems begins in the fourth year of any given CIP, and is reduced by the amount of known projects for each fiscal year.

Service Level Targets

Service level targets, also known as levels of service, are OWASA's stated commitment to provide water, wastewater, and reclaimed water service at specific levels of quality and reliability. The long-term effectiveness of OWASA's CIP and O&M Program can be assessed by comparing OWASA's historical performance to the service level goals. A failure to meet these goals may indicate capacity limitations, aging equipment or infrastructure, inadequate operations and maintenance activities, etc. Each month the Board receives OWASA's summary of *Key Indicators and Performance Measurements*, which includes the following asset management related levels of service:

- Ratio of Water Sold to Water Produced
- Water Pipe Breaks per 100 Miles of Pipe
- Primary and Secondary Drinking Water Violations
- Reportable Sewer Overflows per 100 Miles of Pipe
- Collection System Operating Permit Violations
- Water Treatment Plant and Wastewater Treatment Plant NPDES Permit Violations
- Wastewater Treatment Plant Odor Events
- Biosolids Operating Permit Violations
- Reclaimed Water System Operating Permit Violations

Level of service targets can be found in Section 3 of the attached *Draft Asset Management Program* and are also included in the attached December 2016 *Key Indicators and Performance Measurements* (Attachment 2).

We have met most level of service targets due to well-managed O&M Programs and continued CIP investment in the community's infrastructure. The CIP has been effective by identifying high risk assets and developing rehabilitation and replacement projects to mitigate these risks. Additionally, the proactive O&M Program has been successful by ensuring that assets receive appropriate preventative and corrective maintenance from qualified staff and contractors.

ACTION REQUESTED

OWASA's Asset Management Program is a continuous improvement process and the associated tools and practices are frequently refined and improved. We monitor industry practices, particpate in utility benchmarking surveys, improve our asset inventories, update our models when conditions change, and review the 5-year CIP with the Board annually as part of the Budget process. The Asset

Management Program tools and practices we use to develop the CIP are aligned with industry best practices and guide our investment decisions.

We are seeking feedback and concurrence from the Board on OWASA's:

- *Draft OWASA Asset Management Program Report*
- CIP Investment Practices
- Service Level Targets

Please let us know if you have any questions or need additional information.

Vishnu Gangadharan, P.E.
Engineering Manager – Capital Projects

Adam Haggerty, P.E.
Asset Management and Facilities Engineer

Attachment: 1 – *Draft OWASA Asset Management Program*
2 – *Key Indicators and Performance Measurements*

Attachment 1

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ASSET MANAGEMENT PROGRAM

January 2016

Orange Water and Sewer Authority

Carrboro, North Carolina



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

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OVERVIEW

The Orange Water and Sewer Authority (OWASA) provides water, wastewater and reclaimed water services to approximately 83,000 people in the Town of Carrboro, Town of Chapel Hill, and the University of North Carolina at Chapel Hill. OWASA owns and operates a complex system of assets distributed primarily across southern Orange County.

OWASA's assets include three raw water reservoirs, water treatment plant, 390 miles of water pipes, six water storage tanks, four water booster pump stations, 340 miles of sewer pipes, 21 wastewater pump stations, five miles of reclaimed water pipes, a reclaimed water pumping station with an associated ground storage tank, wastewater treatment plant, support facilities, 150 vehicles/equipment, and over 3,700 acres of land. The net book value of OWASA's assets is approximately $276 million.

Asset management is a process that guides the acquisition, operation, maintenance, renewal or replacement, and disposal of assets. OWASA's comprehensive asset management program is used to assess and prioritize infrastructure improvements and investments needed to achieve desired customer and environmental service level objectives, minimize critical asset failures, and ensure the long-term viability of the water, wastewater, and reclaimed water systems. OWASA's Mission, Vision, and Values statement and Key Indicators and Performance Measurements help define the desired level of service.

Over time, OWASA has developed various tools to manage its assets including a geographic information system, computerized maintenance management systems, hydraulic models, condition assessments, risk/prioritization models, capacity studies, renewal and replacement forecast model, and capital improvements program project prioritization model. These tools are used to guide the long-term renewal and replacement strategy for OWASA's assets and focus on the assets that pose the greatest risk. The 5-year, $80 million dollar capital improvements program for fiscal years 2016-2020 was developed using these tools.

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SECTION 1
BACKGROUND

Asset management is a process that guides the acquisition, use, and disposal of assets. An asset management program is necessary to optimize service and minimize cost over the life of the asset. Asset management helps ensure that utilities achieve defined levels of service and maintain and renew their assets in a cost-effective manner.

Guiding Principles

OWASA owns and operates a complex system of assets distributed primarily across southern Orange County (see Figure 1) and recognizes that comprehensive asset management is essential to the sustainable operation of the water, sewer, and reclaimed water systems serving the Carrboro-Chapel Hill community. Our asset management program is guided by the following principles:

- Maintain a reliable level of water, wastewater, and reclaimed water services to the community.
- Maximize the life of the facilities, equipment, and assets that OWASA is responsible for.
- Ensure that customer funds are wisely invested at the right time on the right assets.

OWASA's Asset Management program is based on the Water Environment Research Foundation's Simple Infrastructure Management Program Learning Environment's five core questions of asset management:

- What is the current state of my assets?
- What is my required sustained level of service?
- Which of my assets are critical to sustained performance?
- What are my best minimum life-cycle cost capital improvements program (CIP) and operation and maintenance (O&M) strategies?
- What is my best long-term funding strategy?

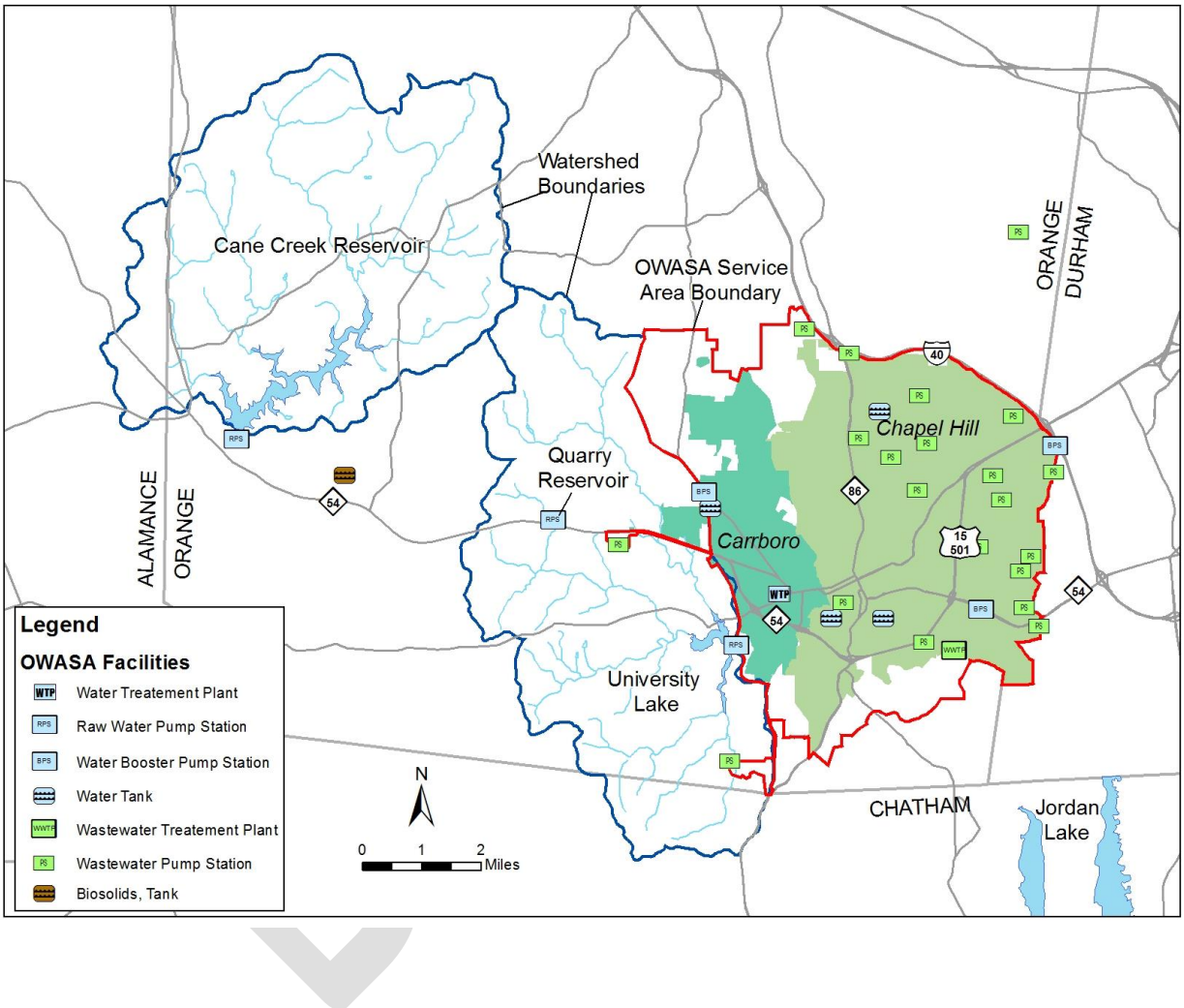
Assumptions

Key assumptions that underlie OWASA's asset management planning include:

- OWASA's utility service area boundary, as shown on Figure 1 and defined by the urban services boundaries of Carrboro, Chapel Hill and Orange County, will remain unchanged.
- We do not anticipate any retail or wholesale water, wastewater or reclaimed water sales or service outside of the existing service area.

- The cost of extending the OWASA water, sewer and/or reclaimed water system to properties not served by the system shall be borne by those parties benefitting from the extension.
- The regulatory environment will remain similar to current conditions. Changes in regulation will allow sufficient time to implement changes to our asset management program.

Figure 1. Map of OWASA Facilities



SECTION 2
OWASA'S ASSETS

The first question of asset management "***What is the current state of my assets?"*** is critical to building a strong foundation for an asset management program. We need to know what assets we own, their location, condition, remaining useful life, and economic value.

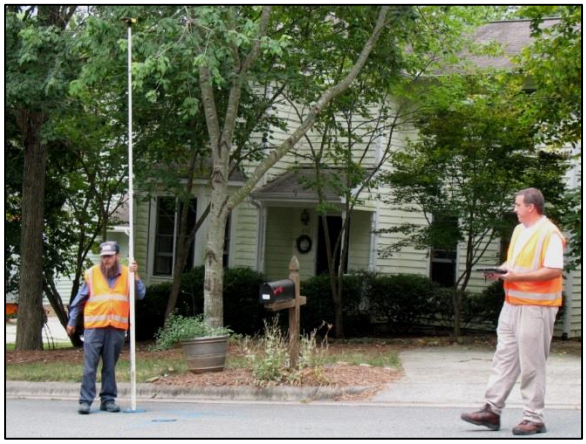
OWASA owns and operates a variety of assets, which can be broadly categorized as either vertical assets or horizontal assets. Horizontal assets include the water pipes, valves, meters, fire hydrants, sewer pipes, manholes, and reclaimed water pipes. Vertical assets include all of the equipment and facilities at the water treatment plant, wastewater treatment plant, pump stations, dams, water storage tanks, and support facilities.

The horizontal assets and land inventories are stored in the geographic information system (GIS) geodatabase. The geodatabase includes each asset's location and a variety of attribute information including size, material, installation date, and rehabilitation date. Easement and as-built records are also documented in the geodatabase. The vertical assets, miscellaneous structures, and vehicle inventories are stored in a computerized maintenance management system (CMMS). The CMMS database includes each asset's location, equipment type, size, installation date, rehabilitation date, manufacturer, model, serial number, original cost, life expectancy, and condition. The value of OWASA's assets is documented in the fixed asset register. OWASA's assets, associated inventories, and valuation are discussed in more detail below.

Horizontal Assets

Raw Water Transmission and Drinking Water Distribution System

OWASA's raw water is conveyed through approximately 16 miles of transmission pipes, and drinking water is conveyed through approximately 375 miles of distribution pipes. Transmission and distribution pipes range in size from 2- to 42-inches in diameter and pipe materials include cast iron, ductile iron, polyvinyl chloride (PVC), galvanized steel, copper, and asbestos cement. Figure 2 illustrates the water transmission and distribution system's year of installation and material. Over 80% percent of the transmission and distribution system has been installed since 1972 for system expansion or replacement. The transmission and distribution system includes about 2,200 fire hydrants, 21,400 meters, and 12,600 valves.

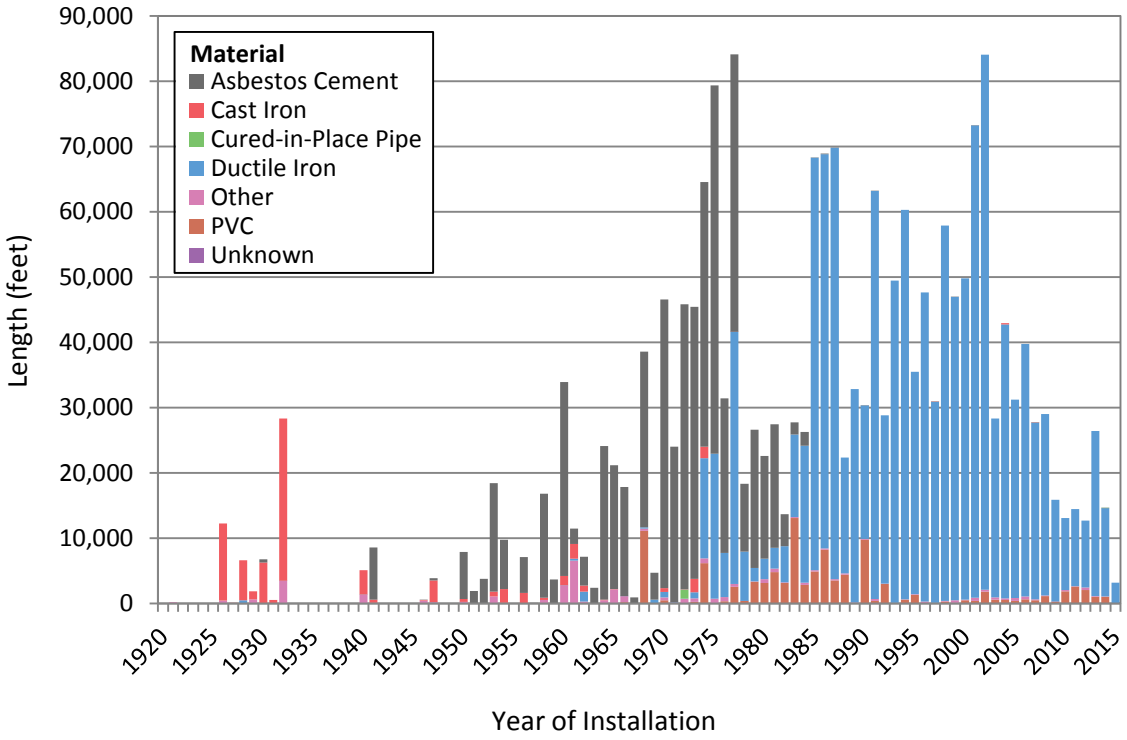


Engineering Technicians field verify system assets using GPS.

OWASA staff completed a multi-year field verification effort in 2014 to improve the accuracy of the distribution system asset inventory. All distribution system assets were located and mapping grade global position system (GPS) equipment was used to document asset location and attribute information.

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Figure 2. Raw Water Transmission and Drinking Water Distribution System Length of Pipe in Service, by Installation Year and Type of Material



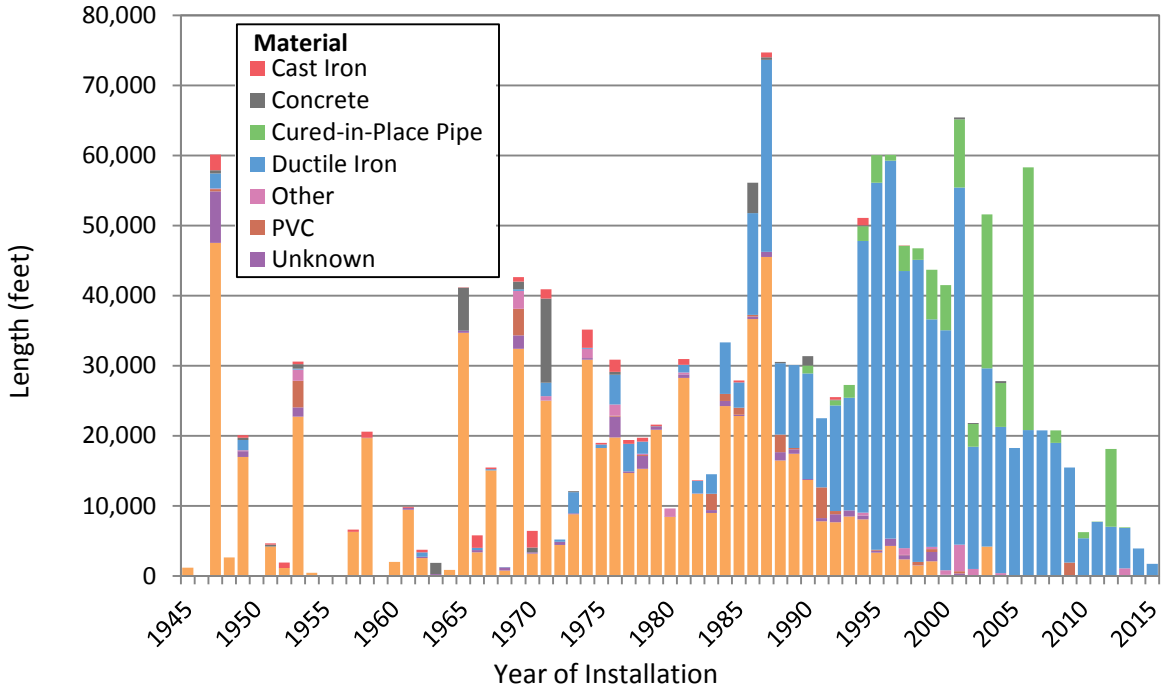
OWASA's inventory of transmission and distribution system assets stored in the GIS includes the following:

- Backflow assemblies (privately owned)
- Fire hydrants
- Fittings
- Meters
- Pipes
- Manholes
- Service laterals
- Valves and Blow-Offs

Wastewater Collection System

The wastewater collection system, also called the sanitary sewer system, includes approximately 327 miles of gravity sewer pipes ranging in size from 4- to 60-inches in diameter, of which almost 90% is 8-inch diameter pipe. Ductile iron and vitrified clay represent approximately 85% of pipe material by length, however the collection system also contains pipe materials such as cast iron, reinforced concrete, cured-in-place pipe (CIPP), PVC, and various other materials. Figure 3 illustrates the gravity sewer pipe's year of installation and material. The collection system also includes about 10,600 manholes installed on the gravity sewer pipes.

