WAC
Minutes
March 8, 2018

The Wastewater Advisory Committee to the MWRA met at the MAPC conference room, 60 Temple Pl., Boston

Attendees/Contributors:

WAC: George Atallah. Wayne Chinouard, Belinda Stansbury, Adrianna Cillo (BWSC), Kannan Vembu, James Guiod (AB), Martin Pillsbury, Mary Adelstein, Philip Ashcroft, Stephen Greene, Zhanna Davidovitz (vice chair) By phone: Karen Lachmayr (chair), Dan Winograd.

Guests: Wendy Leo, Stephen Cullen (MWRA); Bruce Douglas (NSU water), Julie Simpson (MIT SEA grant)

Staff: Andreae Downs

FUTURE MEETING DATES/TOPICS

NEXT: TUESDAY, April 23. 10:30am, Metropolitan Water Works Museum, Chestnut Hill. MWRA budget presentation

VOTES:
February minutes

EXECUTIVE DIRECTOR'S REPORT: Full report attached. WAC is clearly going to have to deal with PFOA and PFAS and related "forever chemicals" and any occurrences in MWRA residuals. Should have a joint meeting on the subject in the next Fiscal Year.

New MWRA board member, Chris Cook from Boston.

Also, more Advisory Board focus on the HEEC payments and whether MWRA should be paid back for some of its access payments.

MWRA UPDATE: MWRA Update: Clinton Phosphorus facility started up again, as the Phosphorus limit starts April 1

Gravity thickener rehabilitation at DI continues, as do repairs of the pumps at the Winthrop terminal station and maintenance of the generators.

CSO assessment proceeding New report soon. Big push is to add metering to calibrate the sewer system model.

Starting to think about CSO variances* in Charles and Alewife/Mystic that run out in Sept. Need to ask for extension at least through end of the CSO assessment period. Draft over summer, public comment.

Q: do variances reflect progress?

A: agreement that they would not through the end of Dec. 2020. Next variances may be different. Idea not to impose new requirements while the work was underway.

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*Can't have a discharge that doesn't meet water quality standards without a variance. Allows temporary 3-5 year discharges while we figure out the long term solution.
OMSAP trying to plan another meeting. Looks like late April. (UPDATE—now set for April 24 at the EPA offices in Post Office Square. 10 am – 4pm)

AB UPDATE:

AB Updates: First briefing on CEB was Wednesday. Public hearing March 21st in addition to a presentation on both budgets. Thereafter, preliminary comments.

CHAIR'S REPORT:

Excellent presentation last month's joint meeting. Clearly smart people doing forecasting. Water use clearly is elastic. I/I have decreased slightly, which has always been a big priority for WAC. Lots of good news.

Chair is working on a WAC handbook with Executive Director. WAC will be hearing more about this spring.

PRESENTATIONS:

Introducing Stephen Cullen—MWRA Director of Wastewater.
Started as an intern in 1988. Dad told him there's always work in wastewater.

New position. In the old hierarchy, when John Vetere was Deputy COO, in charge of all engineering and construction. When he retired last summer, MWRA looked at restructuring senior positions —now one for wastewater, one for water— Mark Johnson, one for engineering—John Colbert.

Worked in engineering; I/I program—flows are going down, but Infiltration is particularly hard to get rid of. Inflow is biggest bang for buck.

Wayne: Arlington trying to create a bylaw to inspect water & sewer laterals on real estate transfer—replacing lead service lines, lining sewer laterals. Looking for guidance on wording. John Zurek, Carl Leone, Stephen Cullen good contacts w/in MWRA.

Q. The private end of the sewer lines is the trickiest. Some communities just do the sewer lateral lining when doing the I/I work on the street. Sometime split the cost with homeowners.

Karen: Some day in future, something like a Title 5 for sewer laterals? Early stage might be a draft—MWRA legal team?

To deal with II need to first do a metering study. Communities usually have a sense of where the flows are coming from. Then there's a cost/benefit study—whether it's cheaper to fix or to treat it.

Q: a group of Harvard students did a study on I/I in Newton. Did by timing of when flow was measured. Made a distinction between inflow and infiltration.

A: To find inflow need to look at low-flow night time—say between midnight +5.

Q: Do MWRA positions now distinguish between wastewater & engineering?

A: I manage the treatment plants, wastewater operations & maintenance, all pump stations, collection systems, headworks, CSO system, and in the new role, also the plants. All facilities, all operators, operations control, CSOs and CSO storage. Operations & maintenance.

Permitting is a different section of MWRA.

Chief operating Officer—Dave Coppes, Deputy—Carolyn Fiore. Water operations, Engineering—all the rehabilitation, design and construction.

Compliance buck stops with Cullen.

Engineering does our capital improvements. We have a master plan to look at what needs to be rehabbed or built. We comment on the plans.

Areas of focus: succession planning. Nobody really wants to work in wastewater. Got to make it more interesting and fun. I look at it as a puzzle—how to get all the flows to the treatment plant. Make sure everything running as well as it can.

Isn't that the same issue as water supply?

Harder to find wastewater operators. Economy is great right now. Talk to a lot of kids in high school and parents. College kids who are not employed. If college isn't your thing, go to the trades. The world needs plumbers. Waiting list to get into trade schools—but the sexy thing is tech.

Q: I would say it's a recycling issue.

Q: We get tons of applications, but not qualified applicants.

A: But first response is—I don't really want to work with poop. But it's not a job that is going away.

Q: Is there reciprocity on licensing?
A: Yes. Trying to standardize the testing. Differs from state to state.

Energy initiatives —always trying to find ways to reduce our load. Combined heat & power at DI will help.

Q: Washington DC invested in Cambi. Was that considered at Deer Island?

A: Will get back to you.

Q: Ever talk with high school seniors in math & science? MWRA staff are going to job fairs & looking at younger students.

Q: Has MWRA ever looked at a water-energy nexus —what is the minimum amount of energy needed to treat the water?—and made a plan to get there.

A: Always looking at the energy use and how to reduce it. Even 1% is cash.

Q: problem is the cost of energy in the US. It's too cheap. Motivation isn't there as it is in Europe.

A: DI has all kinds of generation—solar, wind, di-gas, hydro. As the technology comes to the end of its useful life, we will be upgrading and assessing.

Cullen—sits on security task force. Meetings quarterly. SCADA staff and MIS working diligently to make MWRA system as safe as possible.

Q: Incident with gas company in Merrimack Valley. How to prevent something like that damaging all of your equipment?

MWRA also take climate and SLR seriously. Last year two of the highest tides ever. Eye opening how high the water can get. Now raising all our electrical equipment above predicted flood stages (100-year flood + 2.5 feet).

Concerned about tidal inflow along coast. Communities may need extra help.

We have II financial assistance program to help with that. Easily identified source. Can identify whether it's a tide gate or a pipe across a marsh.

Bruce Douglas: Natural Systems Utilities.

Water reclamation in the MWRA service area

Treatment facility in a building—needs MWRA buy-in. Regulation that says you can't do that. Been working with MWRA for the last 18 months, but now changing 40 different regulations and will add this one—for water re-use or sewer mining.

Firm designed, built and operates the wastewater treatment at Gillette Stadium. Also one in NYC. Non-potable or indirect re-use.

Domestic wastewater focus. Made up of black water (toilets, kitchen sinks, dishwashers), and gray water (everything else)

Non-potable uses: irrigation, cooling, flushing, washing cars, commercial laundries, fire suppression, snow making. DEP has made regulations so can use.

MWRA regulation says you can't discharge sludge to the system — with exemption for a water treatment plant. We proposed to add an exemption for water reclamation facilities

MWRA has approved the concept. Language will be different.

Gillette Stadium: takes game day flows to storage facility. Treated over time. Light blue tank stores treated non-potable water. Used at Patriot Place shops, irrigation—60,000 gallons/day. Foxboro can't supply that.

Battery Park NYC: apartment building wanted to be super green. Have in-building water reclamation. Membrane bioreactor in the building, part of the building basement. Used for toilet flushing, cooling tower, landscape irrigation. Now adding laundry.

Q: But we have plenty of customers who re-use gray water.
A: Who? Almost everyone we have found in MA is re-using rainwater. Or black water. To separate gray and black water requires two sets of pipes—very expensive. Found more cost effective to do one set of pipes, treatment and re-use.

