



**MWRA Fiscal Year 2021  
Proposed  
Current Expense Budget**

Presented to WAC & WSCAC

April 21, 2020 via WebEx



## Today's presenters:

Thomas Durkin, Finance Director

Matthew Horan, Deputy Finance Director, Treasurer

Michael Cole, Budget Director





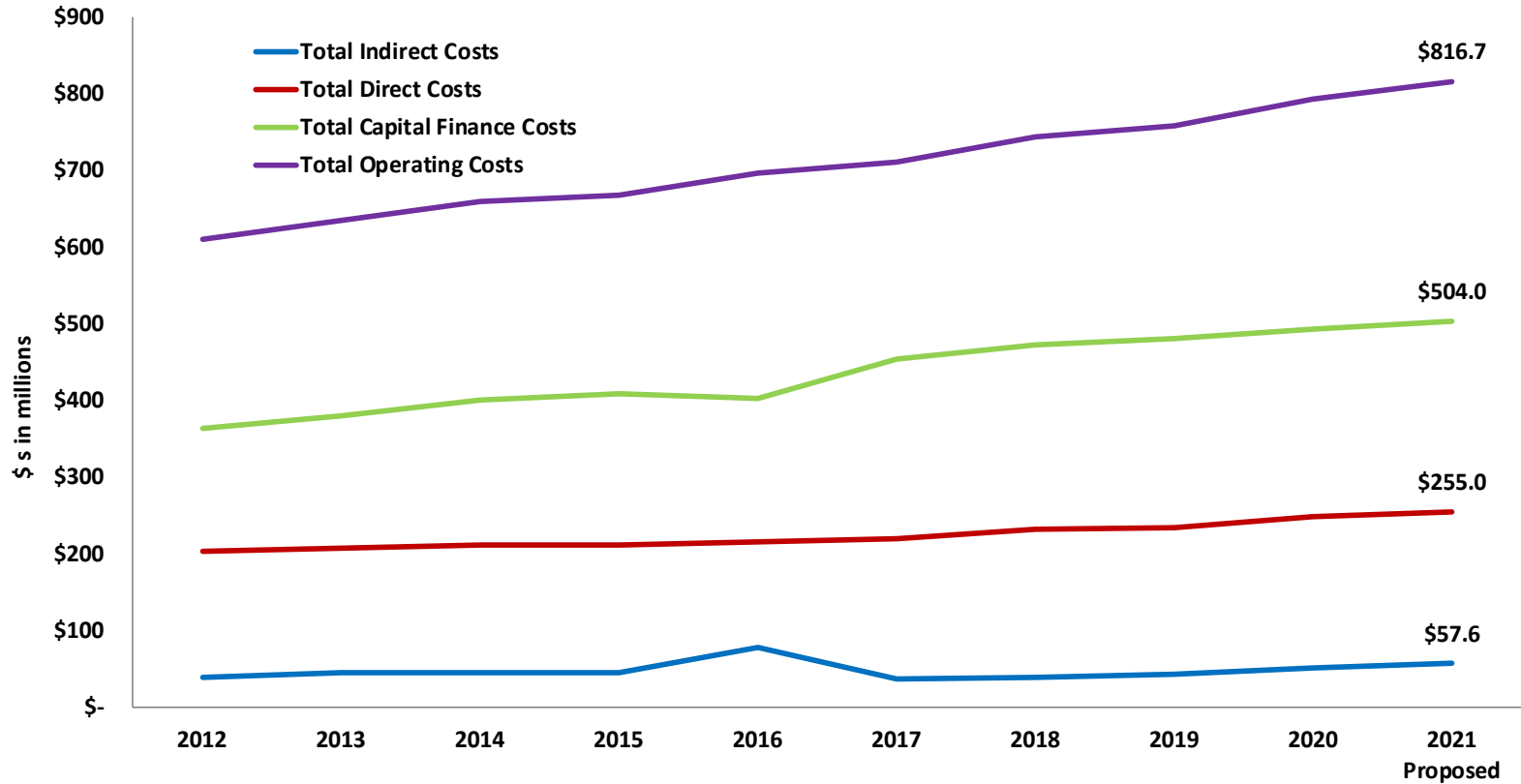
**COVID-19 Crisis** - The financial stress on MWRA cities, towns and districts will likely require an accommodative assessment for FY21 and possibly beyond



***Objective:** Sustainable and predictable assessments by applying a multi-year rates management strategy.*



# Historical Budgeted Spending





## Budget Drivers For Multi-Year Planning

- Capital Finance Expenses
- Existing Expenses and Revenue – Inflation, Changes
- Long-Term Liabilities



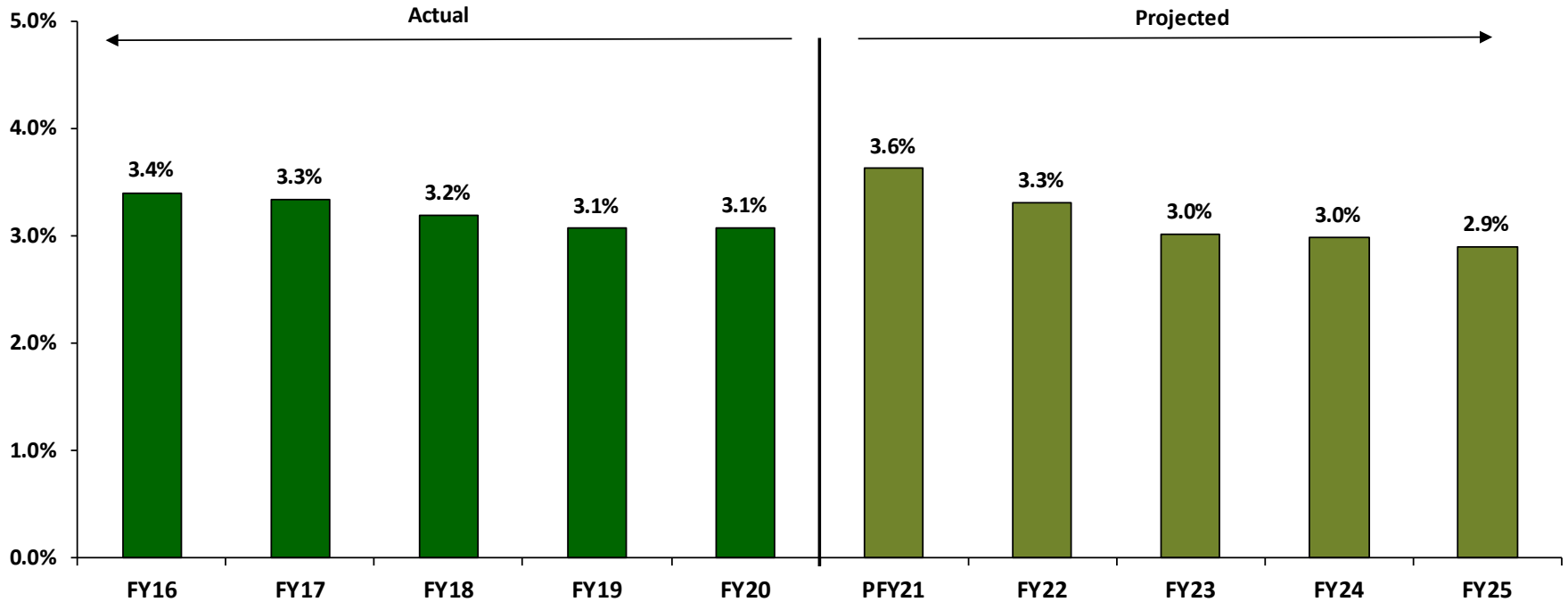
### Ways to address the Debt Service challenge

- Defeasance
- Refundings
- Use of Reserves
  - Rate Stabilization Fund
  - Bond Redemption Fund
- Tactical Issuance – Repayment Structure
- Control Capital Spending
- Strategic Use of Current Revenue/Capital Funding



# Actual and Forecasted Rate Revenue Changes

**MWRA Combined Utilities**  
**Historical and Projected Rate Revenue Changes**

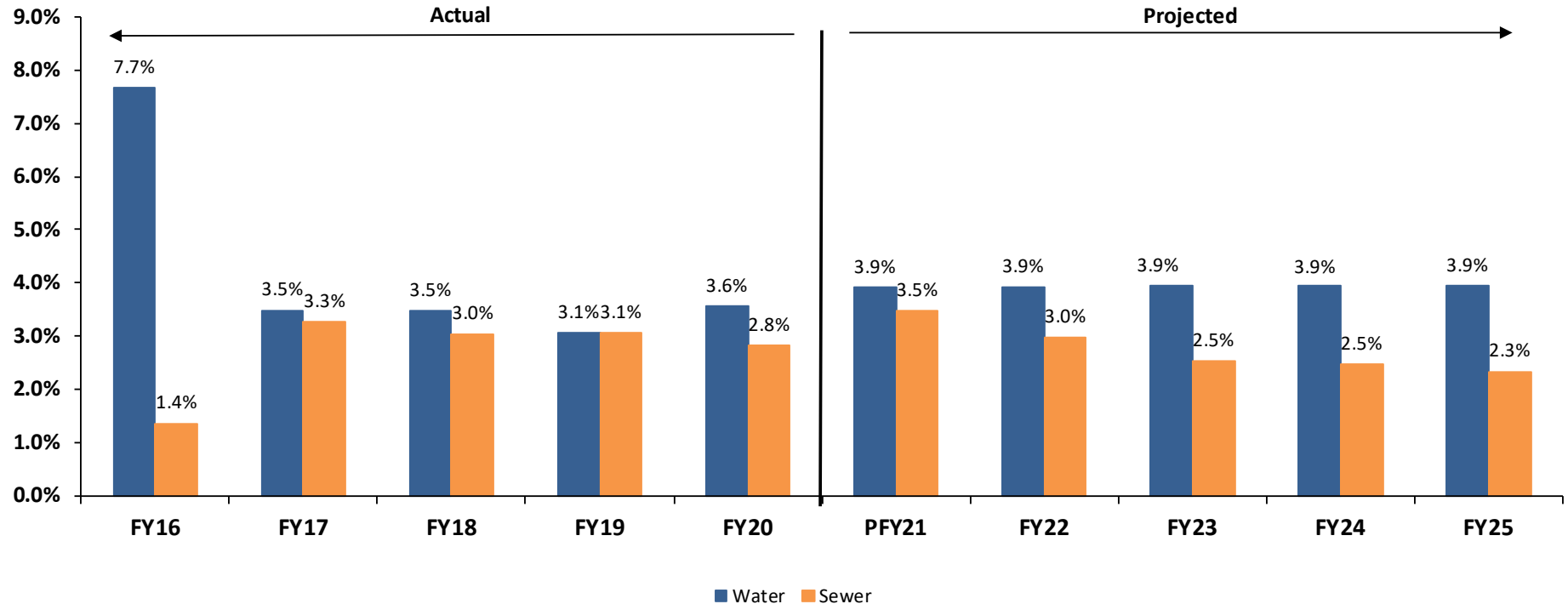






# Actual and Forecasted Rate Revenue Changes by Utility

## MWRA Water & Sewer Utilities Historical and Projected Rate Revenue Changes





# CEB Budget Structure

- Direct Expenses
- Indirect Expenses
- Capital Finance Expenses
- Non-Rate Revenue
- Rate Revenue