Figure 3. Gravity Sewer System Length of Pipe in Service, by Installation Year and Type of Material



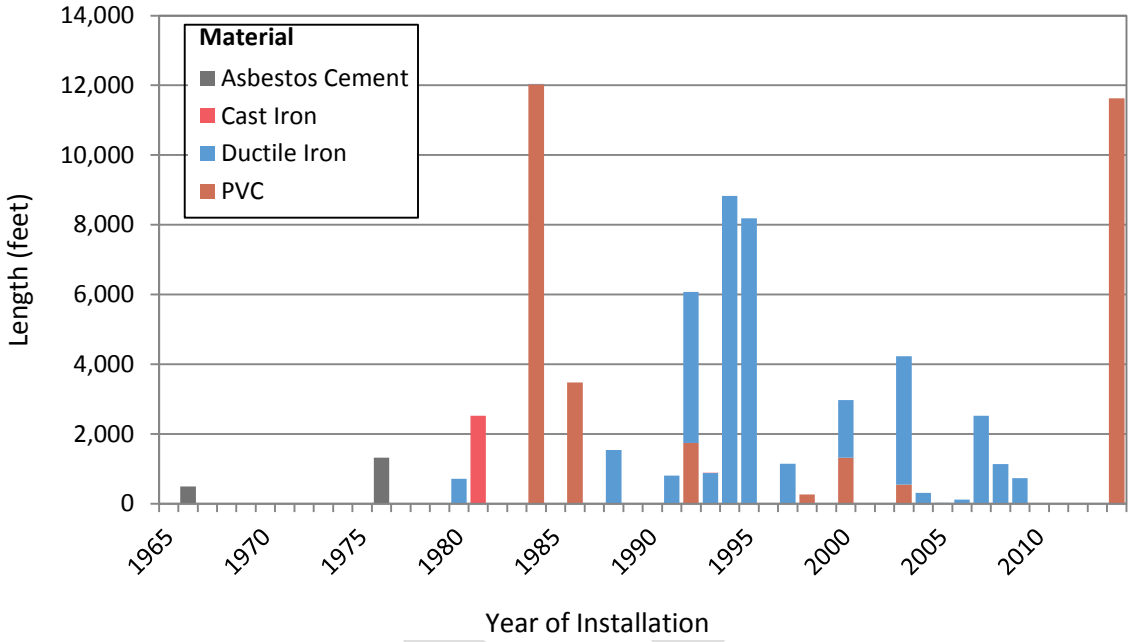
Note: An additional 117,600 LF of vitrified clay sewer pipe or approximatly 7% of the collection system has an unknown installation year. Historical archives and staff knowledge will be used to estimate the installation year.

In addition to the gravity sewer pipes, there are 14 miles of pressurized sewer pipes, also called force mains, in the service area that convey pumped sewage. The pressurized sewer pipes vary in size from 2- to 48-inches in diameter and materials include PVC, ductile iron, cast iron, and asbestos cement. Figure 4 illustrates the pressurized sewer collection system's year of installation and material. Approximately 97% of the pressurized sewer pipes were installed since 1980 and 94% of these pipes are made of PVC and ductile iron.

OWASA's inventory of wastewater collection system assets stored in the GIS includes the following:

- Fittings
- Pipes
- Grease traps (privately owned)
- Manholes
- Valves
- Creek Crossings

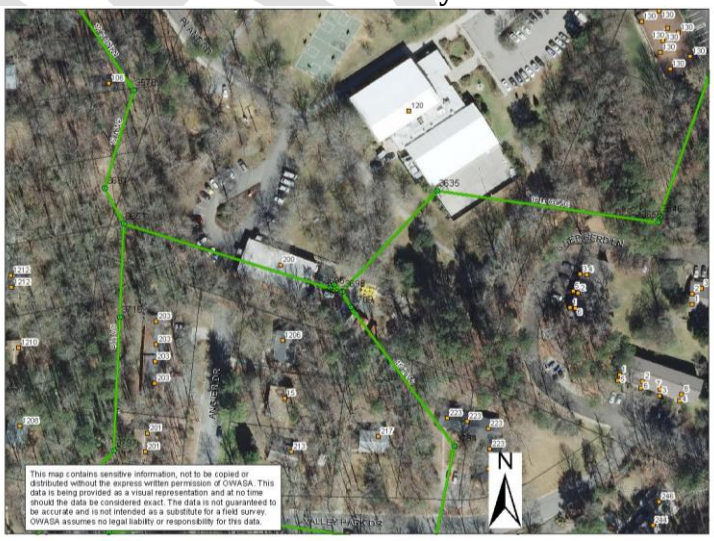
Figure 4. Pressurized Sewer System Length of Pipe in Service, by Installation Year and Type of Material



Ongoing Work

OWASA staff began a field verification effort in 2013 using survey grade GPS equipment to improve the accuracy of the collection system asset inventory. We expect it to take five years to complete the first phase (collecting x-y coordinates and manhole rim elevations) of this staff-led effort. Figures 5a and 5b show an example of the type of changes we are making to the GIS as part of the field verification program.

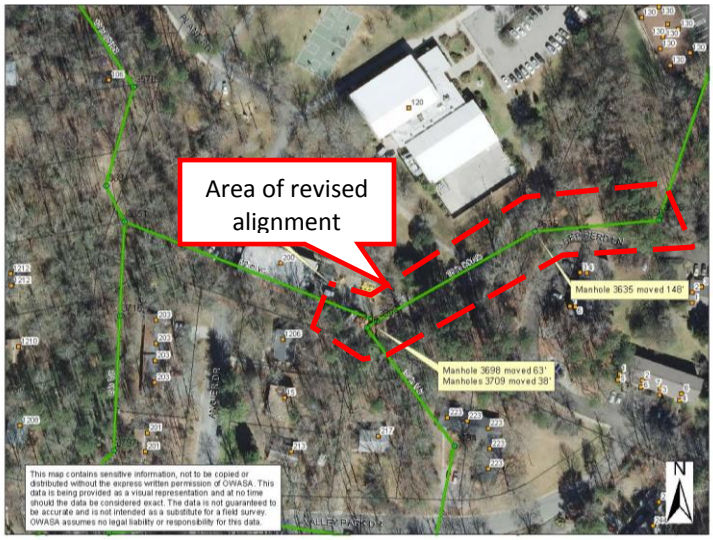
Figure 5a. Wastewater Collection System Field Verification



Sewer Location as Shown in GIS Before Field Verification

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Figure 5a. Wastewater Collection System Field Verification



Sewer Location Shown in GIS After Field Verification

Reclaimed Water Distribution System

The reclaimed water system consists of approximately five miles of ductile iron pipe ranging in size from 6- to 24-inches in diameter. The system was constructed between 2005 and 2011 and includes 137 valves and 11 meters. OWASA's inventory of reclaimed water system assets stored in the GIS includes the following:

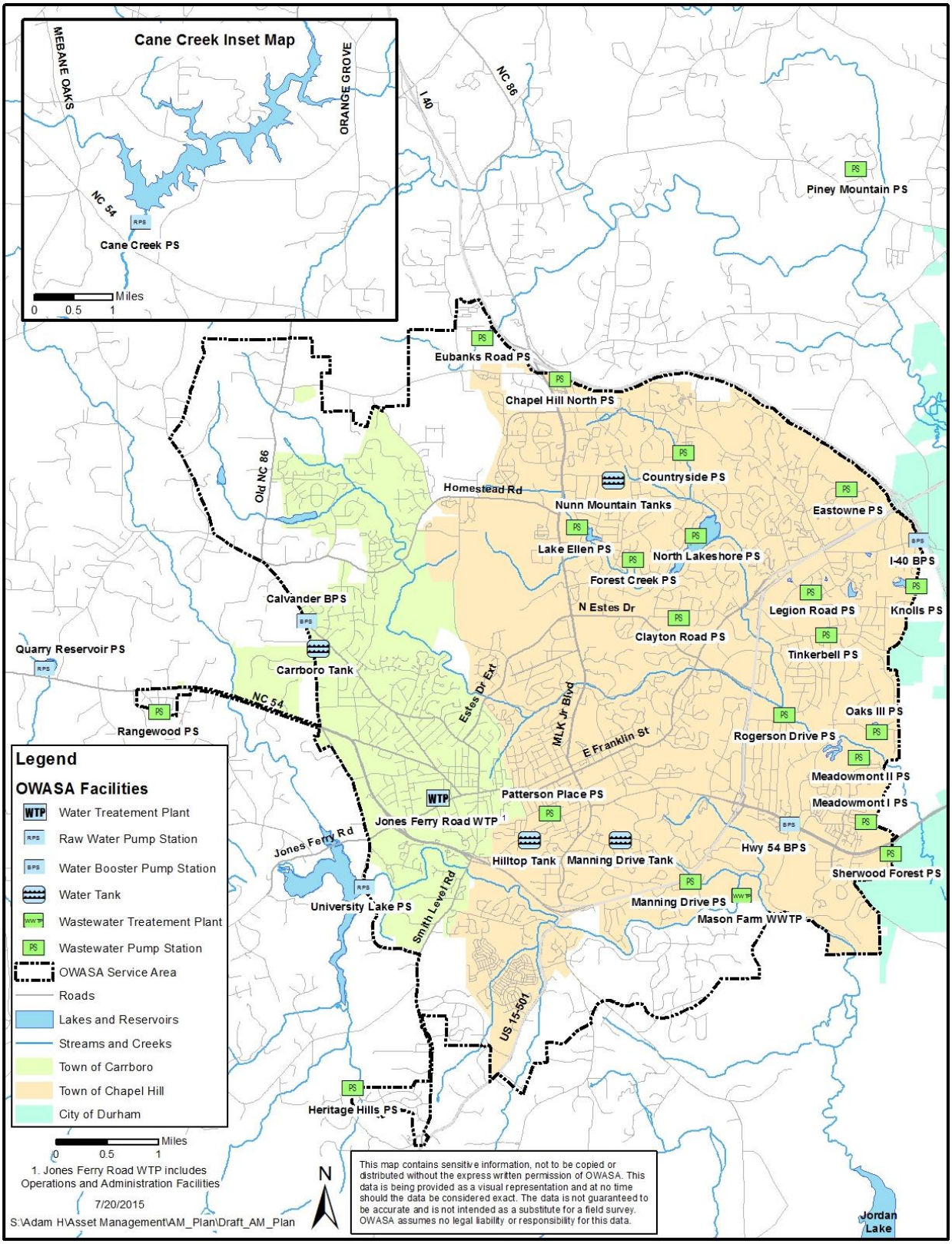
- Backflow assemblies (privately owned)
- Fittings
- Hydrants
- Laterals
- Meters
- Pipes
- Manholes
- Valves and Blow-Offs

Vertical Assets

OWASA's water system vertical assets include supply, treatment, pumping, and drinking water storage facilities. The wastewater system vertical assets include pumping, treatment, and biosolids facilities. The vertical assets associated with treating and pumping reclaimed water are part of the Mason Farm Wastewater Treatment Plant (WWTP) asset inventory. Figure 6 shows the location of OWASA's vertical assets throughout the service area.

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Figure 6. Vertical Asset Facility Map



Water System Vertical Assets

The water system vertical assets include OWASA's reservoirs, raw water pump stations, Jones Ferry Road Water Treatment Plant (WTP), booster pump stations, and storage tanks. These assets are essential for treating, storing, and pumping drinking water to meet customer demands and to ensure adequate flow and pressure for firefighting purposes. Table 1 provides a summary of these assets. OWASA's inventory of individual assets located at these facilities is stored in the CMMS database. The database contains 2,422 mechanical, electrical, and structural assets for the water system.

Table 1. Water System Vertical Assets

Asset Type	Purpose	Count	Capacity
Reservoirs	Water source for water treatment plant.	3	200-3,000 million gallons (MG)
Raw Water Pump Stations	Pump raw water from the reservoirs to the water treatment plant.	3	4-18 million gallons per day (MGD)
Water Treatment Plant	Remove impurities from raw water using chemical and physical processes. Treated drinking water is then pumped into the distribution system.	1	20 MGD
Booster Pump Stations	Transfer drinking water from lower pressure zones to higher pressure zones in the distribution system. Also used during emergencies to convey water to and from neighboring water systems.	4	2-7 MGD
Storage Tanks	Store drinking water in order to maintain adequate flow and pressure throughout the system.	6	0.5-3.0 MG

Wastewater System Vertical Assets

The wastewater system vertical assets include OWASA's wastewater pump stations, Mason Farm WWTP, reclaimed water storage tank and pump station, and remote biosolids storage tanks. These assets are used for pumping and treating wastewater and storing biosolids. Table 2 provides additional information on these assets. OWASA's inventory of individual assets located at these facilities is stored in the CMMS database. The database contains 4,207 mechanical, electrical, and structural assets.

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Table 2. Wastewater System Vertical Assets

Asset Type	Purpose	Count	Capacity
Wastewater Pump Stations	Pump wastewater from areas in the collection system where gravity flow is not feasible.	21	0.06-18.5 MGD
Wastewater Treatment Plant	Remove impurities from wastewater using biological, chemical and physical processes. Treated water is then discharged to Morgan Creek or pumped into the reclaimed water distribution system.	1	14.5 MGD permitted capacity for max-month of flow, 43 MGD for short-term peak flow conditions
Reclaimed Water Storage Tank	Store reclaimed water before pumping into distribution system.	1	0.60 MG
Reclaimed Water Pump Station	Pump water into the reclaimed water distribution system to maintain flow and system pressure.	1	3 MGD
Remote Biosolids Storage Tanks	Store liquid biosolids during extended periods when land application is not possible.	2	0.9-1.5 MG

Administrative Office and Operations Center

OWASA's administrative offices and operations center are co-located with the Jones Ferry Road WTP at OWASA's 17-acre site in Carrboro. The Administration Building was built in 1990 and houses OWASA's administrative office. The Operations Center was built in 2004 and houses the Distribution and Collection departments, warehouse operations, fleet maintenance, material and equipment storage, and a vehicle wash facility. OWASA's inventory of individual assets located at these facilities is stored in the CMMS database. The database contains 354 mechanical, electrical, and structural assets.

Other Assets

Vehicles and Associated Equipment

OWASA owns 150 vehicles and associated equipment. Vehicles and equipment are used to maintain OWASA's water, wastewater, and reclaimed water systems and transport staff, equipment, and material. OWASA's inventory of vehicles and associated equipment is stored in the CMMS database. Table 3 provides a summary of OWASA's vehicles and associated equipment.

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Table 3. OWASA Vehicles and Associated Equipment

Vehicle Category	Examples	Count
Pickup Trucks	All Trucks (1/4 to 2 Ton)	45
Vans and Sedans	Vans, Sedans, Sport Utility Vehicles	10
Heavy Duty Vehicles	Road Tractors, Dump Trucks, Vacuum Trucks	20
Equipment	Tractors, Backhoe Loaders, Excavators, Forklifts, Mowers, and Portable Generators	53
Trailers	Tanker Trailers, Trailers	22
Total		150

Land

OWASA owns 3,744 acres of land that is used for a variety of purposes including facilities, biosolids management, reservoirs, and watershed protection, and potential future facility sites (such as water supply facilities at Jordan Lake and future elevated water storage tanks). OWASA's land inventory is stored in the GIS. Each feature includes the land asset's spatial location and a variety of attribute information including the parcel identification number, area, physical address, date of purchase, and deed reference. Table 4 provides a summary of OWASA-owned land.

We will be developing a plan and policy framework for long-term management and disposition of OWASA lands as part of Strategic Initiative 7 in the OWASA Strategic Plan for Fiscal years 2014 - 2017.

Table 4. OWASA-Owned Land

Category	Acres
Biosolids	710
Cane Creek Reservoir & Watershed	2,544
Jordan Lake	125
OWASA Facilities	113
Quarry Reservoir	251
University Lake & Watershed[1]	0
Total	3,744

1. University Lake and about 500 acres of adjacent lands are owned by University of North Carolina (UNC). OWASA is entitled to use University Lake as a water supply source and controls all land within 100 feet of the shoreline through a contractual agreement with UNC.