With increases in cost of water & sewer, this system is actually cost-effective. Minimal space in the building. Payback period between 3-8 years. Only works where have high water & sewer rates. NYC is about ⅓ of MWRA.

NSU—does O&M as part of the installation. Under 3% increase. Not feasible everywhere, but is within MWRA. NYC gave the Battery Park project a grant. NYC realize they need extreme water conservation to allow for the rehab of the big aqueducts from the Catskills.

Design, build and operate. Own the ones that are large enough scale. Other companies do this. Most often, get a team of 3 firms—but that is slightly slower and less efficient (that's the competition)

GE Water systems—filter— .04 microns—removes bacteria, not viruses—onsite reuse or sewer mining. Enable significant water conservation. Net zero energy water reuse/thermal energy recovery.

Tertiary treatment. Gravity overflow—redundancy. Separate solids, disinfection, storage for reuse. Sludge (.8 to 1.2 %) to sewer. Issue for Cullen is whether it flows as well.

Can put on a timer to remove sludge on regular basis, mixed with regular gravity flow. With sewer mining, more of an issue—need to analyze the pipe gradient and size.

Will also have cleaning solutions to clean the membranes. Sometimes with air. Backwash with non-potable water. Sometimes use weak acid or base—regular maintenance cleaning. More substantial cleaning is mineral. All automated.

Using a lot of energy to run this plant. In the re-use storage tank we have building-temperature water that's clean. Can run a very high efficiency heat pump. Offsets the energy required.

Another treatment is with anoxic aeration tank treatment.

Takes about 2,000 sf. Cast into the foundation. Difficult to retrofit; looking mostly at new construction.

Q: Laundry reuse? Working on it. Not looking at recycling laundry water, but non potable water can be used in washing clothes.

If have to treat sludge to beneficial re-use standards, lose space efficiency. In those cases, truck the sludge, because land near the buildings is usually expensive. But decrease the volume of sludge.

Membrane filters do need to be replaced, but that's part of the cost.

O&M costs rise if add a restaurant to the building.

When recycle 50% of building wastewater, get about 21% less solids to the treatment plant. If sewer mining, 45% reduction.

Q: not sure that's a benefit to Deer Island, because using the solids to produce methane for its own power needs.

A: Absolutely.

In Battery Park apartment building, are they using food grinders in sinks?

Would prefer not to, but don't know.

These are municipal wastewater treatment operations—grade 4 operator, there daily. Remote access SCADA.

Chart of permits needed. Will be the most regulated water reclamation system in the country.

Q: What's the point? Is it just, I want to do the green thing, and I will pay for it?

A: that was it, initially, but discovered that it's cost-effective, even with all the O&M. It's the reverse of leakage. Cheaper to do this than build central plants to handle leaks.

Costs—initial capital costs. O&M, chemicals, replacement of equipment (that goes up 3% on average). If municipal costs go up at that level or more, you are saving $$. ROI is worth it if being greener matters to the owner of the building.

Larger flows more profitable. 25,000-250,000 gallons/day.

Have you looked at combining residential and industrial? No—industrial is more complicated. Often recycling water themselves—IBM in VT. Avoiding because don't want to deal with the longer ROI.

But if mining sewers, are getting pretreated industrial flows mixed in.

Can hold flows so that don't contribute to a CSO in a combined community.

Holds down cost of water for the consumer, adds sustainability and resiliency. Won't hurt MWRA. Attractive to some high tech industries that want more sustainability built-in.

Q: any projects in mind? Seems like a lot of work.

A: Yes-we have developers/institutions interested.

Odor control—very important. Each tank has headspace where odors concentrate. Pull that air through carbon filters, so are good neighbors. Not an air emissions issue. Cleaner than a sewer stack.

DEP timeline for permit 3-6 months. MWRA likely within that.

TRAC permit will be for what goes into the sewer. DEP permit for reusing the water. For comparison, NYC has ONE permit. First one was 30 days.

Get involved with developers in the initial zoning and permitting stages in the municipality. Mechanical rooms have to be big enough. But can retrofit into an underground parking garage.

March-April Director's Report

WSCAC March 12

Director's Report: Planning a tour of a Franklin, MA marijuana facility March 13. Making comments on the state's Drought Management Plan.

Presentation—Reservoir Operations: MWRA's John Gregoire, director, Matt Walsh, project engineer (MWRA)

Very wet November 2018 means that reservoirs are very full after being below average following the drought.

Average precipitation is 46.44". Last year is the third highest in last 35 years. Even January and Feb 2018 were above average. Both reservoirs spilled in November. Quabbin is still spilling—250mgd. Highest was 500 mgd. Negatives: possible flooding downstream on the Swift River. Spillways are in good shape.

Design of the dams on the Quabbin does not anticipate spilling lots of water. If had a hurricane coming up the CT valley, couldn't hold back water or release early. Would be helpful to be able to reduce the Quabbin by a foot in a week—give storm storage.

After spillage—Wachusett in normal range. Didn't get full ice cover this winter. Usually bring down the reservoir to allow for melt in the spring. Can't do unless birds leave (when reservoir is frozen fully).

John Gregoire: **Chloride** levels are rising in the reservoir. Could be road salt is getting in via soils after years of application. Why prefer to use Quabbin water vs. Wachusett. Happening in northern climates all over the country.

Kurt: workshops on alternatives to salt. What are road-salting practices of communities around the Wachusett? DCR investigating with the different towns. What kind of salt, volumes, etc. Landscapers are directed by commercial customers (directed by insurance) to ensure no slips & falls—so using 3-4x as much salt as used to on parking lots. NY has been seeing waste brines from PA fracking used on the roads—result is contaminated groundwater and damage to car undercarriages.

Chloride builds up in the groundwater, and it ends up in streams that feed the Wachusett (mostly—also Quabbin). Summer base flow is high chloride, not just road salt runoff in winter. WSCAC will reach out to the DCR administrator in charge of water quality in the watershed.

Aquatic invasive plant control—-extending surveys beyond Quabbin & Wachusett to Foss, Sudbury, Chestnut Hill. A few of the smaller ones have been free of invasive pants: Norumbega, Spot Pond, Weston. New mode is to catch them early & pull them all out.

Milfoil now considered established non-native. Expands aggressively where introduced new, so treat as an invasive. Most of the invasives are aquarium plants. Others: fanwort, Eurasian & Variable Leaf Milfoil, water chestnut. First three propagate themselves via fragments.

Ware river—every early July draw down intake pool & rake off milfoil as it dries out. Also get at the roots. Morphs into a terrestrial plant when extended draw down creates dry conditions. Takes about a month.

Most effective invasive removal method now is Diver Assisted Suction Harvest (DASH). On the boat they return any aquatic animals back to the reservoir. Since working on some areas, native plants are returning. Been so successful, that they are trying DASH on variable milfoil (13' tall!) in the Quinapoxet Basin—the Quabbin Interflow area. Now in 3rd year and expanding the effort. No chemicals used. Do in spring and fall to get the regrowth.

Sudbury & Foss Reservoirs—water chestnut—acre size patches. Using a harvester to pull out, followed by hand pulling. Seeds stay viable for a decade. Mostly under control. New infestation of fanwort in the northeast corners — attacking immediately & tracking.

Why higher incidences of new infestations? Not Ph, as that has remained constant. But perhaps increased temperatures. Increasing slowly at Wachusett. Now have kudzu in MA.

At Foss, draw down water & let plants freeze—freeze-dries the plants. But 2016-17 couldn't do because of the drought. Do at Chestnut Hill Reservoir also. Very effective.

The other factor is phosphorus—can be from goose poop, but also in the sediments. Some in Chestnut Hill comes from the work at Boston College—uncovered dirt that would blow as dust into the reservoir. Two cyanobacteria blooms on the reservoir. Used alum to keep it under control — sequesters phosphorus in the sediments. At some point MWRA will have to deal with the sediment phosphorus load. May need a high-dose alum treatment.

