



ORANGE WATER AND SEWER AUTHORITY

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

Agenda

Work Session of the OWASA Board of Directors

Thursday, January 11, 2018, 6:00 P.M.

OWASA Community Room

The Board of Directors appreciates and invites the public to attend and observe its meetings. For the Board's Work Session, public comments are invited on only items appearing on this 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).

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

The Board may take action on any item on the agenda.

Announcements

- a. Announcements by the Chair
 - 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. Announcements by Board Members
 - Human Resources Committee will meet on Monday, February 5, 2018 at 6:00 p.m. in the OWASA Boardroom to Discuss Retiree Health Benefits for New Hires and 457 Deferred Compensation (Barbara Foushee)
- c. Announcements by Staff

Consent Agenda

Information and Reports

1. Calendar Year 2017 Biosolids Report (John Kiviniemi)
2. Quarterly Report on Attendance at Board and Committee Meetings (Andrea Orbich)

Action

3. Resolution Honoring the Service of Mr. Robert Glosson to the Orange Water and Sewer Authority and the Carrboro-Chapel Hill Community (Robert Morgan)
4. Appoint Audit Firm (Ray DuBose/Kelly Satterfield)
5. Executive Director Compensation (Robert Morgan/Barbara Foushee)
6. Minutes of the December 14, 2017 Work Session of the Board of Directors (Andrea Orbich)
7. Minutes of the December 14, 2017 Closed Session of the Board of Directors to Discuss Potential Litigation and Discuss a Personnel Matter (Robert Morgan)

Regular Agenda

Discussion

8. Update on Employee Health and Dental Insurance for next Fiscal Year (Stephanie Glasgow/Ellen Tucker, Hill Chesson & Woody)

AGENDA

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9. Water Treatment Plant and Wastewater Treatment Plant Reliability and Risk Assessment Project Overview and Update (Adam Haggerty/JD Solomon, CH2M)
10. Discuss Key Performance Indicators: Water Main Breaks (Mary Tiger)
11. Discuss Key Focus Areas for OWASA's Executive Director (Ed Kerwin)
12. Review Board Work Schedule (Robert Morgan/Ed Kerwin)
 - a. Request(s) by Board Committees, Board Members and Staff
 - b. January 25, 2018 Board Meeting
 - c. February 8, 2018 Work Session
 - d. 12 Month Board Meeting Schedule
 - e. Pending Key Staff Action Items

Summary of Work Session Items

13. Executive Director will summarize the key staff action items from the Work Session

Agenda Item 1:

Calendar Year 2017 Biosolids Report

Purpose:

This report summarizes OWASA's progress towards meeting our objective of beneficially recycling 75% of biosolids through liquid land application and 25% through dewatering-to-compost.

Recommendation:

Staff recommends that future periodic program updates be incorporated in the Annual Review and Update of Strategic Trends and Utility Planning Issues Report provided to the Board each October.

Information:

- OWASA Biosolids Recycling Program Calendar Year 2017 Summary Report

January 11, 2018

OWASA Biosolids Recycling Program Calendar Year 2017 Summary Report

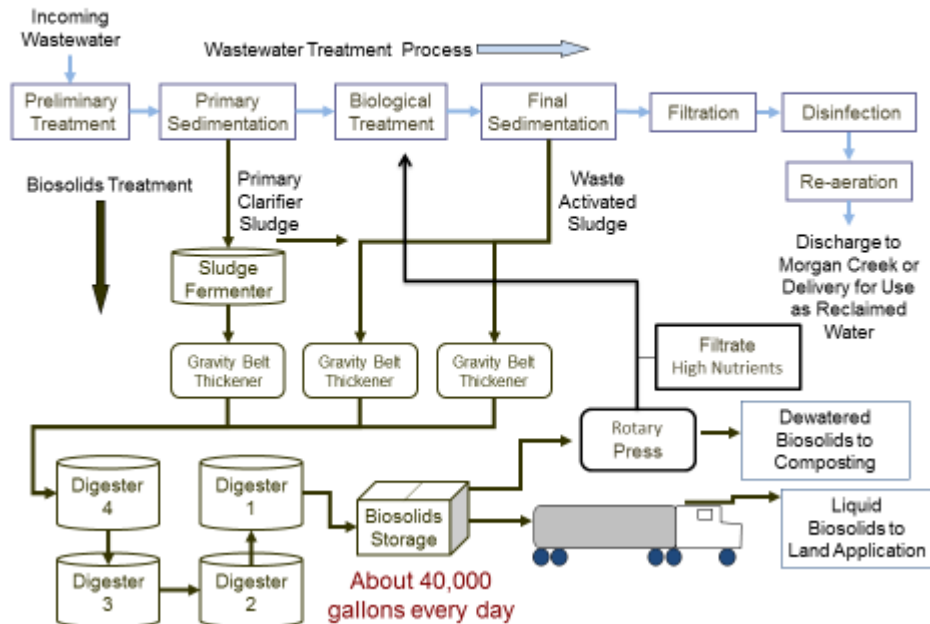
Purpose

This report summarizes OWASA's progress towards meeting our objective of recycling about 75% of biosolids through liquid land application and the remaining 25% through dewatering-to-compost.

Background

Biosolids are produced from the treatment of solids removed from the wastewater treatment process at the OWASA Mason Farm Wastewater Treatment Plant (WWTP). OWASA operates a Class-A EQ (Exceptional Quality) biosolids management program – this is the highest quality designation for biosolids management. The biosolids are beneficially recycled to farm land in Orange, Chatham and Alamance Counties or dewatered and taken to McGill Environmental for composting.

Biosolids Production



Historically, OWASA has successfully recycled all of our annual biosolids production: liquid land applying approximately 50% and dewatering-to-compost the other 50%. In October 2015, the OWASA Board set a target of increasing liquid land application of about 75% of the biosolids we produce.

The Board authorized the hiring of additional staff to support the expanded liquid land application program, and requested that in January 2017, staff provide a follow-up status report on our biosolids management program. The calendar year 2016 report summarized the distribution of biosolids recycled – 62% biosolids land

applied and 38% biosolids dewatered for composting. The main factors influencing the biosolids recycling pathways in calendar year 2016 were staffing shortages, rainfall, and reduced on-site storage capacity associated with the digester rehabilitation project.

We are pleased to report that the established target goal of beneficially recycling 75% biosolids to land application and 25% biosolids dewatered to composting was successfully achieved for calendar year 2017.

Biosolids Metrics for Calendar Year 2017

Table 1. Calendar Year 2017 Biosolids Management Volumes

	Dry Tons	% of Total	Our Targets
Total Biosolids Recycled	1,198	100%	100%
Biosolids Land Applied in Liquid Form	900	75%	~75%
Biosolids Dewatered for Composting	298	25%	~25%

Table 2. Calendar Year 2017 Biosolids Management Costs

	O&M Costs/Dry Ton
Total Biosolids Recycled	\$397

Note – includes labor, power, maintenance, chemicals, tipping fees, fuel and transportation costs for 75% biosolids to land application and 25% biosolids dewatered to composting

The three main factors that influenced the biosolids recycling pathways (%) during the 2017 calendar year:

1. Biosolids program fully staffed – We had a complete field transportation and application team on board for calendar year 2017 (three fulltime employees). We also recruited/hired our Solids Handling Supervisor in November 2017.
2. Weather– 2017 saw significantly less rainfall totals, calendar year 2017 rainfall totaled 42.17 inches; which was 27% lower than the annual rainfall total of calendar year 2016.
3. Increased Productivity – The favorable weather led to increased land application days to 151 days (up from 128 in calendar year 2016) resulting in an additional 1,612,000 gallons going to land application. The mild winter also permitted access to the land application fields earlier in the year.

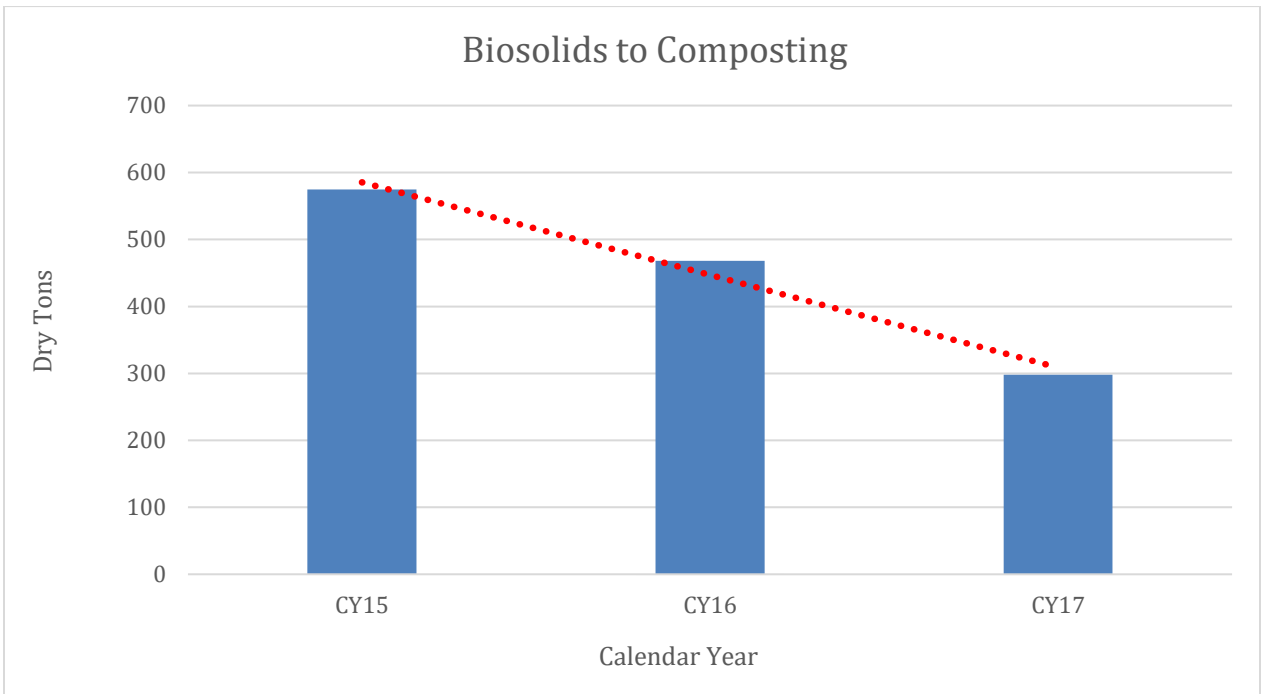
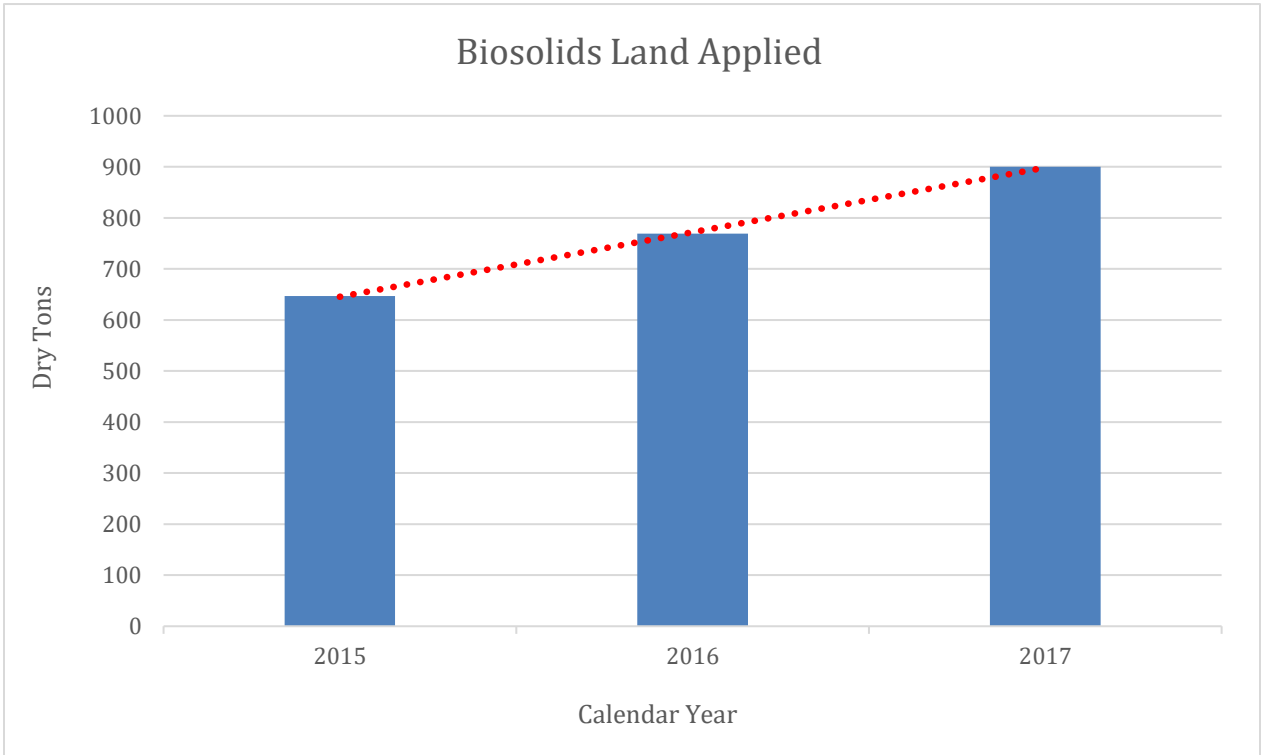
We remained in full compliance with our biosolids management permits throughout calendar year 2017.