Treatment Plant Process Piping

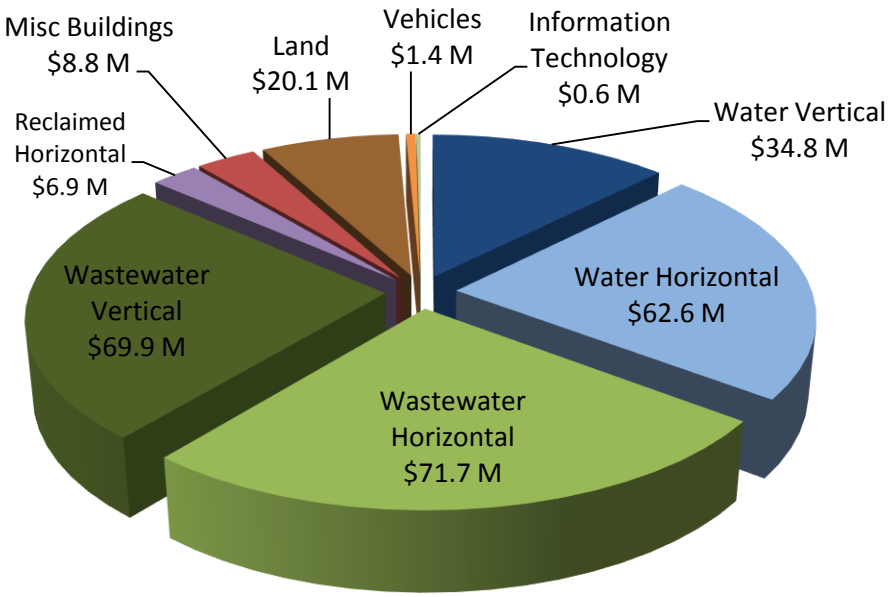
Asset information for the buried pipe networks that connect process units at the Jones Ferry Road WTP and Mason Farm WWTP is available through record drawings. We have an ongoing field verification effort at the Mason Farm WWTP to survey the process pipes and add them to the GIS. This effort started in 2013 and to date we have inventoried 4.7 miles of pipe. We expect the Mason Farm WWTP work to be completed in 2018. Upon completion, we will begin field verification of the process piping at the Jones Ferry Road WTP.

The Value of OWASA's Assets

The value of OWASA's assets is documented in the fixed asset register, which is stored in the Great Plains database. The asset's cost or original purchase price is recorded in the fixed asset register for all new assets that are either purchased by or dedicated to OWASA. With the exception of land, the recorded cost of the assets is depreciated using the straight-line method, which is calculated as the original purchase price divided by the expected useful life, following generally accepted financial accounting guidance. The expected useful life ranges from 5-60 years depending on the type of asset. The recorded cost for land is not depreciated. An asset's cost less the associated depreciation is known as net book value. Net book value by asset category as of December 2015 is illustrated in Figure 7. Water and wastewater assets account for 35% ($97.4 million) and 51% ($141.3 million) of the total fixed asset register net book value of $276 million (M), respectively.

Figure 7. 2015 Asset Value

Fixed Asset Register Net Book Value = $276 M



SECTION 3
LEVEL OF SERVICE

Once we have an inventory of the assets we own, where they are located, their age, value, etc., we need to understand "***What is my required sustained level of service?"*** Levels of service are defined by community and customer expectations and regulatory requirements. We then compare actual performance to the desired level of service.

OWASA's mission is to provide our customers high quality and reliable water, wastewater, and reclaimed water services through responsible and creative stewardship of the resources we manage. Service levels are a utility's stated commitment to deliver service to a customer at a specific level of quality and reliability. The effectiveness of OWASA's asset management program can be assessed by comparing OWASA's historical performance to these service levels. The goal of asset management is to achieve level of service targets at the least cost and risk. Level of service is defined by several of OWASA's Key Indicators and Performance Measurements including the following:

- Ratio of Water Sold to Water Produced
- Water Pipe Breaks per 100 Miles of Pipe
- Primary and Secondary Drinking Water Violations
- Reportable Sewer Overflows per 100 Miles of Pipe
- Collection System Operating Permit Violations
- Water Treatment Plant and Wastewater Treatment Plant NPDES Permit Violations
- Wastewater Treatment Plant Odor Events
- Biosolids Operating Permit Violations
- Reclaimed Water System Operating Permit Violations

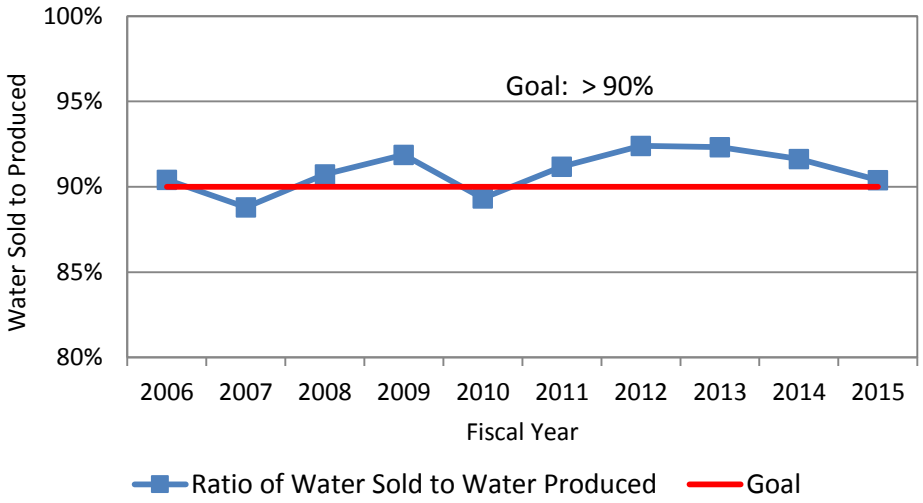
Our Key Indicators and Performance Measurements are updated monthly and posted on the OWASA website, www.owasa.org. The level of services and specific targets are discussed below.

Water Treatment and Distribution

Ratio of Water Sold to Water Produced

The ratio of water sold to water produced level of service is defined as the volume of metered and billed water usage to the volume of water pumped into the water distribution system at the Jones Ferry Road WTP. Water loss is defined as the difference between water produced and authorized water usage, which includes metered and billed water use as well as the actual or estimated volume of water used for authorized purposes, such as our unidirectional flushing program, blow-off of water associated with the installation and testing of new lines, etc. Primary water loss sinks include unauthorized water usage, meter inaccuracies, or leaks. The ratio of water sold to water produced can be used to gauge the overall condition of the distribution system. An excessive amount of leakage indicates that the distribution system may be deteriorating. OWASA's goal is for water sales as a percent of water pumped to be greater than 90%. Historical values from Fiscal Year (FY) 2006-2015 are presented in Figure 8. The ratio of water sold to water produced has exceeded 90% eight out of the last ten years. However, it has been trending downward for the past three years.

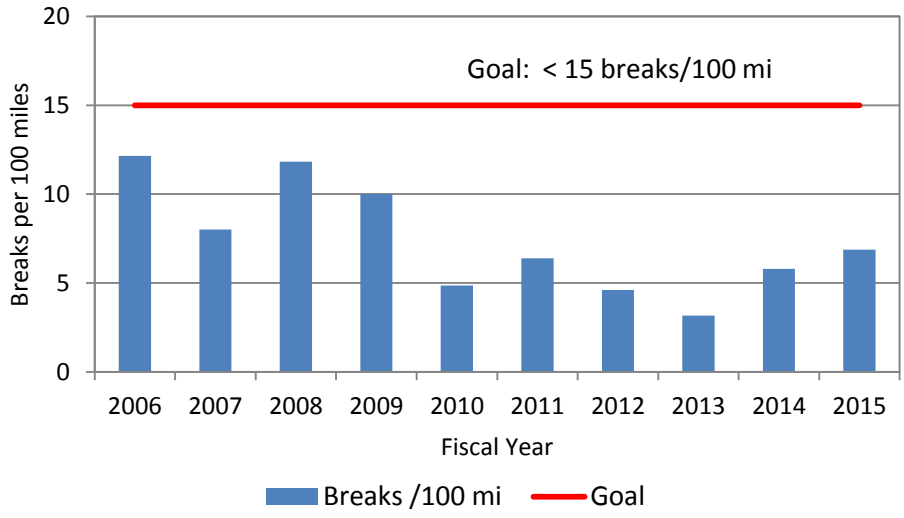
Figure 8. Fiscal Year 2006-2015 Ratio of Water Sold to Water Produced



Water Pipe Breaks per 100 Miles of Pipe

The water pipe breaks per 100 miles of pipe level of service is defined as breaks occurring on water distribution pipes per hundred miles of water distribution pipes. For this indicator, a water distribution pipe is a pipe owned by OWASA that is greater than 2 inches in diameter and conveys water from the Jones Ferry Road WTP to our customers. The quantity of pipe breaks can be used to gauge the overall condition of the distribution system. An excessive amount of pipe breaks per 100 miles of pipe indicates that the overall integrity of the distribution system may be declining. OWASA's goal is for water pipe breaks to be less than 15 breaks/100 miles. Historical values from FY 2006-2015 are presented in Figure 9. The number of water pipe breaks per 100 miles of pipe has been less than 15 breaks/100 miles for the last 10 years. We will monitor the upward trend over the past three years.

Figure 9. Fiscal Year 2006-2015 Number of Water Pipe Breaks per 100 Miles of Pipe



Primary and Secondary Drinking Water Violations

National Primary Drinking Water Regulations are limits set for substances that are thought to pose a threat to health when present in drinking water at certain levels. Secondary Drinking Water Regulations are non-enforceable federal guidelines regarding taste, odor, color and certain other non-aesthetic effects of drinking water. These contaminants normally do not have any health effects and normally do not affect the safety of our water**.** Primary and Secondary Drinking Water Regulation violations may indicate that the water plant or distribution system is not operating as intended due to capacity limitations, aging equipment, inadequate operations and maintenance activities, etc. OWASA's goal is to be in full compliance with the Primary and Secondary Drinking Water Regulations. A summary of system compliance for FY 2015 is presented in Figure 10.

Figure 10. FY 2015 System Compliance Summary

	Water Treatment	Wastewater Treatment	Reclaimed Water	Biosolids	Collection System
Primary Drinking Water Violations	In Compliance				
Secondary Drinking Water Violations	In Compliance				
NPDES Permit Violations	In Compliance	In Compliance			
Operating Permit Violations			In Compliance	In Compliance	2 Notices of Violation
Odor Events		Non-Compliance 10 Events			

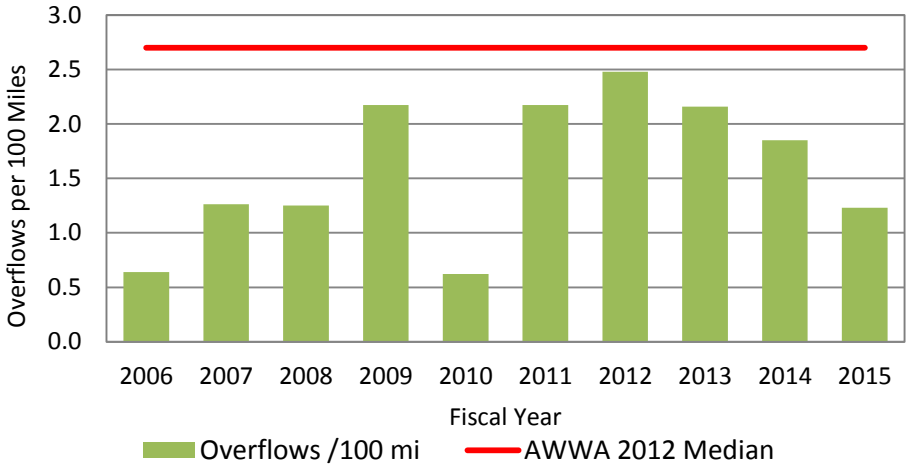
Wastewater Collection and Treatment

Reportable Sewer Overflows per 100 Miles of Pipe

The reportable sewer overflows per 100 miles of pipe level of service is defined as reportable sewer overflows per hundred miles of gravity sewer and pressurized sewer pipes. A sewer overflow is reportable if the volume of sewage is equal to or greater than 1,000 gallons or any amount of sewage reaches the surface waters of the State (including through ditches, storm drains, etc.). Overflows are typically caused by pipe breaks, pipe blockages, excessive inflow and infiltration, malfunctioning pump stations, and electrical power failure. The quantity of overflows can be used to gauge the overall condition of the collection system and the effectiveness of the collection system maintenance program. An excessive amount of reportable sewer overflows per 100 miles of pipe indicates that the integrity of the collection system may be declining and/or maintenance activities may be inadequate. Historical values from FY 2006-2015 are presented in Figure 11. For the last 10 years the number of overflows has been less than 2.7 per 100 miles of pipe, which is the national median per the American Water Works Association (AWWA) 2012 Benchmarking report. Per NC Division of Water Resources guidance, OWASA strives to have no overflows.

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Figure 11. Fiscal Year 2006-2015 Number of Reportable Sewer Overflows per 100 Miles of Pipe



Collection System Operating Permit Violations
Requirements for the wastewater collection system's design and construction, operation and maintenance, and overflow reporting are included in the Wastewater Collection System Operating Permit. Collection System Operating Permit violations indicate that the collection system may be deteriorating or that maintenance, renewal and replacement activities may be inadequate. OWASA's goal is to be in full compliance with these requirements. A summary of system compliance for FY 2015 is presented in Figure 10.

NPDES Permit Violations
The National Pollution Discharge Elimination System (NPDES) is a permit system for regulating point sources of pollution. The goal of the NPDES program is to reduce pollution by establishing effluent discharge limits and monitoring requirements.

OWASA's NPDES permitted discharges are located at the Jones Ferry Road WTP and Mason Farm WWTP. The Jones Ferry Road WTP is permitted to discharge wastewater associated with backwash clarifier effluent into Rockybrook Creek. The Mason Farm WWTP is permitted to discharge treated wastewater effluent into Morgan Creek. NPDES Permit violations may indicate that either the WTP or WWTP is not operating as intended due to capacity limitations, aging equipment, inadequate operations and maintenance activities, etc. OWASA's goal is to be in full compliance with the requirements in both NPDES permits. A summary of system compliance for FY 2015 is presented in Figure 10.

Wastewater Treatment Plant Odor Events
On March 1, 2004, the Chapel Hill Town Council approved a Special Use Permit (SUP) for an OWASA project to upgrade and expand the Mason Farm WWTP which was completed in 2007. The SUP included a provision that OWASA eliminate odor from the Mason Farm WWTP to the satisfaction of the Town Council and that OWASA regularly report to the Council on the progress of its off-site odor elimination program. Wastewater treatment plant odor events indicate that the odor control equipment may not be operating as intended due to capacity limitations, aging equipment, equipment malfunction, inadequate operations and maintenance

activities, etc. Odor events are reported by neighboring property owners and documented by OWASA staff. A summary of system compliance for FY 2015 is presented in Figure 10.

Biosolids Operating Permit Violations
OWASA is permitted for both Class A – Exceptional Quality and Class B land application of biosolids. The biosolids permits include treatment requirements, metal concentration limits, land application restrictions, and operation and maintenance requirements. Biosolids operating permit violations may indicate that the treatment process may not be operating as intended due to capacity limitations, aging equipment, equipment malfunctions, inadequate operations and maintenance activities, etc. OWASA's goal is to be in full compliance with the requirements in both permits. A summary of system compliance for FY 2015 is presented in Figure 10.

Reclaimed Water System

Reclaimed Water Utilization System Operating Permit Violations
The Reclaimed Water Utilization System Permit includes design and construction, operation and maintenance, and effluent limit and monitoring requirements for the reclaimed water system. Reclaimed Water Distribution System Operating Permit violations may indicate that the treatment, storage, pumping or distribution system may not operating as intended due to capacity limitations, aging equipment, equipment malfunctions, inadequate operations and maintenance activities, etc. OWASA's goal is to be in full compliance with the permit's requirements. A summary of system compliance for FY 2015 is presented in Figure 10.

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SECTION 4
RISK FRAMEWORK

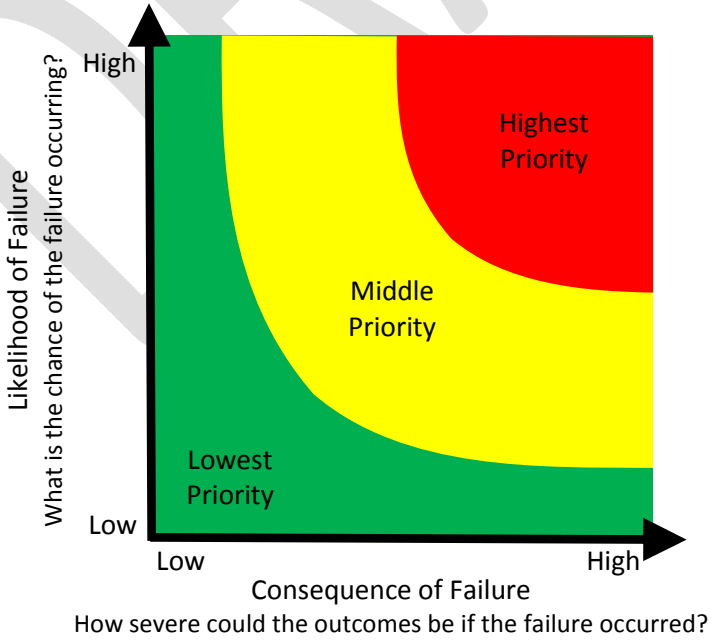
Knowing ***"Which of my assets are critical to sustained performance?"*** requires us to understand how assets fail, the likelihood of failure, and the consequences of failure.

Risk framework is a tool used to calculate the nature and level of exposure that an organization is likely to confront through a potential failure of a specified asset or group of assets. OWASA's asset groups have different terminology and methods for quantifying risk; however, the goal of each process is to prioritize assets in order to develop effective funding strategies for risk reduction. OWASA has developed frameworks for calculating risk in four separate asset groups: water horizontal assets, wastewater horizontal assets, vertical assets, and vehicles. The four risk assessment frameworks were customized to the unique characteristics of each asset group.

Regardless of the framework used, the risk being evaluated centers on the failure of an asset. Failure is defined as the inability of any asset to do what its users need it to do. Under this definition, an asset may be operating, but if it is not meeting intended performance standards it may be considered in a failed state. Asset failure modes include mortality, capacity, level of service, and financial efficiency.

The two primary inputs of the risk framework are likelihood of failure and consequence of failure. Likelihood of failure describes the quantification of uncertainty related to a failure actually occurring. Consequence of failure is typically associated with the severity of the outcome. A risk matrix schematic is shown in Figure 12. The first priority should be to focus on the high risk assets in the red area (high likelihood and consequence of failure), then the yellow area, and finally the green area.