Water Infrastructure Alliance 3/15

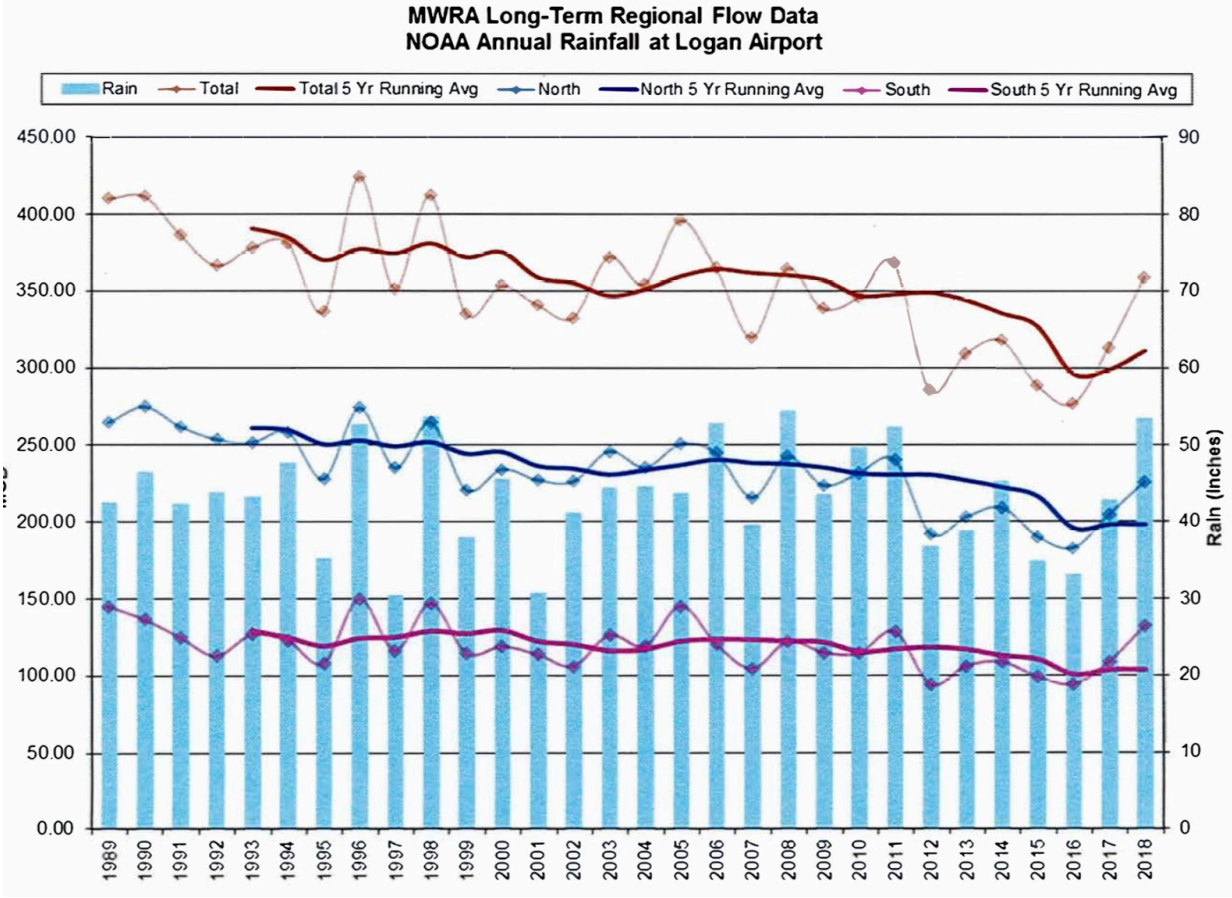
Phone meeting coordinating a water infrastructure briefing for new state legislators April 9 10-11:30 at the state house. Hoping roughly 60 legislators will attend.

MWRA Board 3/20

<u>WASTEWATER COMMITTEE:</u>

Inflow & Infiltration: Carl Leone, Steve Estes-Smargiassi: six phases complete, six open and a seventh loan-only available for those who deplete all 12 phases.

Staff summary describes annual flow decreasing, with break -out for both north and south systems, and further break-out for various sources in the southern system. Notes reasons for flow increases as well.



Laskey: money allocated by percentage contribution, not by need. Inter-community subsidies are unpopular and would destroy the grant/loan program. MWRA reviews all projects for efficacy. Two objectives—reducing flow to the plant and reducing SSOs—they counteract each other in terms of plant flow. One SSO in Weymouth — Smelt Brook—likely to continue to be a needed overflow spot during massive storms.

Combined heat and power plant study now take digester gas, pretreat, compress, burn in a boiler for heat, then for electricity. Very inefficient for producing electricity. 22% of DI electricity is from renewable sources. 100m KWH annually is purchased. Has reduced by 14% with process efficiencies and conservation. DI gas accounts for 62% ($14m) of heat & power at the plant. Study of new option—could get purchased power down to between 6-16%, potentially $8-10m/annually in power purchases.

Hiring a consultant (Black & Veatch) to look at existing equipment (20 years old and approaching useful life), and at direct replacement or using a new technology. Also looking at energy storage, types of generators, energy costs for all sources over the next 25 years. Heart of the project to do a conceptual design to ensure it will work at DI. Once they have that, they will evaluate the alternatives for performance and long-term energy costs and use. Four groups of alternatives—1–in kind replacement—one will be the base case for comparison. —2-slight modification with a natural gas feed. —3 & 4 energy storage and a cable. Also CHP that uses all of the di-gas produced, or one that burns di-gas and diesel for heat. Also a new system with both di-gas and natural gas to meet all of DI energy and heat demands, or heat and 2x the energy demand—export excess off site. Or using diesel generators to produce all of DI energy

needs. And variations on these. Could increase energy generation by 3-4x. Could possibly get DI renewables to 95% of needs.

Laskey: could possibly become a power plant that treats wastewater.

Pellet Plant: built 1991. Contract with NEFCo includes $7m for capital improvements. This contract replaces electrical systems, 9 remaining separator conveyors. Dust collection, air compressor, nitrogen purge systems, gas boiler, storage tank cover braces, dryer drums. This maintenance will cost $8.6m. Laskey—plan was to run this plant to failure, but we are maintaining and it seems to be running well. Will continue to contract out operation, but MWRA will continue to own. New contract needed by 2020, and is upcoming.

WATER

Community loan program: 3 phases of program starting in FY01. Phase 2&3 still open. All but 3 communities are participating. When started, 58% of water pipes were lined, now at 73%. Expect it will take $1.5b and another 30-50 years to get to 100%. Lead service line loans—9 communities, $10.1 million (of $100m). Two more are getting ready to use. Some communities do not take MWRA loans because believe in funding capital with cash, not loans.

MOA with Newton: MWRA replacing pipeline in Newton. For one section, will also replace Newton 20" water main & Newton will pay for that work to avoid double digging. Haven't awarded contract yet because National Grid still has to finish work on its gas lines in same streets. MWRA mains are 122 years old. Newton's 140 years old—both cast iron.

Metro Tunnel redundancy: getting the word out to possible contractors. RFQ for Program Support Services, 49 firms requested copies. BUT only one firm—one with minority/women in ownership. Many said just too big or not qualified. Many interested in sub-contracting. Awardee, JPK, cannot participate in construction contracts. Is local and has worked on tunnel projects for MWRA and nationally. $10m contract, 5 years, JPK expects to put in 10,000 more hours than Engineer's estimate.

Looking at a new route via Needham and Wellesley instead of through Newton and along the Metro tunnel. Updating the hydraulic model to include all the new and rehabbed pipelines. Also looking at water demand, potential system expansion and potential drought. In addition: making sure not so much capacity that the water gets old.

John Carroll thinks this is worth a story in the papers. $1.5b worth of work!

Personnel—outside study recommended raises for several non-union employees based on degrees, certificates, and qualifications as part of a gender-equity move. Will add $69K to the budget, but will ensure MWRA will avoid discrimination cases going forward.

BWSC is doing similar analysis using same contractor. Henry Vitale recommended retroactive pay.

ADMINISTRATION & FINANCE—fiscal update—MWRA slightly over budget, but after removing community loans/grants, still a favorable variance. Short-term interest rates are higher than last year, but not as high as budgeted.

Extending a contract to participate in demand-response program at Deer Island that earns MWRA about $900K/year. Will open bidding on a new contract next FY. Not time to do this year because of late-breaking rule changes with ISO New England.

FULL BOARD—Commissioner Beaton present.
Beaton report—EEA working on FY20 budget and whole host of legislation. Excise fee legislation to fund climate adaptation work. MVP—44% of communities in the program.