Closing

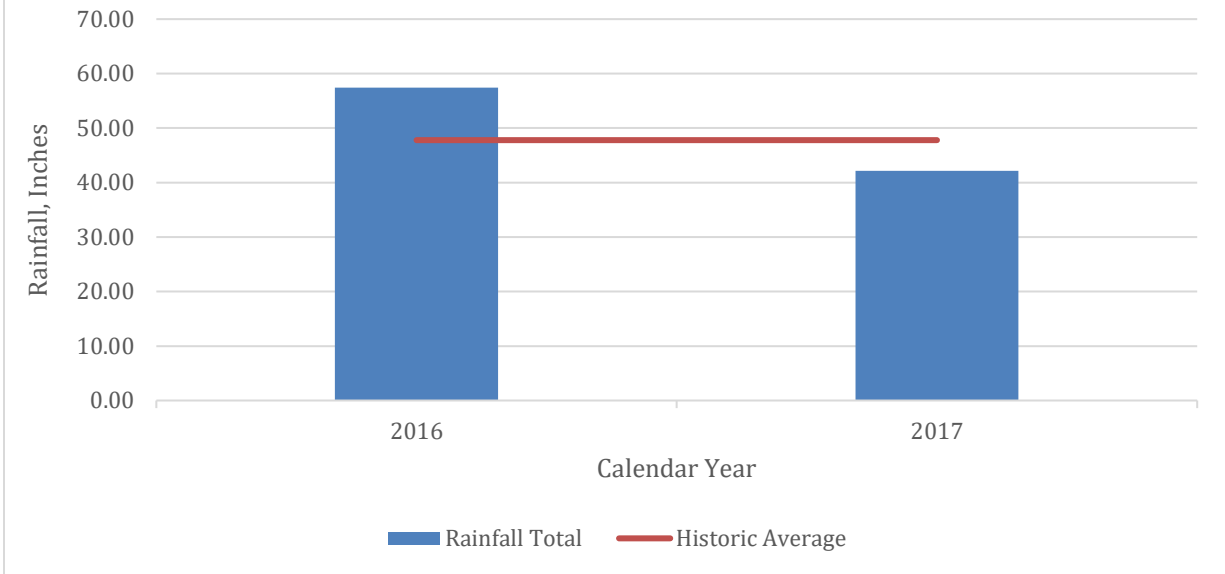
Successfully achieving the annual biosolids recycling pathway target of 75% liquid land application and 25% dewatered to compost was a major accomplishment for our biosolids recycling team. Given the experience of the past two calendar years, the established targets are achievable assuming reasonably normal operating conditions and limited use of contracted assistance during the peak application season. As noted previously the impacts associated with staffing, weather and land availability influence biosolids recycling pathway target percentages.

Our expanded liquid land application program continues to provide important benefits to the agricultural community, enables us to defer the need for major additional capital expenditures for an expanded dewatering program, and helps reduce the nutrient load that must be managed at the Mason Farm WWTP. As we look ahead, we expect to continue to look for opportunities to enhance our land application of biosolids. The planned replacement of our gravity belt thickening system at the WWTP within the next few years is expected to help increase the efficiency of our program.

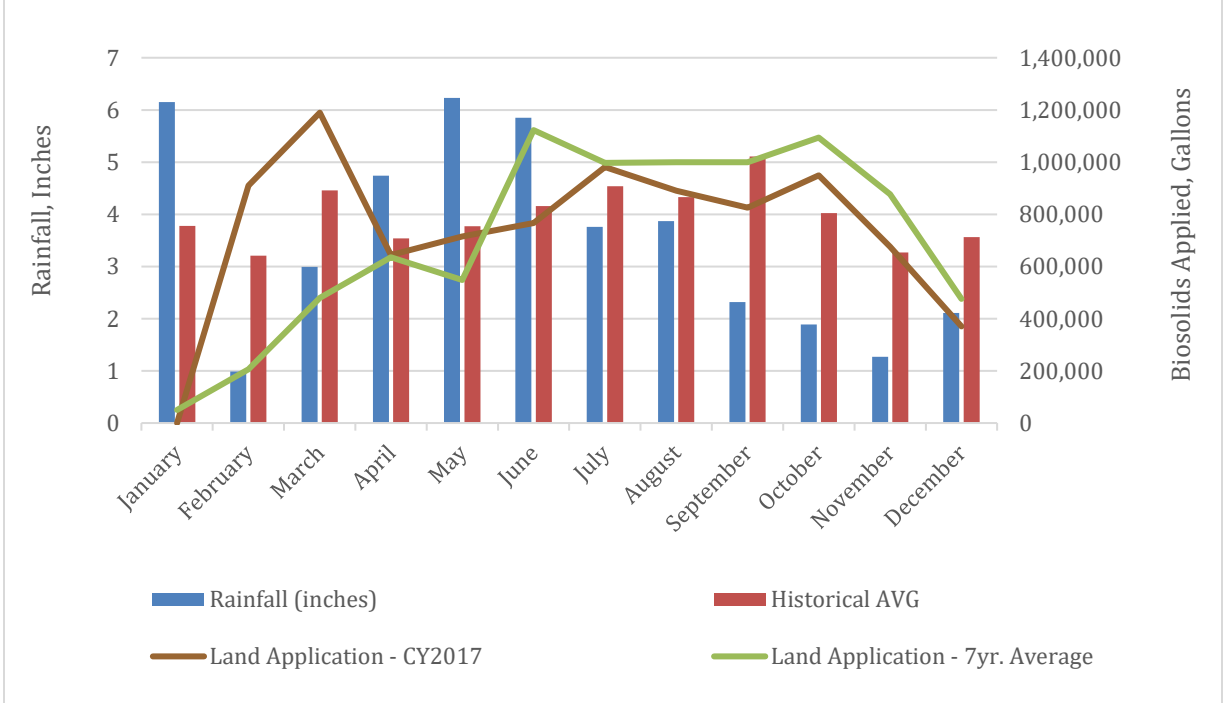
Staff recommends that future periodic program updates (inclusive of anticipated major changes in factors affecting our liquid land application program) be incorporated in the *Annual Review and Update of Strategic Trends and Utility Planning Issues Report* provided to the Board each October.



Calendar Year Rainfall vs. Historic Average Rainfall



Rainfall - Impacts to Land Application



Agenda Item 2

ORANGE WATER AND SEWER AUTHORITY - QUARTERLY REPORT

ATTENDANCE AT BOARD AND COMMITTEE MEETINGS

BOARD OF DIRECTORS	OCTOBER 2017	NOVEMBER 2017	DECEMBER 2017
ROBERT MORGAN, CHAIR	October 12 WS (Meeting) October 18 HR (Meeting) October 26 Board (Meeting)	November 9 WS (Meeting) November 16 HR (Absent) November 30 D&I (Meeting)	December 5 NRTS (Meeting) December 14 WS (Meeting)
HEATHER PAYNE, VICE CHAIR	October 12 WS (Meeting) October 26 Board (Meeting)	November 9 WS (Absent) November 30 D&I (Meeting)	December 5 NRTS (Absent) December 14 WS (Meeting)
YINKA AYANKOYA, SECRETARY	October 12 WS (Meeting) October 18 HR (Meeting) October 26 Board (Meeting)	November 9 WS (Meeting) November 16 HR (Meeting) November 30 D&I (Meeting)	December 5 NRTS (Meeting) December 14 WS (Meeting)
JEFF DANNER	October 12 WS (Absent) October 18 HR (Meeting) October 26 Board (Meeting)	November 9 WS (Meeting) November 16 HR (Absent) November 30 D&I (Meeting)	December 14 WS (Meeting)
RAY DUBOSE	October 12 WS (Meeting) October 26 Board (Meeting)	November 9 WS (Meeting) November 30 D&I (Meeting)	December 5 NRTS (Meeting) December 14 WS (Meeting)
BARBARA M. FOUSHEE	October 12 WS (Absent) October 18 HR (Meeting) October 26 Board (Meeting)	November 9 WS (Meeting) November 16 HR (Meeting) November 30 D&I (Meeting)	December 14 WS (Meeting)
JOHN N. MORRIS	October 12 WS (Meeting) October 26 Board (Meeting)	November 9 WS (Meeting) November 30 D&I (Meeting)	December 5 NRTS (Meeting) December 14 WS (Meeting)
RUCHIR VORA	October 12 WS (Absent) October 26 Board (Meeting)	November 9 WS (Meeting) November 30 D&I (Meeting)	December 5 NRTS (Absent) December 14 WS (Absent)

January 11, 2018

BOARD OF DIRECTORS	OCTOBER 2017	NOVEMBER 2017	DECEMBER 2017
JOHN A. YOUNG	October 12 WS (Meeting) October 18 HR (Meeting) October 26 Board (Meeting)	November 9 WS (Absent) November 16 HR (Meeting) November 30 D&I (Meeting)	December 5 NRTS (Meeting) December 14 WS (Meeting)
TOTAL MEETINGS HELD:	3	3	2

Board – Board of Directors
HR – Human Resources Committee
NRTS – Natural Resources and Technical Services Committee
WS – Work Session
D&I – Diversity & Inclusion Training

January 11, 2018

Agenda Item 3:

Resolution Honoring the Service of Mr. Robert Glosson to the Orange Water and Sewer Authority and the Carrboro-Chapel Hill Community

Background:

Mr. Robert Glosson, Lake Warden, was employed with OWASA from April 1984 until January 1, 2018.

Action Needed:

Staff recommends Adoption of a Resolution Honoring the Service of Robert Glosson to the Orange Water and Sewer Authority and the Carrboro-Chapel Hill Community.

January 11, 2018

**Resolution Honoring the Service of Robert Glosson to the
Orange Water and Sewer Authority and the Carrboro-Chapel Hill Community**

Whereas, Mr. Robert Glosson has served the Orange Water and Sewer Authority (OWASA) and the people of the Carrboro-Chapel Hill community for 33 years, from April 1984 until January 2018; and

Whereas, throughout Mr. Glosson's 33-year career, he served as Lake Warden at University Lake as part of OWASA's Water Supply and Treatment Department; and

Whereas, through his work as Lake Warden Mr. Glosson has demonstrated his commitment to hard work, quality service, environmental protection, and the health and safety of both the public and OWASA employees; and

Whereas, Mr. Glosson is respected by his co-workers and is admired for his sense of humor and friendship; and

Whereas, Mr. Glosson will retire from OWASA on January 1, 2018;

Now, Therefore, Be It Resolved:

That the Board of Directors of the Orange Water and Sewer Authority (OWASA) hereby honors the distinguished public service of Mr. Robert Glosson to OWASA and the people of Chapel Hill, Carrboro and Orange County; and the Board of Directors expresses its appreciation and best wishes to Mr. Glosson for success in all his future endeavors.

Adopted this 11th day of January 2018.

Robert Morgan, Chair

ATTEST:

Yinka Ayankoya, Secretary

Agenda Item 4:

Appoint Audit Firm

Background and Purpose:

General Statute 159-34 requires Orange Water and Sewer Authority to have its accounts audited by an independent auditor after the close of each fiscal year. OWASA must prepare and publish an annual financial report in conjunction with its annual audit. The auditor's conclusions are to be set out in a report in the form of an opinion and comments relating to the financial statements. The auditor must be approved by, and reports to, the Board of Directors, and is engaged through a contract executed by the Board Chair and the Finance Officer.

At the [August 10, 2017 Board Meeting](#), the Board discussed a process for soliciting and evaluating proposals for auditing services and decided to appoint two Board Members to join three staff members on an audit firm selection panel. The purpose of the panel was to interview audit firms and make a recommendation to the Board of Directors.

In November 2017, OWASA solicited audit proposals based on the established criteria recommended by the North Carolina Local Government Commission. We received responses from six firms and staff selected four of the respondents for in-person presentations and interviews. The interview panel unanimously chose to recommend Martin Starnes & Associates, CPAs, P.A. Some of the reasons the panel selected this firm include:

- Martin Starnes provided the best and most complete response to the RFP.
- The presentation during the interview was excellent.
- The panel asked a set of questions to each of the four firms interviewed; Martin Starnes provided the best and most complete answers to all questions.
- The firm has performed very well for OWASA for the past seven years.

While we only contract for audit services for one year at a time, it is typical for firms to quote audit services for three years. Fee proposals for the FY 2018 audit from the four firms interviewed range from approximately \$31,000 to almost \$44,000. Martin Starnes & Associates, CPAs, P.A. has proposed to conduct OWASA's FY 2018-2020 audits for \$31,750, \$32,650, and \$32,650, respectively.

Recommendation:

The audit interview panel (Board Members Ray DuBose and Heather Payne and OWASA staff members Glorija Gladney, Kelly Satterfield and Stephen Winters) recommends that the Board engage Martin Starnes & Associates, CPAs, P.A. for auditing services for the fiscal year ending June 30, 2018. The attached resolution appoints Martin Starnes & Associates, CPAs, P.A. to perform the audit for a base fee not to exceed \$32,000.

Information:

- Resolution Approving and Awarding Audit Contract to Martin Starnes & Associates, CPAS, P.A. and Authoring Chair of the Board of Directors and the Finance Officer to Execute the Contract

January 11, 2018

**Resolution Approving and Awarding Audit Contract to
Martin Starnes & Associates, CPAs, P.A. and Authorizing Chair of the Board of
Directors and the Finance Officer to Execute the Contract**

Whereas, Orange Water and Sewer Authority (OWASA) is required by the General Statutes of the State of North Carolina and the Series 2001 Bond Order to have its financial records audited at the termination of each fiscal year; and

Whereas, in November 2017, the OWASA solicited audit proposals based upon the established criteria recommended by the North Carolina Local Government Commission; and

Whereas, six firms prepared bid proposals that were fully and completely reviewed by staff, and four of these firms were selected to be interviewed by an Audit Selection Panel consisting of two members of the Board of Directors and three OWASA staff members, which the Panel has now completed; and

Whereas, the Audit Selection Panel recommends the selection of Martin Starnes & Associates, CPAs, P.A., based upon their solicitation presentations and their previous years of excellent service as OWASA's audit firm during the fiscal years 2011- 2017;

**Now, Therefore, Be It Resolved by the Orange Water and Sewer Authority Board
of Directors:**

1. That the contract between Orange Water and Sewer Authority and Martin Starnes & Associates, CPAs, P.A. for financial audit of the Fiscal Year Ending June 30, 2018, for charges not to exceed \$32,000 is hereby approved subject to approval by the North Carolina Local Government Commission.

