

WSCAC/WAC Minutes

April 21, 2020

Virtual

WSCAC Members

Michael Baram, WSCAC Chair
Andrea Donlon, CT River Conservancy
Gerald Eves, Trout Unlimited
Bill Fadden, OARS

Paul Lauenstein, NepRWA
Martin Pillsbury, MAPC
Janet Rothrock, League of Women Voters

WAC Members:

Adriana Cillo, BWSC
Belinda Stansbury
Craig Allen
James Guidod, MWRA Advisory Board
Kannan Vembu
Karen Lachmayr, Chair

Martin Pillsbury, MAPC
Mary Adelstein
Philip Ashcroft
Stephen Greene
Taber Keally
Zhanna Davidovitz

MWRA Staff:

Wendy Leo
David Duest
David Granados
David Wu
Matt Horan
Jianjun Wang
Jim Coyne
Katie Ronan
Lise Marx

Maret Smolow
Patrick Smith
Mike Cole
Sally Carroll
Dillon Scott
Robert Belkin
Betsey Reilley
Tom Durkin

Staff:

Lexi Dewey, WSCAC
Andreae Downs, WAC

Ace Peckham, WSCAC

Guests:

Bruce Berman (Save the Harbor)
Charlie Jewell (BWSC)
Joseph Marckenley
Jennifer Pederson (MWWA)
Richard Raiche (Somerville, MWRA Advisory Board Executive Committee)

Vandana Rao (Director of Water Policy-EOEEA)
Scott Newquist (Aquaback Technologies)
Tom Tilas (AECOM)

VOTES: WAC & WSCAC minutes approved

REPORTS:

MWRA

As a result of the SARS-COV-2 shut down, communities are seeing lower receipts and cannot shut off water for non-payment. The Authority is exploring ways to ease the payment burden in the next fiscal

year by lowering its annual assessment increase and helping communities with other water-sewer related costs.

Construction that continues in the pandemic: Gravity thickeners, Chelsea Creek Headworks (with delays).

April board meeting was cancelled

DEP is holding weekly conference calls with wastewater operators on worker safety, PPE, whether they have enough licensed operators. (MWRA is in good shape for PPE)

CSO program—progress updates and press releases were published as required by the variances for Charles River and for the Alewife Brook/Mystic River by 4/15. Annual summary reports and a semiannual report on the post-construction monitoring and performance assessment project will be published by 4/30. A public briefing on the CSO program is May 28 at 10. Links provided below:

- [Joint Public Notice: Charles River Basin Combined Sewer Overflow Control Progress Update](#)
- [Joint Public Notice: Alewife Brook Combined Sewer Overflow Control Progress Update](#)
- Annual summary report on CSO discharges and rainfall, <http://www.mwra.state.ma.us/cso/annualdischargeestimates.html>.
- Semiannual report #4 for the post-construction monitoring and performance assessment project, <http://www.mwra.state.ma.us/cso/pcmmapa.html>
- May 28 CSO public briefing notice from the *Environmental Monitor* [Notice of Public Briefing on the Progress of MWRA's CSO Post Construction Monitoring and Performance Assessment](#)

Pandemic response: maintain operations, keep workers safe & healthy, have 2 groups of essential workers who alternate and keep spread out. 450+ desk workers are telecommuting. Charlestown Navy Yard is mostly closed. Limited access to Chelsea.

Fred Laskey does weekly updates that are posted to the Advisory Board website on Tuesdays.

TRAC is not doing field sampling during this time, but all other operations continue

BioBot released a study of the occurrence of SARS-COV-2 in MWRA influent and extrapolated an estimate of its intensity in the population. MWRA doesn't usually provide samples to private businesses unless there is particular public interest, which this was MWRA sometimes works with universities and the Water Research Foundation on wastewater studies, and is currently providing samples to other researchers for SARS-COV-2 studies. The Biobot study has faced some criticism for assumptions made in interpreting the results

CHAIR

Karen Lachmayr further discussed the study by Biobot/MIT researchers quantifying SARS-CoV-2 in wastewater. The results suggest SARS-CoV-2 may have been present in the Boston area and far more widespread much earlier than previously realized. Some of the big assumption in this study were that

- No viral RNA degraded prior to sampling

- There are 600,000 SARS-CoV-2 viral particles/ml of fecal matter in an infected patient's stool
 - more analysis of SARS-COV-2 patients' stool is needed to refine this number

However, the study indicates sewage sampling is an effective and sensitive way to test for the occurrence of a virus in a population, particularly when little is known about disease prevalence.