Laskey: held joint exercise with BWSC to ensure adequate water pressure to East Boston fire—included valves across the area behind the meter going to increase water to the area. Vitale: thanks also for help on the water main break Comm. Ave.

Future board meeting will include battery storage system pilot to shave the peak on demand charges at a water facility.

Quincy taken to court by EPA and US DOJ. Raises question of EPA need for co-permitees. Quincy under an MS4, and a sub-permit of DI NPDES permit. EPA has jurisdiction. Complaint states illicit connection that contributes to SSOs. SSOs for long period of time starting 2010 to present—some direct, some that found their way to the WOTUS. Civil penalties. Injunction. $37,500/day/violation up to 2015. After than $55,483. MWRA only mentioned as destination of Quincy collection system. Mayor of Quincy in conversation for a long time with EPA and DOJ. Statute of limitations in play. MWRA has been helping Quincy with I/I and manhole rehab. Quincy has used $23m of its $33m I/I allocation from MWRA. Has invested over $65m total. MS4 permit from 2018 is not the permit in question, but the previous permit. Since EPA can sue Quincy directly, question of need for co-permittee language in the NPDES permit.

Carroll: Quincy getting a lot of rain, clearly. Why now?

Beth Card: long-standing SSOs. Negotiation about how much work Quincy is required to do.

Laskey: even though Wollaston Beach in Quincy was what started the Harbor cleanup, it's still the dirtiest of our beaches.

Card: a lot of infrastructure in that area, and it's old.

Carroll: if we were co-permitees, MWRA would also be named, right?

Card: quite possibly.

Carroll: Quincy obviously has been putting a lot of money into this and going on a long time—did some activist walk on the beach again?

Card: no activist groups named.

Kevin Cullen: are there other Quincy's out there?

Card: there are a lot of communities that are under consent decrees. A slew from the 1990s. EPA has let up since then.
Laskey: remember there's Medford, Malden, even Arlington—depends how far in EPA wants to go.

Southern sewer system—21 communities. Weymouth-Quincy interceptor across the marsh. Ice will beat up MWRA manholes. Also high infiltration at manholes along the high level sewer

(coming from So. Brookline, So Boston). MWRA has also noticed tidal inflow, and helped city re-line some nearby pipes, and reduced inflow.

Card: Usually, EPA does not sue. Fairly rare, so we do not expect more Quincys.

Advisory Board 3/21 Lexington

Public hearing, MWRA Budgets: Tom Durkin—always talking about budgets. Particularly Sept—3 budgets at once. Looking today at FY20 budget.

Rates management — start: combined sustainable and predictable assessments—method—multi-year approach.

Key drivers:

- Capital finance (debt)
- Existing expenses and revenues—affected by inflation, changes to expenses (metro tunnel, HEEC)
- Long-term liabilities (pension, OPEB)

Reasons for volatility, and ways MWRA is working to smooth it—HEEC cable payment schedule, defeasance, paying down pension & OPEB liabilities.

Budget Director—Jim Halloran—CEB structure:

- Direct expenses (wages, chemicals)
- Indirect expenses (benefits, PILOT in the watershed)
- Capital finance
- Non-rate revenue
- Rate revenue

63% is paying down debt. Direct expense is 31%.

Mike Cole, budget manager—direct expenses—wages & salaries rose, added 5 new positions for the Metro Tunnel. Overtime increase, driven by wet weather. Details on health insurance, chemicals, diesel, energy. GIC rising by 3.1%

Tom: indirect—pension fund 95% funded. But want to ensure smooth & stable charge. Watershed protection PILOT increases $.79m in FY20.

Matt Horan, treasurer. Debt service — senior debt—$204.7, defeated. SRF $93.1 m, Subordinate debt, includes variable rate debt—recently rate has been low. Started to climb by July 17–by December 2.4%. Budget assumption 3.9%—so raising FY 20 budget allocation to 3.75%, but will adjust depending on what the Fed says it will do with interest rates.

Jim: Non-rate revenue: Investment income—assume increase of 2.25%, other revenue—reduction because of demand response credits going down. Also renewable credits decreased some. Other user charges—Chicopee valley $$ and entrance fees.

Forecast rate increase for FY20 of 3.7%, going down in subsequent years. By FY23, new Deer Island is nearly paid for—sewer costs and rate increases will drop.

Debt repayment peak yet? Yes-at the peak. Already paying back more than we are borrowing.

Favaloro—director's report: applications for AB member to the MWRA board being accepted. Foti is running for reelection to the post.
May 16-Canton library. Election.

AB budget: preliminary request is in, more information to come. Requesting $7K more than last year—mostly rent and some website enhancements. Rate survey now live online, document library goes to MWRA-AB inception. Calendar and related documents linked. Some hiccups. Increasing AB presence at regional conferences.

Legislative strategy: House will be putting out its version of the budget. JF and FL will go to talk with both speaker and president. April 9 Water Infrastructure Alliance holding a workshop for new legislators. FL and JF have been going to visit legislators and bringing them up to speed on MWRA history.

No workshop this June. Thought infrastructure would be the one thing that both parties in Washington would be able to agree to legislate on, but looks like no bill is coming. Will do if a bill emerges.

HEEC contract and Massport—AB filed an FOIA request for costs associated with Massport cable easement payments. Also looking at other opportunities for a more productive discussion of how one quasi-public agency treats another. Is MWRA the only one willing to provide services to the other for free?

Travis: AB will present ideas in April on the MWRA CEB budget. Vote in May. Present to the MWRA Board in June.

Operations: New meeting on storm water soon.

AB and MWRA have said no to co-permitees. Regulators don't like that answer. FL and JF met with 10 communities this year. Getting asked what role MWRA should play in storm water. Just saw EPA take draconian action on Quincy for not being responsive on SSOs. Was good MWRA was not a co-permitee, or MWRA would have been on the hook to fix it. Need a broader conversation with all the communities on AB role.

FL: Quincy: EPA sued for chronic SSOs across system. Lot of waterfront—49 miles. Difficult — tide comes in and get infiltration. Spent $65m on this issue. Wollaston still our dirtiest beach. Real challenge. Q mayor feels EPA wanted too much too fast. If co-permittees critical to EPA getting to communities—-well, they got Quincy, got Boston. Who is next? Everyone has waterfront—at least into tributaries. MS4 permit—old one.

Quincy—Wollaston is cleaner than ever. Aggressive sewer main lining near the beaches.

FL: MWRA pumping out to relieve Quincy during storms and snow melt.

Q — all caused by infiltration and inflow?

FL-yes, but even a backup into a cellar is an SSO. Quincy has been a heavy hitter on the community funds—$22m in I/I assistance. That program very popular with the communities.

JF: appalling that EPA, when the feds are walking away from their responsibilities, is whacking communities. Think real reason is career staffers who believe in the mission—may take the absence of a regional administrator to pounce.

Joint Committee on the Environment (Natural Resources & Agriculture 4/2

Sen. Anne Gobi/Rep. Smitty Pignatelli:

Lori Ehrlich: supports plastic bag ban. 95 communities passed plastic bag ordinances.

Sen Tarr: supports CSO notification bill. Also S530–processing of lobster parts.

Jehlen: S 490 751–all rivers in MA. 1000s of gallons of sewage discharged into the Merrimack-12, 000 swimming pools full/year. Emergency room visits folks downstream. I receive notices of discharges in Alewife Brook. Public should also.

Denise Provost (Somerville)—MyRWA took her on a tour of Alewife Brook and Mystic outfalls. Crew member of Somerville HS—seeing human excrement floating in the river while rowing.

Linda Dean Campbell Methuen & Haverhill. Funding was included in the last bond bill. Other states handle this similarly. Don't think it's onerous. Source of drinking water. As a result of this bill will get data. Work closely with Fed. Colleagues. Will require collaboration with NH.

Minicici Merrimack Valley. Sailed in Newburyport. Told never to capsize in the river. Greater Lawrence Sanitary District is now notifying people of CSO releases.

Rep. From Newbury. Rely on the river. One of the most endangered rivers in country. Surfers like surfing after a storm—exactly when the outfalls are likely to have hit the water.