Figure 12. Risk Framework



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Vertical Assets

OWASA's water, wastewater, and reclaimed water vertical assets were divided into 109 subprocess groups (e.g. Rogerson Drive pump station, WTP hypochlorite feed system, Manning Drive tank) for the purposes of the risk analysis. Risk for vertical asset subprocesses is defined as the product of consequence and likelihood of failure. In the framework developed by CH2M HILL as part of the Asset Management Project Implementation, consequence and likelihood scores are assessed based on a number of factors. Weighting is applied to each of the following consequence and likelihood factors so that relative importance of each criterion is captured.

Likelihood of Failure:

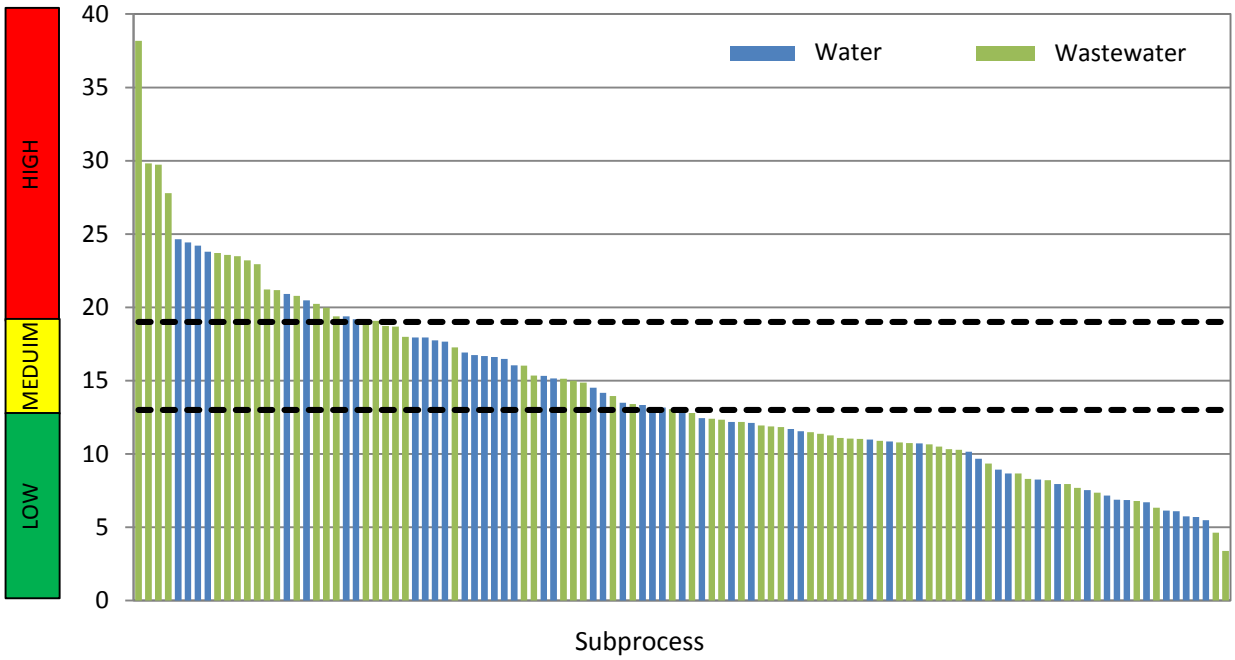
- Condition
- Maintainability
- Operability and functionality

Consequence of Failure:

- Health and safety
- Compliance
- Financial impact
- Levels of customer service

The results of the risk analysis are presented in Figure 13. Each bar represents a subprocess with the risk score on the y-axis. Water (blue) and wastewater (green) subprocesses were evaluated together. CH2M HILL divided the subprocesses into three bands (high, medium, and low) based on the risk score.

Figure 13. Vertical Asset Prioritization Model Results



The risk score was used to prioritize field condition assessment with the highest risk assets being evaluated first. In 2012, maintenance specialists from CH2M HILL conducted condition assessments on nearly 2,000 assets (pumps, motors, electrical, etc.). About 77% of the assessed assets are in good condition. Approximately 23% percent of the assets may need corrective maintenance, rehabilitation or replacement in the next 3 to 5 years. The field condition results are used to update the prioritization model and to develop rehabilitation and replacement projects.

The vertical asset risk assessment framework also takes into account capacity failures. The following hydraulic models and studies are used to determine which vertical asset facilities may need future capacity expansions:

- OWASA's 2010 Long-Range Water Supply Plan (LRWSP) indicates that under most hydrologic conditions, the existing raw water supplies and associated facilities will have sufficient capacity through approximately 2055 based on current estimates of yield and expected demand projections.
- According to the LRWSP, the Jones Ferry Road WTP 20 MGD capacity is adequate until 2060 given current growth projections and levels of treatment.
- The 2011 distribution system hydraulic model was used to determine that the existing booster pump stations have sufficient capacity and additional distribution storage is not required in the study's 20-year planning period.
- The 2011 collection system hydraulic model indicates that there is sufficient capacity at eight of the pump stations that were evaluated in the study's 20-year planning period.
- The 2010 Mason Farm WWTP Hydraulic and Treatment Capacity Study prepared by Hazen and Sawyer states that the 14.5 MGD plant will need to be upgraded in 2030 to a capacity of 18.5 MGD.

Water Horizontal Assets

The *Water Main Rehabilitation and Replacement Prioritization Model* was developed by AECOM in 2003 and updated in 2010 to provide guidelines on the annual reinvestment decisions for water pipes and to provide a dynamic model for prioritizing the replacement/rehabilitation of water pipes. The prioritization model's risk assessment framework evaluates pipes using the following factors:

Likelihood of Failure:

- Pipe age
- Pipe breaks and leaks
- Pipe material
- System pressure

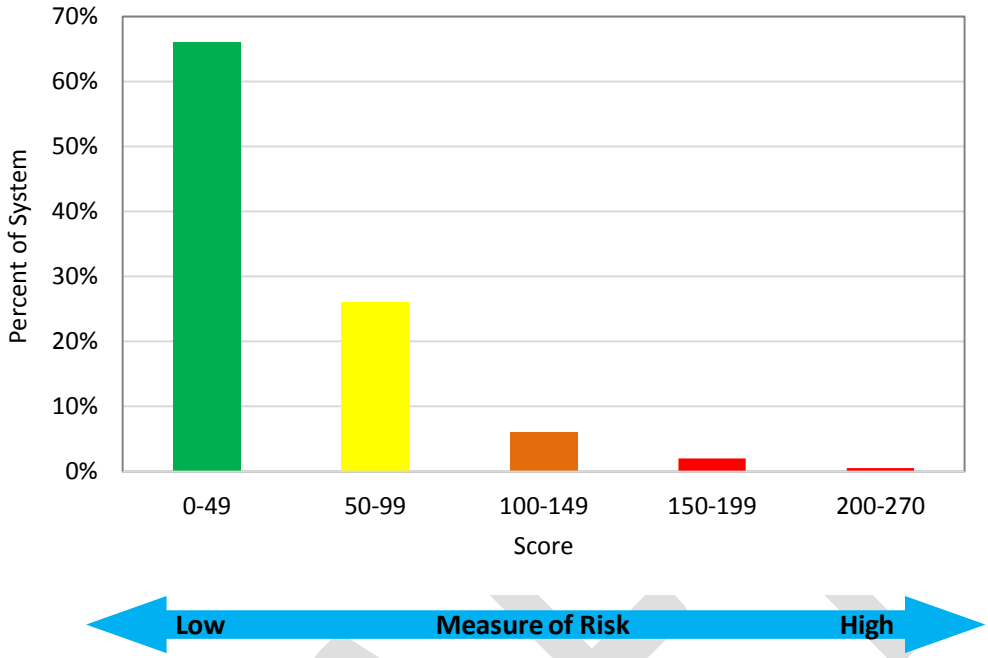
Consequence of Failure:

- Location of the pipe
- Critical customer impact

The sum of the weighted values for the above factors is the priority (risk) score for each pipe. A summary graph of the prioritization model results are displayed in Figure 14. Due to the relatively young age of the distribution system, 66% of the distribution system has a priority score below 50. The higher priority pipes make up about 8% of the distribution system.

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Figure 14. Distribution System Prioritization Model Results



Current and future capacity needs are accounted for in the 2011 water distribution hydraulic model developed by AECOM. According to the model, OWASA's distribution system has relatively few hydraulic deficiencies through 2030.

Wastewater Horizontal Assets

The wastewater collection system prioritization model was developed as part of the 2011 Sanitary Sewer Service Area Study prepared by CDM Smith. The prioritization model's risk assessment framework quantifies the consequence of failure and likelihood of failure. The study also included hydraulic modeling of the interceptors and critical collector pipes. Existing and potential future capacity deficiencies identified by the hydraulic modeling were incorporated into the framework's likelihood of failure. The prioritization model's risk assessment framework evaluates pipes using the following factors:

Likelihood of Failure:

- Structural
- Maintenance
- Capacity

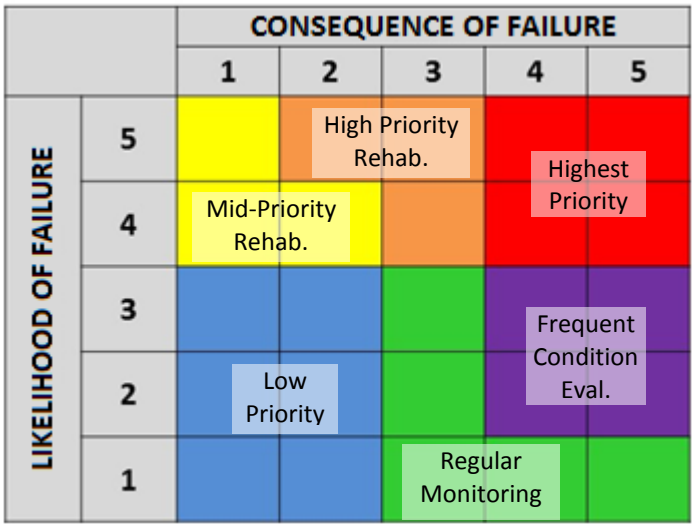
Consequence of Failure:

- Quantity of flow conveyed
- Transportation/urban impact
- Environmental impact
- Difficulty of emergency repair

The six priority categories from the analysis are shown in Figure 15. The results from the model are used to prioritize pipes for condition assessments. The condition assessment results are used to update the prioritization model by overriding the likelihood of failure calculations.

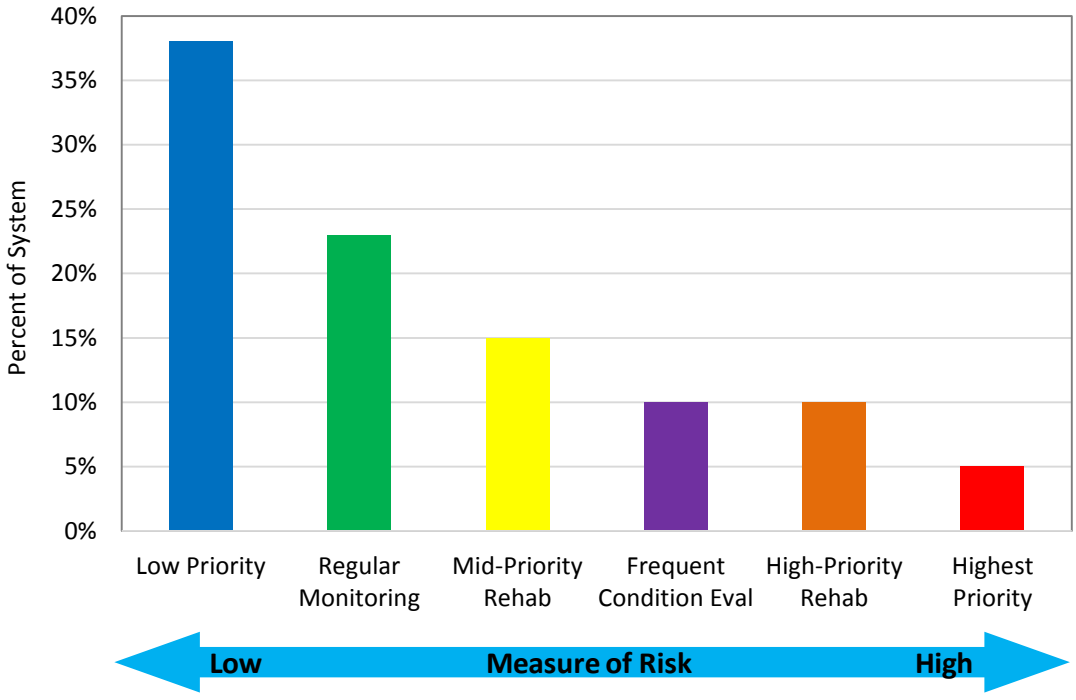
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Figure 15. Collection System Risk Framework



A summary of the results from the wastewater collection system prioritization model is presented in Figure 16. About 15% of the collection system is in the highest priority for condition assessment. Over 60% of the collection system is in the two lowest categories of low priority or regular monitoring.

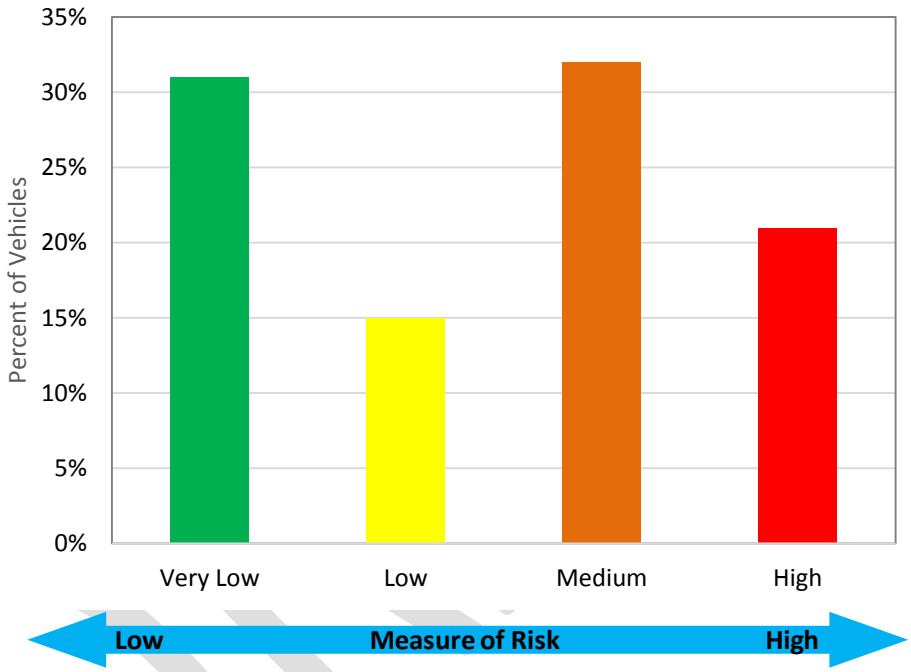
Figure 16. Collection System Prioritization Model Results



Vehicles and Associated Equipment

The vehicle risk assessment framework relies on knowledgeable staff to quantify likelihood and consequence of failure. The condition or likelihood of failure is assessed by maintenance mechanics familiar with the fleet of vehicles and equipment and the individual vehicle or equipment's performance. The criticality or consequence of failure is determined by the managers responsible for the asset. A risk score, which is the product the likelihood and consequence of failure, and associated risk category (very high, high, medium, low) is determined for each assets. The results from the risk model are presented in Figure 17. Managers' vehicle and equipment replacement requests are then prioritized by risk category and risk score.

Figure 17. Vehicle Risk Model Results



SECTION 5
OPERATION AND MAINTENANCE AND CAPITAL IMPROVEMENT STRATEGIES

After we determine which assets are critical to performance, we need to know ***"What are my best minimum life-cycle cost capital improvements program (CIP) and operation and maintenance (O&M) strategies?"*** to keep the assets operating to meet the level of service goals.

Operation and Maintenance

Recognizing that proper operation and maintenance is key to long-term management and protection of its assets, OWASA has prepared operations and maintenance plans and Standard Operating Procedures/Protocols (SOPs) for its critical infrastructure assets, including but not limited to:

- the Mason Farm WWTP
- the Jones Ferry Road WTP
- raw water supply and pumping facilities
- the water distribution system
- the wastewater collection system
- the reclaimed water system

OWASA employs a qualified staff to maintain the water, wastewater, and reclaimed water systems. On-call staff is available 24 hours per day to respond to emergencies. Most OWASA facilities are equipped with stand-by power generators, and we maintain a fleet of portable generators and pumps. We stock a warehouse of parts for repairing and maintaining the distribution, collection and reclaimed water systems and an inventory of critical spare parts is maintained at the treatment plants. The FY 2016 budget include $2.9 million (about 14% of the total annual O&M budget) for maintenance expenses.



Operations Center Warehouse

OWASA has a Comprehensive Emergency Management Plan that addresses emergency prevention, preparation, response, and recovery.

Horizontal Asset Maintenance

OWASA's distribution system maintenance program includes hydrant inspection and maintenance, unidirectional flushing and fixed blow-offs at certain locations for water quality, valve and hydrant inspection and maintenance, and backflow and cross-connection control program.

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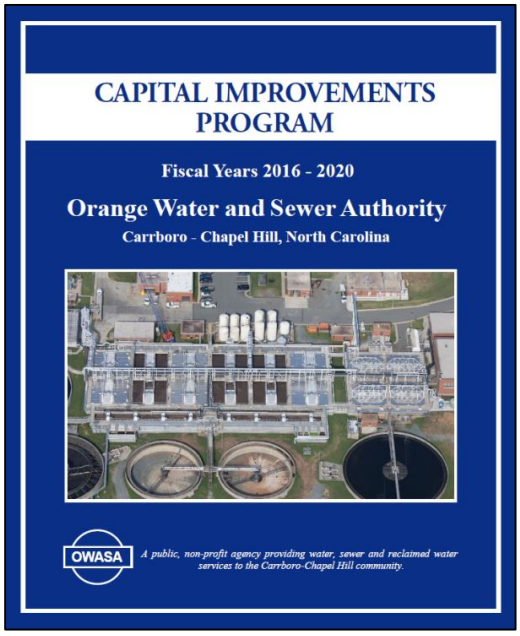
The collection system maintenance program includes easement mowing, aerial crossing inspections, sewer pipe cleaning, root control, and sewer pipe video inspections. Distribution, collection and reclaimed water system maintenance activities are tied to individual assets through the integration of the CMMS and GIS.