Michael asked whether this information could lead to the development of standards to be met before reopening, and Karen said yes, possibly.

Andrea Donlon asked whether the virus can survive in freshwater (like drinking water supplies). Karen says we really don't know for sure, but since it needs a host, it probably can't survive long.

George asked whether the virus could multiply in the sewage, and Craig asked for a reminder of who wrote the paper.

Karen said viruses need to infect a host to reproduce, so they can't multiply. The paper was written by members of Eric Alm's group at MIT and BioBot.

Craig asked whether this study would help estimate mortality rates. Karen said likely yes, since it indicates the infected rate is much higher than previously reported, which means the mortality rates would be lower.

Wendy added that we should see this as a proof of concept, not put stock in the numbers.

Craig then asked whether the method includes recovering individuals (w/antibodies), or just active sick people. Karen said we don't know how long after recovery patients still shed the virus.

ADVISORY BOARD

All AB staff are working remotely, have a weekly check-in, now on Tuesdays, which include the MWRA, state and community updates. These are on the blog on the AB website.

The Advisory Board is aware that the budget will be changing, and both the MWRA Board of Directors and the Advisory Board may be moving their next meeting date sooner (they have).

PRESENTATION:

Tom Durkin, MWRA Finance Director, presented on the FY2021 Proposed Current Expense Budget, with assistance from Mike Cole, MWRA Budget Director, and Matt Horan, MWRA Deputy Finance Director and Treasurer.

Tom began by noting that the budget was originally presented before the SARS-COV-2 pandemic began. Moving forward, there will be some necessary adjustments. The MWRA remains committed to sustainable and predictable assessments by applying a multi-year rates management strategy.

Budget drivers are:

- Capital Finance Expenses
- Existing Expenses and Revenue

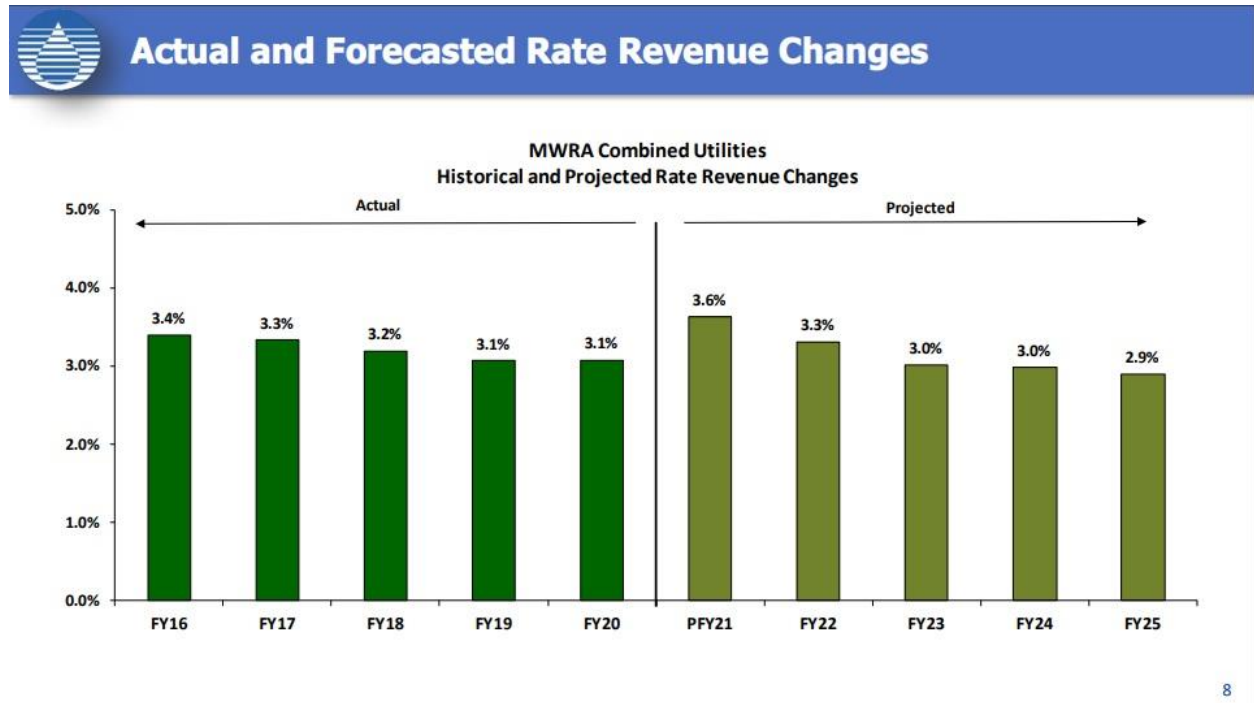
- Long-Term Liabilities (pension and OPEB)