2. That the Chair of the OWASA Board of Directors and the Finance Officer are hereby authorized to execute such contract.

Adopted this 11th day of January 2018.

Robert Morgan, Chair

ATTEST:

Yinka Ayankoya, Secretary

Agenda Item 5:

Executive Director Compensation

Purpose:

Possible Board action to adjust the Executive Director's salary.

Background:

On January 12, 2017, the OWASA Board approved the Key Focus Areas for OWASA's Executive Director for the period of October 2016 to September 2017.

The OWASA Board held an interim performance review meeting with the Executive Director on May 11, 2017.

The OWASA Board held an annual performance review meeting with the Executive Director on December 14, 2017 to discuss his Accomplishment Report on the Key Focus Areas and other matters related to his performance.

Information:

- Draft Resolution submitted by Robert Morgan, OWASA Board Chair

Resolution Adjusting the Executive Director's Compensation

Whereas, the Board of Directors has reviewed the Executive Director's Accomplishment Report and overall performance for the period October 2016 to September 2017; and

Whereas, the Board of Directors has met with the Executive Director to discuss his annual performance review: and

Whereas, the Board of Directors has determined to adjust the Executive Director's compensation as provided herein;

Now, Therefore, Be It Resolved by the Board of Directors of Orange Water and Sewer Authority:

1. That the Executive Director's annual base salary is hereby increased by four percent (one percent for cost of labor, and three percent for merit).
2. This increase shall be applied retroactively, effective October 30, 2017.

Adopted this 11th day of January 2018.

Robert Morgan, Chair

ATTEST:

Yinka Ayankoya, Secretary

Agenda Item 6

Orange Water and Sewer Authority Meeting of the Board of Directors December 14, 2017

The Board of Directors of the Orange Water and Sewer Authority (OWASA) met in a work session on Thursday, December 14, 2017, at 6:00 p.m. in OWASA's Community Room, 400 Jones Ferry Road, Carrboro.

Board Members present: Robert Morgan (Chair), Heather Payne (Vice Chair), Yinka Ayankoya (Secretary), Jeff Danner, Ray DuBose, Barbara Foushee, John N. Morris and John A. Young.
Board Member absent: Ruchir Vora.

OWASA staff present: Mary Darr, Robert Epting, Esq., (Epting and Hackney), Stephanie Glasgow, Randy Horton, Ed Kerwin, Andrea Orbich, Ruth Rouse, Kelly Satterfield, Todd Taylor, Stephen Winters and Richard Wyatt.

Others present: Margaret Holton (UNC Water, Sewer and Reclaimed Water Coordinator).

Motions

1. Heather Payne made a motion to approve the Minutes of the October 26, 2017 Meeting of the Board of Directors; second by Barbara Foushee and unanimously approved.
2. Heather Payne made a motion to approve the Minutes of the October 26, 2017 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter; second by Barbara Foushee and unanimously approved.
3. Heather Payne made a motion to approve the Minutes of the November 9, 2017 Work Session of the Board of Directors; second by Barbara Foushee and unanimously approved.
4. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution Updating the Pay Administration Guidelines with the following stipulations:
 - strike the last paragraph of the Individual Movement Through the Range Based on Performance, of the Pay Administration Guidelines;
 - that General Counsel and staff will re-word the language of the Pay Administration Guidelines clarifying that the Board of Directors will make a decision each year regarding merit increases;
 - specify that “Meets Expectations” category receive salary increase one-times the annual merit increase; specify that “Exceeds Expectations” category receive a salary increase of one and one-half times the annual merit increase; and “Exceptional” category receive a salary increase of two times the annual merit increase;

- and that the percentage of employees that may qualify for “Exceptional” be increased to 15% and that the total of “Exceptional” and “Exceeds Expectations” should not exceed 40% of the organization.

(Motion by John Young, second by Heather Payne and unanimously approved.)

5. BE IT RESOLVED THAT the Board of Directors of the Orange Water and Sewer Authority adopts the Resolution to Amend the Schedule of Employee Classification and Authorized Compensation to Reclassify the Public Affairs Administrator Position to a Communications and Community Relations Officer Position. (Motion by Jeff Danner, second by Barbara Foushee and unanimously approved.)

* * * * *

Announcements

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

John Young said the Natural Resources and Technical Services (NRTS) Committee met on December 5, 2017, to discuss two topics: potential biogas-to-energy project and drought planning. The NRTS Committee and other Board Members agreed to recommend to the Board that as part of the February 2018 update of the Energy Management Plan, OWASA should not invest money for consultants for the design and detailed study of biogas-to-energy options. Mr. Young said that it is important to note that this recommendation will result in missing one of the Board’s Energy Management program goals. Under item seven, the NRTS Committee and staff will recommend that the NRTS Committee and staff continue work to improve the Drought Response Operating Protocol (DROP) which could lead to a new draft for the Board’s consideration.

Barbara Foushee said the Human Resources (HR) Committee met on November 16, 2017, to discuss employee compensation strategies for the performance period of October 1, 2017 through September 30, 2018, retiree health benefits for new hires, and deferred compensation (457) plan. The HR Committee’s recommendation on Alternative Compensation Strategies is included in item four of tonight’s agenda for discussion. The HR Committee requested additional information on retiree health benefits for new hires and the deferred compensation plan which will be discussed again in early 2018.

John Morris commented that he has visited the OWASA Mitigation Tract, and that OWASA’s forestry management plan for the Mitigation Tract is on target. He also noted the Nature Conservancy has a similar project underway on public lands in Western North Carolina.

Item One: Minutes

Heather Payne made a motion to approve the Minutes of the October 26, 2017 Meeting of the Board of Directors; second by Barbara Foushee and unanimously approved. Please see Motion 1 above.

Item Two: Minutes

Heather Payne made a motion to approve the Minutes of the October 26, 2017 Closed Session of the Board of Directors for the Purpose of Discussing a Personnel Matter; second by Barbara Foushee and unanimously approved. Please see Motion 2 above.

Item Three: Minutes

Heather Payne made a motion to approve the Minutes of the November 9, 2017 Work Session of the Board of Directors; second by Barbara Foushee and unanimously approved. Please see Motion 3 above.

Item Four: Discuss Compensation Strategies for Employee Performance Rating Period
October 1, 2017 through September 30, 2018 and Future Years

Stephanie Glasgow provided an update on the Human Resources (HR) Committee's recommendation regarding "pay for performance" compensation strategies for employees. The Committee's recommendation included providing:

- Salary increases for the top three performance categories of "Exceptional," "Exceeds Expectations" and "Meets Expectations";
- Employees in the top three performance categories receive a salary increase of at least 2.9% above cost of living;
- An increase in the percentage of employees eligible to receive a performance rating higher than "Meets Expectations" from a maximum of 15% to 35%.

John Young said he generally supports the HR Committee's recommendation but suggested that the Board consider: striking the last paragraph of the Individual Movement Through the Range Based on Performance, of the Pay Administration Guidelines on page 4.5 of the agenda material; keep merit increases for "Exceptional" at two-times merit; and increase "Exceptional" performance allocation to 15% of the organization instead of 10%.

After Board discussion, John Young made a motion to adopt the Resolution Updating the Pay Administration Guidelines with the following stipulations:

- strike the last paragraph of the Individual Movement Through the Range Based on Performance, of the Pay Administration Guidelines;
- that General Counsel and staff will re-word the language of the Pay Administration Guidelines clarifying that the Board of Directors will make a decision each year regarding merit increases;

- specify that “Meets Expectations” category receive salary increase one-times the annual merit increase; specify that “Exceeds Expectations” category receive a salary increase of one and one-half times the annual merit increase; and “Exceptional” category receive a salary increase of two times the annual merit increase;
- and that the percentage of employees that may qualify for “Exceptional” be increased to 15% and that the total of “Exceptional” and “Exceeds Expectations” should not exceed 40% of the organization.

Second by Heather Payne and unanimously approved. Please see Motion 4 above.

Item Five: Position Reclassification for the New Strategic Communications Officer Position

After discussion the Board agreed to re-name the position to Communications and Community Relations Officer instead of Strategic Communications Officer.

Jeff Danner made a motion to approve the Resolution to Amend the Schedule of Employee Classification and Authorized Compensation to Reclassify the Public Affairs Administrator Position to Communications and Community Relations Officer; second by Barbara Foushee and unanimously approved. Please see Motion 5 above.

Ed Kerwin said he would distribute the draft recruitment plan and draft job announcement to the Board for review.

Item Six: Analysis of New State Law’s Impact on OWASA’s Service Availability Fees

Stephen Winters provided the Board an update on the new State House Bill 436/Session Law 2017-138 regarding System Development Fees that establishes new guidelines on the way water and sewer utilities calculate one-time fees for new connections. The new law requires the use of one of three calculation methods and defines a process for implementation. Staff recommends OWASA use the Buy-In Method for calculating the new System Development Fees and suggested that implementation be incorporated into OWASA’s budget process in the spring.

The Board agreed with the recommendation and requested that this item be schedule on a future consent agenda in early 2018.

Item Seven: Review Board Work Schedule

John Young, Chair of the Natural Resources and Technical Service (NRTS) Committee, requested that the NRTS Committee and staff continue work to improve the Drought Response Operating Protocol (DROP) which could lead to a new draft for the Board’s consideration; the Board agreed.

John Morris suggested that the information Todd Taylor provided on sediment management pertaining to water pipe breaks be included in the Key Performance Indicators discussion on January 11, 2018; the Board agreed.

The Board agreed to add to the January 25, 2018 consent agenda an item on OWASA's use of the Buy-In Method for calculating the new System Development Fees and that staff will draft communications for the Board Chair to send local governments regarding this item.

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

Ed Kerwin said items for staff follow-up are:

- Incorporate approved changes to the Pay Administration Guidelines, e-mail changes to the Board and invite feedback.
- E-mail the Board the draft recruitment plan and draft job announcement for the new Communications and Community Relations Officer position and invite feedback.
- Add System Development Fees to the consent agenda for the January 25, 2018 and draft communications for the Board Chair to send local governments regarding this item.
- Sediment management pertaining to water pipe breaks will be included in the Key Performance Indicators discussion on January 11, 2018.
- Schedule Natural Resources and Technical Services Committee meeting to discuss Drought Response Operating Protocol.
- Schedule Human Resources Committee meeting to discuss retiree health insurance for new hires and 457 deferred compensation.

Item Nine: Closed Session

Without objection, the Board convened in a Closed Session for two purposes: to discuss potential litigation and to discuss a personnel matter.

The Board work session was adjourned at 8:30 p.m.

Respectfully submitted by:

Andrea Orbich
Executive Assistant/Clerk to the Board

Attachments

Agenda Item 7

Orange Water and Sewer Authority

Closed Session of the Board of Directors

December 14, 2017

The Board of Directors of Orange Water and Sewer Authority met in Closed Session on Thursday, December 14, 2017, following the Board meeting.

Board Members present: Robert Morgan, Chair; Heather Payne, Vice Chair; Yinka Ayankoya, Secretary; Jeff Danner; Ray DuBose; Barbara M. Foushee; John N. Morris; and John A. Young. Board Member absent: Ruchir Vora.

Staff present: Mary Darr; Robert Epting; Randy Horton; Ed Kerwin; Todd Taylor; and Stephen Winters.

Item One

The Board of Directors met in Closed Session with staff to confer with General Counsel regarding a possible claim.

Item Two

The Board of Directors met in Closed Session with the Executive Director to evaluate his annual performance review.

No official action was taken at the meeting.

The meeting was adjourned at 8:30 p.m.

Robert Morgan, Chair
Board of Directors

Agenda Item 8:

Update on Employee Health and Dental Insurance for next Fiscal Year

Purpose:

Information and presentation by Ellen Tucker, Principal Health and Wellness Consultant with Hill, Chesson and Woody to generate Board discussion and guidance to staff regarding renewal of Employee Health and Dental Insurance policies effective July 1, 2018.

Background:

The Orange Water and Sewer Authority began using the firm of Hill, Chesson and Woody in April 2014 to manage benefit plans and negotiate premiums for Employee Health, Dental, Life, Dependent Life, Accidental Death and Dismemberment (AD&D) and Long Term Disability (LTD) Insurance.

The current Employee Health and Dental Insurance plan contracts expire on June 30, 2018.

Information:

Ellen Tucker will be presenting the following information on January 11, 2018:

- Financial Performance of Health Insurance Plan
- Overview of Utilization and Cost
- Renewal Considerations

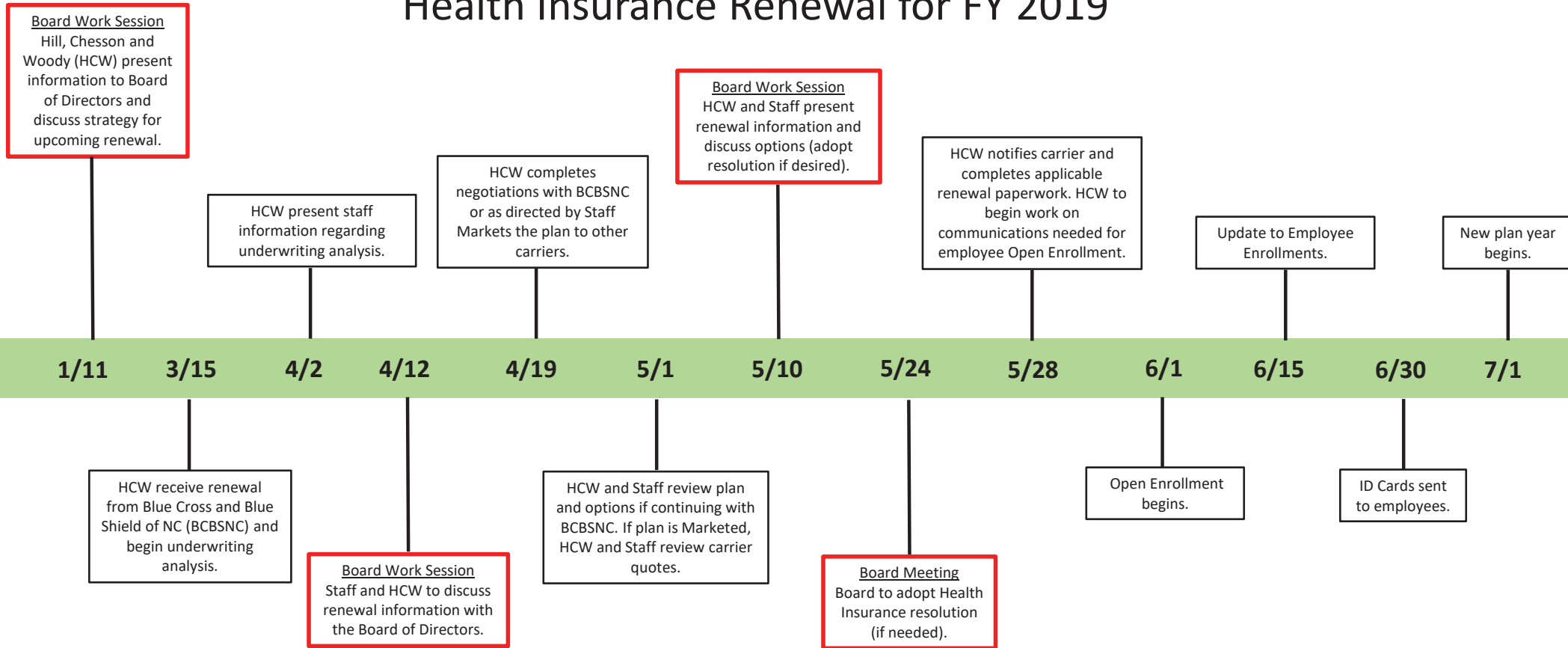
A timeline of events is attached and will be available for discussion on January 11, 2018.