Mayor Gray, Amesbury. 30-40 rain events and CSOs/year. 500mg/year, with another 500mg from NH. Cost to eliminate in MA is about $725m. Most people on the river are unaware of the risks. What we get now is paper notice or email. Stay out of water 48 hours after a CSO. They notified for 3/15 on 3/18. Need to know when it is actually dangerous. R. Kelcourse also H. 820–CSOs

Robertson, Tewksbury gets water from Merrimack.

Newburyport mayor Holliday—seen times on gorgeous holiday weekends when have to close all our beaches & recreational opportunities because bacterial levels are off the charts, water brown, and stinking. Dogs with horrible sores. Boats coated in sludge. Cannot operate a $500m oyster company because of the water quality in the river.

H771–new rep from Northampton Plastic bag ban—safeguarding our waterways. Found 40% of residents were already re using bags, and most stores had already stopped offering bags. No impact on businesses.

Sen Creem: S462 H771 ban single-use plastic bags charge 10c/bag. Brookline Newton Wellesley already banned, Newton looking to go further. Right thing to do to remove from waste streams.

Councilor Matt O'Malley: plastic bag pollution—Boston bag ban passed unanimously in 2017, now implemented. Very effective. Casella was handling 20 tons of plastic bags/year just from Boston in recycling. 5c charge, 3mil bag. Retailers said having all these different laws was confusing. One standard would be incredibly helpful.

Sen. DiZoglio, Newburyport Plum Island parking lot. Also CSO—filed 2 of the bills. Supports notification bill. Wants to look at pre-notification of an overflow. Notification system at the outfalls.

Amesbury mayor—supports ban of plastic bags. Already has.

Summit on May 17 on the Merrimack with NH cities along the river.

S. Eldridge: Plastic bag pollution bills. Plastic is 80% of litter in our oceans, lakes, ponds. MA carry out plastic bags high % of our litter. As break down do not decompose for 100s of years. Tiny microplastics, which get into the ecosystem and us. 10c fee important as a disincentive. Acton considering a ban tonight

Phil Guerin: supports notification, but CSO are part of the design. Civil War technology, not "medieval".

4/3 Water: Systems, Science & Society forum, Water: Visions of the Future, Tufts University. (Student organized, graduate certificate)

Ann Rappaport, faculty: John Durant, faculty.

WSS program interdisciplinary program.

Challenges—over a billion people in water scarce areas of the world, and population there growing. Shift in thinking—away from human control of nature—>harmony with nature instead.

Storm surges (ie Houston); levee failure in the Midwest. Tried to control nature, but didn't do a good job. Think about water & innovation.

Ujjayant Chakravorty—professor in economics—resource and water.
Water Scarcity and conservation/water.

Looking at rice cultivation in Bangladesh

Water use & Climate: not priced by volume (usually), fixed prices inhibit conservation. Pumping=fossil fuel use.

Farmers are using more & more water—conservation tools that are tried & true are not being used yet. Ground water levels dropping. Suggests pricing reform (by volume, not flat fee), subsidies for conservation technologies, coordination, water rationing. More local research.

Mass Oyster Project — working to put oysters into polluted waters to clean them up

Sarah Valencia — oyster restoration, shell recycling, changing laws.

Oysters not just food—keystone species—filter water & cycle nutrients. Sequester carbon in shells. Reefs for ecosystems (over 150 species), settle sediment—>better light penetration, protect marshes from erosion—marshes are a more efficient carbon sequester than forests.

Historically, oysters were abundant in Boston Harbor and at the mouths of the Charles and Neponset—no longer the case, mostly because of filling of the harbor, pollution, including sewage, over harvesting, damming the rivers. (25 years after the Charles River Dam was built, the oysters were gone)

Chesapeake Bay, NY Harbor (post Sandy)—Billion Oyster Project—not for food, but for eco-system services. 70 schools, 1 million lbs. of shell recycled, 28 million oysters. Removed 72,500 lbs. of nitrogen so far.

NY also creating a Living Breakwater Project, esp. along Staten Island. Fed $$ — reduces erosion and storm energy, installing oysters and attracting other creatures, educational and stewardship.

In MA: DMF won't allow oysters to be restored in waters restricted for shellfish harvest—so can't clean the water there. Everett casino proposed an oyster reef, but DMF wouldn't allow. Oyster project filed legislation to streamline restoration—learned need to work with the shellfish industry.

<u>Ceres, Brook Barton—how private sector can impact climate</u>

Building the corporate case for environmental sustainability

Investor network—160 institutional investors; large corporations—about 50

Water—underpriced, invisible. Essential to life. Agriculture is the biggest user—scarcity is the leading threat to food production. 70% usage, largest polluter. Compounded by stress of population growth and climate.

Outlined the risk factors: extreme weather, competition for water—not as secure. Have to do more than ensure production.

<u>Student WSS projects:</u>

Dam Removal in the Parker-Ipswich-Essex River watersheds. Meredith Houghton, Urban & environmental policy & planning

Great Marsh Barriers Assessment—dams and risks of failure—significant barriers to wildlife cost of maintenance. Issue also risk of dry riverbed. Historic landmarks. Evaluating costs & benefits of dam removals & sharing with dam owners.

Marion's Mills Cranberry bog restoration—Katie Harrigan, Emily Liss:

Working with the Barnstable clean water coalition to craft a roadmap for the bog restoration. Cranberry bog is at the head of the watershed. High nitrogen from septic systems that ends up in the estuaries.

Potential solutions: wetland restoration and bioreactors in the cranberry bogs.
Challenges: private ownership. History of cranberry farming

BUT—number of farmers want to retire & leave farming as returns decline.

Roadmap Outline: background, maps & existing conditions, changes proposed, design ideas, regulatory/permitting, and costs/financing.

Design ideas: in stream bioreactor, off-line bioreactor, nitrogen removal in ponds, wetland restoration

Nature Conservancy: world where people and nature thrive.

Using shellfish to break waves, restore aquatic habitat.

Aquaculture is the most resource efficient means of producing animal protein. Use less fresh water, less land, less GHG/lb. of edible protein. Oysters even more efficient than salmon farming. Don't need feed, fresh water. Absorb carbon as grow.

Some aquaculture is better than others. To restore ecosystems farm seaweed and shellfish. Provide habitat, mitigate pollution, support fish stocks.

Kleinfelder engineer

HIstory of flooding in Scituate—model of what flooding will look like in different storms, nor'easters and with SLR. WWTP is within flood area, near DW system, near emergency exit roads, near downtown. Also experience drought & water supply issues.

Flood storage within a watershed and plan for draining reservoirs to drain ahead of a storm, decision trees based on amount of time, severity of storm and existing infrastructure in the path.

Cambridge — planning for climate change. Interrelation of infrastructure, population, economy, environment—Extreme rainfall & flooding inland. Harder to think about than Sea level rise. Question of how to incorporate predictions of rainfall & intensity and the implications for flooding and infrastructure.

Moving into design—areas for retrofits, s/w infrastructure, complete streets, open space. Co benefits across sectors. How? Integrated water management. —Conservation, gray water reuse, riparian restoration, green Infrastructure.

In built-up areas: GI in the public ROW. Street trees. (Western Ave, Cambridge). Cambridge constructed wetland—restored habitat, removed storm water from sewer, cleans it, makes a recreation area.

Helpful: visualization—help the community see ways to live with water. Living shorelines. Tough permitting process in MA. Where should they go and would they survive.

Plans for retreat—rolling easements. ReDeBoston 2100–consensus on the data on SLR—then design for it. Competition Living with Water.

Forum: nexus between food, water and climate is striking.

Future-what will we achieve and how?

- Oysters will be accepted in coastal cities to clean water

- Adoption of nature-based solutions. Not just dam removal, other methods.
- Challenges—Daniel Schrag, Harvard, difficulty of changing economy to adapt to climate change. Meeting emission goals.
- Shift away from animal proteins. Driving down carbon footprint of meat production.
- Challenges: figure out a green new deal for agriculture—make needed changes without losers
- MA food systems plan—need to be more self-sufficient (home gardens, urban agriculture). Big farms won't change themselves.

Innovation vs. real world roadblocks: how do you bring your goals in sync with real world constraints

- Living shoreline example—everyone worked on good design that would work in Boston. Advanced idea forward, but never became reality. Permit issues. Skepticism (official?).
- Corporate policy/producer groups. Need to be messengers to legislators. In CA program "connected dots" engage in Sacramento on stormwater capture, recycle/reuse & ground water reuse. A net benefit of working via corporations is a complicated calculus.
- Compromises include fish ways instead of full dam removal—small, but yet important. Be ready to really listen to what everyone in the room really wants. Think from their point of view what kinds of solutions would meet everyone's goals. Don't be afraid to bring the solution to the table. Don't assume the answer is no.