Tom then shared some of the MWRA’s methods of addressing debt service:

- Defeasance this is paying down the principal using budget surpluses
- Refunding (bonds)
- Use of Reserves (hasn’t been done yet)
 - Rate Stabilization Fund
 - Bond Redemption Fund
- Tactical Issuance – Repayment Structure
- Controlling Capital Spending
- Strategic Use of Current Revenue/Capital Funding (Pay Go)

The MWRA carefully controls capital spending through the 5 Year Cap (FY19-23), with a set amount of funds to be spent over each five-year period.

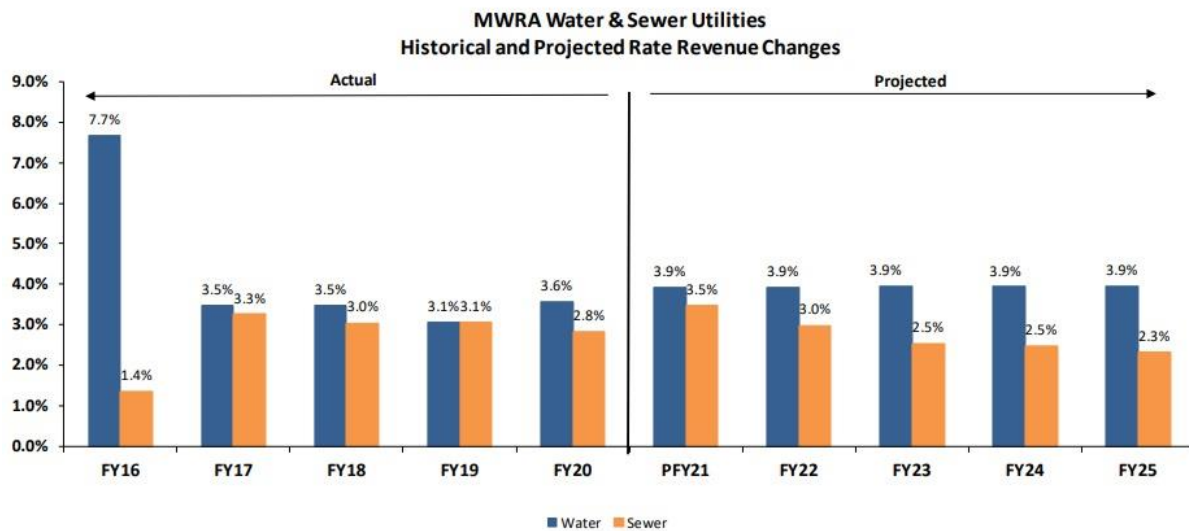
Sewer costs are coming down as the Deer Island plant ages and is getting paid off. The initial budget proposes a 3.6% rate increase for FY21 (see slide below), but in light of the current health situation, that may change. This will alter projected revenue as well as projected investment income.