Action Requested:

Staff requests guidance from the Board regarding health and dental insurance renewal effective July 1, 2018. Based on this guidance, staff will work with Hill, Chesson and Woody to provide more information as it becomes available.

January 11, 2018

Health Insurance Renewal for FY 2019



Agenda Item 9:

Water Treatment Plant (WTP) and Wastewater Treatment Plant (WWTP) Reliability and Risk Assessment Project Overview and Update

Purpose:

To provide the Board an overview and update on the WTP and WWTP Reliability and Risk Assessment project. No Board action is required at this time.

Background:

The primary focus of the Reliability and Risk Assessment project is to identify and assess risks that would prevent OWASA from providing water, wastewater, and reclaimed water services that meet or exceed federal, state, and local quality requirements.

CH2M, which was selected by staff as the best qualified consultant, is using a risk assessment methodology based on the International Organization for Standardization (ISO) 31000 framework. The foundation of CH2M's process is a series of workshops that engage a variety of staff (treatment plant operations, maintenance, engineering, and administration) throughout the organization. The four main components of this process are risk identification, analysis, evaluation, and treatment.

The scope of the project is limited to subsystems (e.g. electrical distribution, filtration, hypochlorite chemical feed system, etc.) physically located at the treatment plants and a few remote sites that were identified as integral to treatment plant operation. The reliability and risk assessment will not include external or internal security threats or natural disasters which are covered by other confidential plans.

Tasks Completed:

Risk identification workshops were completed in September and October. These workshops were facilitated, multi-disciplinary discussions that involved staff reviewing and prioritizing WTP and WWTP subsystems. Organizational risks were also discussed and evaluated. The results from the workshops were used to prioritize treatment plant subsystems into three criticality categories: most critical, less critical, least critical. For this project, criticality is defined as a relative measure of the impact of failure on the mission objective. The top 8 highest priority subsystems at each treatment plant were defined as the most critical, the next 10 as less critical, and the remaining subsystems as least critical. The subsequent detailed risk analysis was focused on the most critical and less critical subsystems.

In November, week long on-site risk analysis workshops were performed for each treatment plant and were well attended by OWASA staff and consultants. For the 8 most critical subsystems, failure modes and effects analysis (FMEA) was used in conjunction with reliability block diagrams and fault tree analysis. The FMEA process is a detailed evaluation of every component of the subsystem and a structured discussion of the likely failure modes and the

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potential impact on the system. For next 10 less critical subsystems, either traditional risk matrices and/or vulnerability assessments were used depending on the system type.

At the end of the risk analysis workshops, staff from both treatment plants participated in a human factors analysis. The analysis consisted of staff discussing and rating a variety of operational challenges, such as scheduling, training, task workflow, and workloads.

Upcoming Tasks:

There are four remaining workshops to be held January through April that will concentrate on risk evaluation, risk treatment and protocols for ongoing monitoring and review. The workshops will focus on developing preliminary strategies for addressing risks discovered in earlier workshops and identifying strategies and options that may require Board guidance later on in the process. As part of this task, the consultant will prepare a risk register for documenting these findings.

After completion of these workshops, CH2M will prepare a Draft Reliability and Risk Assessment Report for the WTP and WWTP. The report will provide a summary of the assessment process and resulting outcomes. This document will also include the completed subsystem FMEAs and risk registers.

Based on the current project schedule, the Board will review and provide feedback on the Draft Reliability and Risk Assessment Report at the June 14, 2018 Board Work Session. CH2M will deliver a second presentation at this Work Session. Staff expects that some of the strategies and options to mitigate risk identified in the report may require Board discussion and direction.

A few items identified during the risk analysis workshops are being incorporated into the current Fiscal Year (FY) 2018 and the proposed FY 2019 operating budgets. Additionally, some capital projects identified during the workshops are being included in the FY 2019-2023 Capital Improvements Program, which is under development.

JD Solomon, a Practice Leader with CH2M and the Project Director, will be delivering a presentation accompanying this Agenda Item.

Agenda Item 10:

Discuss Key Performance Indicators: Water Main Breaks

Purpose:

The purpose of this memo and its attachment is to provide the OWASA Board of Directors with detailed information on one of the Key Performance Indicators (KPI) reported in the monthly KPI Report: Water Main Breaks. This KPI was selected for a “deep dive” because we are not currently meeting our OWASA-set goal.

Background:

The OWASA Board of Directors requested the opportunity to discuss the monthly KPI report which is provided to the Board and posted on OWASA’s web site. At the September 14, 2017 Work Session, the OWASA Board of Directors reviewed a memo that provided a high-level description of each of the KPIs reported in the monthly report. At that meeting, the Board requested another opportunity for further discussion at its January 2018 Work Session, before the budget season for Fiscal Year (FY) 2019 begins.

In a November 20, 2017 email to the Board of Directors, staff proposed the content and structure of this discussion to focus-in on one KPI and recommended that the January meeting focus on the Water Main Breaks. In support of this discussion, staff prepared the attached memo, “A Closer Look at Water Main Breaks.”

The number of water main breaks in a system is an outcome-based metric, and we engage in a series of strategies to impact this outcome. These strategies are summarized in the attached memo. In addition, water main breaks can have an impact on the community and environment. We also engage in strategies to reduce these impacts, which are also summarized in the attached memo.

The memo is organized into the following sections:

- Background on the Water Main Breaks KPI and Goal
- Strategies to Reduce Water Main Breaks
- Strategies to Reduce the Impact of Water Main Breaks
- Proposed Next Steps for OWASA Board and Staff

Discussion and Next Steps:

OWASA staff welcome questions and feedback from the Board and public on the Water Main Breaks KPI, the OWASA-set goal, and the strategies we employ and plan to employ to mitigate the number of water main breaks.

Action Requested:

Staff requests no specific Board action at this time related to the Water Main Breaks KPI, but stands ready to respond to requests and guidance that arise from the discussion.

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Staff requests feedback from the Board on the usefulness of this discussion to Board decision-making and direction for future discussions about KPIs.

Information:

- A Closer Look at Water Main Breaks
- November 2017 Key Performance Indicator Report

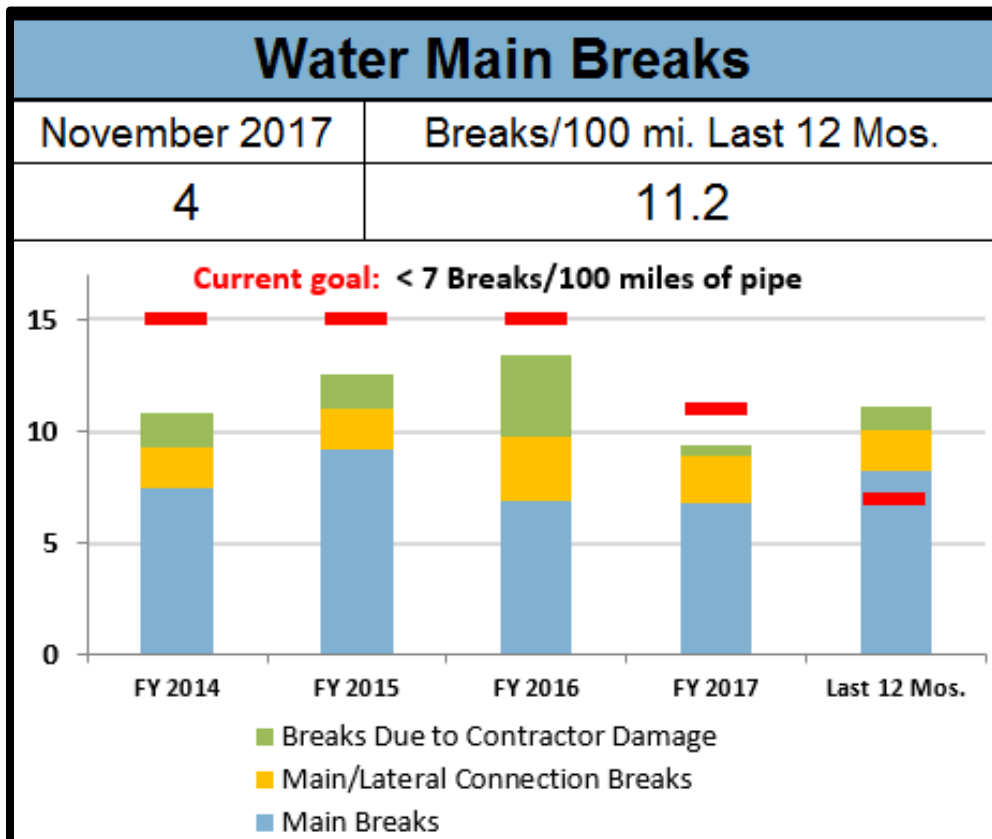
A Closer Look at Water Main Breaks

January 11, 2018

Background on the Water Main Breaks KPI and Goal

OWASA’s monthly Key Performance Indicator (KPI) Report contains a chart that summarizes annual water main breaks per 100 miles of distribution system piping (example below) for the past four+ years. A water main break is defined as physical damage to a pipe, valve, hydrant, or other appurtenance in the distribution system that results in an abrupt loss of water. In our KPI, we include breaks that occur directly on main lines and breaks that occur where a main and service lateral connect. We specifically identify breaks that are due to contractor damage; these breaks are not related to the integrity of the infrastructure, but impact customers just the same.

The goal for water main breaks is set at the median number of breaks reported for combined utilities providing both water and sewer service (such as OWASA) in the most recent American Water Works Association (AWWA) Benchmarking Survey Results. The median reported in the 2016 Benchmarking Report is 7 breaks per 100 miles of pipe. The graph below shows the KPI as reported in the November 2017 report.



In August 2016, after consultation with AWWA and the OWASA Board of Directors, we made two significant changes to this KPI.

- (1) We expanded our definition of a break to include those that occur where a main and service lateral connect (yellow in graph above) and those that occur due to contractor damage (green in graph above). After consultation with AWWA, we believe this is more in-line with what they want reported in the survey.

- (2) We reset our goal relative to the most recent AWWA Benchmarking Survey results. In using an updated survey conducted by a third party, we show a commitment to align ourselves with the current state of the industry. At the time of the change, the most recent AWWA Benchmarking Report (2012) reported a median of “11 breaks/100 miles of pipe” for utilities that provide water and sewer service. The 2016 AWWA Benchmarking Survey reported a median of “7 breaks/100 miles of pipe”, and we adjusted our goal accordingly. (Please note that the graph on the previous page was slightly modified from the currently reported KPI to reflect the history of our water main break goal.)

While the AWWA Benchmarking Survey is the most extensive survey in our industry, there are some caveats in using it to set a goal. (1) It is a voluntary survey that is annually updated with data from the utilities that elect to participate in that year. It is not a consistent peer group. (2) It is not a statistically representative sample, although utilities making the time to take the survey are likely some of the leading utilities in the country. (3) The data are self-reported. OWASA took the initiative to clarify with AWWA what they defined as a break, and we adjusted our reporting accordingly. We cannot assure that the definition of a break to include main, main/lateral, and breaks caused by contractors is consistently used by all survey takers.

Moreover, it’s important to recognize that while benchmarking is a useful tool to provide context to performance, there are variances between systems that influence the number of breaks beyond what we are hoping it is measuring. For example, in a service area with a proliferation of clay soil (such as ours), breaks are going to surface much quicker than for a system with sandy soils, where a break can continue as an unrecognized “leak” for many years. This is why internal benchmarking to an individual system’s historical performance is also important. Our performance has been relatively consistent over the past four years.

Another standard that we can look to in the industry is the Partnership for Safe Water. Led by the AWWA in partnership with five other industry organizations, the Partnership for Safe Water provides guidance and recognition to help utilities optimize water utility performance. OWASA joined as an inaugural member of the Partnership’s Distribution System Optimization Program in 2010. In December 2017, OWASA was notified that we will be receiving the Partnership’s Presidents Award in 2018. According to their website, we are one of three utilities in the country have achieved this status since the program was initiated in 2011.

Main breaks are used as the Partnership for Safe Water’s indicator of physical integrity of the distribution system. The optimization goal for annual main break frequency is a maximum of 15 for each 100 miles of distribution pipelines. In 2016, the average reported number of main breaks by 52 distribution systems in the Partnership was 11; the median was 6. In its annual report, AWWA cautioned against reading too much into the data and pledged a more comprehensive analysis of main break data in future reports due differences among systems. We look forward to that analysis.