## ATTACHMENT A

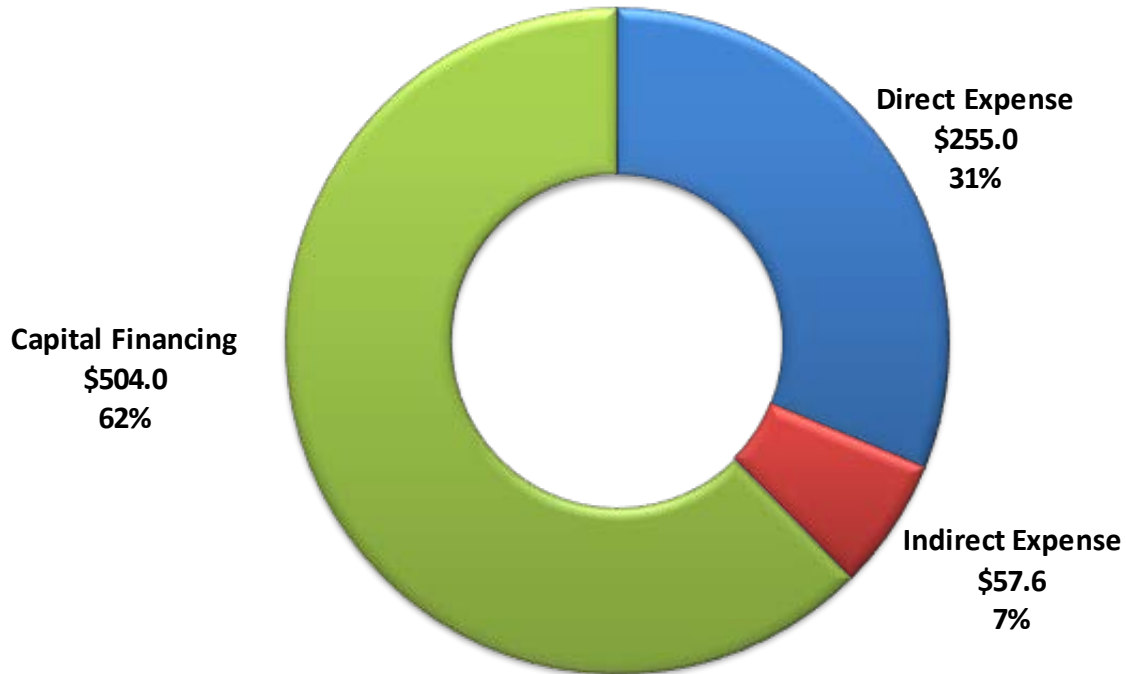
### FY21 Proposed Budget vs. FY20 Approved Budget

TOTAL MWRA	FY19 Actuals	FY20 Approved Budget	FY21 Proposed Budget	Change FY21 Proposed Budget vs FY20 Approved Budget	
				\$	%
<b>EXPENSES</b>					
WAGES AND SALARIES	\$ 102,331,904	\$ 109,953,483	\$ 113,673,999	\$ 3,720,516	3.4%
OVERTIME	5,208,556	4,898,965	5,079,296	180,331	3.7%
FRINGE BENEFITS	19,982,221	21,717,533	22,492,274	774,741	3.6%
WORKERS' COMPENSATION	2,717,568	2,354,256	2,476,655	122,399	5.2%
CHEMICALS	10,891,948	11,811,222	12,182,677	371,455	3.1%
ENERGY AND UTILITIES	24,446,278	24,454,796	25,541,081	1,086,285	4.4%
MAINTENANCE	30,650,570	32,726,954	32,618,569	(108,385)	-0.3%
TRAINING AND MEETINGS	499,836	504,394	505,264	870	0.2%
PROFESSIONAL SERVICES	6,194,705	8,295,515	8,377,283	81,968	1.0%
OTHER MATERIALS	6,987,854	6,867,259	7,091,071	223,832	3.3%
OTHER SERVICES	23,769,399	24,683,370	24,975,119	291,749	1.2%
<b>TOTAL DIRECT EXPENSES</b>	<b>\$ 233,680,737</b>	<b>\$ 248,267,527</b>	<b>\$ 255,013,288</b>	<b>\$ 6,745,760</b>	<b>2.7%</b>
INSURANCE	\$ 2,748,893	\$ 2,611,222	\$ 3,059,218	\$ 447,996	17.2%
WATERSHED PILOT/DEBT	23,411,908	26,833,600	26,331,209	(502,391)	-1.9%
HEEC PAYMENT	1,191,990	4,429,316	7,215,200	2,785,884	62.9%
MITIGATION	1,614,263	1,654,618	1,692,344	37,726	2.3%
ADDITIONS TO RESERVES	1,881,797	2,094,284	2,283,728	189,444	9.0%
RETIREMENT FUND	7,000,000	7,315,000	11,000,000	3,685,000	50.4%
POSTEMPLOYMENT BENEFITS	5,574,152	5,962,457	6,065,490	103,033	1.7%
<b>TOTAL INDIRECT EXPENSES</b>	<b>\$ 43,423,093</b>	<b>\$ 50,900,497</b>	<b>\$ 57,647,189</b>	<b>\$ 6,746,692</b>	<b>13.3%</b>
STATE REVOLVING FUND	\$ 84,227,800	\$ 92,797,295	\$ 97,811,162	\$ 5,013,867	5.4%
SENIOR DEBT	287,497,793	202,299,609	273,795,833	71,496,224	35.3%
SUBORDINATE DEBT	84,788,872	169,609,844	96,339,599	(73,270,245)	-43.2%
LOCAL WATER PIPELINE CP	2,540,172	3,846,827	5,686,864	(159,963)	-2.7%
CURRENT REVENUE/CAPITAL	14,200,000	15,200,000	16,200,000	1,000,000	6.6%
CAPITAL LEASE	3,217,060	3,217,060	3,217,060	-	0.0%
DEBT PREPAYMENT	7,100,000	5,000,000	10,961,000	5,961,000	119.2%
DEBT SERVICE ASSISTANCE	(1,834,965)	(890,239)	-	890,239	-100.0%
<b>TOTAL DEBT SERVICE</b>	<b>\$ 481,736,731</b>	<b>\$ 493,080,395</b>	<b>\$ 504,011,517</b>	<b>\$ 10,931,122</b>	<b>2.2%</b>
<b>TOTAL EXPENSES</b>	<b>\$ 788,840,561</b>	<b>\$ 792,248,420</b>	<b>\$ 816,671,994</b>	<b>\$ 24,423,574</b>	<b>3.1%</b>
<b>REVENUE &amp; INCOME</b>					
RATE REVENUE	\$ 739,042,200	\$ 761,767,000	\$ 789,386,000	\$ 27,619,000	3.6%
OTHER USER CHARGES	9,346,469	9,216,425	9,188,728	(27,697)	-0.3%
OTHER REVENUE	6,947,076	5,761,022	5,935,482	174,460	3.0%
RATE STABILIZATION	-	-	-	-	0.0%
INVESTMENT INCOME	16,985,523	15,503,973	12,161,784	(3,342,189)	-21.6%
<b>TOTAL REVENUE &amp; INCOME</b>	<b>\$ 772,321,268</b>	<b>\$ 792,248,420</b>	<b>\$ 816,671,994</b>	<b>\$ 24,423,574</b>	<b>3.1%</b>
<b>Rate Revenue Increase over FY20</b>				<b>3.63%</b>	