OWASA's customer education programs for backflow and cross-connection control, proper disposal of fats, oils, and grease, and materials that should and should not be disposed of in the sewer also help with proper operation of the distribution and collection systems.

Vertical Asset Maintenance
Maintenance of OWASA's treatment plants, pump stations, tanks, etc. is accomplished using a combination of OWASA staff and contractors. OWASA staff complete most routine preventive and corrective maintenance activities. Contractors perform maintenance on assets such as HVAC, roofing, generators, large pumps and motors, and instrumentation and controls. Vertical asset maintenance activities are tied to individual assets in the CMMS.

Vehicle Maintenance
Routine vehicle and equipment maintenance, such as oil changes and vehicle inspections, and smaller repairs are performed by OWASA staff at the vehicle maintenance facility located in the Operations Center. Non-routine maintenance and large repairs are contracted out. Vehicle asset maintenance activities are tied to individual assets in the CMMS. Vehicles and equipment are replaced as part of the capital equipment budget. Capital equipment is defined as motorized/rolling stock, lab equipment, and IT equipment valued greater than $5,000. We are planning to evaluate fleet management systems in 2016.

Capital Improvements Program



Assets identified for renewal, replacement, and/or expansion by models, studies, performance, etc. are developed into capital improvements program (CIP) projects. Asset renewal, replacement and expansion is key to sustaining the levels of service discussed in Section 3. CIP projects are defined as any major (greater than $10,000), non-recurring (greater than 5 years) capital expenditures for the construction, expansion, improvement, repair or replacement of a building, utility system, or other physical structure or property.

OWASA's CIP document summarizes OWASA's long-range Capital Improvements Program and Budget for a 5-year period. Its objective is to help guide OWASA's efforts to meet the community's evolving needs for sustainable, reliable, and high quality water, wastewater, and reclaimed water services. The capital improvements program is extended out 15-years to include projects outside of the five year window to ensure adequate lead time for evaluation of alternatives,

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advance studies, and to inform long-term financial planning. The CIP is updated annually with the Annual Budget.

Capital project needs are identified by staff observation, regulatory or contractual requirements, work order evaluation, hydraulic models, risk/prioritization models, coordination with other projects (e.g. street resurfacing, greenways, etc.), and master planning studies.

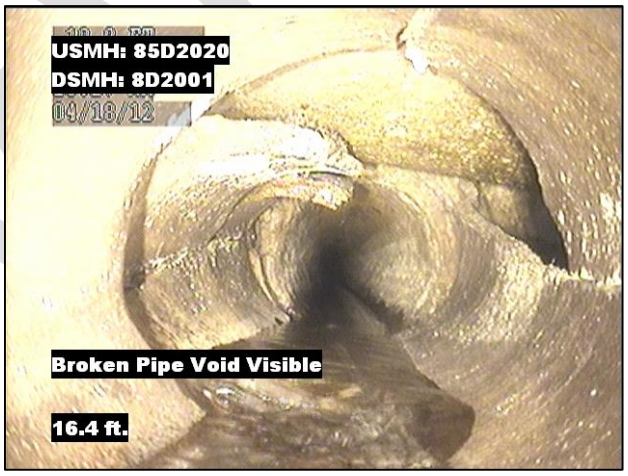
Horizontal Assets

Water Distribution System

OWASA's water distribution system replacement program relies on information from the 2003 AECOM prioritization model and 2011 distribution system hydraulic model. The 2003 water system prioritization modeling study recommended that OWASA would need to replace 1.7 miles of water main per year (over the next 50 years) using optimistic (long) life expectancy and 3 miles of main per year using the pessimistic (short) life expectancy in order to provide reliable, sustainable service to our customers. The pipe replacement program is currently focused on replacing galvanized water pipes due to the water quality and reliability issues associated with this specific material. We have about 3.5 miles of galvanized pipe in the distribution system. It is also focused on replacing asbestos-cement pipes in high pressure areas that have had higher rates of main breaks and leaks. The average linear footage of water main renewal/replacement in the FY 2016-2020 CIP is 2.6 miles per year (0.7% of the system).

Wastewater Collection System

Wastewater collection system renewal and replacement projects are developed from the FY 2011 CDM Smith sanitary sewer service area study. Field condition assessment via closed-circuit television (CCTV) identifies structural deficiencies such as broken, sagging, and corroded pipes and manholes that allow inflow/infiltration into the sewer system. Renewal or replacement projects are subsequently developed to correct these issues. OWASA typically repairs deteriorated pipes by installing CIPP liners or replacing individual segments between manholes. The 2011 study included a hydraulic model of pipes 10-inches and larger and certain 8-inch pipes.



CCTV image of a broken sewer pipe

The 2011 study recommends OWASA gradually increase rehabilitation of the sewer system to 1.5% (4.9 miles) per year by 2025 to maintain or reduce the current levels of inflow and infiltration into the system. The average linear footage of sewer main renewal/replacement in the FY 2016-2020 CIP is 2.7 miles per year (0.8% of system).

Reclaimed Water System
Since all of the pipes were installed since 2005 and have decades of useful life remaining, there is not a replacement strategy in place for reclaimed water distribution system at this time.

Vertical Assets

The vertical asset (treatment plants, pump stations, reservoirs, etc.) replacement program relies on information from the 2015 CH2M HILL Renewal and Replacement (R&R) Forecasting Model and various hydraulic and capacity studies. The R&R Forecasting Model was built from asset inventory data such as asset type, installation year, condition, and assumptions such as life cycle, and replacement value. The R&R Forecasting Model, maintenance cost history from the CMMS, and risk scores are used by staff to develop CIP projects.

Based on current demand projections, capacity expansion is not needed at the Jones Ferry Road WTP within a 20-year planning horizon and capacity expansion is not needed at the Mason Farm WWTP until at least 2030.

Aside from the programming of known CIP project needs, placeholding funding requirements are also established for not yet defined capital needs for asset renewal, replacement, or enhancement. To accomplish this objective, the CIP includes funds for the recapitalization of certain asset systems based on the current replacement value and theoretical service life of the assets. A recapitalization rate of 2% of the asset system value is used for long-term financial planning for the following asset systems:

- Administration Building
- Operations Center
- Jones Ferry Road WTP
- Mason Farm Road WWTP
- Pump Stations

Recapitalization funding for these asset systems begins in the fourth year of any given CIP, and is reduced by the amount of known projects for each fiscal year.

CIP Project Prioritization

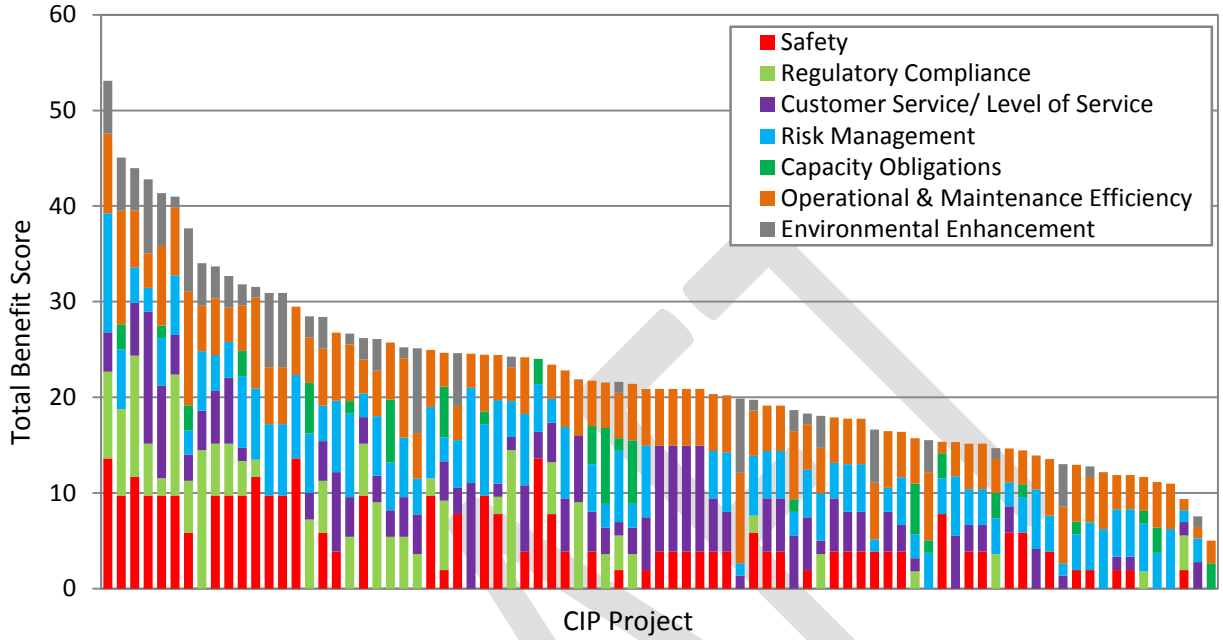
After CIP projects are identified, we use a project prioritization model developed for OWASA by CH2M HILL as part of the 2013 Asset Management Project Implementation. The decision criteria address triple bottom line (social, environmental, and economic) considerations, and include:

- Safety
- Customer service/level of service
- Operation and maintenance efficiency/cost savings
- Risk management
- Regulatory compliance
- Capacity obligation
- Environmental enhancement

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The results of the FY 2016-2020 CIP project prioritization are presented in Figure 18. Each column in the graph represents a CIP project. The colors in each column indicate the decision criteria that comprise the project's total benefit score.

Figure 18. FY 2016-2020 CIP Prioritization



The CIP project prioritization model allows staff to evaluate projects against one another. Water, wastewater, pipeline and facility projects are rated using the decision criteria listed above. Projects with higher scores are typically scheduled to occur earlier in the CIP. In addition to the results of the project prioritization model, staff accounts for project interrelationships, project implementation considerations, and other external schedule constraints when programming projects into the CIP. A summary of the FY 2016-2020 CIP is presented in Table 5.

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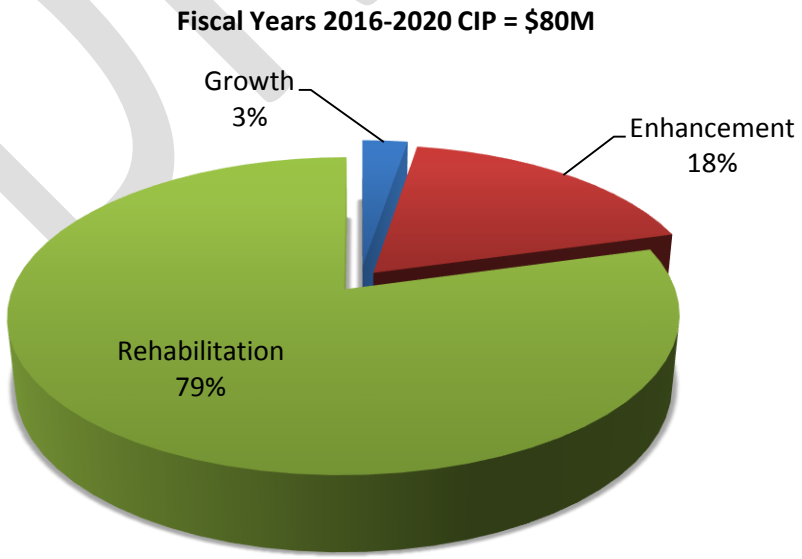
Table 5. OWASA CAPITAL IMPROVEMENTS PROGRAM FIVE-YEAR OVERVIEW FOR FY 2016-2020[1]

	Annual Totals					5-Year Total
Project Category:	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2016-20**
Raw Water Supply Sources	$102,000	$722,000	$84,000	$781,000	$719,000	$2,408,000
Raw Water Transmission	0	0	0	28,000	0	28,000
Water Treatment Facilities	294,000	210,000	589,000	2,364,000	2,482,000	5,939,000
Finished Water Pumping	0	0	0	0	0	0
Finished Water Storage	58,000	0	0	0	0	58,000
Water Transmission and Distribution	3,107,000	6,998,000	6,529,000	4,458,000	4,682,000	25,774,000
Wastewater Collection Lines	2,353,000	3,196,000	4,289,000	3,814,000	4,312,000	17,964,000
Wastewater Pump Stations	821,000	4,474,000	405,000	803,000	892,000	7,395,000
Wastewater Treatment and Disposal	3,795,000	3,935,000	1,491,000	4,285,000	4,499,000	18,005,000
Reclaimed Water Facility Rehabilitation	0	0	0	0	0	0
Central Office and Operations	85,000	735,000	420,000	431,000	452,000	2,123,000
FY 2016 - 2020 CIP	$10,615,000	$20,270,000	$13,807,000	$16,964,000	$18,038,000	$79,694,000

[1]Budget amounts are escalated at 5% annually (with some exceptions)

The breakdown of CIP spending for system rehabilitation, enhancement, and growth is presented in Figure 19. More than 75% of the projected funding for the FY 2016-2020 CIP is for rehabilitation or replacement of existing infrastructure. The need for additional system capacity is limited as determined by the various hydraulic models and capacity studies. Only 3% of the CIP funds are designated for system growth.

Figure 19. CIP Funding by Project Type



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SECTION 6
FINANCIAL PLANNING

The final asset management question is "***What is my best long-term funding strategy?"*** to maintain our assets at the defined level of service?

In order to sustainably manage our infrastructure, OWASA must have the financial resources and capacity to operate, maintain, repair and replace assets when needed. OWASA has a formal Financial Management Policy that ensures a comprehensive and systematic approach to strategic financial planning and related policy decisions. The Policy includes performance measures and targets that collectively guide ongoing efforts to provide customers with high quality water, wastewater and reclaimed water services through responsible, sustainable and creative stewardship of the resources and assets that OWASA manages. Figure 20 summarizes the primary financial performance measurements and objectives specified in the Financial Management Policy.

Figure 20. Financial Performance Objectives

Measurement	Objective
Working Capital Reserves	The greater of 4 months of O&M budget or 20% of the succeeding 3 years of CIP budget
Capital Improvements Reserve Fund	Minimum fund balance target of 2% of annual depreciated capital costs
Debt Service Coverage Ratio	≥ 2.0
Debt Burden to Asset Value	≤ 50%
Sufficiency of Revenues Above Debt Requirements	Annual Debt service shall not exceed 35% of annual gross revenues
Credit Ratings	Aa2 – Moody's; AA+ - Standard & Poor's; AA+ - Fitch
Cash Financing of Capital	Annual revenues and cash reserves shall provide not less than 30% of CIP funding
Rate/Revenue Stabilization Fund	Minimum fund balance target of 5% of projected water and sewer revenue
Service Affordability	Average annual residential bill divided by real median household income shall be ≤ 1.5%

OWASA maintains a comprehensive 15-year financial plan to evaluate projected revenues, operating and capital expenditures, debt service, future borrowing needs, and rate adjustment scenarios in order to ensure it can meets the financial goals and objectives over the long-term. The plan is updated annually, and annual rate adjustments are made as needed to ensure financial performance.

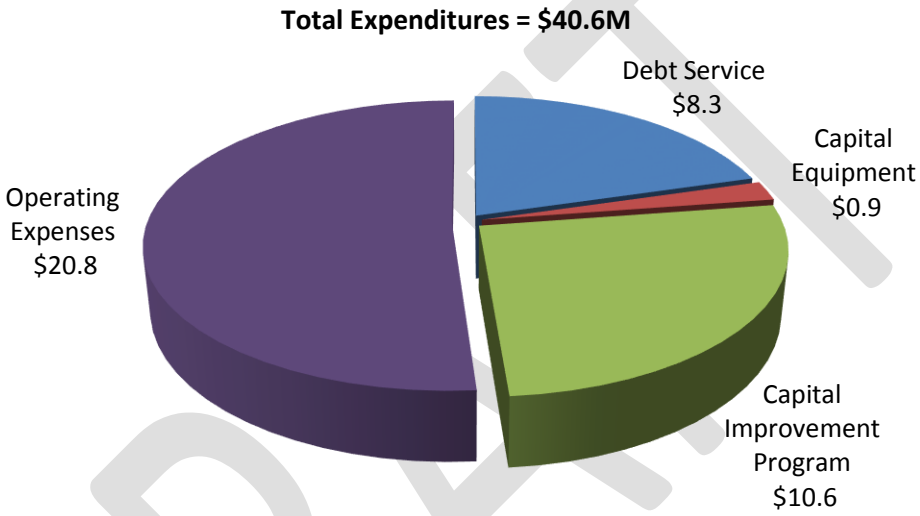
We update the plan's assumptions regarding projected water sales, growth trends, increases in number of customers, projected operating and maintenance costs (including trends in energy, chemical, personnel, and other expense categories), projected capital equipment and capital improvements needs, desired ratio of net income to debt service, cost of borrowing, and other

factors. Based on the input assumptions, the plan is used to determine the level of rates required to achieve OWASA's financial goals and objectives.

OWASA's rates and fees are based on comprehensive cost-of-service rate studies that are prepared about once every five years.

The FY 2016 budget consists of projected revenues and other receipts of $37 million, capital project costs of $10.6 million, operating expenses of $20.8 million, debt service payments of $8.3 million, and capital equipment purchases of $875,000.

Figure 21. FY 2016 Expenditures



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SECTION 7
NEXT STEPS

OWASA has a complex set of assets that provide essential water, wastewater, and reclaimed water services to the Carrboro-Chapel Hill community. Our comprehensive asset management approach ensures the sustainable long-term operation, maintenance, replacement and expansion of OWASA's water, wastewater, and reclaimed water systems. We continue to improve and advance our asset management practices.

Ongoing and upcoming near-term improvements to our asset management program include:

- Collection system field verification. Project underway with completion in 2018.
- Mason Farm WWTP process pipe inventory. Project underway with completion in 2018.
- 2016 AWWA Utility Benchmarking Survey participation.
- Fleet maintenance program evaluation in 2016.
- Jones Ferry Road WTP process pipe inventory. Projected to start in 2018.