Strategies Underway to Reduce Main Breaks

OWASA employs a series of strategies to help efficiently and effectively mitigate the number of breaks in our service area. Each of the strategies (and corresponding performance measures) are briefly described below.

Water Line Repair and Replacement: Since beginning operations in 1977, OWASA has conducted a systematic replacement and rehabilitation for old distribution mains. Under this program, projects are identified or triggered by the following conditions:

- Where existing pipe conditions impair water quality;
- Where there are serious risks to water service reliability;
- Where the costs of repairing pipes and leaks have become excessive;
- Where line breaks may result in major damage; and
- Where capacity is no longer adequate.

OWASA catalogs the risk conditions listed above using a system-wide hydraulic model, a risk-based pipe prioritization model, and Geographic Information System (GIS) records. Currently, our strategy is to prioritize the replacement of lines that have a high likelihood and consequence of failure (such as galvanized pipes and asbestos-cement pipes in high pressure areas). By prioritizing these lines, we can help mitigate the number of main breaks.

In FY 2017, a total of approximately 1.2 miles of aging and deteriorated water mains were removed from the system through replacement, rehabilitation, and/or abandonment by OWASA crews and contractors. An average of 1.8 miles per year of new or replacement water mains have been installed over the past 10 years. The FY18-FY22 Five-Year Capital Improvements Program approved by the OWASA Board of Directors budgets for an increase in this average to more than 3.1 miles per year (0.8% of the system) at a cost of approximately \$24 million over the five-year period.

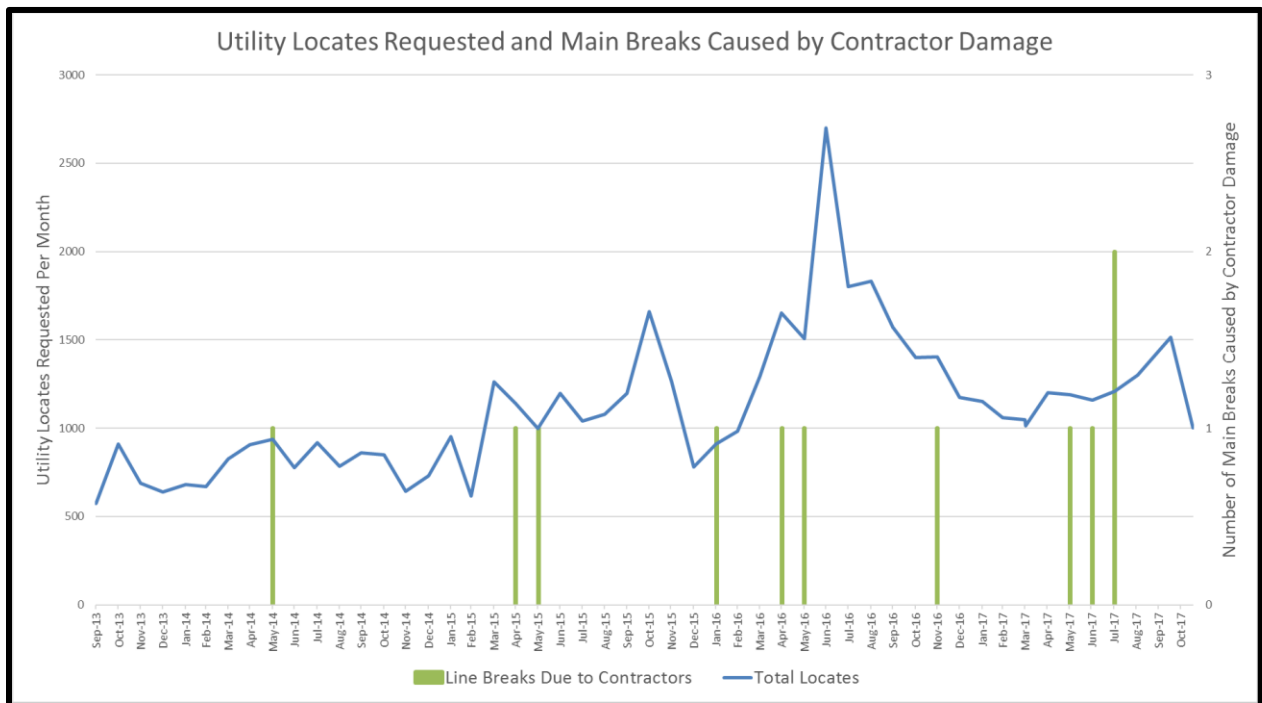
The 2003 water system prioritization modeling study recommended that OWASA would need to replace 1.7 miles of water main per year (over the next 50 years) using optimistic (long) life expectancy and 3 miles of main per year using the pessimistic (short) life expectancy in order to provide reliable, sustainable service to our customers.

Use of High-Quality Materials and Specifications: Primarily, we are using (and requiring of third-party developers) ductile iron to replace older, inferior pipe material, such as galvanized and asbestos cement. Although, overtime, water pipes will deteriorate, the industry projects that ductile iron pipe will have a much longer life than the majority of materials that were put in the ground decades ago. We continue to improve water main design, materials, installation practices, and testing standards and keep apprised of evolving technologies in pipe material.

Prompt and Accurate Water Line Locates: Being able to accurately and promptly locate water mains is an important strategy to minimize the number of breaks due to contractor damage.

In 2014, OWASA staff completed a multi-year field verification effort to improve the geographical accuracy of our distribution system geodatabase. All distribution system assets were located, and mapping grade global position system (GPS) equipment was used to document asset location and attributes. We continue to update and improve our mapping of the distribution system.

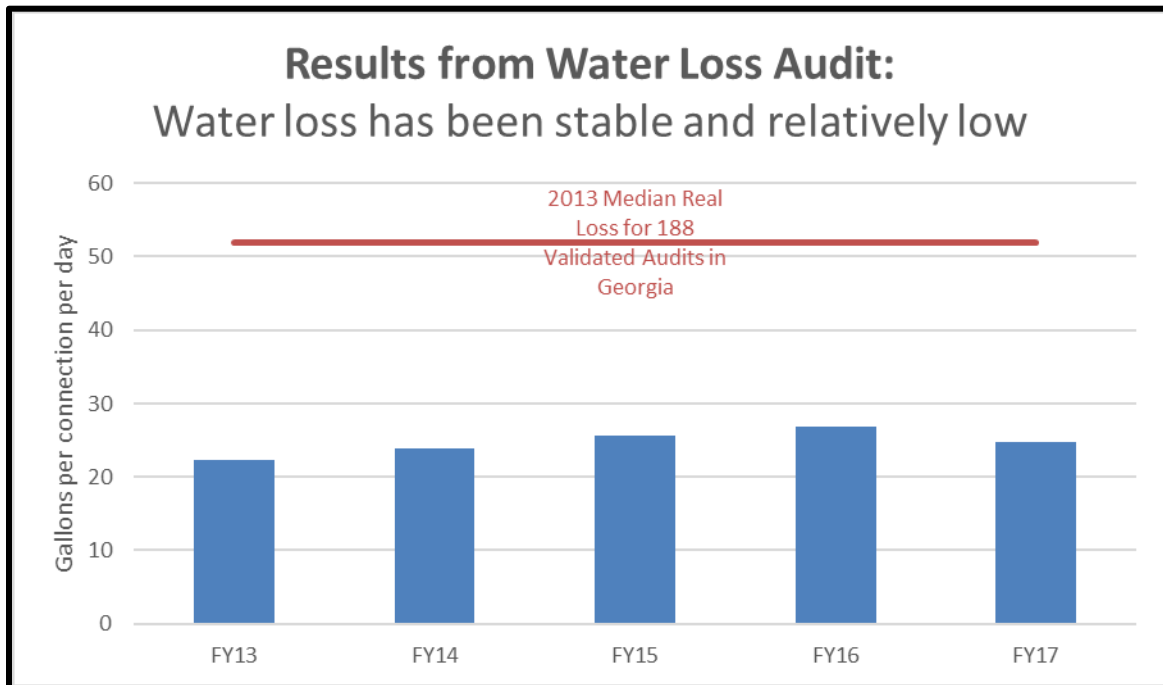
In the past few years (particularly in the summer of 2016), we experienced higher than historical demands to locate water lines. The graph below shows the number of utility locates requested and the number of main breaks caused by contractor damage from September 2013 through November 2017.



The work that we have done to geo-locate our water lines has helped to make these locates more efficient and effective. While the data show an increase in locate activity and line breaks due to contractors, the majority of recent contractor line breaks have come at the fault (and cost) of the contractor, and not incorrect locates by OWASA.

System Pressure Monitoring and Annual Water Loss Tracking: A leaking system can be a leading indicator of water main breaks. Changes in system pressure and levels of water loss in a distribution are two metrics that would indicate a leaking system. To help monitor changes in system pressure, we have installed 12 pressure monitors throughout the distribution system. These pressure monitors will allow us to track changes in pressure over time.

Additionally, we are now conducting annual water loss audits per the AWWA Standard. We have found that our gallon lost per connection per day (25 gallons) has lower real losses than a 188 validated water audits in Georgia (52 gallons per connection per day). Furthermore, it has been consistent over the years.



Other Strategies Underway

- Inspection and documentation of corrosion issues (internal and external) when mains are being repaired.
- Coordination and training with fire departments on proper operation of hydrants. This helps to avoid water hammer from improper operation, which could stress lines and cause main break.
- OWASA staff services about 230 air release valves in our distribution system each year to maintain system capacity, flow, and protect against water hammer which can cause water main breaks.

Other Strategies on the Horizon: There are emerging technologies that can help monitor the condition of our water lines and detect leaks. One such technology is Advanced Metering Infrastructure (AMI). Once fully deployed, our AMI system has the potential to be used to reduce water main breaks. If deemed necessary, the system can be upgraded to include

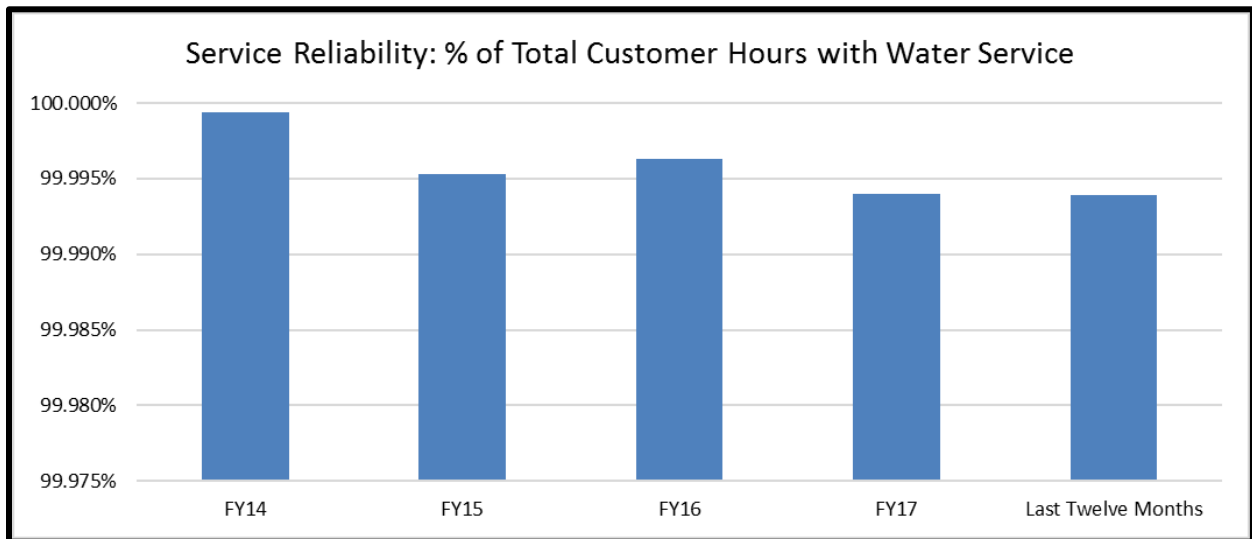
acoustic leak detection technology which finds leaks through estimating the speed of sound in water pipes. Staff is continuing to monitor and assess the cost-effectiveness of these technologies.

Strategies to Minimize the Impact of Main Breaks

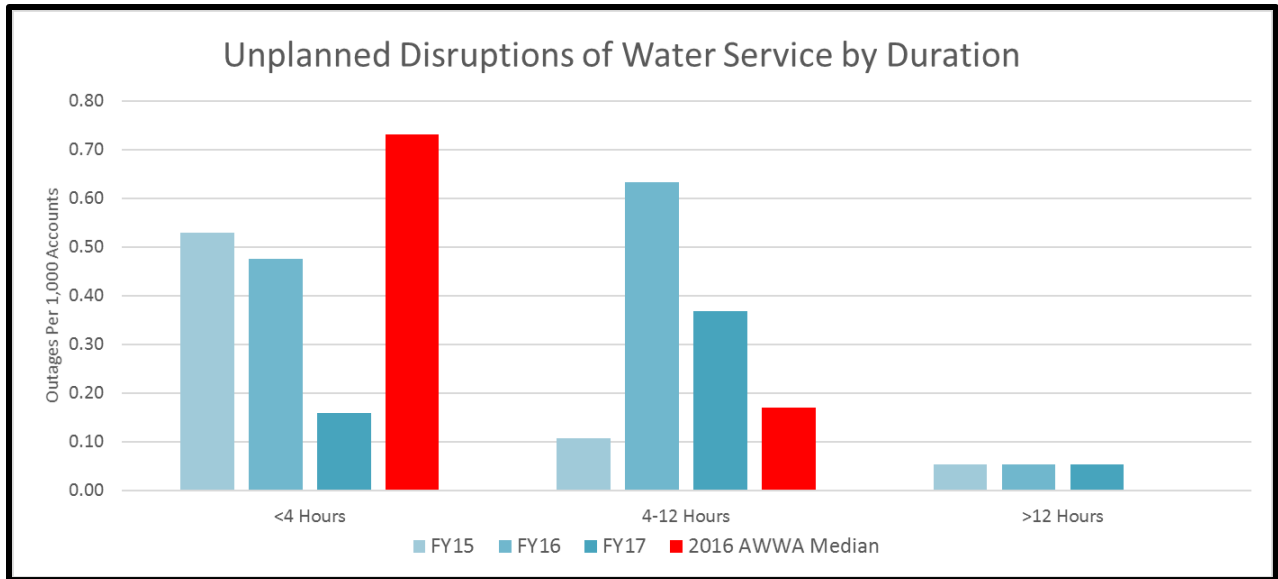
Despite our best efforts to mitigate the number of main breaks, they will happen. When they do, we employ a series of strategies to minimize the impact of these breaks on our customers, traffic, the environment, and the community. The current KPI does not capture the customer impact of water main breaks. A metric used by other industries is the % of total customer hours with service. This KPI is an indicator of infrastructure integrity, CIP prioritization, expediency in repairing outage, and customer service. It is calculated as:

$$1 - \frac{\text{Number of customers out of service} \times \text{hours of unplanned outages}}{\text{Number of all billed customers} \times \text{total annual hours}}$$

The graph below summarizes this data for OWASA from July 2013 through November 2017.