# FY21 Proposed Current Expense Budget (CEB)

## FY21 Proposed Current Expense Budget

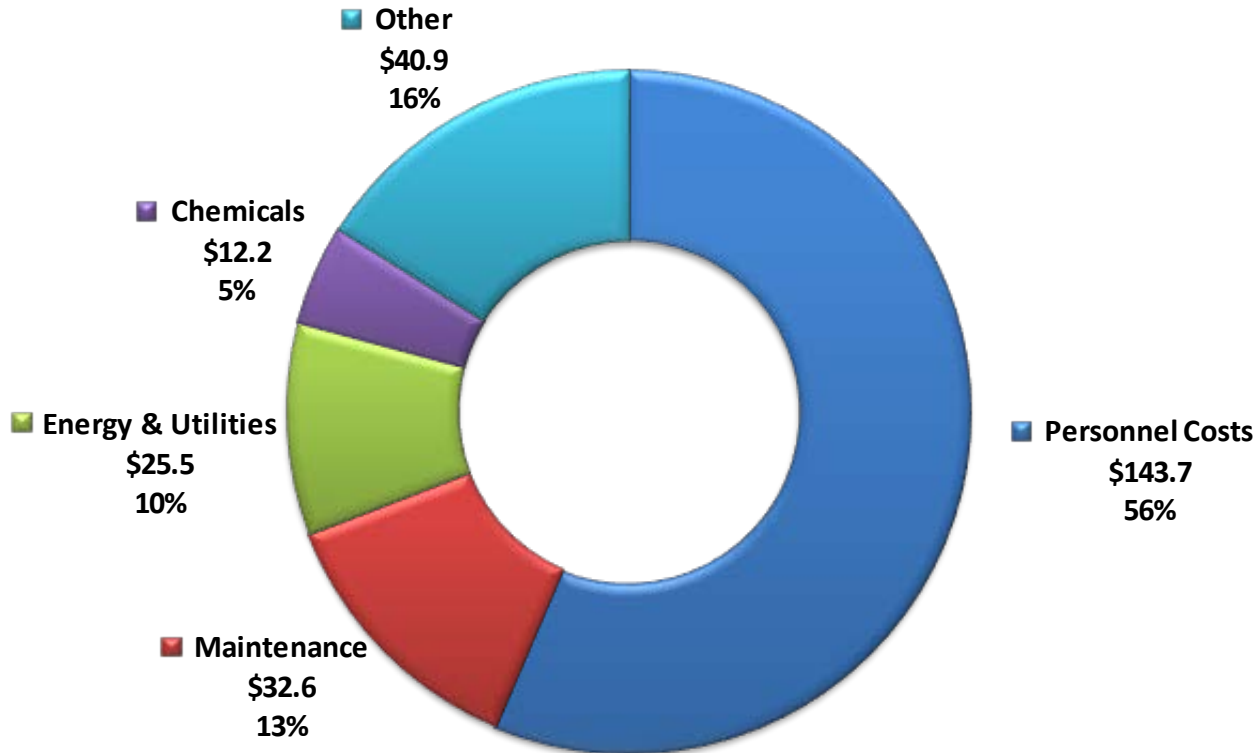




# CEB Budget Highlights – Direct Expenses

## Direct Category

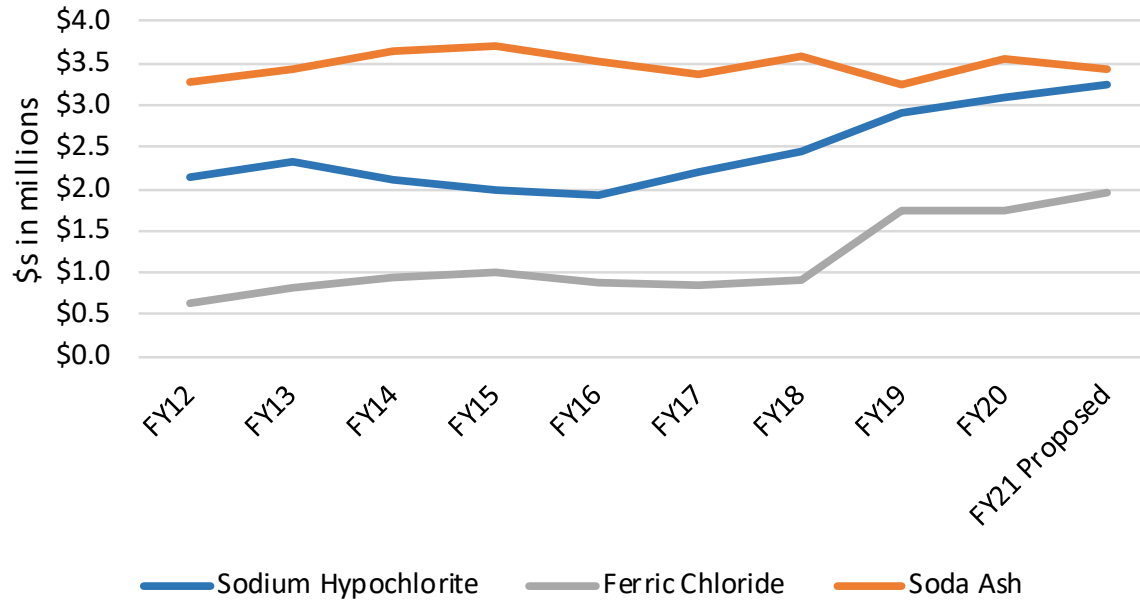
(\$s in millions)



- 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.