Water Resources Commission 4/11

Hydrologic report: March was drier than usual, and followed dry weather in February. Western half of state 2" below normal, northeastern 1". Seeing significantly lower stream flow in western part of the state (CT River Valley). Another month like this and could put that part of the state into drought warning territory. Temperatures in March were slightly below normal. Fire danger warnings are out across the state because of windy conditions. Most snow has melted.

Crescent Ridge Dairy request to join MWRA Sewer system: Less than 10,000 gal/day. Actually looking at 6,500 gal/day. Do not expect any environmental issues with this. Only ice cream waste, not manure. Connection with Sharon Water Department, but don't expect to use any additional water. VOTE: unanimous for. Next step is MWRA board, next month.

USGS 5-year survey Peter Weiskel: New England Water Science Center on water use in NE and MA.

Water budgets—management tool in quantifying the hydrologic cycle. Snapshot every 5 years of trends, water withdrawn, used and discharged from/to groundwater and surface water.

In Western US—most use is irrigation. In most of rest of the county, used in thermoelectric power—plants, industrial, etc. less in NE. CT uses most in NE, (large nuclear power plants). MA is mostly public supply and a little power.

In MA: biggest water withdrawals are from Quabbin/Wachusett, biggest users of water in northern, non-coastal, eastern MA (Cambridge, Somerville and north)

MA has less self-supplied industrial water use than CT (Hartford county) and ME (paper mills)

Most of the major power plants that use water (much of it nuclear) use salt water for cooling.

Irrigation: inches/year. Highest users: Cranberry (often recycled), Berries, sod (golf courses, too), Maine blueberries and potatoes, corn for grain and then for animals…. MA uses much more than other NE states. Cranberries and Vegetables…

Golf courses 10mgd in MA Mostly central and SE of state.

MA population increase since 1985 is 17%, mostly in 2010-15. Gained about 1 million people. Water usage gone down about 16%, since 2005.

Dramatic decline in self-supplied water-using industry here. Also in thermoelectric power as some large power plants close.

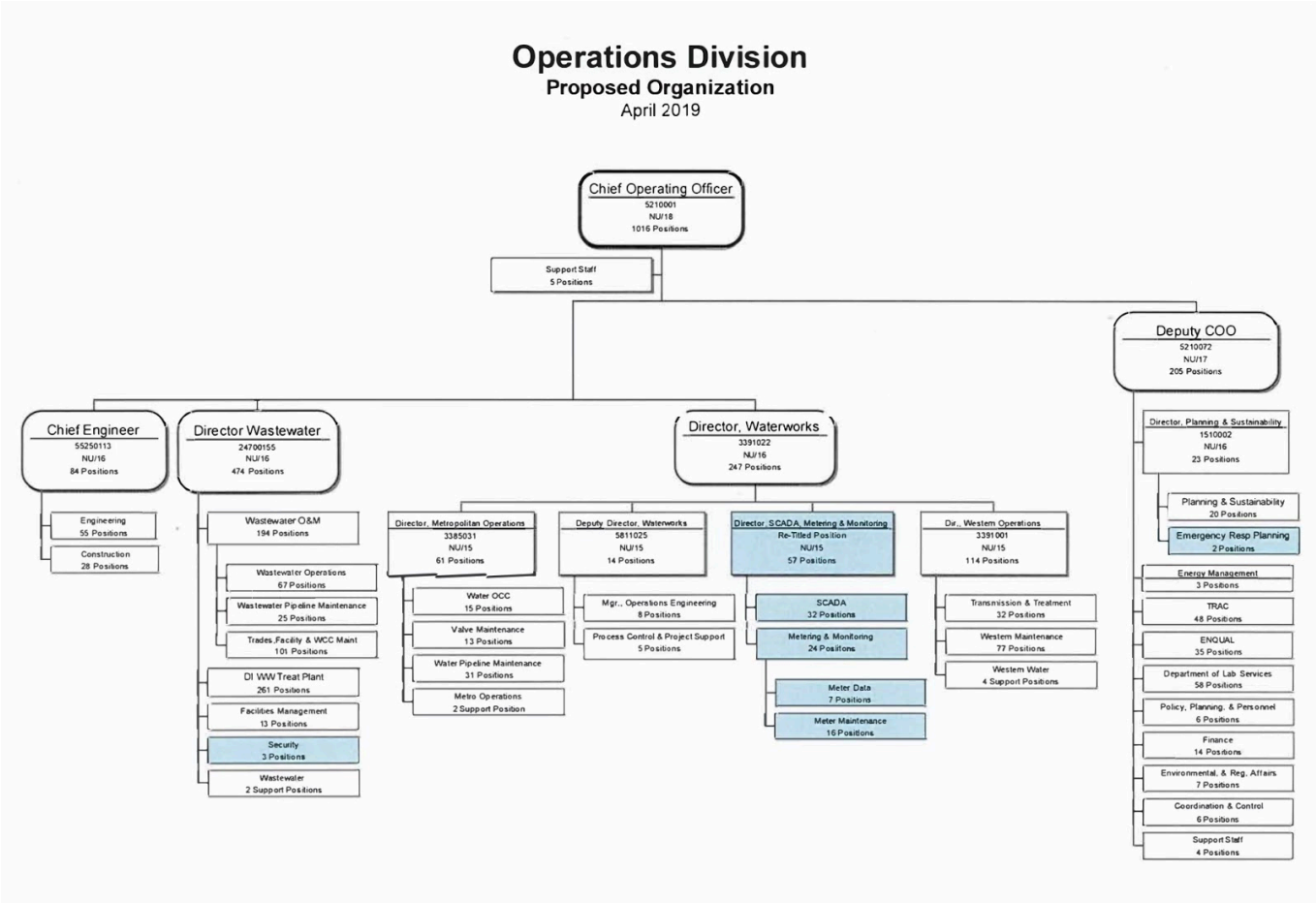
MWRA Board 4/17

WATER SUPPLY: contract to purchase towable emergency generators for backup power during outages. Currently, they need a power shutdown and a crew of 6 and several hours to start up. This would be almost instantaneous. Locations include Braintree-Weymouth pump station, Caruso pump Station, Framingham Pump station, New Neponset Pump Station, Nut Island Headworks and Quincy Pump Station. This is backup to the backup power (already have a backup —but several times the backup power has failed, and is not fast enough for MWRA).

Some facilities have gas to power backup generators, but have already experienced a power failure coupled with a gas shutoff.

PERSONNEL: Reorganizing positions after the head of SCADA left MWRA.