Although used by other industries, OWASA staff is not aware of this metric and corresponding standard being used in the water industry. The AWWA Benchmarking Survey Report does collect data on disruptions of water service of a certain duration (outages/1,000 accounts) (Durations < 4 hours, 4-12 hours, and > 12 hours). The graph below summarizes this data for OWASA compared to the median reported by about 60 utilities in the 2016 AWWA Benchmarking Survey. (The median of outages > 12 hours reported in the survey was zero.) (Of course, many of the same caveats previously mentioned apply when comparing ourselves to these survey results.)



This comparison suggests that we have fewer short unplanned outages (<4 hours) than most, but more longer outages.

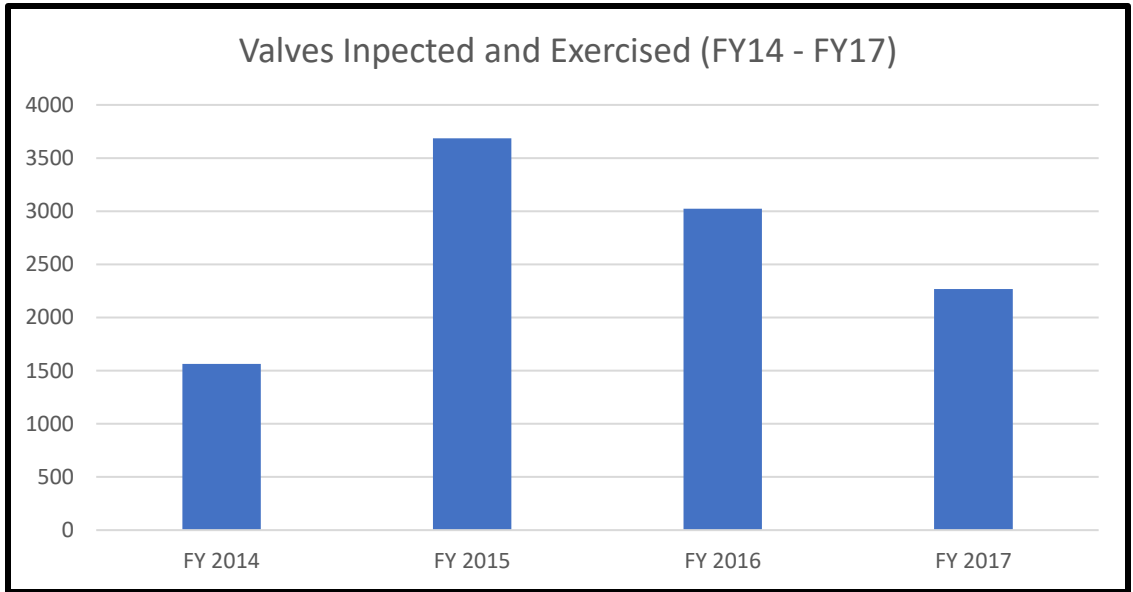
One primary factor that extends the duration of an outage is time it takes to get locates for other utilities. Other utilities have three hours to respond to a request for an emergency locate request. We must wait for them to locate their utilities before we begin digging. Additionally, if we are required or choose to (based on system conditions) elect to replace multiple feet of line, we will have a longer outage than if making a local repair.

The section below discusses the primary strategies used to reduce the duration of an outage and minimize the number of customers impacted.

Proactive: Before the Break Occurs

Valve Maintenance Program: OWASA has 12,398 valves in its distribution system that allow us to isolate a water main break. Well-located and properly functioning valves help to reduce response time and minimize customer impact of main breaks.

In 2012, OWASA implemented a valve maintenance program. Exercising each valve helps verify location information concerning individual valves, which is updated in our GIS system. Valves that are found to be defective are scheduled for repair in a timely manner. The following graph reports the number of valves inspected and exercised between July 2013 and June 2017. We strive to inspect and exercise 1,600 valves per year.



Customer Impact Factored into Water Main Replacement Prioritization: Each year, OWASA staff prioritize water main replacements for inclusion in the five-year Capital Improvements Program. Information regarding the number and type (i.e. hospital versus irrigation meters) of customers served by a given line is factored into prioritization.

After Action Reviews (AARs): OWASA staff regularly conduct AARs after main breaks (particularly those that are out-of-the-ordinary) in order to identify things that went well and areas for improvement. After the main break in February 2017, OWASA engaged a third-party to conduct an investigation on the cause of the break, and we conducted a formal internal AAR. Our AAR identified a series of areas for improvement that we have worked to address. Not every main break warrants this level of post-incident assessment, but we do regularly conduct informal AARs to identify areas where we can do better.

Responsive Strategies: After the Break Occurs

Tank Level Monitoring: Water plant operators monitor tank levels in real time around the clock and have tank rate of change alarms to help identify breaks. This is generally how we identify large main breaks.

Experienced and Well-Trained Staff Available 24 Hours a Day, 7 Days a Week, 365 Days a

Year: At all times, a trained OWASA crew is on-call to respond to water main breaks.

Additionally, customers can report a main break directly to OWASA staff (not an answering service) any time of day or night. Water treatment plant operators answer the phone outside of normal OWASA business hours.

OWASA-Owned Modern and Well-Maintained Construction Equipment: Having access to the necessary equipment to quickly respond to main breaks is critical to minimizing customer impact. OWASA maintains an appropriate level-of-investment in construction equipment and has an on-site, preventative maintenance program to ensure that they are in working order when we need them.

Response Priorities: When a water main breaks, OWASA’s top priority is to ensure site safety for employees and the public. The next priority is to minimize damage and impact to property and the environment by reducing or stopping the flow of water. While waiting for equipment to fix the main and utility locates, we must balance the competing objectives to keep customers in-service (i.e. keeping the water on at low pressure) and turning off the water to reduce water loss and runoff.

Public Health and Safety: Ensuring the public’s health and safety during a water main break is our primary concern. Should it be necessary to shut the water off to repair the break, we will issue a boil water advisory to protect our customers. This notification is sent out through multiple channels, including hand delivering during certain hours. We also deploy traffic control measures to protect drivers and pedestrians (and our employees) around the site of the repair.

Sediment Control: Prior to beginning repair work, we implement sediment control procedures to reduce the transport of sediment downstream. We typically protect storm drain inlets and filter the water pumped from the excavation. These devices are effective at capturing larger dirt particles and debris, but fine material may still pass through. Once the repairs are completed, the streets and sidewalks are washed down. Sediment and debris is then collected using our sewer vacuum cleaning equipment and transported offsite for disposal. We will continue to work with the local municipalities and the University to ensure our efforts in this area are effective.

Conclusion and Proposed Next Steps for OWASA Board and Staff

This document was prepared to provide a “deep dive” into one Key Performance Indicator that is regularly tracked and reported on the monthly KPI report and to provide context on performance against this indicator and the strategies engaged to support it.

As reflected in this memo, we have engaged a series of strategies to mitigate the occurrence and impact of water main breaks that are in-line with industry best practices. It’s fair to say that behind the other KPIs, there is similar set of integrated strategies. We acknowledge that there is a balance between our performance with this one particular KPI and others.

Nonetheless, we are not meeting our current goal based the median reported in the most recent AWWA Benchmarking Survey Report.

Staff is committed to continuous improvement and excellence in customer service. As defined in the Strategic Trends Report provided to the Board of Directors in November 2017, we will:

1. Continue to use OWASA's water main prioritization model to inform decisions and investments for the rehabilitation and replacement of the drinking water distribution system
2. Continue the programmatic replacement of aging galvanized water mains throughout the distribution system
3. Continue to update the prioritization model with new data
4. Continue to integrate the results of the water main prioritization model into the comprehensive asset management program framework so that the trade-offs of different capital improvements investment decisions can be consistently evaluated and prioritized to ensure cost-effectiveness.
5. Continue to fund our water main renewal/replacement program to ensure system sustainability.

In addition, we will continue to pursue the "Next Steps" identified in the formal AARs of the February 2017 main break on Foxcroft Drive and the late 2017 main breaks on Kensington Drive, as well as the less formal AARs to mitigate the occurrence and impact of water main breaks.

We look forward to the Board's questions and feedback on this KPI and the strategies that we employ to meet our goals.

Additionally, we welcome the Board's feedback on the metric itself. Does the Main Break KPI fully capture the information that the Board needs to inform their decision-making? Should the KPI be redefined or should other KPIs be added to speak to the customer impact of main breaks?

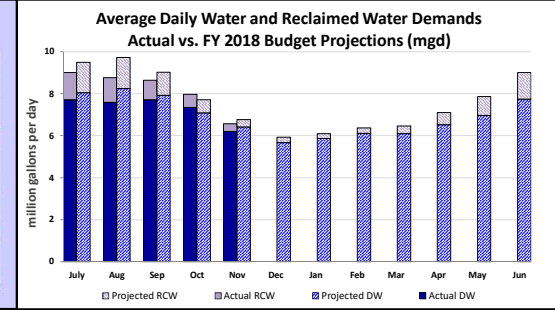
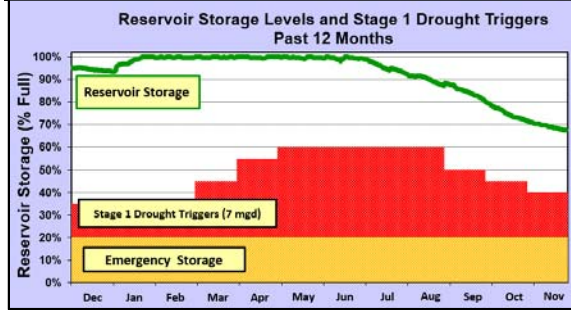


Key Performance Indicators

November 2017

WATER SUPPLY AND DEMAND

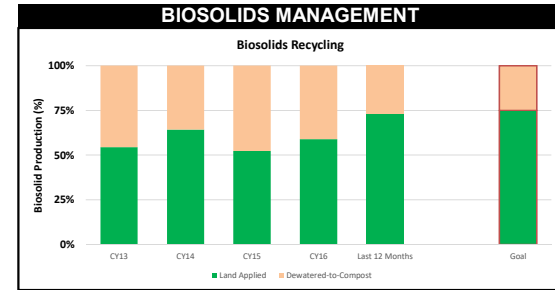
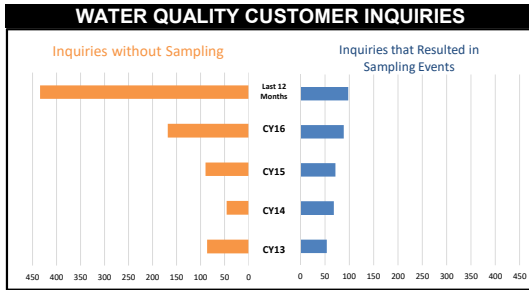
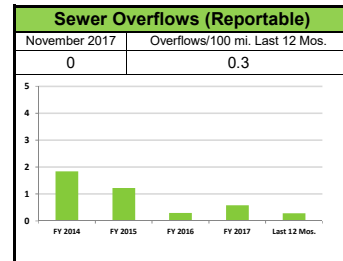
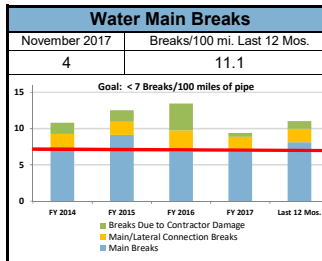
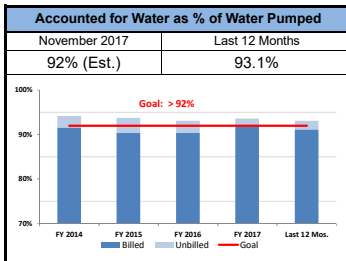
Water Supply		Water Demand (Sales in Million Gallons per Day)				
Reservoir Storage % of Capacity	67.5% <small>(as of November 30, 2017)</small>	November 2017		FY 2018 (Avg Year to Date)		
Risk of Shortage Restrictions in Coming Year (Minimal, Low, Moderate)	Minimal	Est.	% of Projected	Estimated	% of Projected Year-to-Date	
Water Use Restrictions Now in Effect	Year-Round	Drinking Water (DW)	5.85	97%	6.44	98%
		Reclaimed Water (RCW)	0.36	100%	0.87	87%
		Total	6.21	97%	7.31	97%



	November 2017			Last 12 Months		
	Actual	Hist. Avg. for Month	Variance	Actual	Hist. Average	Variance
Water Plant (Carrboro)	1.27	3.27	(2.00)	41.81	47.79	(5.98)
Cane Creek Reservoir	1.10	3.08	(1.98)	41.68	43.81	(2.13)

* Water Plant historical average is based on most recent 30 year period.
* Cane Creek Reservoir historical average is based on 25 years of record.