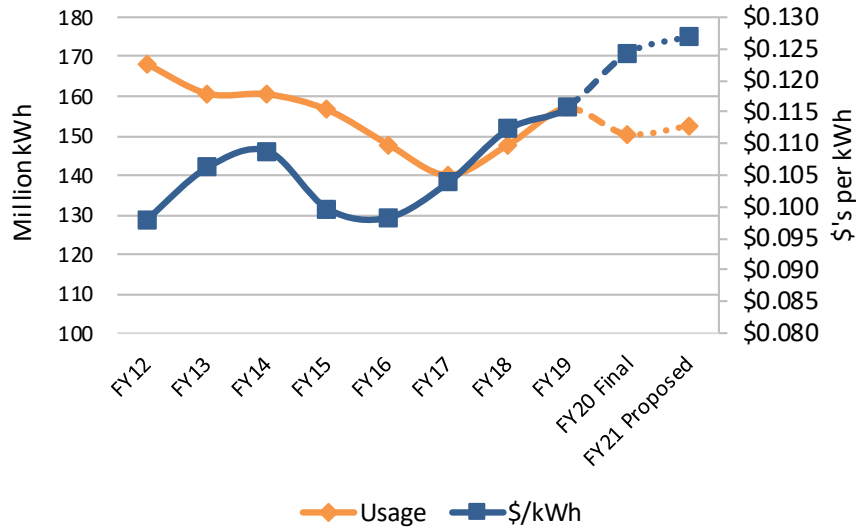
## Historical & Projected Chemical Cost



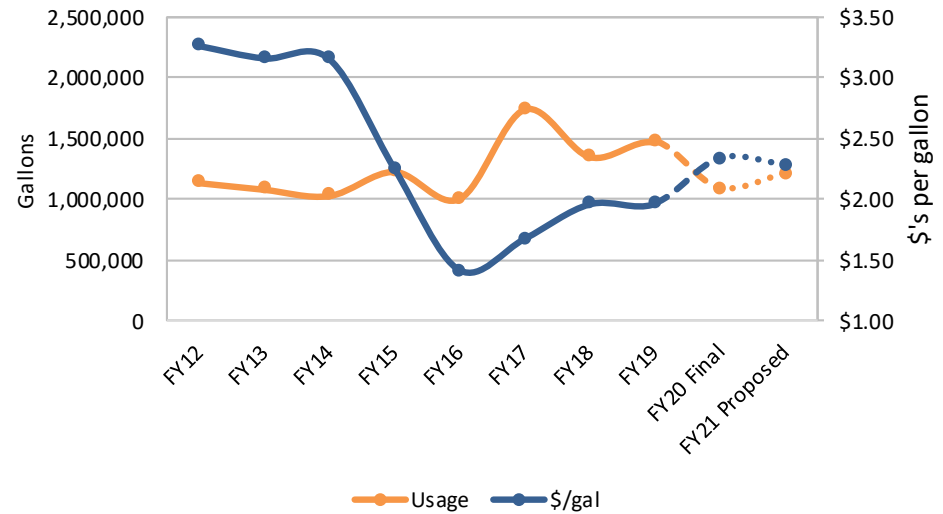


# Utilities

## Electricity



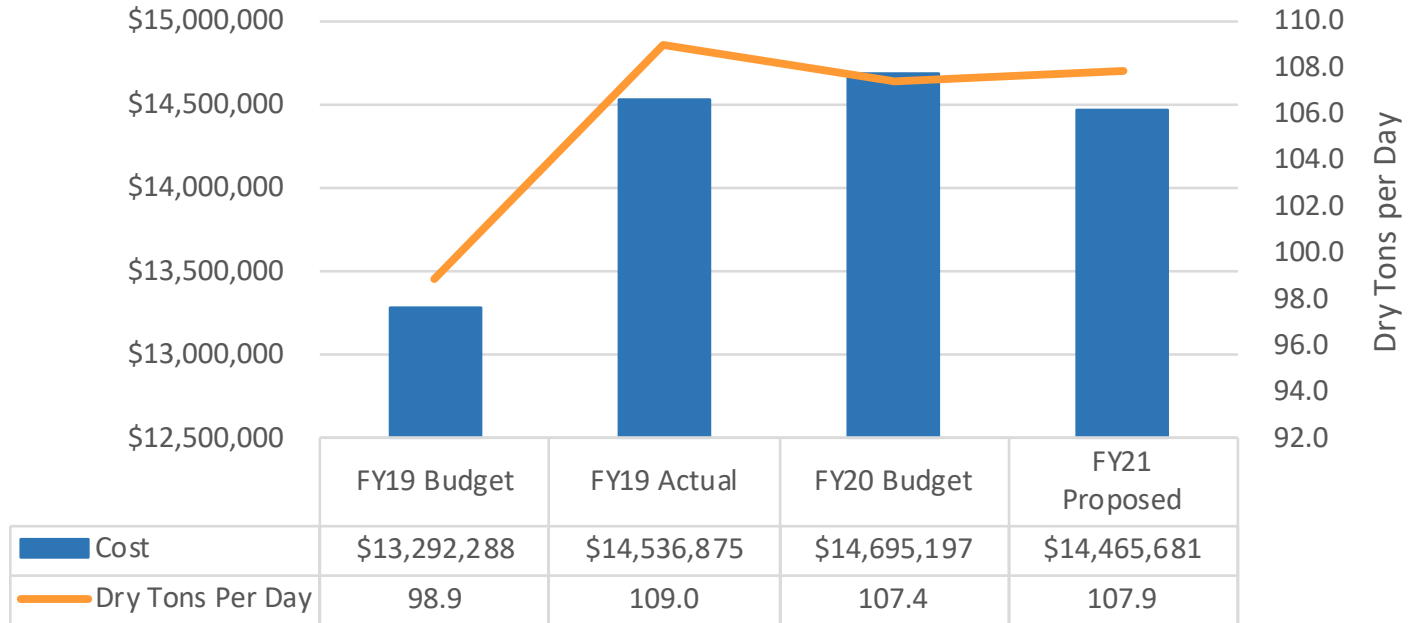
## Diesel Fuel





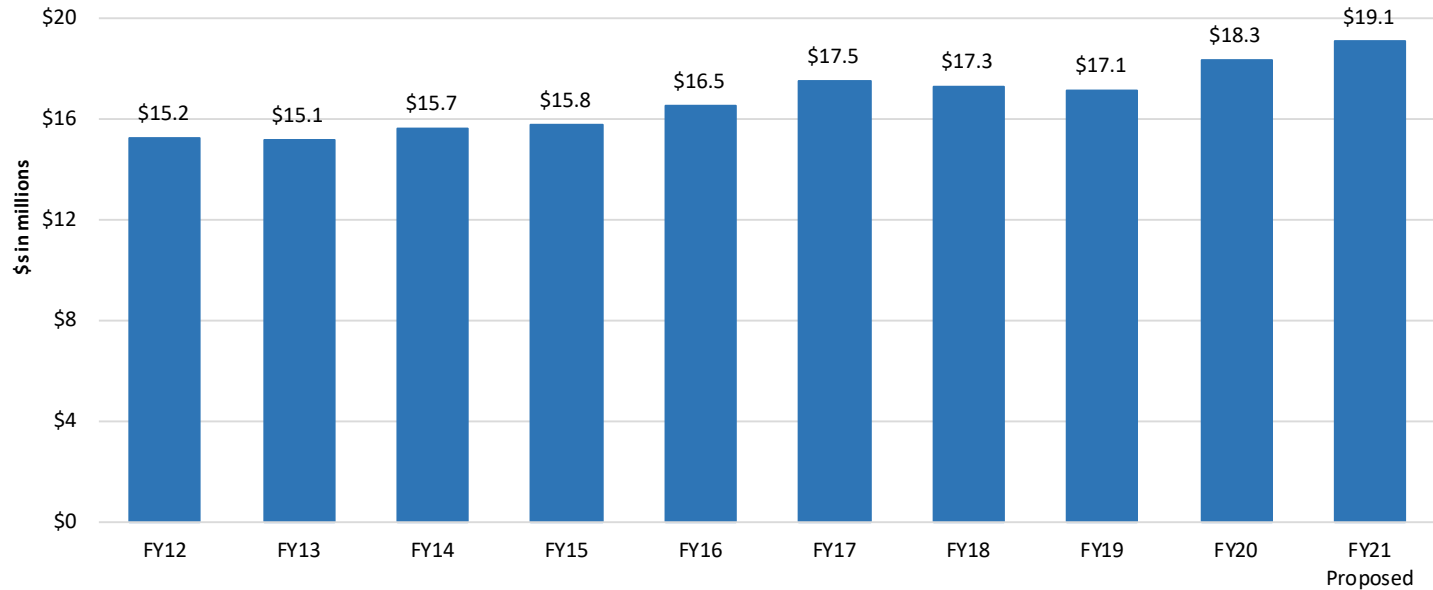
# Sludge Pelletization

## Sludge Pelletization





## Historical Health Insurance Budget



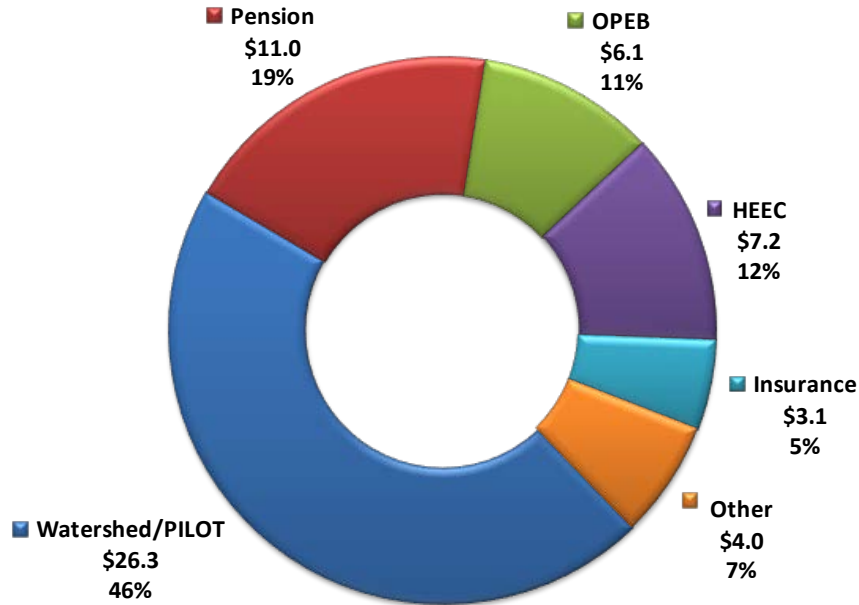




# CEB Budget Structure – Indirect Expenses

## Indirect Expenses by Category

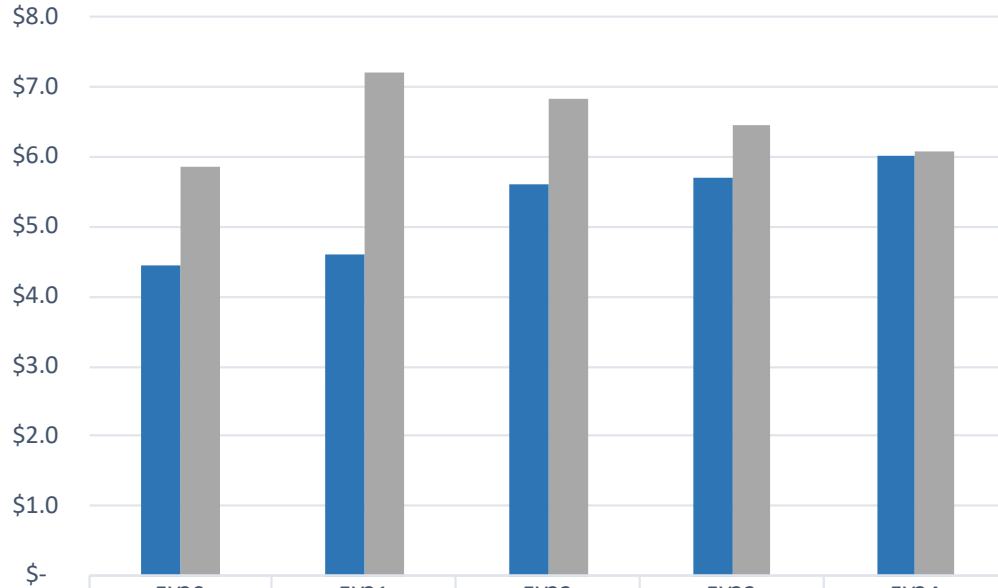
*(\$s in millions)*



- 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.



## HEEC Projected Expense (In Millions)



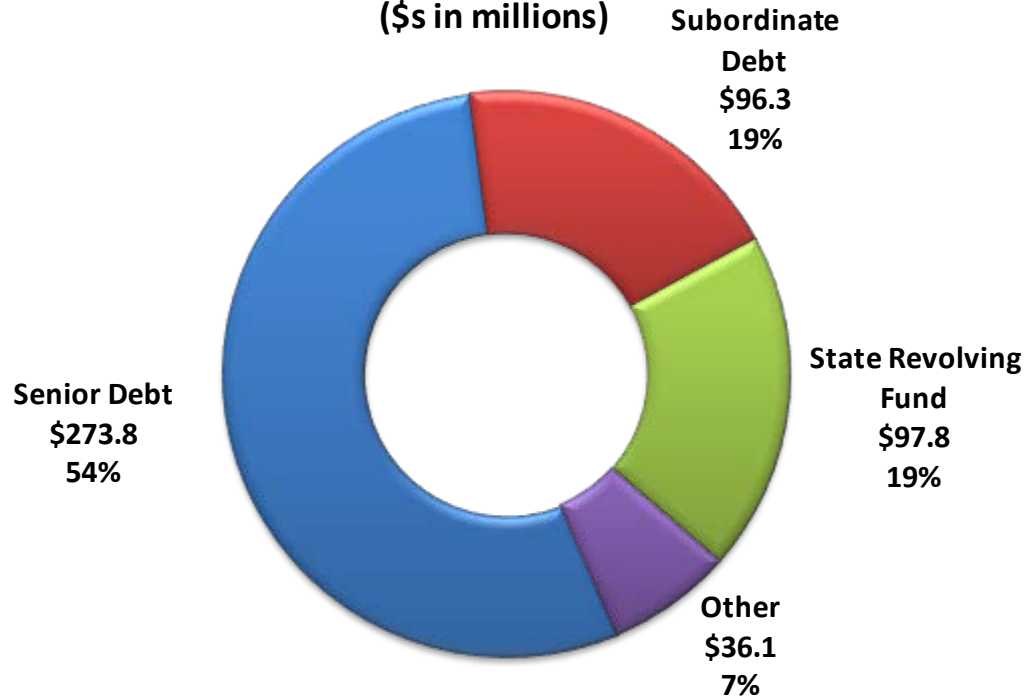
FY20 Projection	\$4.4	\$4.6	\$5.6	\$5.7	\$6.0
FY21 Projection	\$5.9	\$7.2	\$6.8	\$6.4	\$6.1

- FY20 Projection includes use of \$6.5 million reserve between FY21-25.
- FY21 Projection does not include any use of the \$6.5 million reserve between FY21-25.



# CEB Budget Structure – Capital Finance Expenses

## Capital Financing (\$s in millions)



Variable Rate Debt Assumption  
3.50%

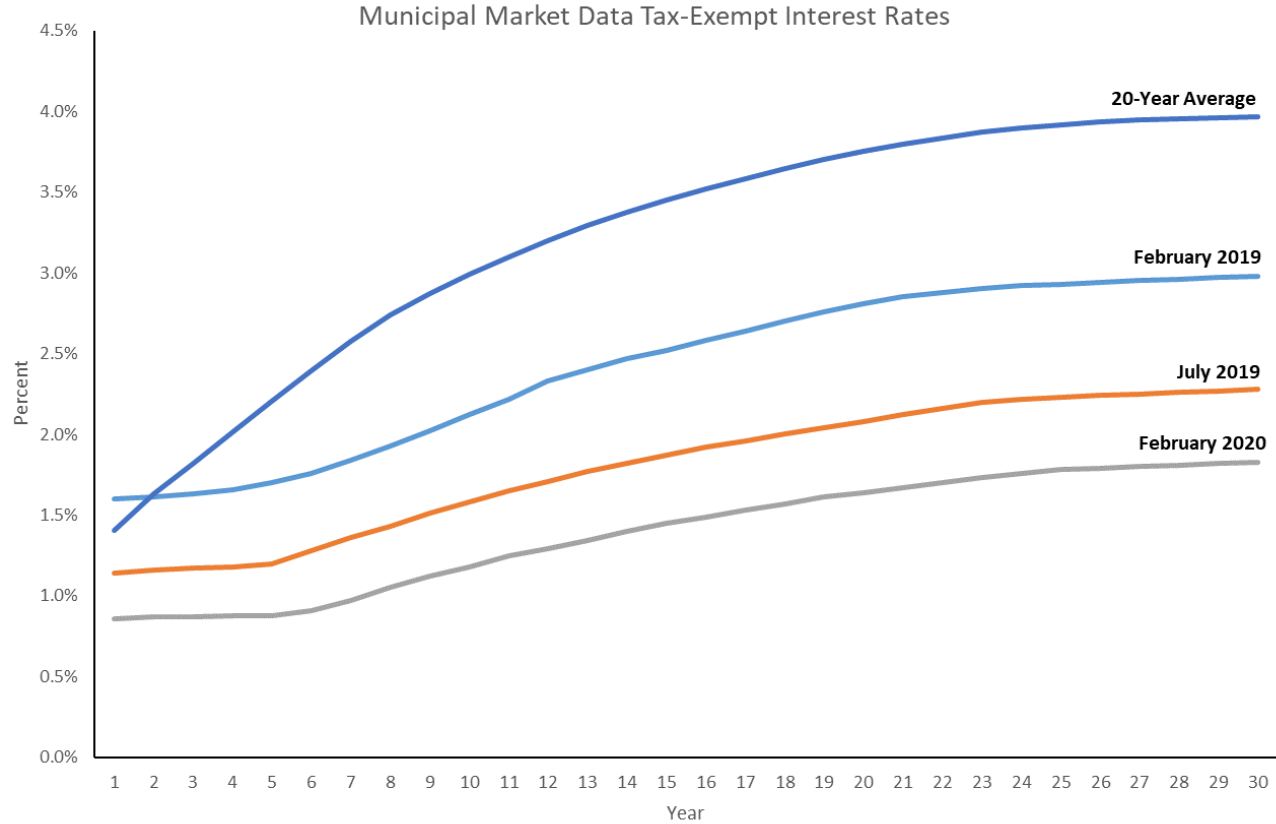
Assumes \$15.0 defeasance in  
FY20 with target savings FY21-  
FY26