Tom then showed historical and projected rate revenue changes by utility, separating water and wastewater revenue changes (see slide below).



Actual and Forecasted Rate Revenue Changes by Utility



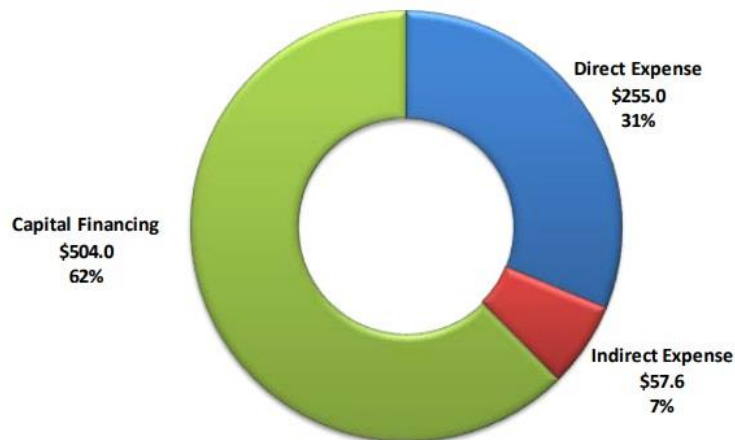
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Mike Cole reviewed the CEB budget structure, explaining that the proposed budget is made of both direct and indirect costs as well as capital financing.



FY21 Proposed Current Expense Budget (CEB)

FY21 Proposed Current Expense Budget



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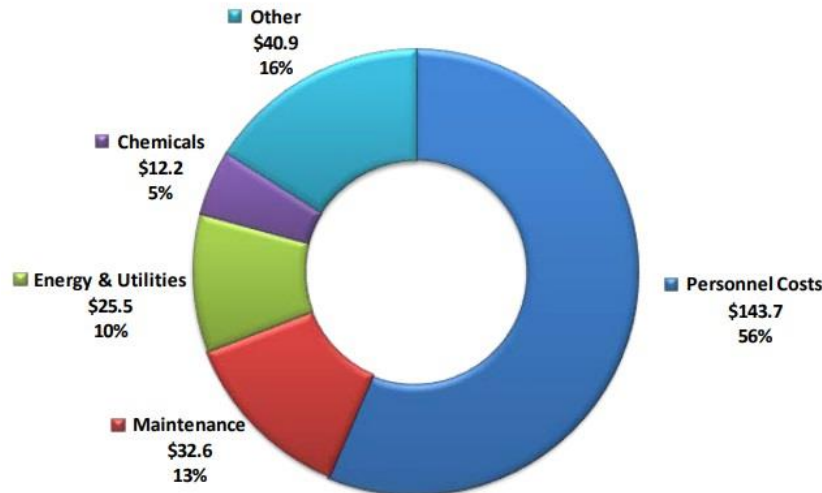
Direct Expenses are made up of Personnel (includes fringe benefits and health insurance premiums), Maintenance, Energy and Utilities, Chemicals, and Other.



CEB Budget Highlights – Direct Expenses

Direct Category

(\$s in millions)



- Personnel Costs: Increase of \$4.8 million or 3.5% over FY20. FY21 includes 5 additional positions for the Tunnel Redundancy Program and a 6% increase to Health Insurance premiums.
- Maintenance: Decrease of \$0.1 million or 0.3% from FY20. Operations maintenance is essentially level-funded in FY21 (increase of 0.4% over FY20).
- Utilities: Increase of \$1.1 million or 4.4% over FY20, driven by increases to Electricity and Diesel Fuel.
- Chemicals: Increase of \$0.4 million or 3.1% over FY20 driven by increases to Ferric Chloride and Sodium Hypochlorite, partially offset by a decrease to Soda Ash.