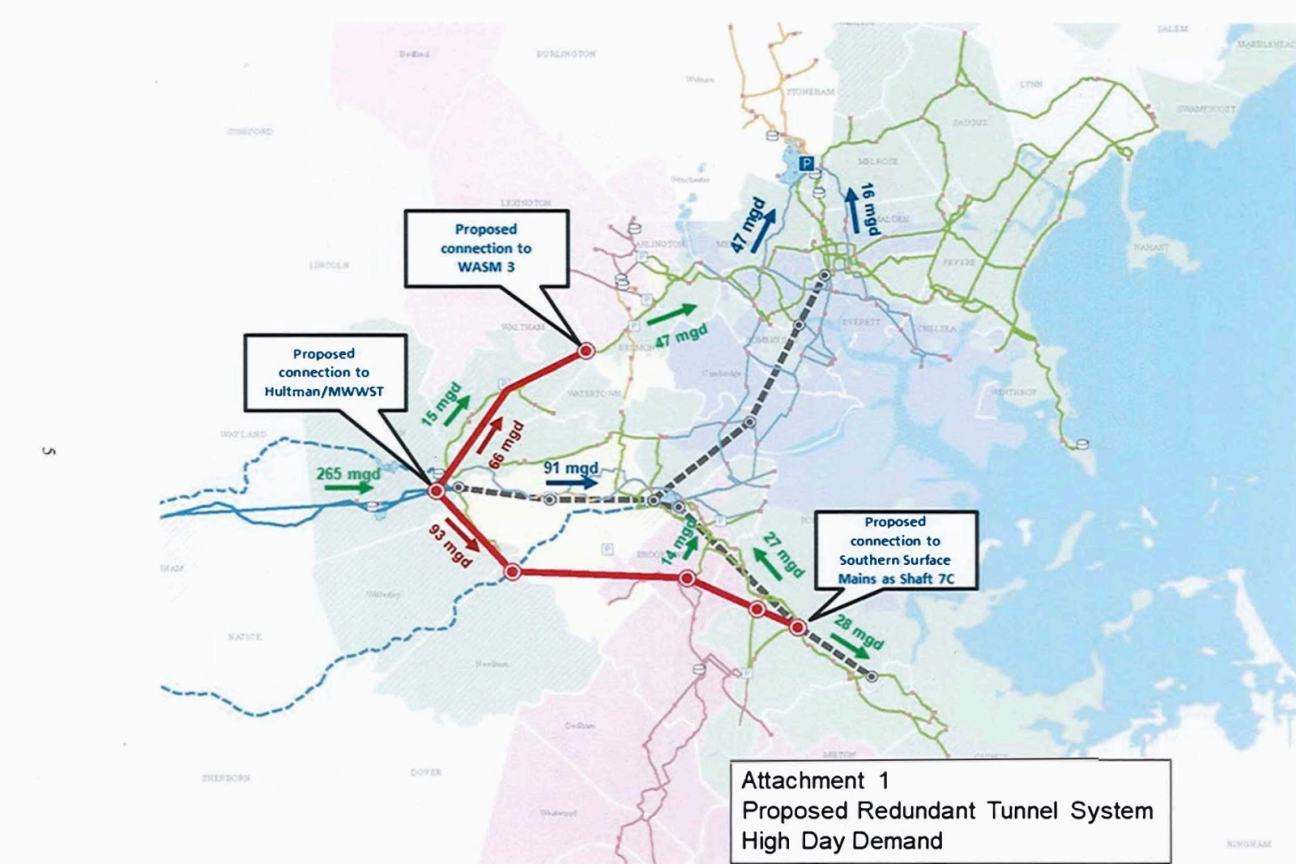
New (changes in blue):



Combining SCADA under cyber security and metering. Metro maintenance goes under Waterworks. Security will go under Wastewater, but this is temporary.

Emergency planning moves into the planning division. Will reduce some personnel.

<u>WATER SUPPLY</u>: Hydraulics of the redundant **Metropolitan Tunnel** system.



Designed for full redundancy, even in summer on high demand days. Can also handle addition of possible new communities or emergency supply to communities in a drought. High demand 265mgd. Also being careful not to make the tunnel too big.

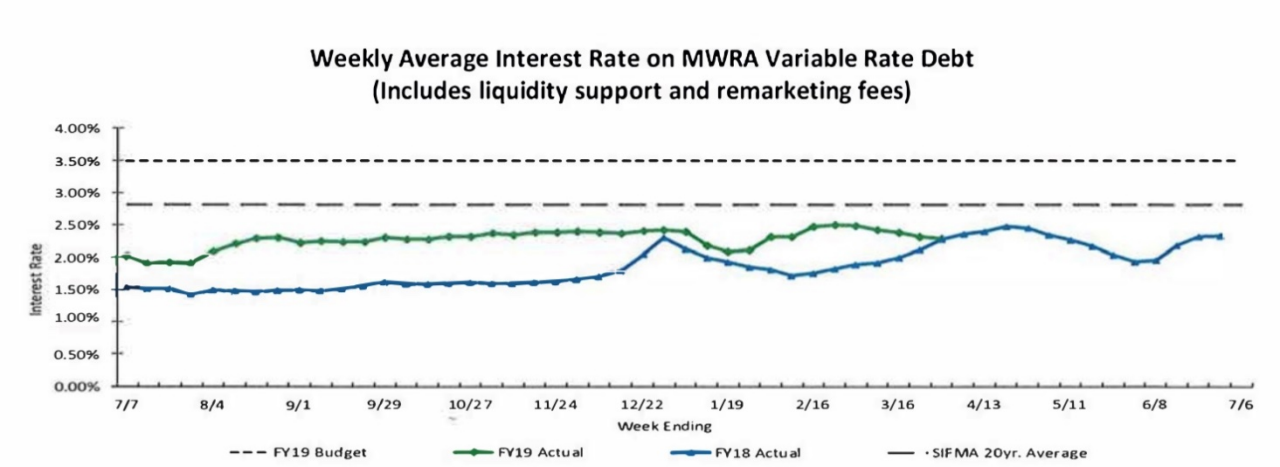
Carroll: how is MWRA educating the public about this? Laskey: working on strategy.

ADMINISTRATION & FINACE—
System Expansion Update
2018–wet year, no new emergency connection requests for water.

Sewer side—one connection is exceeding its estimated volume and will be examined for additional connection funds. Crescent Ridge is making progress in getting connected to MWRA.

Most engaged with Ashland and Burlington. Ashland has made it through the MEPA process for up to 1.6mgd, but may be more like 300K. Burlington completed EIN, now working on EIR. Possible admission in 2 phases—1 via Lexington, one direct. Total volume about 3.5 mgd. Using emergency connex now, and working to establish a permanent connex ASAP. Water quality issues are driving other communities to MWRA to ask about water—mostly PFAS contamination.

Budget update: Variance of $7.7m on CEB, which will be mostly to defeasance. Smaller because of higher interest rates. Cap budget also under spent. Chelsea Creek HW delays. Over budget only when take into account community loan and grants—more local pipes getting fixed.

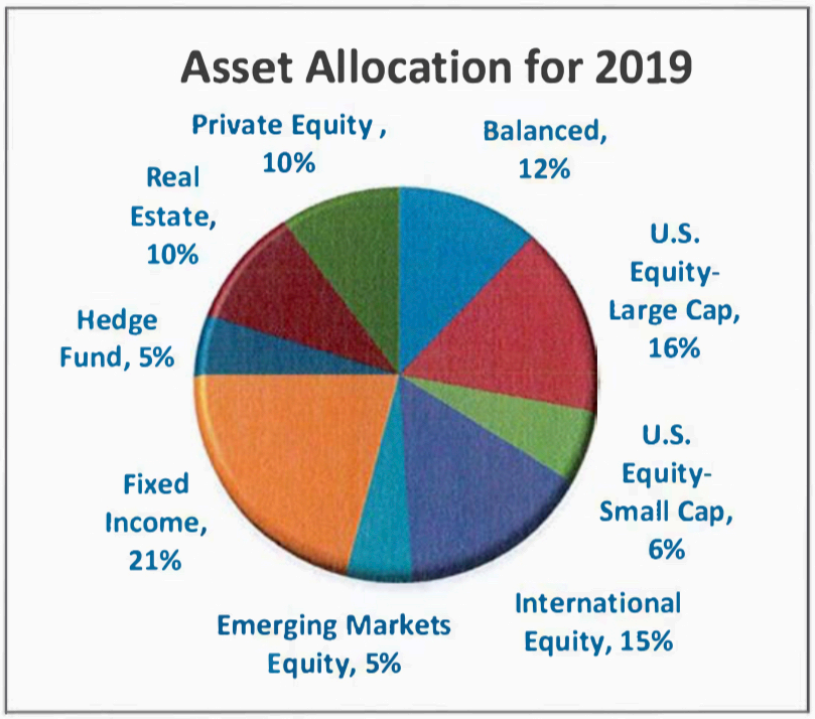


MWRA Retirement system—investments, status:

Over $500m in investments. 95% funded—some variance based on how calculate full funding. MWRA is the most funded system in the state as of 2017.

1,100 active members. 582-some beneficiaries, 43 in state system—MDC employees from before 1984.

Use a consultant to help with investments. Fees are higher of you have the higher-end consultants. Fees a little more than median for the state, but not highest. MWRA uses a combination of cheap, index funds and the higher-priced managers.



Hope this asset allocation will get MWRA to full funding. More conservative than funds that aren't as close to full funding, and higher retirements. Don't want to lose principal.

Boston member Chris Cook: encourage MWRA to divest from fossil fuel stocks and from companies with human or civil rights issues so don't have to sell low later.

WASTEWATER:
Phosphorus control at Clinton WWTP—how's it going?