\$11.0 prepayment of debt  
\$16.2M to Current Revenue for  
Capital

No Debt Service Assistance



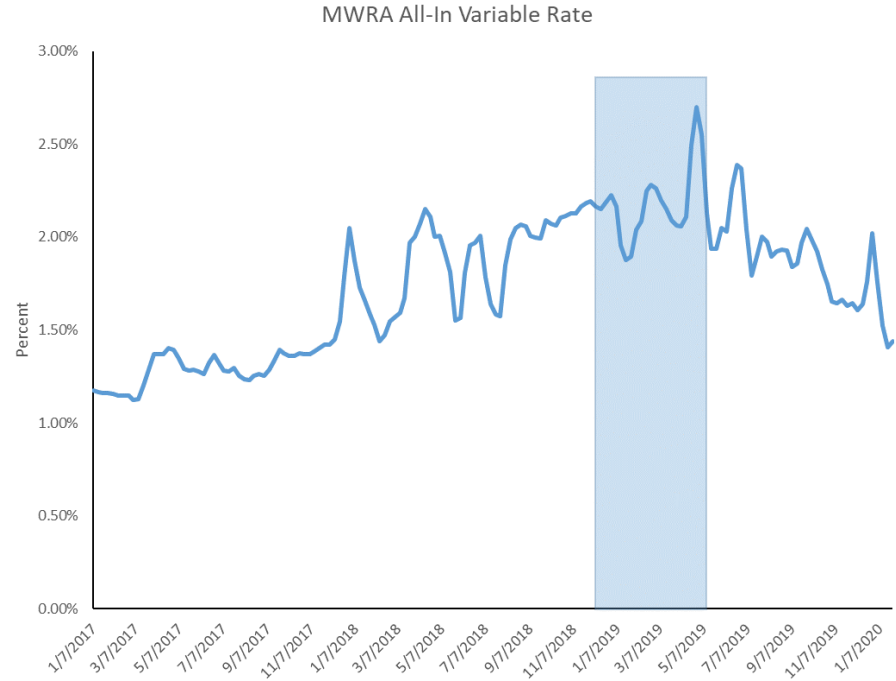
# Long-Term Tax-Exempt Interest Rates





# Short-Term Tax-Exempt Interest Rates

- Rates have experienced volatility with an overall downward trend.
- FY21 CEB assumes an all-in variable rate cost of 3.5%
- A 25 basis point change in variable rate debt is equal to \$828,732 in FY21.





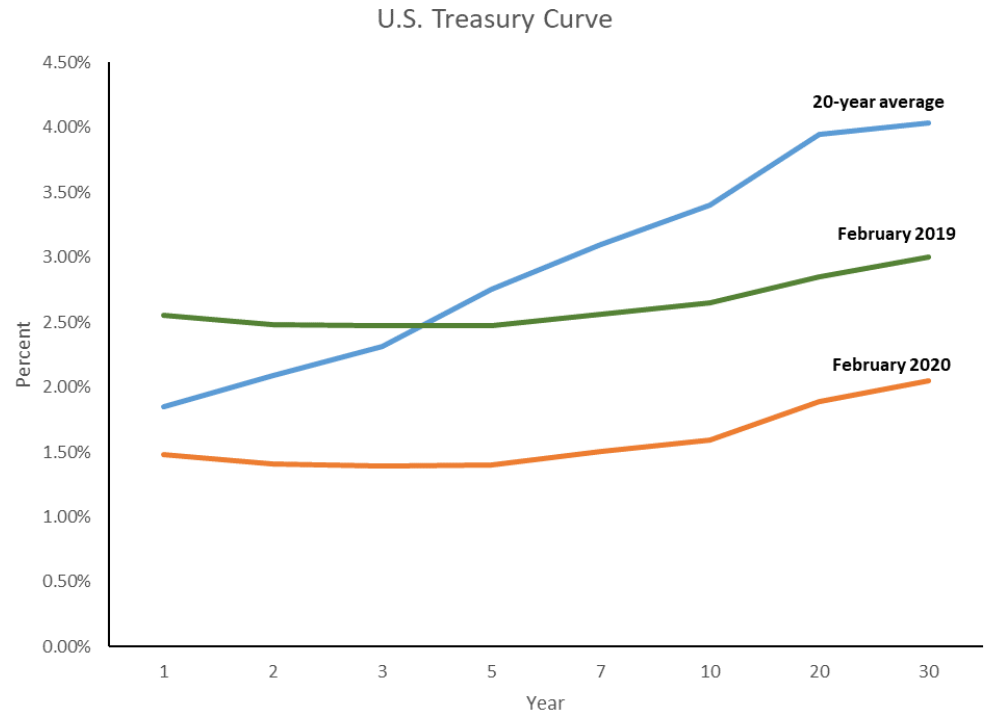
# Long-Term Taxable Interest Rates

## Benefit

- Low taxable rates allowed for 2019 Series F refunding (\$4.7M savings in FY21).
- Low rates may allow for future taxable refundings for interest rate savings.

## Risk

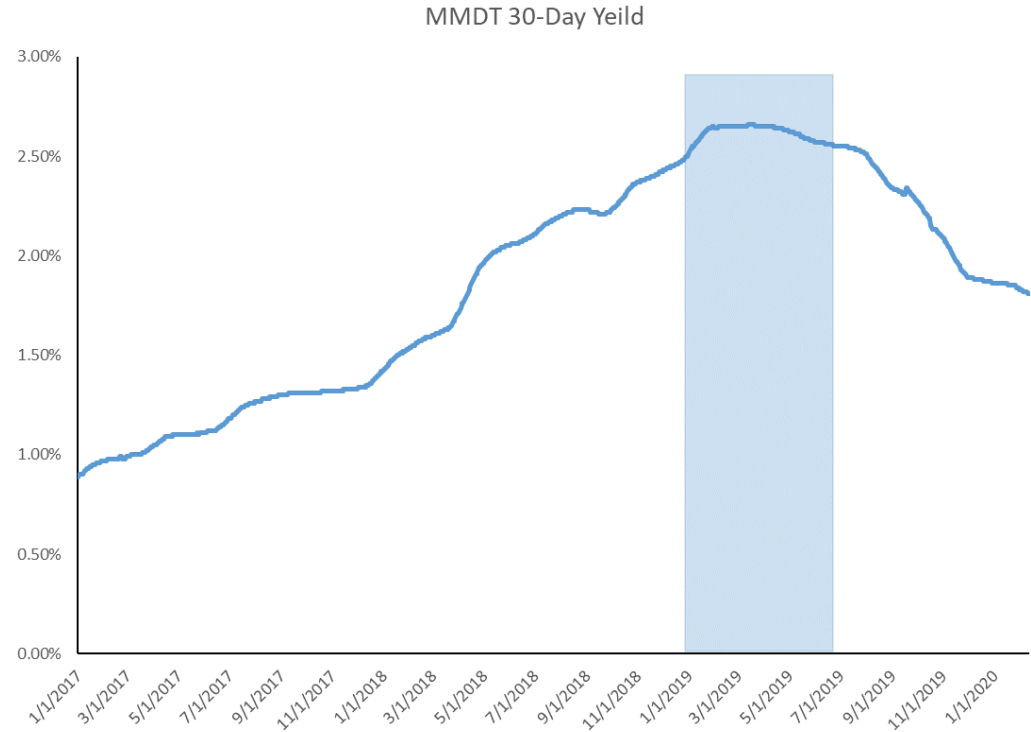
- MWRA had \$88.1 million in long-term investments call during FY20 to date.
- Lower Reinvestment rates resulted in a \$816,530 reduction to the FY21 projected investment income





# Short-Term Taxable Interest Rates

- Short-term interest rates decreased significantly during FY20.
- FY21 short-term interest income assumption is 1.50%.
- A 25 basis-points change has a \$1,046,134 impact for FY21.





# Rate Revenue Requirement \$s in Millions

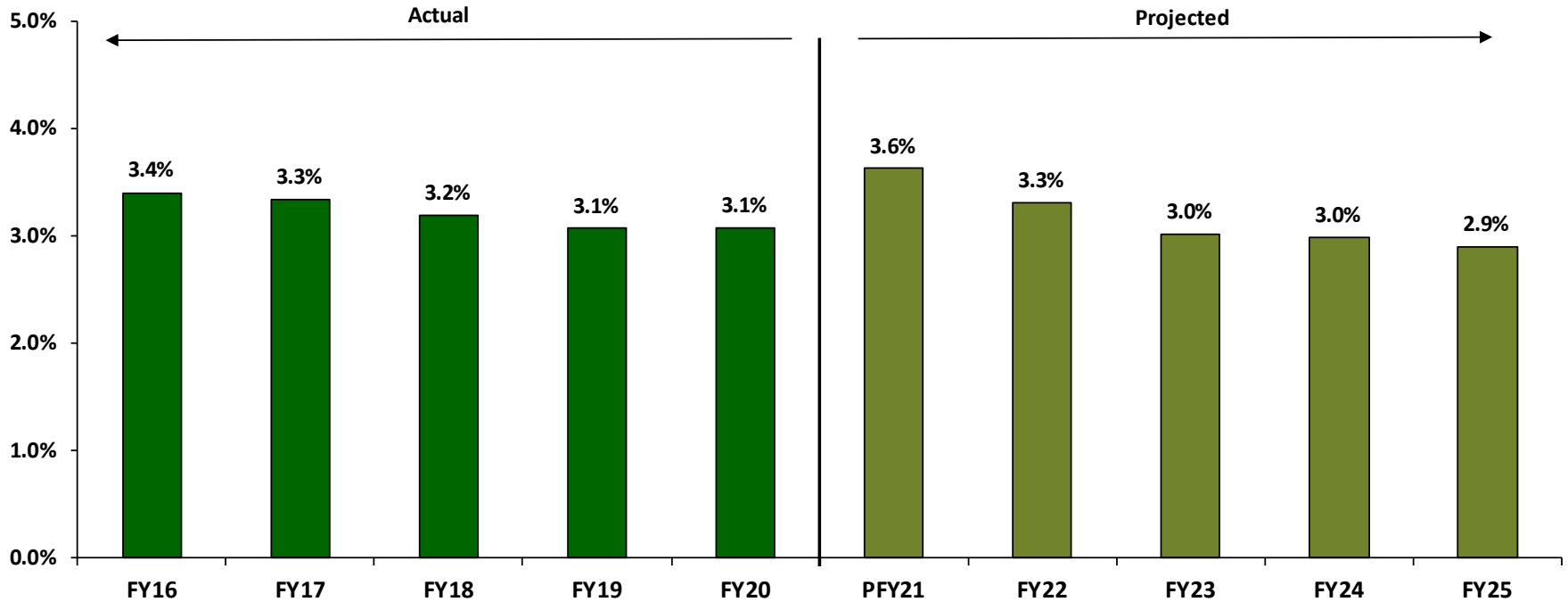
<b>Category</b>	<b>FY21 Proposed</b>
Direct Expenses	\$ 255.0
Indirect Expenses	\$ 57.6
Capital Financing	\$ 504.0
<b>Total Expenditures</b>	<b>\$ 816.7</b>
Non-Rate Revenue	\$ 27.3
Rate Revenue Requirement	\$ 789.4
<b>Total Revenue</b>	<b>\$ 816.7</b>
Rate Revenue Requirement	3.63%