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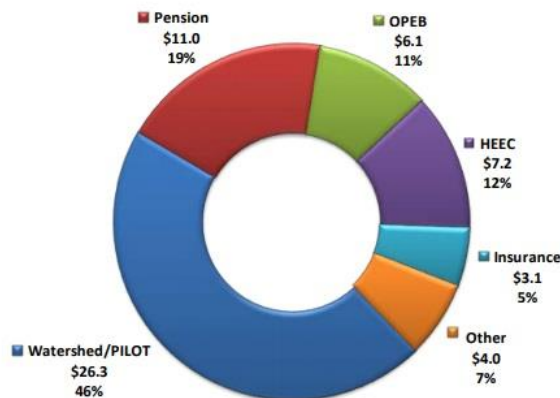
Indirect Expenses include Watershed Budget/Annual PILOT payments, Pension, HEEC, OPEB, Insurance, and Other. The MWRA decreased the Watershed budget by \$500K over last year due to continued vacancies in the DCR Division of Water Supply Protection. The remaining items, which include HEEC (the Harbor Electric Energy Cable), OPEB (Other Post-Employment Benefits) fund, and the Pension and Insurance line items have all increased.



CEB Budget Structure – Indirect Expenses

Indirect Expenses by Category

(\$s in millions)

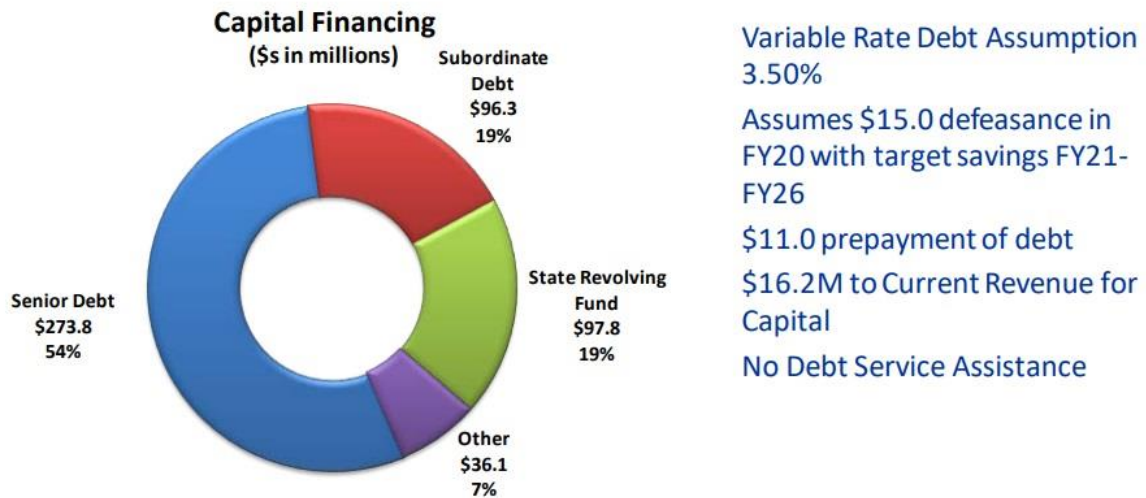


- Watershed/PILOT: Decrease of \$0.5 million or 1.9% from FY20. Assumes 7 FTE vacancy adjustment in FY21.
- Pension: Increase of \$3.7 million or 50.4% over FY20. Per January 2018 actuarial valuation.
- HEEC: Increase of \$2.8 million or 62.9% over FY20. Final costs to be determined by the DPU.
- OPEB: Increase of \$0.1 million or 1.7% over FY20. Per January 2017 actuarial valuation.
- Insurance: Increase of \$0.5 million or 17.2% over FY20. Premium increase of 20% based on market conditions. Claims based on 3 year average.

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Matt Horan presented on **Capital Finance Expenses**. He noted that long-term tax-exempt interest rates are remaining relatively stable, and are currently low. This will benefit the MWRA budget. The current economic climate offers a good opportunity to borrow. Short-term tax-exempt interest rates are volatile, with a downward trend. The hope is that the reduced interest rates from borrowing will balance reduced interest income.