WATER DISTRIBUTION AND WASTEWATER COLLECTION



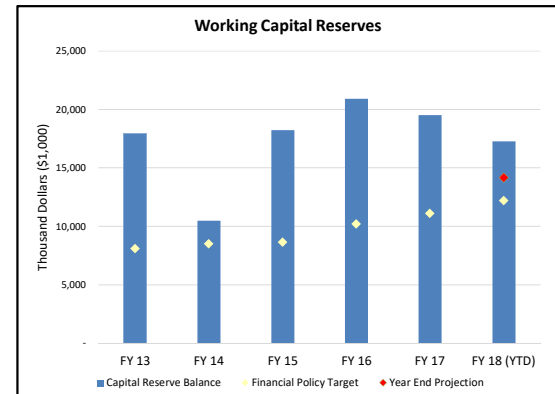
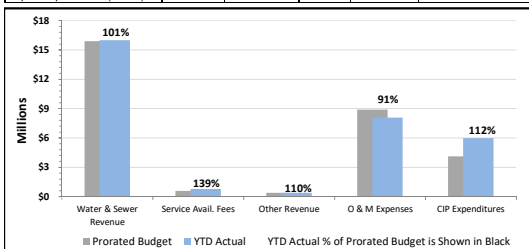
SYSTEM COMPLIANCE VIOLATIONS

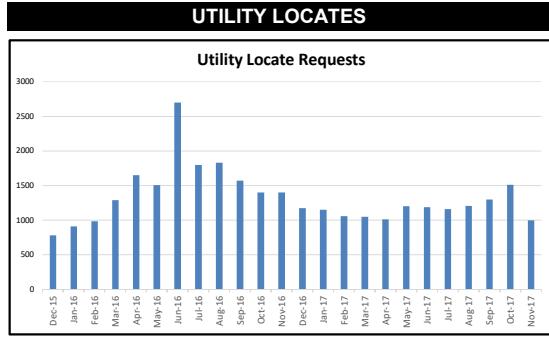
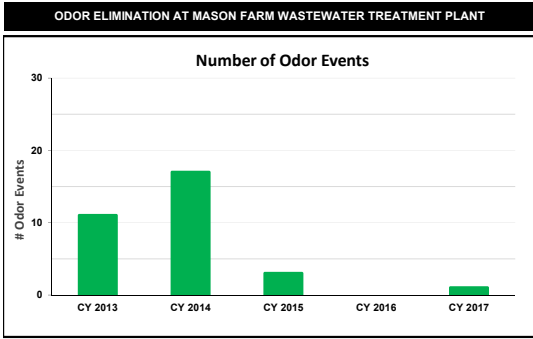
Within the last twelve months:

- WTP NPDES Violation: Chlorine Exceedance and Monitoring Violation due to clearwell draining during Water Event (February 2017)
- Operating Permit Violations: Sanitary Sewer System Overflow due to contractor error (October 2017)

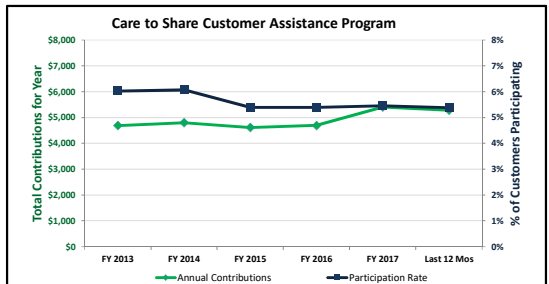
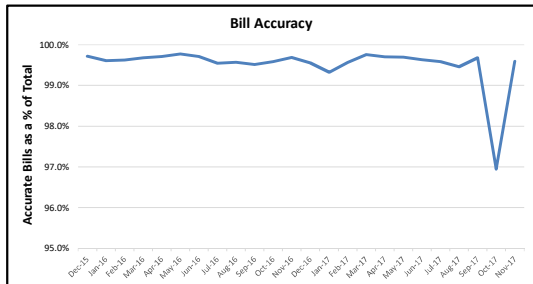
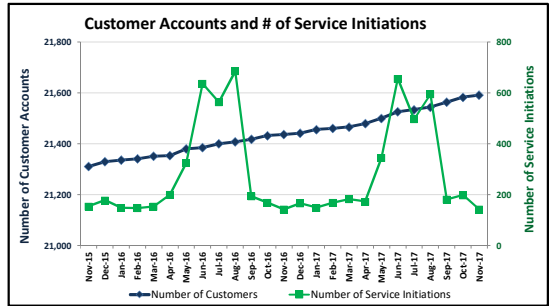
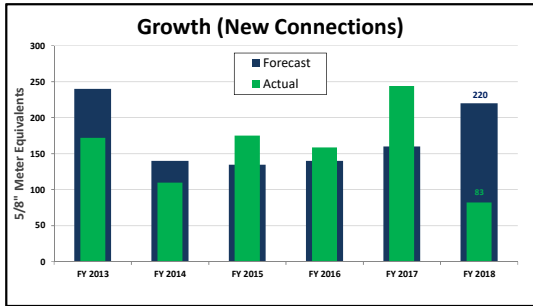
FINANCE MANAGEMENT

Category	November 2017		FY 2018 Year-to-Date		
	Actual	Budget	Actual	Budget	Variance
Revenue (Preliminary)	3.0	3.0	17.2	16.9	0.3
Operating Expenses (Prelim)	1.6	1.8	8.1	8.9	(0.8)
Capital Expenditures (Prelim)	2.4	1.2	6.0	4.1	1.9

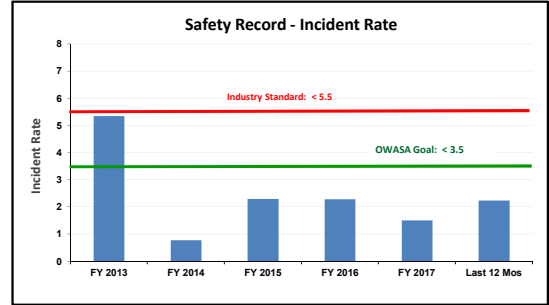
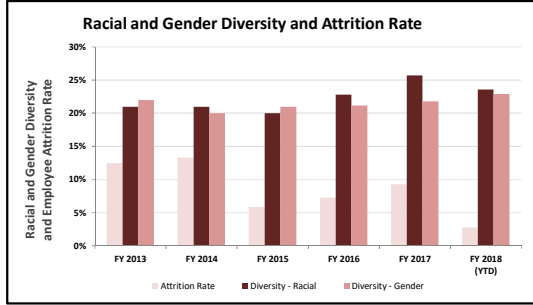




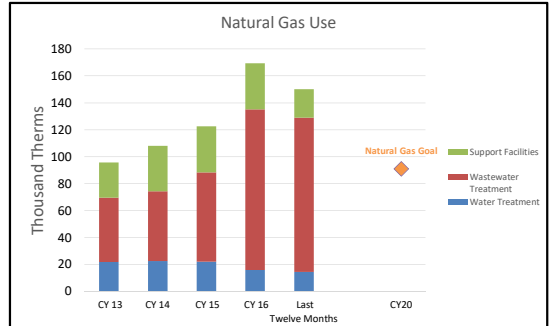
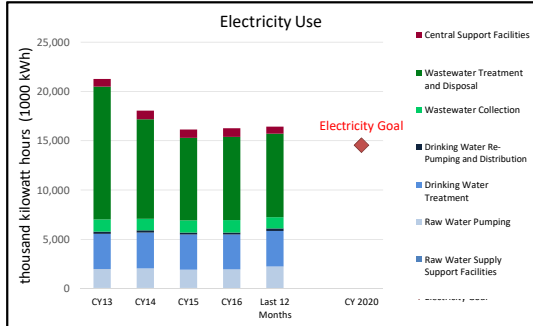
CUSTOMER SERVICE AND CONNECTION ACTIVITY



HUMAN RESOURCES AND SAFETY



ENERGY MANAGEMENT



Agenda Item 11:

Discuss Key Focus Areas for OWASA's Executive Director

Purpose:

Discussion of the draft Key Focus Areas for OWASA's Executive Director for the period of October 2017 to September 2018.

Information:

- Key Focus Areas for OWASA's Executive Director
- E-mail from John Morris about Communication and Coordination with the Board

January 11, 2018

Key Focus Areas for OWASA's Executive Director For the Period of October 2017 to September 2018 January 11, 2018

Under the Executive Director's leadership, the OWASA staff works together to ensure the organization's Mission is reliably and sustainably met. The Board of Directors acknowledges that the Executive Director will continue to use his judgement on the best use of his time to benefit the organization. While there are many goals and objectives for which the Executive Director is ultimately responsible, to include working with the OWASA Team to deliver high-quality and reliable services, the Board of Directors and Ed Kerwin agree to these key focus areas.

Operational/Business Objectives

High Quality and Reliable Service

1. Effective leadership and management of OWASA's daily core mission responsibility of providing high quality and reliable drinking water, wastewater management, and reclaimed water services for the Carrboro-Chapel Hill community. Measures of success include:
 - a) Zero violations of primary drinking water standards
 - b) Maintain certification by the Partnership for Safe Water for Phase IV Excellence in Water Treatment
 - c) Receive the Partnership for Safe Water's President's Award for Distribution System Operation
 - d) Zero violations of treated wastewater standards
 - e) Zero violations of reclaimed water standards
 - f) Zero violations of biosolids recycling standards

2. Complete Water Treatment Plant (WTP) and Wastewater Treatment Plant (WWTP) Reliability and Risk Assessment project and discuss results with the Board of Directors by June 2018. Following this discussion, staff will prepare an action plan for improvements by September 2018.

Expected Results: full compliance with Objectives 1.a-f.

Advanced Metering Infrastructure (AMI)

3. A Field Readiness Test (FRT) will be performed in February 2018 to evaluate the installation contractor's processes and procedures. Full-scale system deployment is anticipated to begin in March 2018 and will be managed by staff with the assistance of our consultant. The customer portal will be accessible once approximately 75% of the meters in our service area are upgraded. The Board will continue to receive regular communications from staff regarding project status to include performance on key metrics and progress towards milestones. Staff will make recommendations to the Board regarding any new policies and/or policy revisions related to the new system.

Working with Stephen Winters and Dan Przybyl, Todd Taylor has the lead role for this project. Ed Kerwin's focus will be on processes, performance and resources for a highly successful project.

Expected Results:

- a) Successful completion of FRT by end of February 2018.
- b) Commence full-scale deployment by end of March 2018.
- c) Board review of recommended policy changes by end of August 2018.
- d) Provide portal access to eligible customers at 75% saturation point.
- e) Project status reports provided on a monthly basis.

Energy Management Plan

4. Continue implementation of Energy Management Program and provide support for achieving energy management goals and objectives. An updated plan will be brought to the Board in the first quarter of 2018, to include a suite of strategies for reducing the use of purchased electricity and natural gas, as well as opportunities for further evaluation identified by the OWASA Energy Team. The Key Performance Indicator Report tracks our progress against these goals.

Mary Tiger has the lead role for this project. Ed Kerwin's focus will be working with staff to improve the organization's culture to be more energy aware and achieve outcomes set forth in the plan.

Expected Results:

- a) Reduce use of purchased electricity, making progress to meet goal of a 35% reduction from 2010 levels by 2020.
- b) Reduce use of purchased natural gas, making progress to meet goal of a 5% reduction from 2010 levels by 2020.
- c) Propose a strategy to the Board for third-party development of renewable energy on OWASA property.
- d) Provide the Board information required to determine the most appropriate strategy for making beneficial use of biogas generated at the Mason Farm Wastewater Treatment Plant.

Human Resource Objectives

Diversity and Inclusion

5. Continue implementation of the Diversity and Inclusion (D&I) program to include completing Focus Group Assessments (organizational assessment), evaluation of the job application and recruitment processes, mandatory supervisor/manager training and voluntary employee training.

Expected Results:

- a) Increased diversity throughout the organization.
- b) Develop action plan for improvements identified by the organizational assessment for the Board's review by April 2018.
- c) Update Implementation Plan for D&I program for the Board's review by September 2018.

Employee Safety

6. Support Stephanie Glasgow in the recruitment, hiring and training of the new Safety and Risk Manager. Initial tasks for the position include crisis management, OSHA inspections, analyzing data and determining the need for more detailed safety reports for Board of Directors and staff.

Expected Results: reduction in Safety Incident Rate.

Implement New Employee Performance Evaluation System

7. Train supervisors and employees on the revised Employee Performance Evaluation System.

Expected Results: training provides supervisors and employees the knowledge and skills to effectively implement the revised Employee Performance Evaluation System.

Community Engagement Objectives

Affordability Outreach Program

8. Develop and implement Year Three of the Affordability Outreach Program designed to increase community awareness of options to manage and reduce water and sewer bills and to empower low-income customers, and the local agencies that serve them, with information and tools to manage and reduce water and sewer bills. Provide the Board an implementation plan with milestones by January 31, 2018.

Mary Tiger has the lead for this program. Ed Kerwin's focus will be on program accountability and to ensure sufficient resources are committed to the program.

Expected Results:

- a) Increase in contributions to Care to Share Program.
- b) Implementation of Affordability Outreach Program, as approved by the Board.
- c) Reduction in the average water use of customers with whom our program engages.
- d) Stabilization or reduction in the number of customers cut-off due to non-payment.

Communications and Community Engagement

9. Recruit, hire and train new Communications and Community Relations Officer. Working with the Board and staff, begin development of Communications and Community Engagement Plan.

Expected Results: quality addition to the OWASA Team to lead improvements for OWASA's communications and community engagement work.

Forestry Management

10. Prepare Community Engagement Plan (CEP) for Forestry Management for Board review on May 10, 2018. Ruth Rouse has the lead for this; Ed Kerwin's focus will be to provide the resources needed to ensure a successful community engagement program for Forestry Management.

Expected Results: Forestry management stakeholders will be informed of OWASA's planned forestry management work and their opportunities to provide input prior to Board approval.

Long-Range Water Supply Plan

11. Develop demand projections through 2065 for the update of the Long-Range Water Supply Plan (LRWSP). Staff will base projections on growth information provided by the Towns of Carrboro and Chapel Hill and UNC. The Towns and UNC will also have opportunities to review and provide feedback on the assumptions used to develop the demand projections. The demand projections will reflect uncertainty and a range of potential projections is expected to be provided to the Board for review in spring 2018.