In addition, we are developing an energy management plan which will help inform future decisions regarding our investments in energy efficiency and renewable energy projects. Information about the condition, energy use and costs, etc. of our existing assets will be considered as we develop that plan. Also, as the OWASA Board of Directors sets specific objectives and guidance for energy management, those objectives and guidance will be incorporated into our asset management and capital improvements programs.

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REFERENCES

AECOM, *Water Distribution System Hydraulic Model Update*, April 2011

American Water Works Association, *Performance Benchmarking for Effectively Managed Water Utilities*, 2012

CDM Smith, *Sanitary Sewer Service Area Study*, 2012

CH2M HILL, *Orange Water and Sewer Authority Asset Management Project Implementation, Phases 2 & 3*, May 2013

Earth Tech, *OWASA Water Main Replacement and Rehabilitation Prioritization Project*, 2003

Hazen and Sawyer, *Mason Farm Wastewater Treatment Plant Hydraulic and Treatment Capacity Study*, November 2010

OWASA, *Annual Review and Update of Strategic Trends and Utility Planning Issues*, October 2015

OWASA, *Capital Improvements Program, Fiscal years 2016–2020*, July 2015

OWASA, *Financial Management Policy*, January 26, 2012

OWASA, *Key Indicators and Performance Measurements*, www.owasa.org

OWASA, *Long-Range Water Supply Plan Final Report*, Revised January 2013

OWASA, *Mission, Vision and Values*, www.owasa.org

Water Environment Research Foundation, *Sustainable Infrastructure Management Program Learning Environment, What is Asset Management*, http://simple.werf.org

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Key Indicators and Performance Measurements

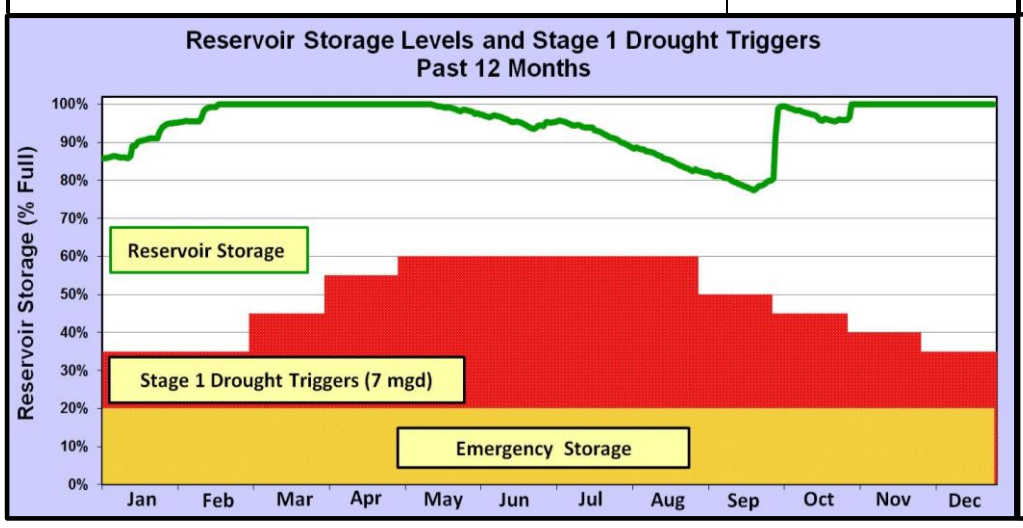
December 2015

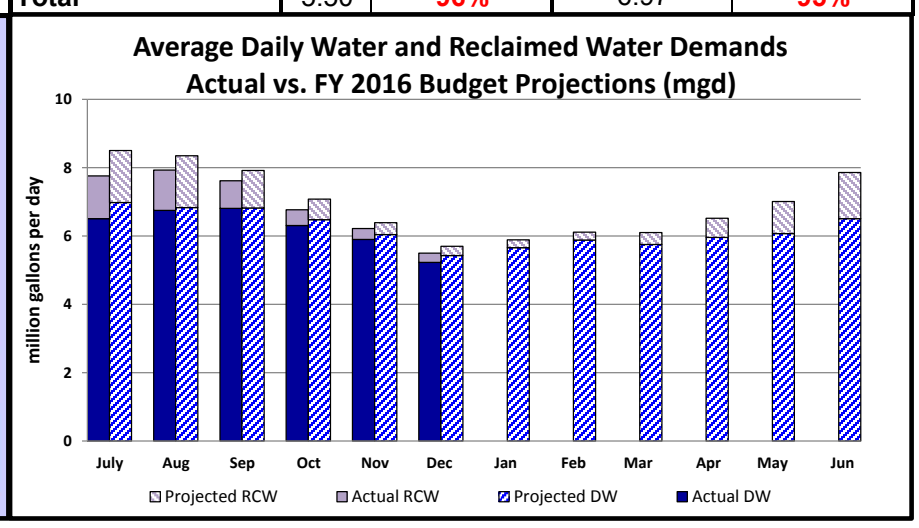
WATER SUPPLY AND DEMAND

Water Supply	
Reservoir Storage % of Capacity	**100.0%** (as of December 31, 2015)
Risk of Shortage Restrictions in Coming Year (Minimal, Low, Moderate)	**Minimal**
Water Use Restrictions Now in Effect	**Year-Round**

Water Demand (Sales in Million Gallons per Day)

	December 2015		FY 2016 (Year to Date)	
	Est.	% of Projected	Estimated	% of Projected Year-to-Date
Drinking Water (DW)	5.23	96%	6.25	97%
Reclaimed Water (RCW)	0.27	100%	0.72	80%
Total	5.50	96%	6.97	95%





Rainfall (inches)

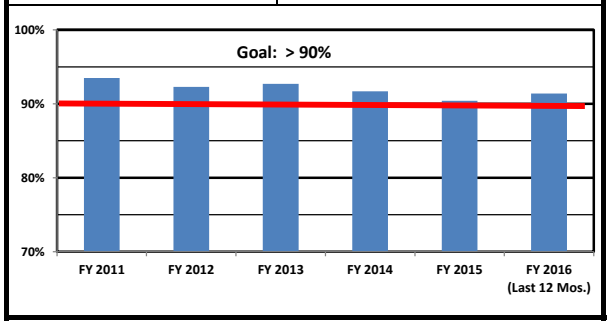
	December 2015			Last 12 Months		
	Actual	Hist. Avg. for Month	Variance	Actual	Hist. Average	Variance
Water Plant (Carrboro)	9.16	3.41	**5.75**	58.70	46.84	**11.86**
Cane Creek Reservoir	8.92	3.41	**5.51**	54.35	43.31	**11.04**

* Water Plant historical average is based on most recent 30 year period.
* Cane Creek Reservoir historical average is based on 21 years of record.

WATER DISTRIBUTION AND WASTEWATER COLLECTION

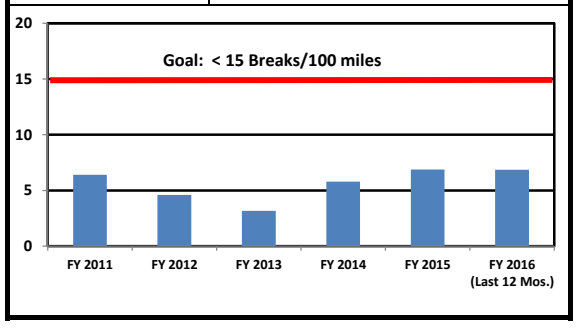
Water Sales as % of Water Pumped

December 2015	Last 12 Months
92% (Est.)	91.4%



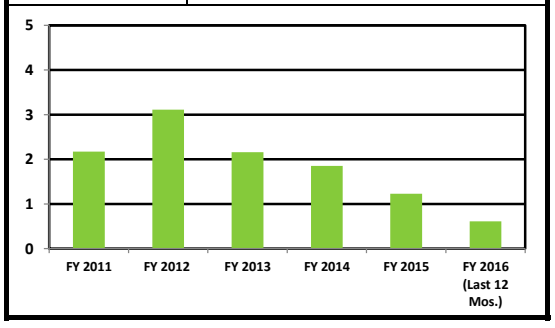
Water Main Breaks (> 2-Inch Pipes)

December 2015	Breaks/100 mi. Last 12 Mos.
1	6.86



Sewer Overflows (Reportable)

December 2015	Overflows/100 mi. Last 12 Mos.
0	0.61

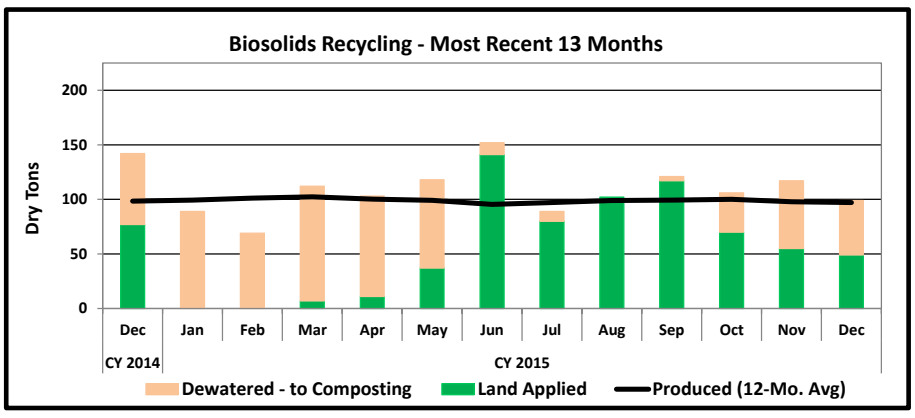


COMPLIANCE

SYSTEM COMPLIANCE SUMMARY - LAST TWELVE MONTHS

	Water Treatment	Wastewater Treatment	Reclaimed Water	Biosolids	Collections System
Primary Drinking Water Violations	In Compliance				
Secondary Drinking Water Violations	In Compliance				
NPDES Permit Violations	In Compliance	In Compliance			
Operating Permit Violations			In Compliance	In Compliance	1 Notice of Violation
Odor Events		Non-Compliance 3 Events			

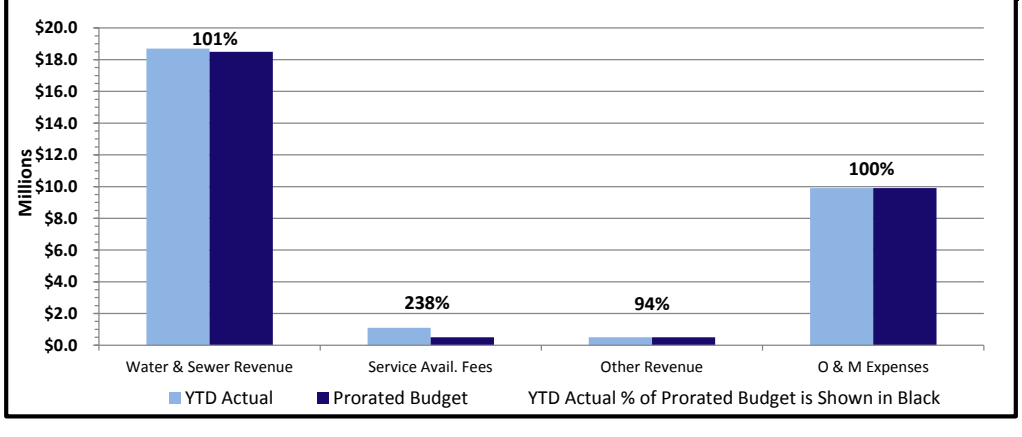
BIOSOLIDS MANAGEMENT

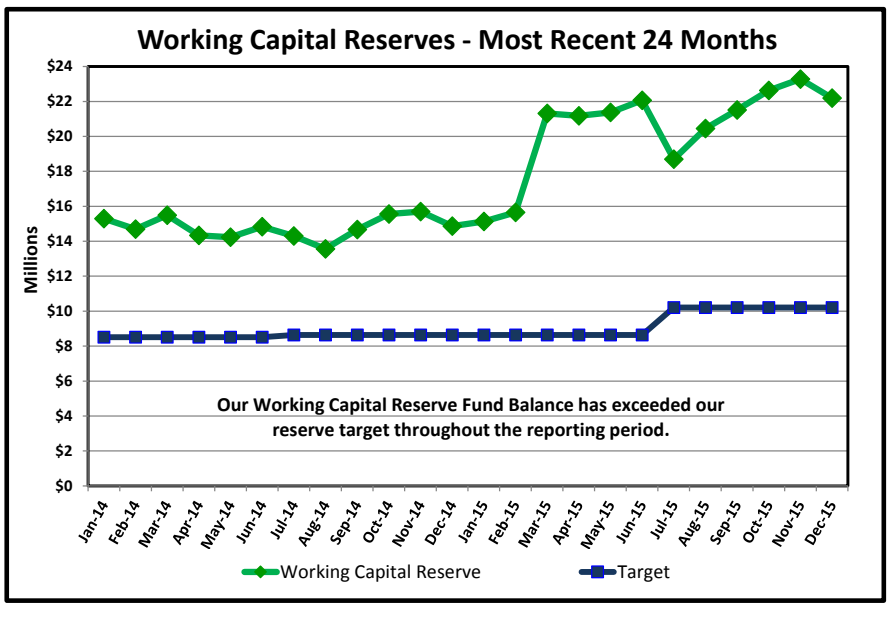


FINANCE MANAGEMENT

FY 2016 Budget Performance (millions of dollars)

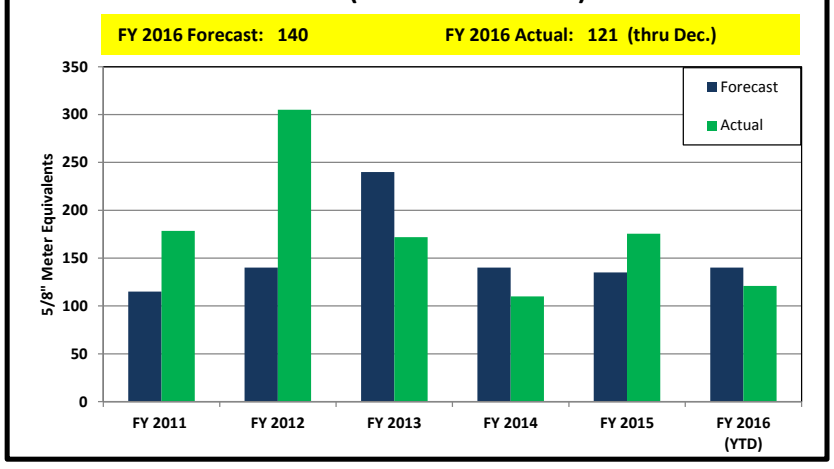
Category	December 2015		FY 2016 Year-to-Date		
	Actual	*Budget*	Actual	*Budget*	Variance
Revenue (Preliminary)	2.7	2.7	20.3	19.5	**0.8**
O&M Expenses (Preliminary)	2.0	1.7	9.9	9.9	**0.0**



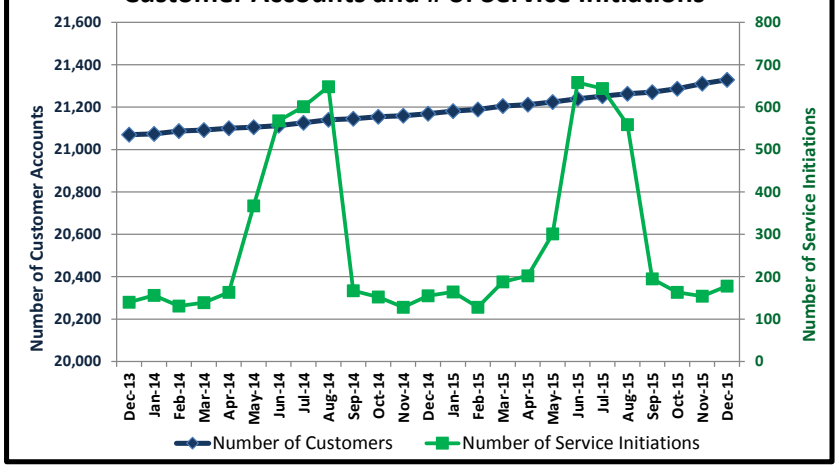


CUSTOMER SERVICE AND CONNECTION ACTIVITY

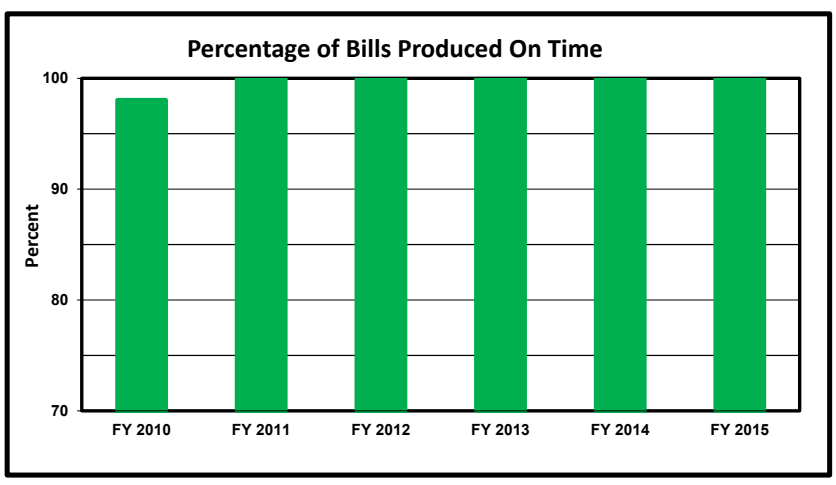
Growth (New Connections)