 **CEB Budget Structure – Capital Finance Expenses**



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Tom Durkin discussed **the rate revenue requirement**, explaining that in the budget process, after total expenditures have been calculated, staff begin with the non-rate revenue. The larger the non-rate revenue amount, the more of an offset to the rate revenue to be generated by MWRA water and wastewater communities. As the slide below shows, in FY21, MWRA’s total expenditures are budgeted to be \$816.7 million. Their proposed non-rate revenue is \$27.3 million, which leaves \$789.4 million to be raised. This means that their rate revenue requirement for FY21 is 3.63%. The MWRA’s goal is to have rate revenue charges decrease to 2.9% in FY25.



Rate Revenue Requirement \$s in Millions

Category	FY21 Proposed
Direct Expenses	\$ 255.0
Indirect Expenses	\$ 57.6
Capital Financing	\$ 504.0
Total Expenditures	\$ 816.7
Non-Rate Revenue	\$ 27.3
Rate Revenue Requirement	\$ 789.4
Total Revenue	\$ 816.7
Rate Revenue Requirement	3.63%

Next steps:

Public Hearing: Thursday, April 30th, 5:30 pm

May 27–MWRA Board meeting scheduled, but it may be moved earlier. (moved to May 6)

June 24–MWRA Board adopts the budget

Capital Improvement Program (CIP).

The CIP focuses on asset protection and long-term redundancy, and stretches over a five-year period. The current five-year period is FY19-FY23, so FY21 is right in the middle of this period. The total that they expect to spend in the 5-year period is \$983.3 million; FY21's budget allows for \$256.3 million in Capital Improvements.

The proposed expenditures for FY21 are primarily wastewater, other than the Metropolitan Tunnel Redundancy Project, with the top current spending projects related to treatment plants.



FY21 Proposed CIP – Top Projects Excluding Loans FY19-23 Cap Period Spending

Project	Subphase	FY19-23 Spending (\$000)	% of Total
DI Treatment Plant Asset Protection	Clarifier Rehab Phase 2 - Construction	\$111,900	10.3%
I&P Facility Asset Protection	Chelsea Creek Upgrades - Construction	\$51,381	4.7%
Corrosion & Odor Control	NI Odor Control HVAC Improvement Construction	\$49,563	4.6%
I&P Facility Asset Protection	Prison Point Rehabilitation - Construction	\$36,143	3.3%
NIH Redundancy & Storage	Section 89 & 29 Replacement - Construction	\$21,300	2.0%
NIH Redundancy & Storage	Section 89 & 29 Redundancy Construction Phase 2	\$19,776	1.8%
SEH Redundancy & Storage	Redundancy Pipeline Sect 111 - Construction 3	\$19,325	1.8%
DI Treatment Plant Asset Protection	Gravity Thickener Rehabilitation	\$19,275	1.8%
DI Treatment Plant Asset Protection	Fire Alarm System Replacement - Construction	\$15,857	1.5%
New Connect Mains-Shaft 7	CP3-Sect 23,24,47, Rehabilitation	\$14,700	1.4%
Metro Tunnel Redundancy	Preliminary Design & MEPA Review	\$14,166	1.3%
SEH Redundancy & Storage	Redundancy Pipeline Sect 111 - Construction 2	\$14,120	1.3%
Top FY19-23 Spending Suphases		\$387,506	35.6%
Other Changes		\$701,371	64.4%
Total FY19-23 Spending		\$1,088,877	100.0%

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Proposed new projects added in FY21 total \$57 million, with much more focus on water supply (\$50.0 million), including painting water tanks (\$27.9 million). Principal drivers of future capital project expenditures are water redundancy projects (such as the Northern Intermediate High Redundancy Section 89 and 29 Replacement Construction – see first slide below) and asset protection (such as the Carroll Water Treatment SCADA upgrade – see second slide below).