# Actual and Forecasted Rate Revenue Changes

**MWRA Combined Utilities  
Historical and Projected Rate Revenue Changes**





## FY21 Current Expense Budget Next Steps

- Transmit Proposed Budget to Advisory Board for 60 day review on February 19
- Public Hearing on April 14 **(Rescheduled to April 30)**
- MWRA Board Hearing on May 27
- Staff will present Draft Final Budget on May 27
- Staff anticipate Budget adoption on June 24



***FY21 Proposed  
Capital Improvement Program***

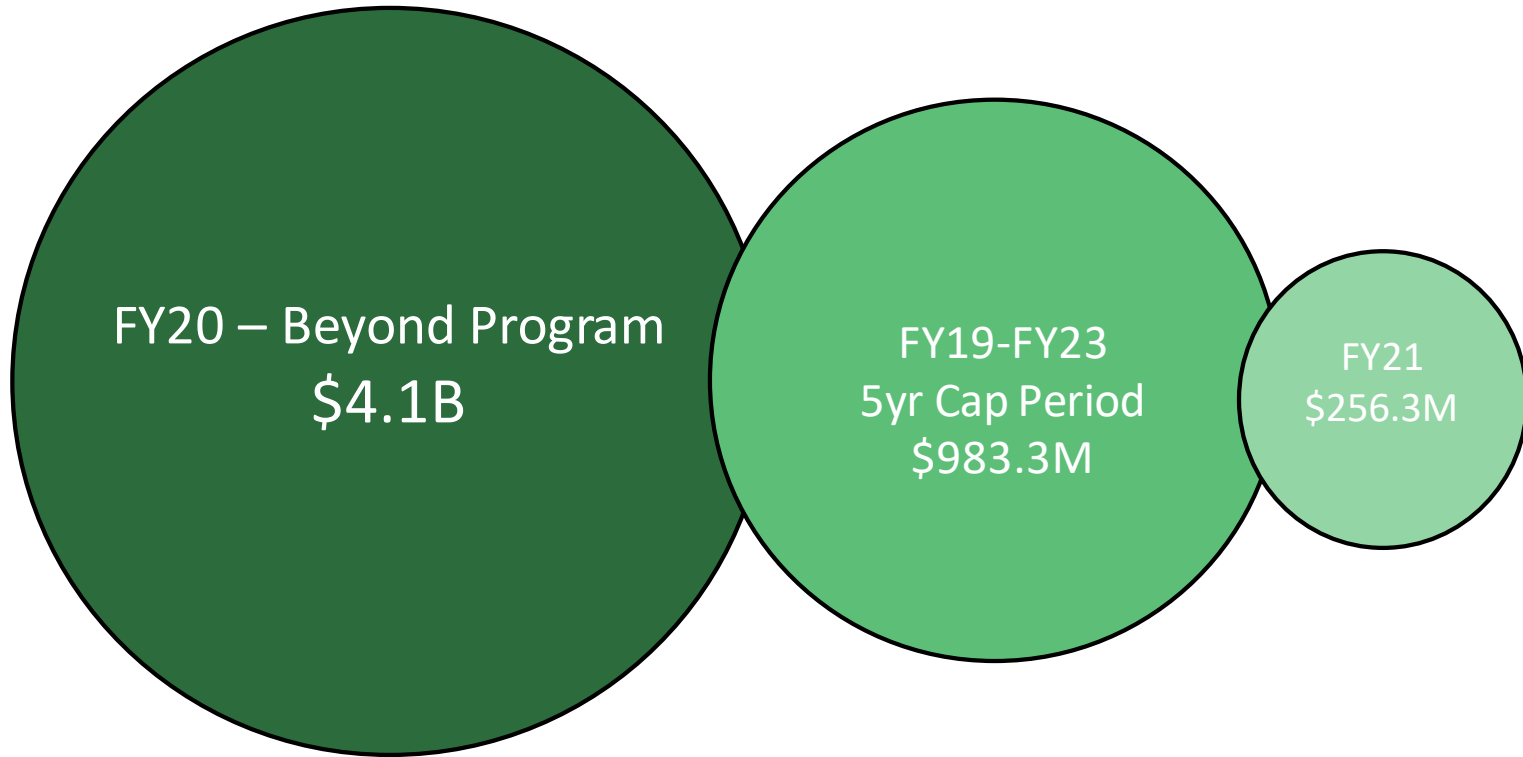


## FY21 Proposed CIP

- FY21 Proposed CIP complies with the Cap requirements
- Focus on Asset Protection and Long-Term Redundancy
- Metropolitan Tunnel Redundancy



# FY21 Proposed CIP





# FY21 Proposed CIP - FY19-23 vs. Base-Line Cap

FY19-23 Base-Line Cap		FY19	FY20	FY21	FY22	FY23	Total FY19-23
	Projected Expenditures	\$179.2	\$276.1	\$251.3	\$194.9	\$150.4	\$1,051.8
	I/I Program	(19.2)	(25.7)	(24.3)	(27.9)	(26.1)	(123.2)
	Water Loan Program	(8.3)	(8.4)	(7.2)	(5.6)	(2.8)	(32.4)
	<b>MWRA Spending</b>	<b>151.7</b>	<b>241.9</b>	<b>219.7</b>	<b>161.4</b>	<b>121.4</b>	<b>\$896.2</b>
	Contingency	9.9	15.9	14.5	11.0	8.2	59.4
	Inflation on Unawarded Construction	0.7	5.0	7.8	7.2	8.5	29.3
	Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)
<b>FY19 Final FY19-23 Spending</b>	<b>\$162.3</b>	<b>\$262.8</b>	<b>\$242.0</b>	<b>\$179.6</b>	<b>\$138.1</b>	<b>\$984.8</b>	



FY21 Proposed		FY19	FY20	FY21	FY22	FY23	Total FY19-23
	Projected Expenditures	\$142.9	\$173.3	\$256.3	\$255.1	\$261.2	\$1,088.9
	I/I Program	(39.6)	(24.9)	(25.7)	(28.3)	(23.6)	(142.1)
	Water Loan Program	(13.8)	(8.0)	(6.0)	(10.6)	3.0	(35.5)
	<b>MWRA Spending</b>	<b>89.4</b>	<b>140.4</b>	<b>224.6</b>	<b>216.3</b>	<b>240.6</b>	<b>\$911.3</b>
	Contingency	0.0	9.0	13.8	14.4	16.4	53.7
	Inflation on Unawarded Construction	0.0	0.0	2.0	5.8	10.6	18.4
	Chicopee Valley Aqueduct Projects	(0.0)	0.0	0.0	0.0	0.0	(0.0)
<b>FY21 Proposed FY19-23 Spending</b>	<b>\$89.4</b>	<b>\$149.5</b>	<b>\$240.5</b>	<b>\$236.5</b>	<b>\$267.5</b>	<b>\$983.3</b>	





# 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%
<b>Top FY19-23 Spending Suphases</b>		<b>\$387,506</b>	<b>35.6%</b>
<b>Other Changes</b>		<b>\$701,371</b>	<b>64.4%</b>
<b>Total FY19-23 Spending</b>		<b>\$1,088,877</b>	<b>100.0%</b>



# FY21 Proposed CIP – Top Projects Excluding Loans FY21 Spending

Project	Subphase	FY21 (\$000)	% of Total
DI Treatment Plant Asset Protection	Clarifier Rehabilitation Phase 2 - Construction	\$34,475	13.4%
I&P Facility Asset Protection	Chelsea Creek Upgrades - Construction	\$16,091	6.3%
I&P Facility Asset Protection	Prison Point Rehabilitation - Construction	\$15,490	6.0%
Corrosion & Odor Control	NI Odor Control HVAC Improvement Construction Phase 2	\$14,854	5.8%
NIH Redundancy & Storage	Section 89 & 29 Repl - Construction	\$9,150	3.6%
DI Treatment Plant Asset Protection	Gravity Thickener Rehabilitation	\$6,444	2.5%
Central Monitoring System	CWTP SCADA Upgrade Construction	\$5,000	2.0%
<b>Top FY21 Spending Subphases</b>		<b>\$101,504</b>	<b>39.6%</b>
<b>Other Changes</b>		<b>\$154,824</b>	<b>60.4%</b>
<b>Total FY21 Spending</b>		<b>\$256,328</b>	<b>100.0%</b>





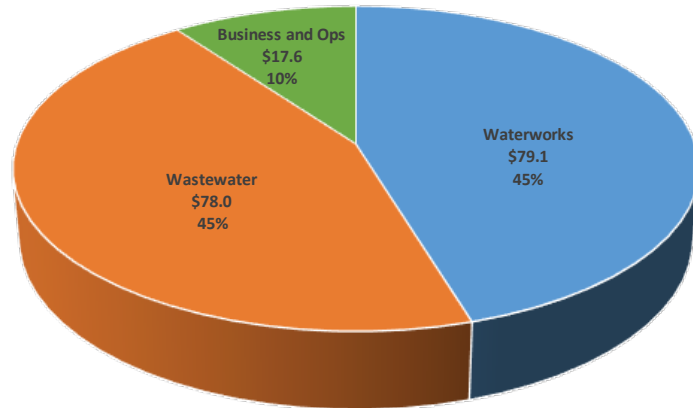
# FY21 Proposed CIP FY21 Spending

Spending Composition	
Ongoing Awarded Contracts	\$140.9M
Proposed Contract Awards	\$82.5M
Budgeted Loan Programs	<u>\$32.9M</u>
Total Proposed Expenditures	\$256.3M