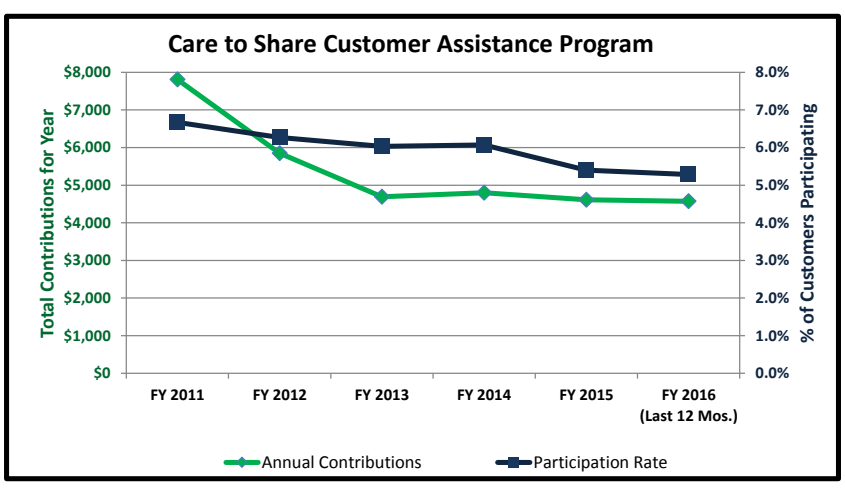
Customer Accounts and # of Service Initiations



Percentage of Bills Produced On Time

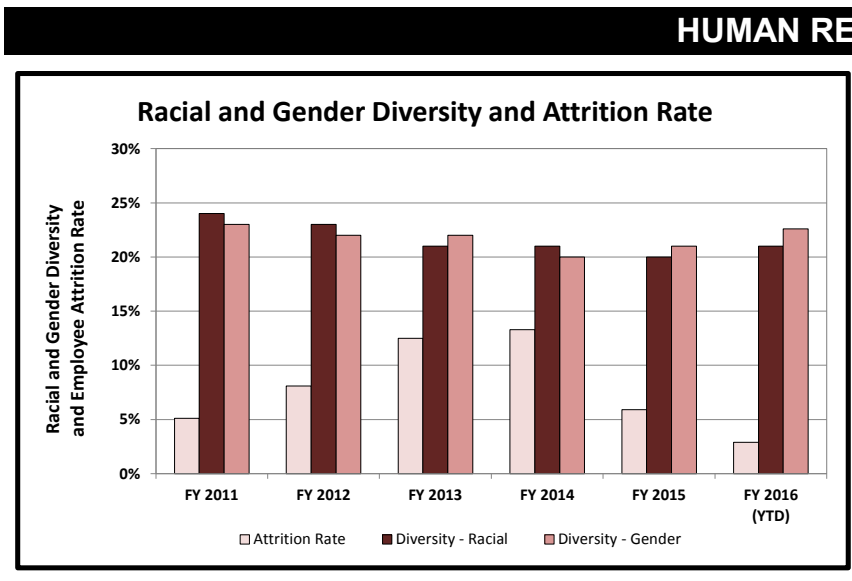


Care to Share Customer Assistance Program

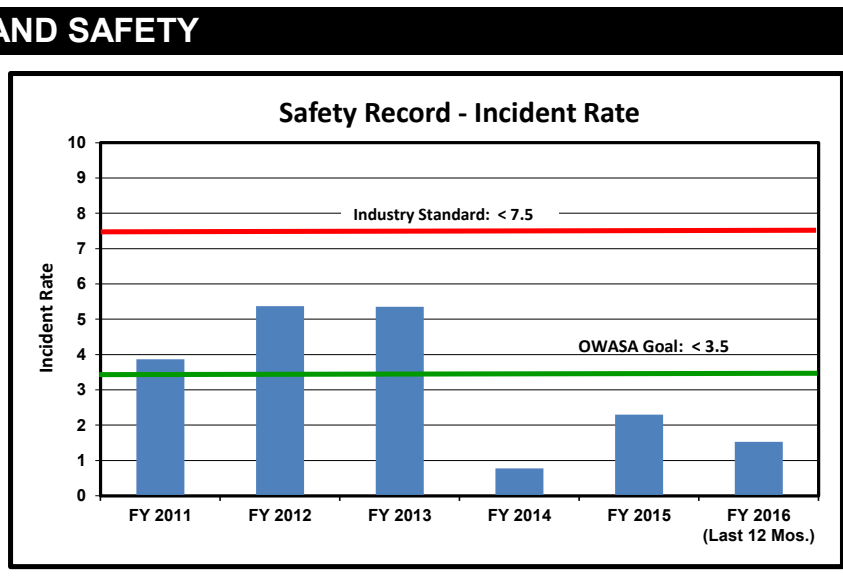


HUMAN RESOURCES AND SAFETY

Racial and Gender Diversity and Attrition Rate



Safety Record - Incident Rate



AGENDA ITEM

- FINANCIAL REPORT FOR THE SIX MONTH PERIOD ENDED DECEMBER 31, 2015

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 financial performance targets were met.

  - Operating Revenues for the period were about $140,000 or 1% over budget.

  - Customer Fees (Service Availability Fees) exceeded budget for the period by approximately $609,000.

  - Operating Expenses were about $37,000 less than budget.

  - Net Income less Debt Service was 14.5% or roughly $818,000 over budget.

  - Capital Improvement Program expenditures were about 9% less than budgeted for the period.

  - Capital equipment expenditures were approximately $107,000.

ACTION NEEDED

- Receive and discuss the Financial Report for the six month period ended December 31, 2015.

January 28, 2016

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 21, 2016

SUBJECT: Financial Report for the six month period ended December 31, 2015

Purpose

The financial report for the six month period ended December 31, 2015 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

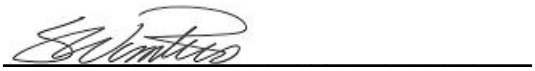
- As shown on page 10 of the financial report, all financial performance measurement targets were met for the period.
- Average potable water sales for the period was 6.25 million gallons per day (MGD), 6.43 was projected. Combined potable and reclaimed water sales for the period averaged 6.97 MGD versus a projection of 7.32.
- Total Operating Revenue was about 1% or $140,000 over budget.
- Revenue from new system connections was over budget by about $609,000. Timing of meter sets is projected based on data available at the time of budget setting. The primary reason for being over budget is that four large meters that were anticipated to be installed in FY15 were delayed and spilled over into the first quarter of the current fiscal year.
- Total operating expenses for the period were under budget by about $37,000.
    - General and Administrative expenses were under budget by about $142,000. Costs associated with the Total Compensation Study and the Long Range Water Supply Plan are less than originally projected for the six month period.
    - Water Treatment Plant expenses were over budget by about $285,000. Chemical costs and maintenance expenses at the Water Treatment Plant are higher than projected for the period. We believe these variances are related to the difficulty of projecting the timing of when we will incur these expenses.

  - Wastewater Treatment Plant expenses were about $170,000 under budget. Costs related to maintenance and a consulting project related to our plant monitoring and control system have been less than projected for the first six months of the fiscal year.

- Net Income less Debt Service for the period was approximately $818,000 or 14.5% more than budget.
- Capital equipment expenditures were approximately $107,000. The annual budget (which includes equipment and computer software systems) totals $875,000. The year-to-date budget is shown to be equal to year-to-date expenditures because the capital equipment expenditure budget is not allocated or prorated across the months of the fiscal year.
- Capital Improvements Program (CIP) activity for this reporting period was notably increased over the prior period, with over 65 projects active at some point during the first two quarters of FY 2016. Staff maintained schedules on several notable and/or large projects in the design phase, including the Cane Creek Permanganate Facility, Rosemary Street Water Main Replacement, and the Rogers Road Gravity Sanitary Sewer Extension. Construction contracts were awarded on the Purefoy Road Water Main Replacement project and the Evergreen and Ridge Lanes Water Main Replacement, which along with active construction on the Little Creek Interceptor Replacement, Digesters 1 and 2 Rehabilitation, and Sanitary Sewer Rehabilitation projects ensured that the largest construction projects planned for FY 2016 have now entered into construction.

  Expenditures for FY 2016 are projected to be at 88% of the CIP budget even though significant rainfall during second quarter affected the progress of many of the active construction projects and despite some schedule delays on two of the largest construction projects (Digesters 1 and 2 Rehabilitation and Little Creek Interceptor Replacement) during the second quarter.

  Detailed information on FY 2016 CIP projects with significant budget or schedule variances are included in the Semi-annual CIP Status Report in the agenda for the January 28, 2016 Board meeting.



Stephen Winters, CPA
Director of Finance and Customer Service

Attachment

Orange Water and Sewer Authority

Financial Report
For the Six Month Period Ended
December 31, 2015

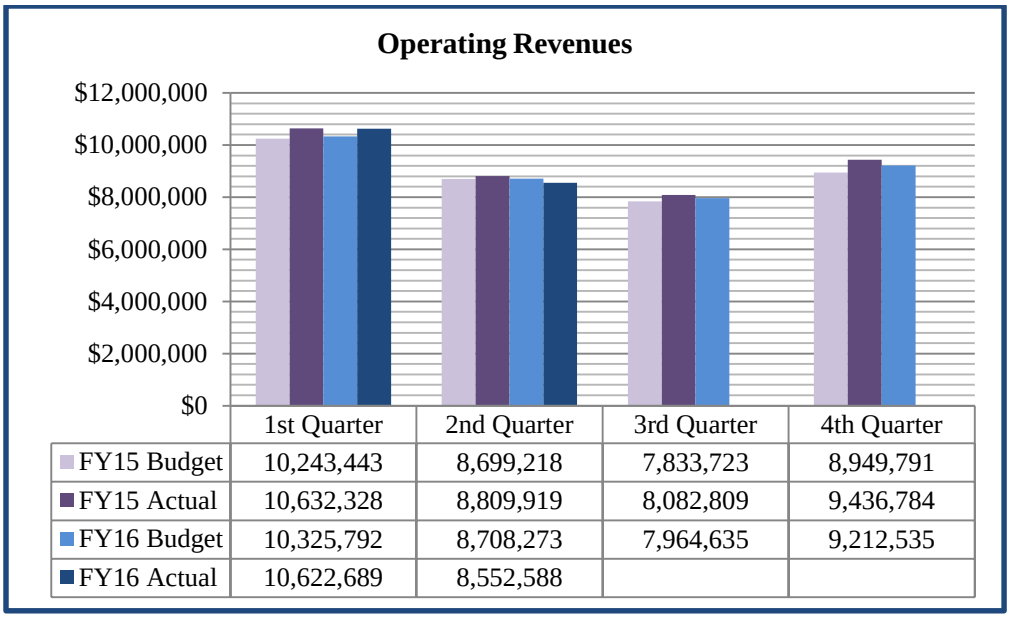
Orange Water and Sewer Authority
Statement of Net Position
December 31, 2015
(unaudited)

Assets	
Current Assets	
Cash	$29,427,369
Receivables	4,770,052
Inventory	807,654
Prepaid expenses	186,400
Restricted cash	4,215,339
Total Current Assets	39,406,814
Noncurrent Assets	
Capital assets (net of depreciation)	270,149,342
Other noncurrent assets	27,523,793
Total Noncurrent Assets	297,673,135
Total Assets	$337,079,949
Liabilities and Net Position	
Current Liabilities	
Accounts payable and accrued expenses	$1,908,340
Unearned income	656,262
Customer deposits	1,009,870
Total Current Liabilities	3,574,472
Noncurrent Liabilities	
Bonds payable	73,952,000
Other noncurrent liabilities	7,559,197
Total Noncurrent Liabilities	81,511,197
Net Position	
Contributed capital	115,293,556
Net position at the beginning of the year	131,762,085
Year-to-date accrual basis net income	4,938,639
Total Liabilities and Net Position	$337,079,949
Net income reconciliation:	
Accrual basis net income	$4,938,639
Depreciation, other post-employment benefits, and interest expense	5,454,081
Modified accrual basis net income	$10,392,720

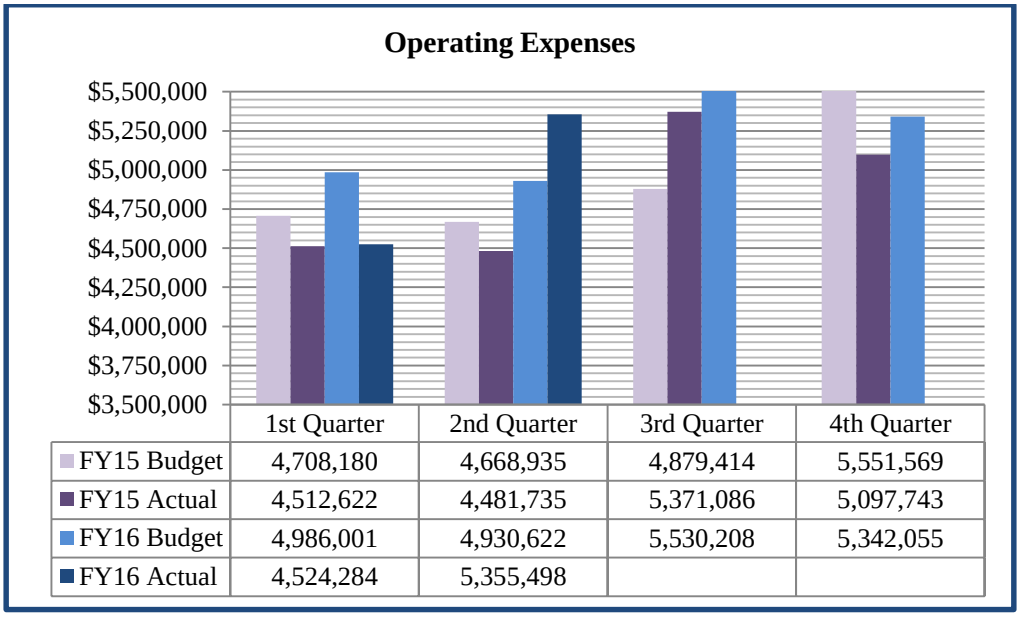
Orange Water and Sewer Authority
Income Statement
For the Six Month Period Ended December 31, 2015
(unaudited)

	Actual through December 31, 2015	Budget through December 31, 2015	Variance (effect on net change in Fund Balance)	Percent Variance
Operating Revenue:				
Water	$9,902,998	$9,822,632	$80,366	0.8%
Sewer	8,563,631	8,447,440	116,191	1.4
Reclaimed Water	236,209	268,987	(32,778)	(12.2)
Service Initiation Fees	92,440	79,212	13,228	16.7
Other	535,866	531,900	3,966	0.7
Refunds and Allowances	(155,867)	(116,106)	(39,761)	(34.2)
Total Operating Revenue	19,175,277	19,034,065	141,212	0.7
Non-operating Income:				
Customer Fees	1,088,967	479,790	609,177	127.0
Interest	8,258	17,286	(9,028)	(52.2)
Total Non-operating Income	1,097,225	497,076	600,149	120.7
Total Income	20,272,502	19,531,141	741,361	3.8
Operating Expense:				
General and Administrative	3,097,099	3,239,481	142,382	4.4
Water Supply and Treatment	2,535,980	2,251,795	(284,185)	(12.6)
Water Distribution	1,336,716	1,372,778	36,062	2.6
Wastewater Treatment	2,309,850	2,479,306	169,456	6.8
Wastewater Collection	600,137	573,263	(26,874)	(4.7)
Total Operating Expense	9,879,782	9,916,623	36,841	0.4
Net Income (modified accrual)	10,392,720	9,614,518	778,202	8.1
Debt Service	3,954,737	3,994,194	39,458	1.0
Net Income less Debt Service	6,437,983	5,620,234	817,660	14.5
Less: CIP Expenditures	2,707,000	2,968,000	261,000	8.8
Capital Equipment Expenditures	107,150	107,150	0	0.0
Net Change in Fund Balance	$3,623,833	$2,545,174	$1,078,660	42.4

Orange Water and Sewer Authority
Select Financial Data
For the Six Month Period Ended December 31, 2015



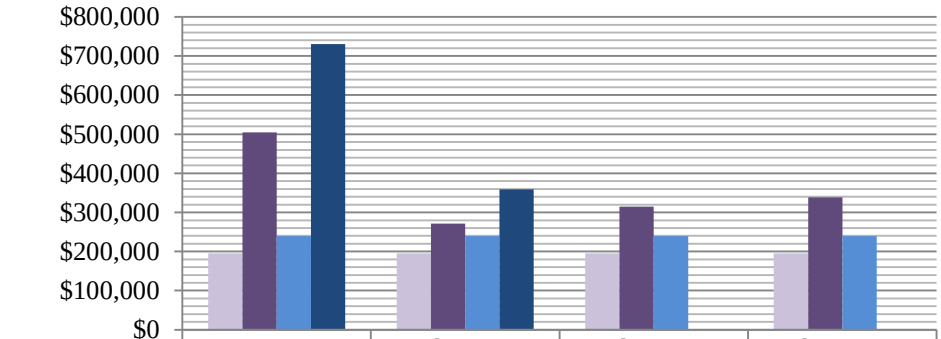
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
FY15 Budget	10,243,443	8,699,218	7,833,723	8,949,791
FY15 Actual	10,632,328	8,809,919	8,082,809	9,436,784
FY16 Budget	10,325,792	8,708,273	7,964,635	9,212,535
FY16 Actual	10,622,689	8,552,588		



	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
FY15 Budget	4,708,180	4,668,935	4,879,414	5,551,569
FY15 Actual	4,512,622	4,481,735	5,371,086	5,097,743
FY16 Budget	4,986,001	4,930,622	5,530,208	5,342,055
FY16 Actual	4,524,284	5,355,498		

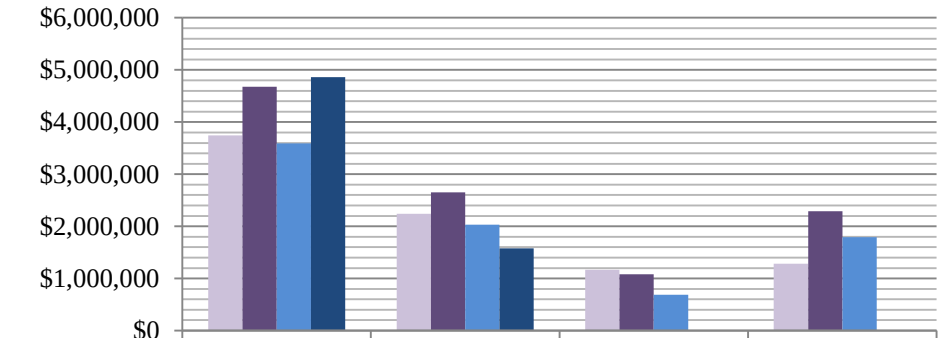
Orange Water and Sewer Authority
Select Financial Data
For the Six Month Period Ended December 31, 2015