Phosphorus Reduction Facility


Disc Filters

Runs in warm weather. Disc filters need regular cleaning, as iron builds up. Started April 1. Phosphorus well under permit limits. Went on line a year in advance to allow for optimization. Huge reduction in phosphorus in the Nashua River.

Walsh—costs MWRA $500K/year, but Clinton & Lancaster don't pay in that much. Duest—actually $137K/year.

Fore River Pellet Plant—in advance of NEFCo contract ending 12/31/20. In operation since 1991.

Currently, distributing more in MA since DEP increased Molybdenum limits. Sell 25% to Maine (but now on hold). Contract operator required to return a fully operational plant at the end of the contract. Has 20 years of useful life remaining. Looked at other residual technology—most facilities are upgrading to what MWRA has now. Costs have come way down since 1991, from $1K/ton to $360/ton. Will examine what the base fee should be in the new contract.

Long-term want the winning bidder to make the plant more efficient. Want 90% of solids captured. Qualification & pay of staff will also be important. Also looking at financially stable, good safety record. Proven experience.

Could be controversial:

- 2016 Mass Agriculture regulations on phosphorus containing fertilizer application—could impact future sales.
- PFAS/OS contamination becomes very important on drinking water systems. No limits on biosolids as of yet, but collecting data. Maine DEP has just implemented a moratorium on all application of biosolids. May reduce suggested treatment concentrations. Pellets from MWRA are above that concentration now for one of the compounds. No EPA approved tests for biosolids. Maine takes 25% of MWRA pellets,

so the contractor will have to find a new market if Maine bans the pellets—this is a risk that could affect cost of the contract. EPA is proposing putting PFAS on the toxic substances list. Could put POTWs on the hook for Superfund clean up of lands where biosolids applied.

CSO Contract: will be extending some of the metering, also buying some of the meters. Extending the time for 12 months. Part of the work is re-calibration of the current model. Expecting new variances. Expect to have required 24-hour notifications of CSOs

FULL BOARD:
Laskey: helped out Marathon. Sewer staff pop manholes & weld closed.
Finance got distinguished budget award.
HEEC cable—ready to stretch across harbor. On schedule.
May 22 budget hearings.

4/18 Advisory Board

Vote to accept **Crescent Ridge** into Sewer—accepted.

TRAC regulations— Becky Weidman:
(Will also include sewer re-use regulation amendment to allow systems like the one that WAC had a presentation on in March)

Updates to 360 CMR 1.00: Adjudication — mostly clarifications
360 CMR 2.00 enforcement and Administrative Penalties
360 CMR 10.0 Sewer Use.

Last revision August 2009. Up for comment **until May 20**

Why:

- Changes to Clinton NPDES permit
- Dental office guidelines
- Incentive charges update
- Electronic reporting changes

CMR 2.00–changes further enhances the authority's ability to enforce the regulations

CMR 10:

- Group permit for dental discharges created-- New state & federal regulations. Defer to the more stringent of the regulations. New facilities <1,000. Meant to capture mercury from amalgam. Requirements already apply under MassDEP, enforcement just moving to the POTW.
- Adds requirement for one-time only discharges—was informal policy, now is formal and in the regulations
- Allows electronic submittals — will allow the Authority to require documents to be submitted electronically and conforms to national system (CROMERR)
- Allows reclaimed water systems to discharge municipal sludge to the sewer-- needs DEP permitting and municipal approval—then MWRA would permit—only for sanitary sewage, not industrial or lab discharges
- Updates Clinton local limits-- increases FOG limit from 100 mg/L to 300 mg/L, changes to the parameters to a Total Toxic Organics list; establishes a formaldehyde limit of 9 mg/L. Same parameters as Deer Island now.

- Updates incentive program changes—
    - Adds charges for permits by 4%, then 3% in next 3 years.
    - Low Flow/Low Pollutant permit fee now annual.
    - Charges for construction dewatering must be paid at time of application.

Sent out one-time compliance form. Working to minimize duplication. Getting on-line forms. March 2020 is the target issuance date of first group permit.

Regulations are available at www.mwra.com as of April 19. Comments emailed at Trac@mwra.com

Public hearing May 13, 10am @ Chelsea offices

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Budget comments—James:

Draft comments highlights will be available April 19

AB wants reduction in budget allocations for variable rate debt and defeasance, personnel and watershed. Adding in debt service assistance of nearly $1m from last year's legislative session.

Pellet plant is getting more residual pumping—and not clear why.

FY 19 MWRA had 3,9% after AB 3.07%.

New slogan: 2.4 by '24. Think it's possible. Save it forward. Take the low years and use those to gradually get to 2.4.

Last year asked to remove enterococcus permit costs for FY19–also didn't need, and hope to remove again this year.

Pension/OPEB—contribute at same rate to pension, pay as you go on OPEB until fully funded

Increase TRAC fees.

Capital side: Overspending currently—mostly community requests.

Actually under budget by 26% — in year 2 of a 5-year cap.

One change in FY20 proposed—Wiggins Pump Station

Personnel: how to reduce—$1.5m

- Staffing vacancy rate proved at 4.0 FTE, but usually higher.
- Tunnel redundancy budgeted at 5, but down to 3 FTE
- Fringe benefits
    - Budgeted at 6% increase, but looks like 4%
    - Awaiting final adjustments
- Leave balance accrual — YTD has decreased by $505K; continuing to monitor

Utilities

- Electricity—75% of costs, increase in pricing of a penny adds $1.1m at Deer Island alone. Makes sense to look at reducing usage.
- Combined Heat & Power contract
    - Study at DI
    - Increases efficiency—existing efficiency is 10%; could be higher. 22% of DI power is hydro, wind and solar as well as methane
- Residuals: flow downward except for past 2 years. Added 8th digester, which reduced volume. Studying why going up. Biological factors? 10 additional tons/day=$1m/year.
    - Ongoing issues with PFAS in pellets

Chemicals increase of $1.3m (11.6%)—pricing and usage

- Sodium hypochlorite prices up
- Activated carbon increase in usage
- Clinton budget went up because of the phosphorus limits—14.9% increase in chemicals, 25.7% increase in utilities—needs more electricity $130K/year (10% increase)

Capital Finance:

- Debt service—increased 3%
- Interest rate assumptions—think it will be lower than MWRA estimates by 25 basis points ($1 million)
- Debt service offsets: pre-payment $4.9m—not adjusting.
- Want MWRA to explore taxable bonding for HEEC cable and change orders

Watershed budget—personnel

- DCR is doing staffing study—many positions unfilled
- Commissioner Roy says Watershed group is “over staffed”
- Still no staffing study done.
- Through first 9 months of FY19, Authority is expecting $1.2m in under spending on a $19m budget. But they are estimating they will spend 3% more
- So for FY20, using FY18 as a more appropriate baseline for FY20—looking at budget closely
    - Cutting salaries and wages by $364K
    - Fringe benefits to match (ca. $136K)
    - Expect the final to be even lower
- FTEs in watershed—keeps going down. No good explanation unless Commissioner is right that they don’t need this staff. Hope it doesn’t affect the job that needs to be done.

HEEC Cable

- Massport decided to charge $8m+ to Eversource (and MWRA pays plus interest) for access over their land at the Conley Terminal. Getting the documents

Wiggins Pump Station:

- Services 4-5 occupied MassPort buildings on Conley Terminal and Sully’s Hot Dog Stands
- MWRA not assessing any charges to massport for O&M, And paying to rehabilitate
    - AB requesting calculation of incurred costs by MWRA for pas years & assess Massport
    - Remove Wiggins from CIP until Massport has a negotiated payment

Legislative approaches:

- File legislation to recover costs of cable through fee for cargo or cruse passengers
- Sit with leadership to set aside $8 m of the $75 m that commonwealth committed to the dredging project

PR approach

- Use recent bad massport press to put story out there on how massport has treated MWRA rate payers

Proposed rates: altogether MWRA: 3.74%
AB: 3.15%

Executive Director's report:
OMSAP next Wednesday: AB continues to monitor the science monitors — who is doing what and with whose money

AB touring cities and towns leadership on water & sewer issues. Cambridge next week.

Ops Committee May 7, Burlington—storm water discussion and role of MWRA. Probably one of several meetings.

F Laskey: two security incidents—one where someone climbed an MWRA communications tower. If something appears to be out of whack in your community, looking for a pattern—please report.