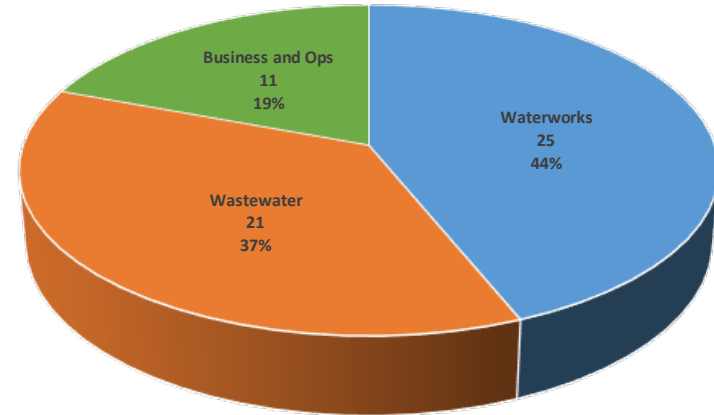


# FY21 Proposed CIP – Proposed FY21 Contract Awards

Contract Value



Contract Awards

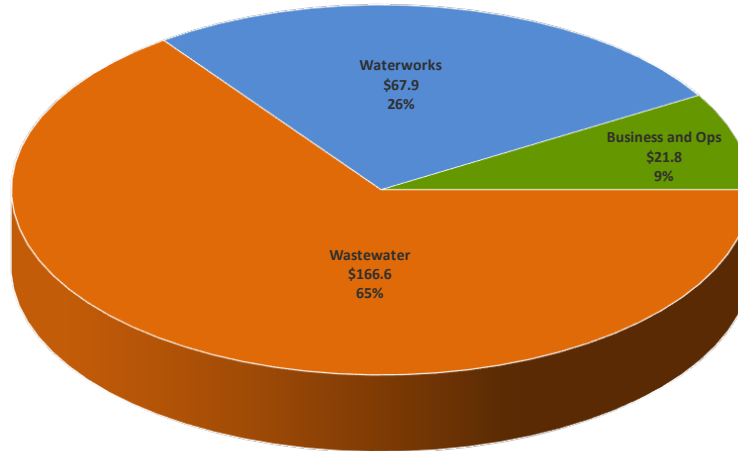


*\$s in millions*



# FY21 Proposed CIP – Proposed FY21 Expenditures

Total Proposed FY21 Expenditures: \$256.3 million



*\$s in millions*



## FY21 Proposed CIP – New Projects

14 New Projects Added in FY21: \$57.0 million

- Waterworks: \$50.3 million
- Wastewater: \$6.7 million



## FY21 Proposed CIP – New Projects > \$1.0 Million

- Water Tank Painting Bellevue 1 & 2, Park Circle, Walnut Hill, DI - \$27.9 million
- Cosgrove Tunnel Rehab. Design - \$10.0 million
- Beacon Street Line Rehabilitation - \$9.3 million
- Deer Island Roof Replacement: \$2.0 million
- CSO Study/Prel. Design Alewife Brook and Lower Charles River Basin: \$1.5 million
- Clinton Landfill Cell #1 Closure: \$1.0 million



# FY21 Proposed CIP – Asset Protection and Water Redundancy

Project Category	FY14-18	FY19-23	FY24-28
Asset Protection	\$222.8	\$607.7	\$1,209.3
Water Redundancy	\$174.6	\$232.8	\$376.9
CSO	\$64.7	\$10.6	\$0.1
Other	\$123.5	\$237.7	\$235.4
<b>Total</b>	<b>\$585.6</b>	<b>\$1,088.9</b>	<b>\$1,821.6</b>
<b>Asset Protection</b>	<b>38.0%</b>	<b>55.8%</b>	<b>66.4%</b>
<b>Water Redundancy</b>	<b>29.8%</b>	<b>21.4%</b>	<b>20.7%</b>
CSO	11.0%	1.0%	0.0%
Other	21.1%	21.8%	12.9%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

- Asset Protection and Water Redundancy including Deer Island and water tunnel redundancy projects are the principal drivers of future capital expenditures.



## Clarifier Rehabilitation Phase 2 Construction

FY 21 Budget: \$34.5M

Total Contract: \$148.9M

NTP: May 2020

SC: May 2024





# FY21 Proposed CIP – FY21 Top Spenders – Asset Protection

## Chelsea Creek Headworks Upgrade Construction

FY21 Budget: \$16.1M

Total Contract: \$82.9M

NTP: November 2016

SC: November 2020







## Prison Point Rehabilitation Construction



FY 21 Budget:

Total Contract:

NTP: June 2020

SC: June 2022



# FY21 CIP – FY21 Top Spenders - Asset Protection

## Nut Island Odor Control & HVAC Improvements Construction

FY 21 Budget : \$14.9M

Total Contract: \$57.6M

NTP: January 2020

SC: November 2022





# FY21 CIP – FY21 Top Spenders - Redundancy

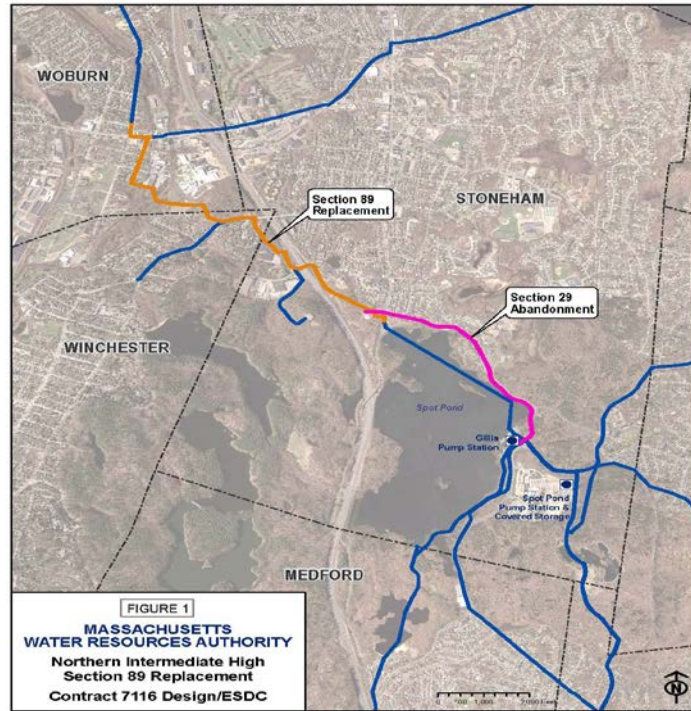
## Northern Intermediate High Redundancy Section 89 and 29 Replacement Constr.