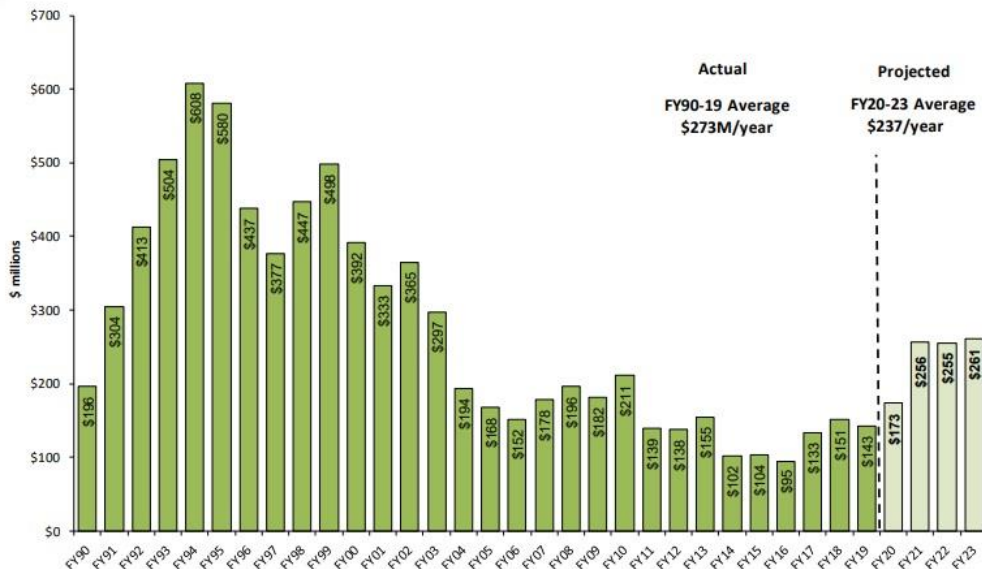
Larger wastewater projects include

- Clarifier Rehab \$34.5m this year, hoping to proceed in May, but now looks like Sept. 2020
- Chelsea Creek Headworks—continuing work, with new pandemic protocols. \$26m, \$83m total.
- Nut Island \$14.9m of total of 576m. Contract awarded January 2020
- Lessons learned from the Chelsea Creek Headworks will change cost estimates for two additional HW, built around the same time, which need similar upgrades and rehabilitation

Mike shared the below graph of the history of the MWRA’s Capital Improvement Spending, both actual and projected, from FY90 to FY23.



Historic and Projected Capital Improvement Spending

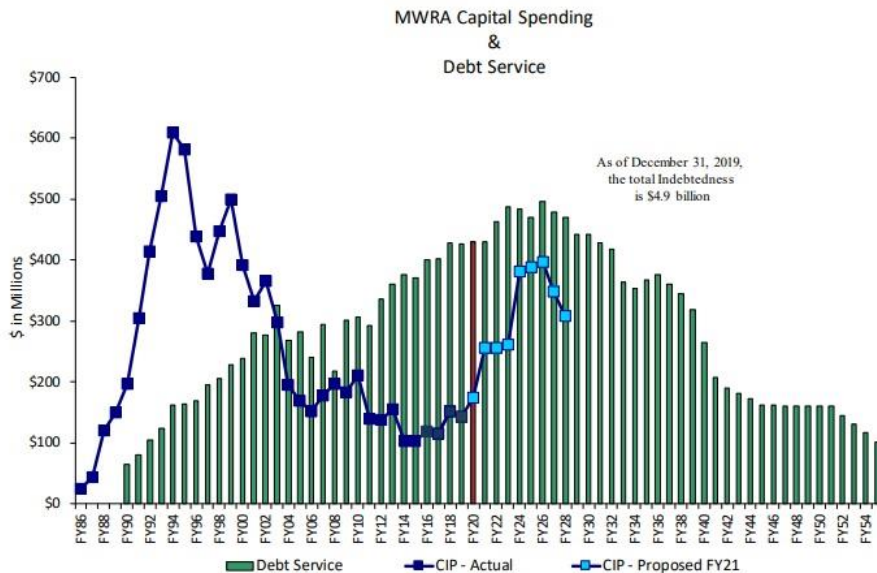


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Matt Horan showed the attendees the below graph outlining the MWRA's Capital Spending and Debt Service. MWRA debt service has leveled off, but there will be another peak coming in the next few years, which will allow the MWRA to decrease its underlying debt.