Customer Fees (Service Availability Fees)



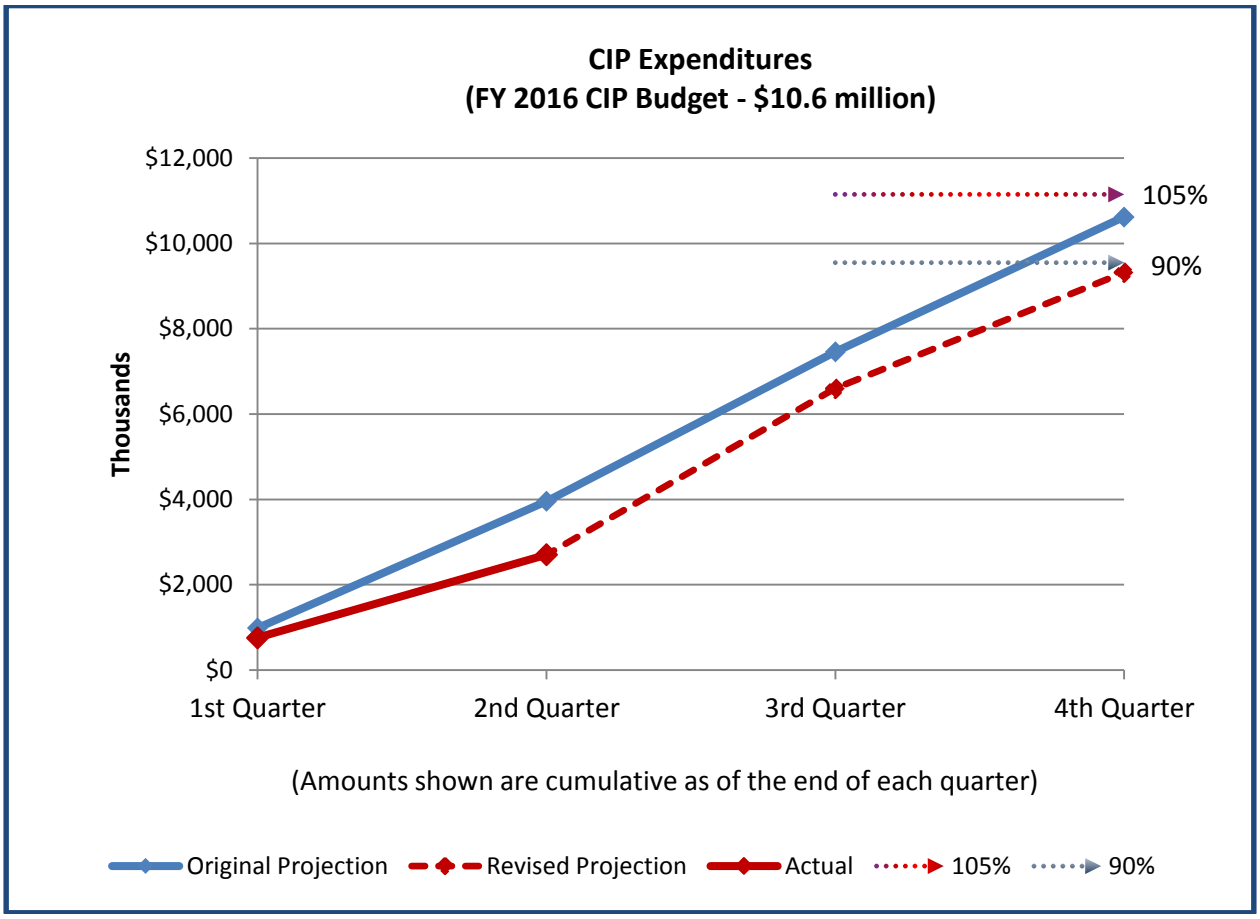
	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
FY15 Budget	195,593	195,593	195,593	195,593
FY15 Actual	504,869	271,531	314,656	338,186
FY16 Budget	239,896	239,894	239,896	239,896
FY16 Actual	730,219	358,748		

Net Revenue less Debt Service



	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
FY15 Budget	3,747,285	2,242,305	1,166,331	1,282,244
FY15 Actual	4,678,908	2,654,224	1,082,376	2,292,025
FY16 Budget	3,591,248	2,029,106	685,883	1,793,936
FY16 Actual	4,859,502	1,578,482		

Orange Water and Sewer Authority
Select Financial Data
For the Six Month Period Ended December 31, 2015

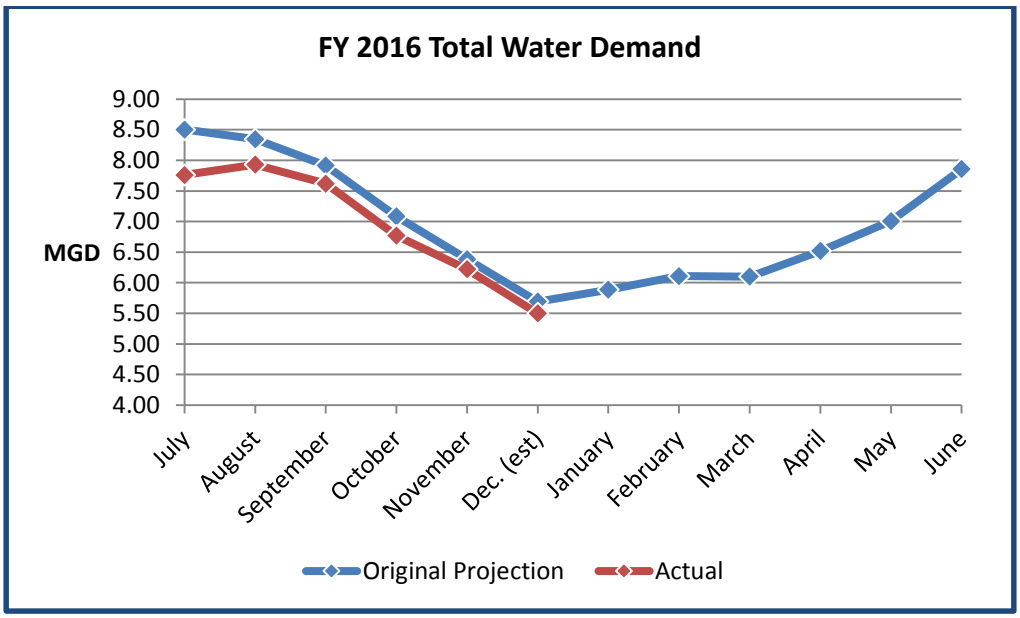


Orange Water and Sewer Authority
Select Financial Data
For the Six Month Period Ended December 31, 2015

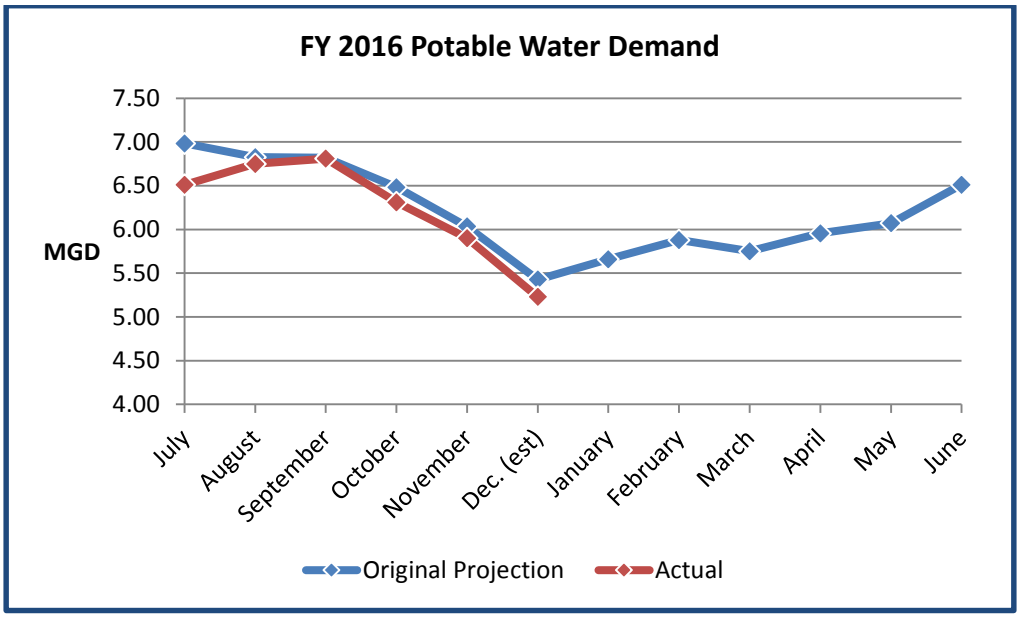
FY 2016 Water Sales Projection (Average Day)

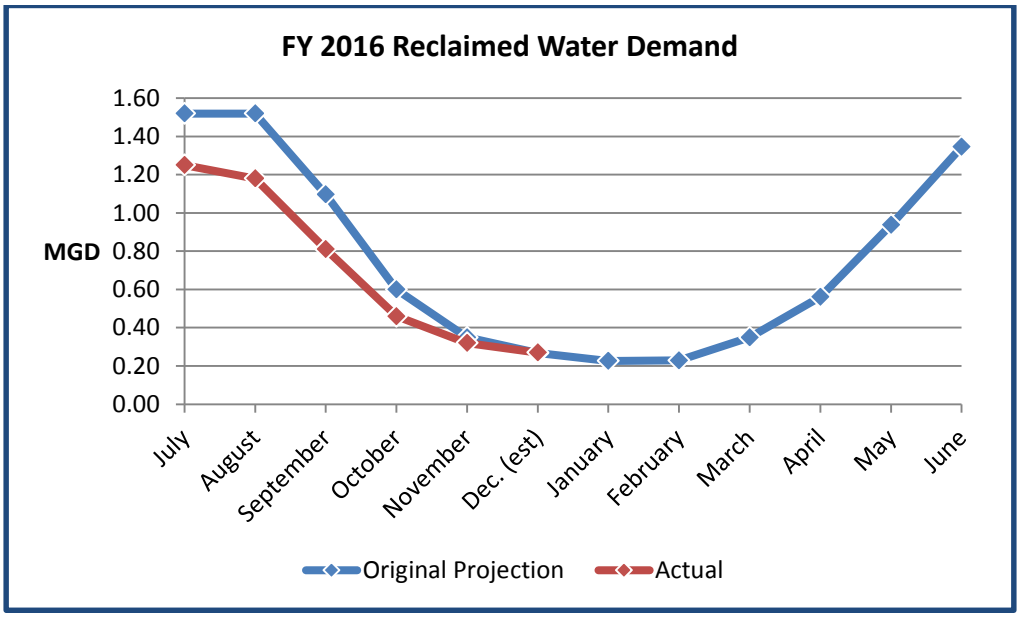
	Original FY 2016 Sales Projections		Actual FY 2016 Water Sales		Revised FY 2016 Sales Projections	
	PW	RCW	PW	RCW	PW	RCW
July	6.98	1.52	6.51	1.25	6.51	1.25
August	6.83	1.52	6.75	1.18	6.75	1.18
September	6.82	1.10	6.81	0.81	6.81	0.81
October	6.48	0.60	6.31	0.46	6.31	0.46
November	6.04	0.35	5.90	0.32	5.90	0.32
December	5.43	0.27	5.23	0.27	5.43	0.27
January	5.66	0.23			5.66	0.23
February	5.88	0.23			5.88	0.23
March	5.75	0.35			5.75	0.35
April	5.96	0.56			5.96	0.56
May	6.07	0.94			6.07	0.94
June	6.51	1.35			6.51	1.35
Average	6.20	0.75	6.25	0.72	6.13	0.66

Estimates shown in red

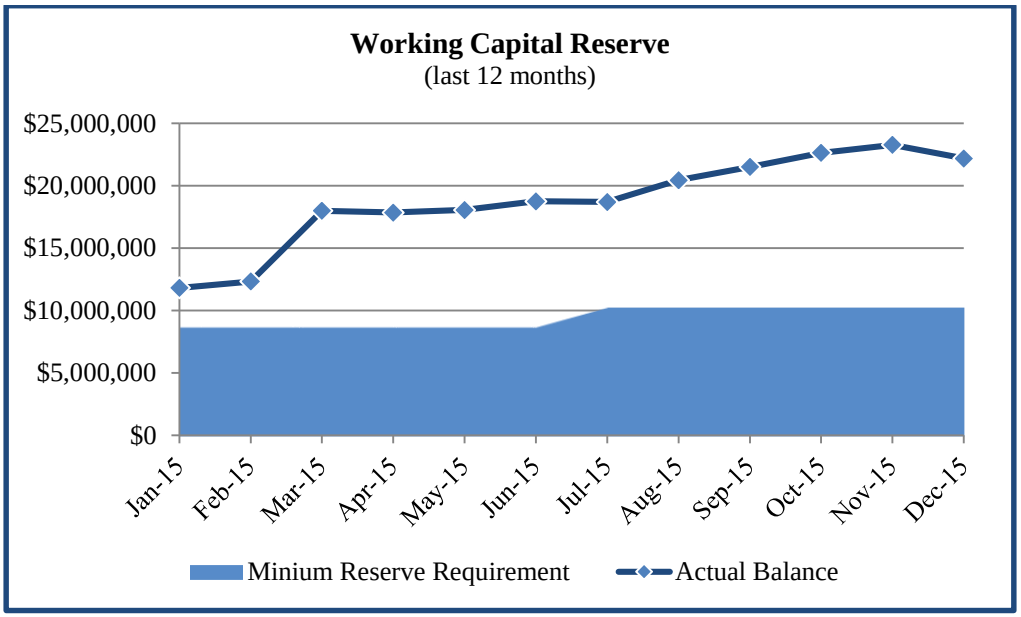


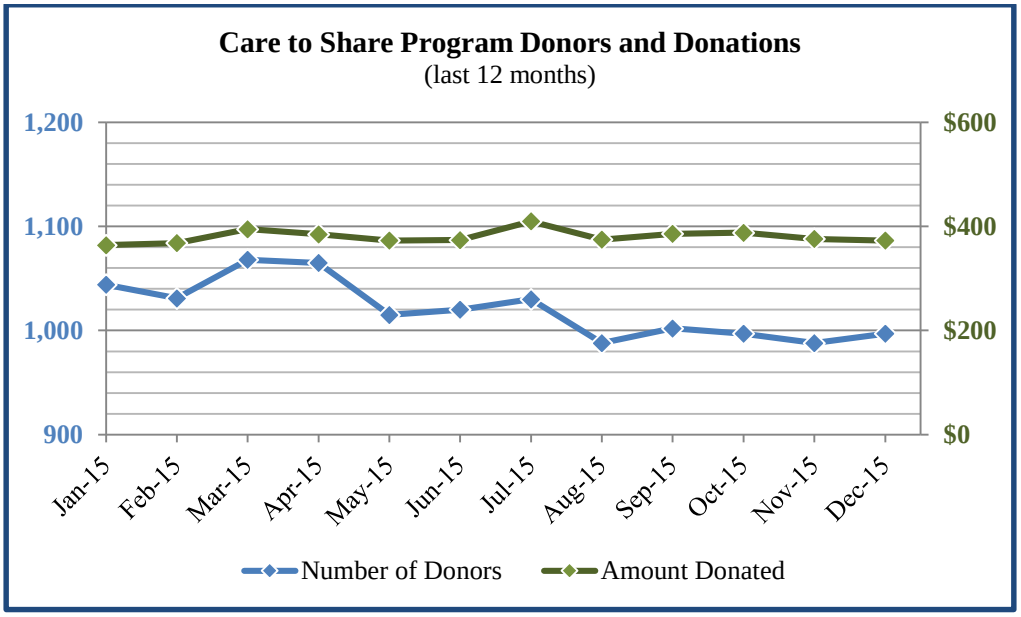
Orange Water and Sewer Authority
Select Financial Data
For the Six Month Period Ended December 31, 2015





Orange Water and Sewer Authority
Select Financial Data
For the Six Month Period Ended December 31, 2015





Orange Water and Sewer Authority
Financial Management Policy Report Card
For the Six Month Period Ended December 31, 2015

Measurement	Objective	FY15 Results	FY16 Goal	YTD FY16 Results
Working Capital Reserves	Greater of four months Operating expenses or 20% of succeeding three years CIP	$22.1M	$10.2M	$22.2M
Capital Improvements Reserve	2% of Net Capital Assets (Funding $400,000 per year until reach goal of approximately $6M)	$2.4M	$2.8M	$2.8M
Rate / Revenue Stabilization Reserve	5% of annual Water and Sewer Revenue (Funding $250,000 per year until reach goal of approximately $2M)	$1.5M	$1.7M	$1.7M
Debt Burden to Asset Value	Total Debt not more than 50% of Total Assets	27%	≤ 50%	25%
Sufficiency of Revenues above Debt Requirements [1]	Annual Debt Service no more than 35% of Gross Revenue	21%	≤ 35%	22%
Cash Financing of Capital [1]	Annual revenues and reserves provide at least 30% of CIP funding	91%	≥ 30%	100%
Debt Service Coverage Ratio [1]	Annual Net Income not less than two times Annual Debt Service	2.3	2.0	2.0
Service Affordability Ratio [2]	Average annual OWASA bill not more than 1.5% of area median household income	1.42%	1.5%	1.39%

M = million

[1] Calculation based on the FY 2016 Annual Budget until full-year results are available.
[2] FY 2016 Calculation based on median household income of $60,802 (per 2013 U.S. Census Bureau, the most recent information available) and average monthly household water use of 4,000 gallons.