Staff will also develop a list of supply and demand management alternatives that will be evaluated against the goals and objectives accepted by the Board of Directors in November 2016. Staff expects to present this list to the Board and public in the middle of calendar year 2018.

Ruth Rouse has the lead on the LRWSP update; Ed Kerwin's focus will be on process, performance, and resources for a successful update of the Plan.

Expected Results:

- a) Demand projections which reflect uncertainty that incorporate information from the Towns of Carrboro and Chapel Hill and UNC.
- b) Draft list of supply and demand management alternatives to evaluate in the LRWSP update.

Note: Ultimately, these two items inform the LRWSP that will provide a clear path forward to ensure a reliable and high-quality supply of water for the next fifty years.

From: John N. Morris
Sent: Tuesday, January 2, 2018 3:39 PM
Subject: Re: draft key focus areas for the E.D.

Ed and Board Members,

Organizing expectations by a limited number of focus areas as you have done is good. I support John Y's suggestion to add some more specific milestones under some of the focus areas to help define them more clearly and to guide the Board to a better and fairer evaluation at the end of the year.

Coordination and communication with the Board is important for the organization to run smoothly, so I suggest a focus area on this topic. Here's what I have so far, I ask my fellow board members to help fill it out.

Communication and Coordination with the Board

1. Schedule time at Board meetings for unstructured interaction with the Board to include such items as:

- Identification of subjects of interest to the Board
- Bringing forward news or information of interest to the Board
- Requesting brief updates on ongoing OWASA activities
- Proposing future agenda items

2. Keeping the Board informed on Current relations with the community, including:

- Problems or issues experienced by customers
- Comments received on environmental or community impacts resulting from OWASA operations
- Communications received from the boards or staff of the three member governments of OWASA

Thanks for the opportunity to comment.

John Morris

Agenda Item 12:

Review Board Work Schedule

Purpose:

- a) Request(s) by Board Committees, Board Members and Staff
- b) January 25, 2018 Board Meeting
- c) February 8, 2018 Work Session
- d) Review and update the 12 Month Board Meeting Schedule
- e) Review Pending Key Staff Action Items

Information:

- Draft agenda for the January 25, 2018 meeting
- Draft agenda for the February 8, 2018 meeting
- 12 Month Board Meeting Schedule
- Pending Key Staff Action Items from Board Meetings

January 11, 2018

Agenda
Meeting of the OWASA Board of Directors
Thursday, January 25, 2018, 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 a four-minute time frame allowed each speaker, unless otherwise determined by the Board of Directors.

Announcements

1. Announcements by the Chair
 - A. Any Board Member who knows of a conflict of interest or potential conflict of interest with respect to any item on the agenda tonight is asked to disclose the same at this time.
2. Announcements by Board Members
 - A. Human Resources Committee will meet on Monday, February 5, 2018 at 6:00 p.m. in the OWASA Boardroom to Discuss Retiree Health Benefits for New Hires and 457 Deferred Compensation (Barbara Foushee)
3. Announcements by Staff
 - A. Partnership For Safe Water Presidents Award for Distribution System Operation (Todd Taylor)

Petitions and Requests

1. Public
2. Board
3. Staff

Consent Agenda

Information and Reports

1. 2017 Annual Lakes Recreation Report (Kenneth Loflin/Johnny Riley)
2. Capital Improvements Program Semiannual Report (Vishnu Gangadharan)
3. 12 Month Board Meeting Schedule (Robert Morgan/Ed Kerwin)

Action

4. Approve Proposed New Calculation Method for System Development Fees (Stephen Winters)

Regular Agenda

Information and Reports

5. Financial Report for the Six-Month Period Ended December 31, 2017 (Stephen Winters)

Discussion

6. (Tentative) Status of Action Items on Communications during Emergencies (Ed Kerwin)
7. Fiscal Year 2019 Budget Calendar and Assumptions (Stephen Winters)

Summary of Board Meeting Action Items

8. 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

DRAFT

Agenda
Work Session of the OWASA Board of Directors
Thursday, February 8, 2018, 6:00 P.M.
OWASA Community Room

The Board of Directors appreciates and invites the public to attend and observe its meetings. For the Board's Work Session, public comments are invited on only items appearing on this 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).

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

The Board may take action on any item on the agenda.

Announcements

- a. Announcements by the Chair
 - 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. Announcements by Board Members
 - Update on the February 5, 2018 Human Resources Committee Meeting (Barbara Foushee)
 - OWASA Annual Presentation to the Orange County Board of Commissioners on Tuesday, February 20, 2018 at 7:00 p.m. in the Southern Human Services Center, Chapel Hill (Ray DuBose)
- c. Announcements by Staff

Regular Agenda

Discussion

1. Diversity and Inclusion Plan Update (Stephanie Glasgow)
2. Affordability Outreach Program Update (Mary Tiger)
3. Review Board Work Schedule (Robert Morgan/Ed Kerwin)
 - a. Request(s) by Board Committees, Board Members and Staff
 - b. February 22, 2018 Board Meeting
 - c. March 8, 2018 Work Session
 - d. 12 Month Board Meeting Schedule
 - e. Pending Key Staff Action Items

Summary of Work Session Items

4. Executive Director will summarize the key staff action items from the Work Session

Closed Session

5. The Board of Directors will convene in a Closed Session for the Purpose of Discussing a Personnel Matter (Barbara Foushee)

OWASA Board of Directors – 12 Month Board Meeting Schedule (January 5, 2018)

Month	Board Meetings		Committee & Other Meetings and Reports
	Work Session	Business Meeting	
January 2018	CY 17 Biosolids Report (C) Employee Health and Dental Insurance Update (C) Appoint Audit Firm (C) Overview of WTP & WWTP Reliability and Risk Assessment Project Discuss KPI Indicators Executive Director Compensation Discuss/Approve ED Key Focus Areas 1/11/2018	Annual Lakes Recreation Report (C) CIP Semiannual Report (C) Approve Proposed New Calculation Method for System Development Fees Q2 Financial Report (C) (Tentative) Status of Action Items on Communications during Emergencies FY 19 Budget Calendar and Assumptions (C) 1/25/2018	NRTS Committee Meeting (TBD)
February 2018	Diversity and Inclusion Progress Report Affordability Outreach Program Update CS - General Counsel Interim Review (C) 2/8/2018	Energy Management Plan Update Selection and Procurement of WWTP Solids Thickening Equipment CS - General Counsel Interim Review (C) 2/22/2018	Human Resources Committee Meeting (2/5/2018)
March 2018	<i>(Tentative) Discuss LRWSP – Demands & Yield</i> (C) (Tentative) Discuss Revisions to Retiree Health Insurance for New Hires and 457 Deferred Compensation Award the Rogerson Drive Pump Station Phase 2 Contract FY 19 Draft Budget & Rates (C) CS - ED Interim Review (C) 3/8/2018	FY 19 Draft Budget & Rates (C) Set date for Public Hearings – FY 19 Budget & Rates (C) Authorize staff to publish proposed rates Award the WWTP Intermediate Pump Station Rehabilitation Contract CS – ED Interim Review (C) 3/22/2018	
April 2018	Review Employee Health and Dental Insurance Renewal (C) Award the Galvanized Water Main Replacement Contract FY 19 Draft Budget and Rates (C) Review Action Plan for Improvements Identified by Organizational Assessment Appointment of the Nominating Committee (C) 4/12/2018	Q3 Financial Report (C) 4/26/2018	
May 2018	Approve Employee Health and Dental Insurance Renewal (C) Discuss Employee Merit Pay for FY 19 (C) <i>Discuss Community Engagement Plan for Forestry Management</i> 5/10/2018	Public Hearings – FY 19 Budget and Rates (C) 5/24/2018	
June 2018	Approve FY 19 Budget and Rates (C) Election of Officers (C) (Tentative) Review Draft WTP & WWTP Reliability and Risk Assessment Report 6/14/2018	TBD 6/28/2018	
July 2018	Discuss KPI Trends 7/12/2018	TBD 7/26/2018	
August 2018	(Tentative) Discuss AMI Policies (other than manual read) CS – General Counsel Review (C) 8/9/2018	Preliminary 12 Month Financial Report (C) CIP Semiannual Report (C) CS – General Counsel Review (C) 8/23/2018	
September 2018	EEO/Affirmative Action Report (C) Annual Report on Disposal of Surplus Personal Property (C) Review Updated Implementation Plan for D&I Program	Annual Report and Financial Audit (C) Approve General Counsel Engagement (C) CS – ED Review (C)	

OWASA Board of Directors – 12 Month Board Meeting Schedule (January 5, 2018)

	Discuss Action Plan from WTP/WWTP Reliability and Risk Assessment Project CS – ED Review	9/13/2018	9/27/2017
October 2018	TBD	10/11/2018	Q1 Financial Report Strategic Trends Report and Strategic Plan Update
November 2018	TBD	11/8/2018	<i>Holiday - no meeting</i>
December 2018	TBD	12/13/2018	<i>Holiday - no meeting</i>

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

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

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

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

- Development of a plan and policy framework for OWASA lands is considered a longer-term priority. The NRTS Committee discussed this issue in September 2017 and determined it was lower priority than Forestry Management. Staff will develop a Community Engagement Plan for Forestry Management by June 2018, and currently plan to present a draft in May 2018.
- Improve effectiveness as a learning organization is considered a longer-term priority.
- Water Conservation Plan will be prepared concurrent with update of the Long-Range Water Supply Plan.

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

OWASA Board of Directors – 12 Month Board Meeting Schedule (January 5, 2018)

Abbreviations Used in Draft Schedule:

- | | |
|---|--|
| <ul style="list-style-type: none"> ☐ Recurring agenda item (generally these are “required” items) AMI Advanced Metering Infrastructure CE Community Engagement CEP Community Engagement Plan CIP Capital Improvements Program COLA Cost of Labor Adjustment CS Closed Session of the Board CY Calendar Year D&I Diversity and Inclusion ED Executive Director FY Fiscal Year | <ul style="list-style-type: none"> JLP Jordan Lake Partnership LRWSP Long-Range Water Supply Plan MST Mountains-to-Sea Trail MFMM Multi-Family Master Meter NRTS Natural Resources and Technical Services Q Quarter SOW Scope of Work TBD To Be Determined WTP Water Treatment Plant WWTP Wastewater Treatment Plant |
|---|--|

Current and Pending Key Projects and Stages

Project	Strategic Initiative	Project Lead	Jan-18	Feb-18	Mar-18	Apr-18	May-18	June-18	July-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18
AMI	6	Taylor												
LRWSP	1	Rouse			Demand & Yield									
Energy Plan	5	Tiger												

Stages	Committee Discussion	Feasibility Study	Board Review	Community Engagement	Action	Procurement	Implementation
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Pending Key Staff Action Items from Board Meetings

No.	Date	Action Item	Target Board Meeting Date	Person(s) Responsible	Status
1.	12-14-2017	Schedule HR Committee meeting to discuss retiree health insurance for new hires and 457 deferred compensation.	NA	Glasgow	Complete meetings scheduled 2-5-2018.
2.	12-14-2017	Schedule NRTS Committee meeting to discuss Drought Response Operating Protocol.	NA	Rouse	In progress.
3.	12-14-2017	Discuss sediment management pertaining to water pipe breaks.	1-11-2018	Taylor	
4.	12-14-2017	Add System Development Fees to the consent agenda and draft communications for the Board Chair to send local governments about same.	1-25-2018	Kerwin Winters	Completed 1-11-2018.
5.	12-14-2017	Email the Board the draft recruitment plan and job announcement for the new Communications and Community Relations Officer position and invite feedback.	NA	Kerwin	Emailed to the Board on 12-18-2017.
6.	12-14-2017	Incorporate Board approved changes in the Pay Administration Guidelines and email to the Board and invite feedback. No additional Board action is anticipated.	NA	Glasgow	Emailed to the Board on 12-20-2017. Position advertised on 12-28-2017.
7.	11-9-2017	Report on measures to manage sediment created by water main breaks.	NA	Horton Taylor	Completed via email from Todd Taylor on 12-11-2017.
8.	11-9-2017	Address Board member feedback on Strategic Trends Report for next year.	10-25-2018	Rouse	
9.	11-9-2017	Adjust scale on operating expenses and energy costs per 1,000 gallons treated in future Financial Reports.	1-25-2018	Winters	Completed. Will be presented in December 2017 financial report which is scheduled for the 1-25-2018 meeting.
10.	10-12-2017	Schedule Board discussion of strategic communications action items when the County's After Action Review has been completed and issued.	1-25-2018	Kerwin	Scheduled for the 1-25-2018 meeting.
11.	10-12-2017	Schedule future Board discussion about low-flow benchmarks to be used once AMI is implemented.	TBD	Winters Taylor	To be scheduled in summer or fall of 2018.
12.	9-19-2017	Discuss request from Carrboro Mayor Lavelle regarding affordable housing	TBD	Epting Kerwin Morgan	Robert Epting is working with Town Attorney.

(tasks with an * are petitions)

Pending Key Staff Action Items from Board Meetings

No.	Date	Action Item	Target Board Meeting Date	Person(s) Responsible	Status
13.	9-14-2017	Issue request for qualifications in the spring of 2018 for banking services and seek the Board's input on the criteria to be considered in selecting the best-qualified bank.	TBD	Winters	To occur in Spring 2018.
14.	9-14-2017	Schedule Finance Committee meeting this fall to discuss the budget process for next Fiscal Year.	NA	Winters Danner	Jeff Danner to make an announcement at the 1-11-2018 meeting.
15.	9-14-2017	Consider feedback from Board members on KPIs and prepare for continued Board discussion in January 2018.	1-11-2018	Tiger	As agreed on 11-9-2017, discussion will include a focus on water main breaks.
16.	5-25-2017	Prepare a plan for solar PV on OWASA land.	June 2018	Tiger	
17.	5-25-2017	Prepare a Community Engagement Plan for Forestry Management.	June 2018	Rouse	