Capital Spending and Debt Service



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Mike Cole noted that next steps for the MWRA are to continue with asset protection, as well as more detailed focus on the metro tunnel redundancy project, which is expected to take approximately 17-23 years and cost \$1.47-\$1.7 billion at the estimated midpoint of construction.

 **Metropolitan Tunnel Redundancy Program**

FY19-23 Projected Expenditures

Contract Name	Start/Duration (years)	Contract Budget (millions)	FY19-23 Spending (millions)
Program Support Services Awarded	FY19/9	\$17.5	\$8.3
Preliminary Design/MEPA Review Anticipated award April 2020	FY20/3.5	\$16.0	\$14.2
Technical Assistance Anticipated Award January 2022	FY22/6	\$4.1	\$1.2



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Q&A

Tom Tilas asked about stimulus funds for projects. Tom confirmed that if stimulus funds are available, the MWRA will be applying for them, and gave examples of previous projects that were paid for with stimulus funds, like a wind turbine.

Andreae Downs asked about the effect of changing energy costs, specifically diesel fuel, due to SARS-COV-2. Mike confirmed that prices have dropped, and that this will affect the FY21 budget.

Michael Baram asked, in light of so much uncertainty in pricing, forecasts, and the market, what are the major areas of impact on the budget? Mike said they're taking a closer look at everything, including potential overtime or fewer employees, chemical costs, and diesel fuel, as he mentioned earlier.

Michael then asked about a mentioned delay in the Carroll Treatment plant project. Jim Coyne said the delay may be a couple of months.

Kannan Vembu noted that rate increases seem lower in previous years. Tom responded that the budgets start out as conservative, which leads to a higher proposed rate of increase. Since the long-standing goal is to keep the rate increases under 4%, they're budgeting for 3.9% as the max.

Andreae asked about construction projects that were scheduled, but now are delayed, and what impact those may have on the budget. Jim Coyne confirmed that some projects are delayed, for various reasons (not just directly from SARS-COV-2 – procurement and agency approvals take longer, for example). Tom pointed out that there may be difficulty in sourcing materials, or getting construction staff, since there may be an increase in a need for specialized construction. Tom Tilas noted there are delays in moving projects forward, because the process required to approve and begin has been slowed down. Other projects are moving faster due to factors like lower traffic. Supply is challenging, as steel or other equipment may be more difficult or expensive to manufacture, since some come from affected areas with shut downs.

Stimulus fund process? Tom said they are watching for announcements to determine the requirements to receive funds. Tom Tilas added that deadlines to apply for funds may be 6-9 months out, to allow prep time for projects that may be vital but are not currently ready.

Andreae asked why MWRA would use the state revolving fund, at 2%, when the open market federal rate is lower. Matt explained that they look at balancing the programs. The SRF has ways of lowering borrowing costs beyond interest rates that make those funds more attractive.

Paul asked whether the combined heat and power plant upgrade on Deer Island (which uses captured digester gas-methane-to produce heat and electricity) would be eligible for stimulus funds, and Tom confirmed that the MWRA is looking at that.

Kannan asked what's covered under the direct costs (16%) on the pie chart. Mike explained that the figure includes a wide variety of extras such as furniture, vehicles, and leases.

Mary Adelstein asked how the reduction of commercial water use will impact revenue. Tom commented that some places are using less water. Boston's share of water use is usually about 1/3. It looks like their share is going to come in less than that, and other communities will see an increase in their shares as a result. This could mean some communities higher than normal bills from MWRA for water & sewer.

Michael asked about universities and the drop in use of water. Tom said that from the MWRA's perspective, they're looking at the entire city of Boston, not just the universities, but that Boston would certainly be paying attention to that. Andreae noted that Newton's water use is also down, primarily because its two colleges are now closed. Michael also suggested that hospitals and medical groups may also be using more water.