FY 21 Budget: \$9.2M

Total Contract: \$21.3M

NTP: July 2020

SC: July 2022







## Gravity Thickener Rehabilitation

FY 21 Budget: \$6.4M

Total Contract: \$19.7M

NTP: May 2018

SC: February 2021





# FY21 CIP – FY21 Top Spenders - Asset Protection

## Carroll Water Treatment Plant SCADA Upgrade Construction

FY 21 Budget: \$5.0M

Total Contract: \$9.9M

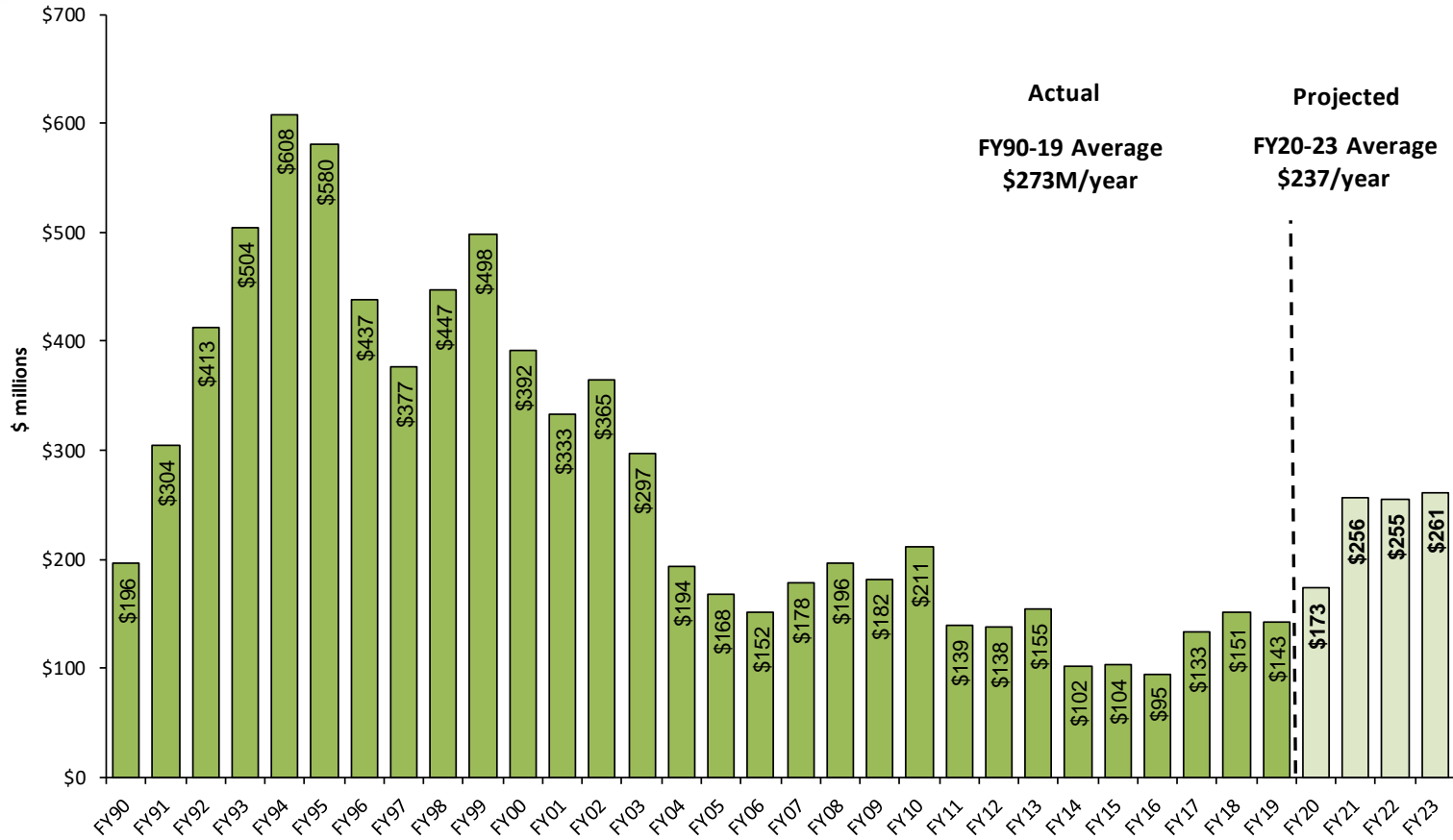
NTP: July 2020

SC: July 2022



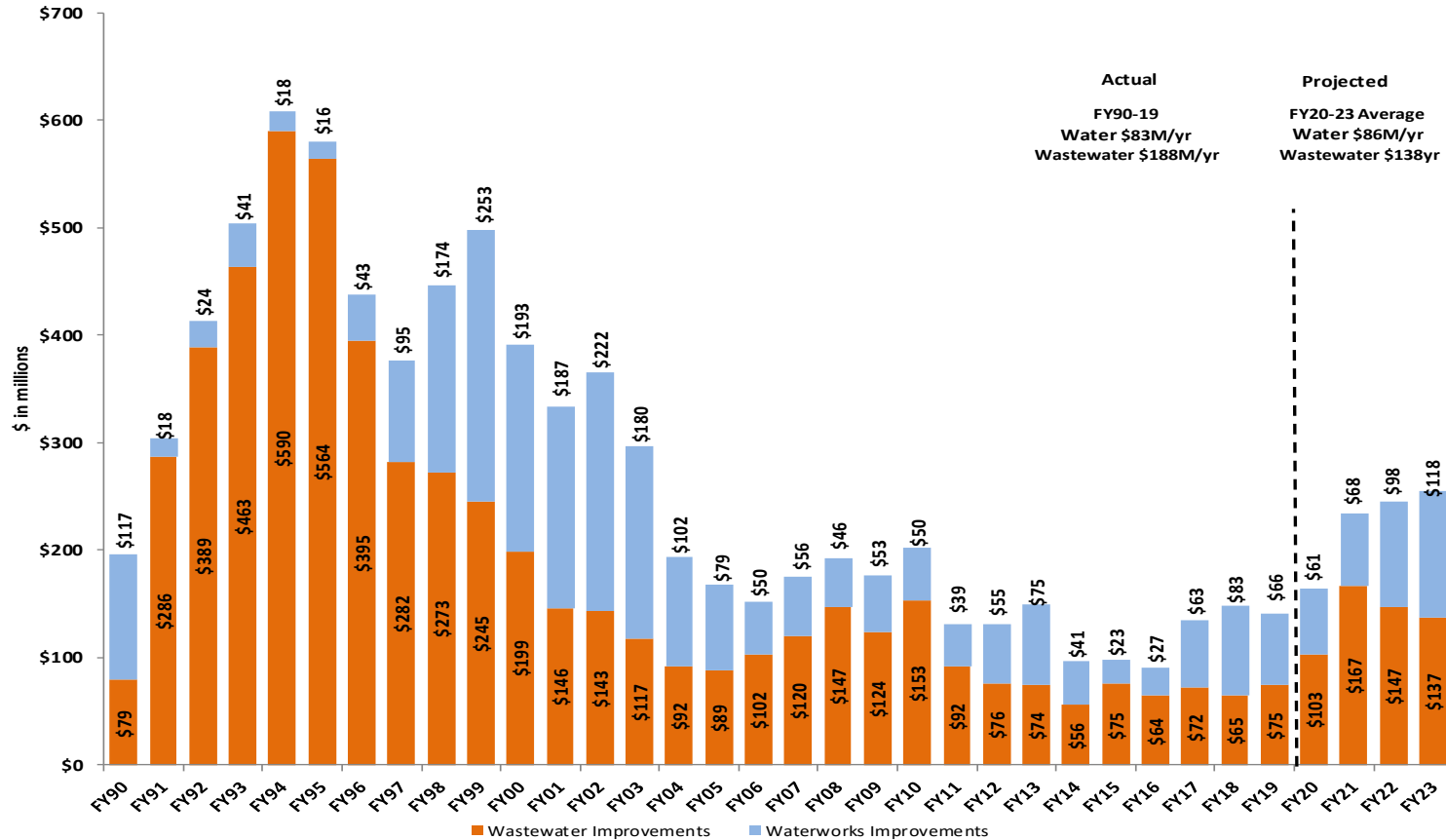


# Historic and Projected Capital Improvement Spending





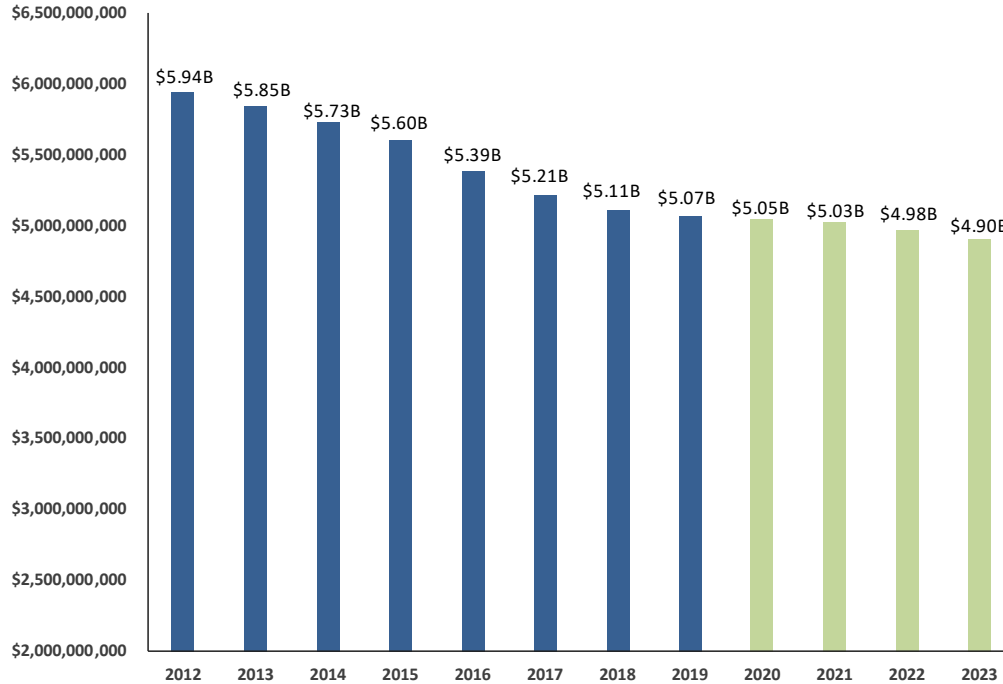
# Historic and Projected Capital Improvement Spending by Utility





# Level of MWRA Indebtedness

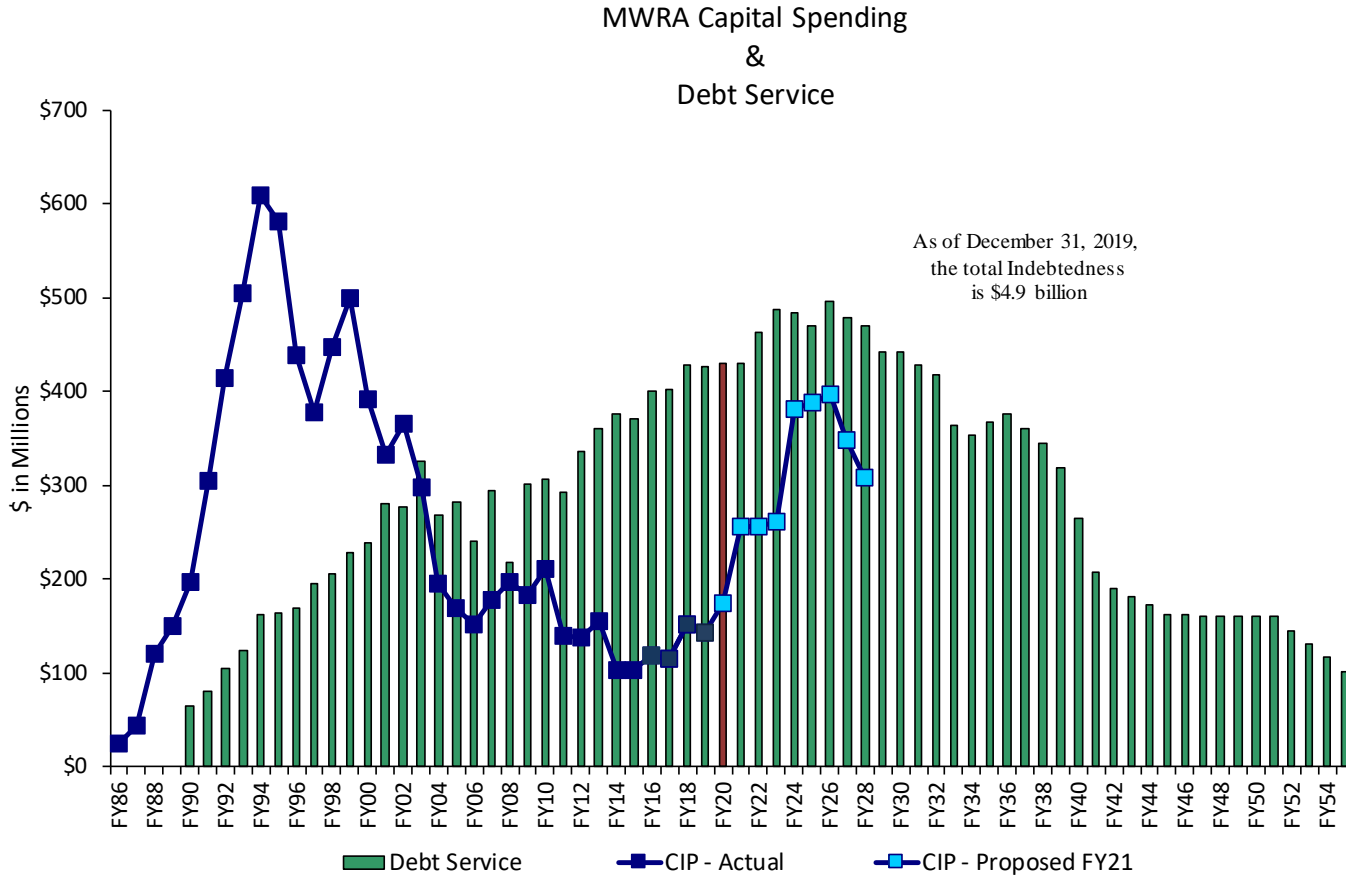
Outstanding Debt on June 30 by Fiscal Year  
FY12-FY23







# Capital Spending and Debt Service





## Looking Ahead

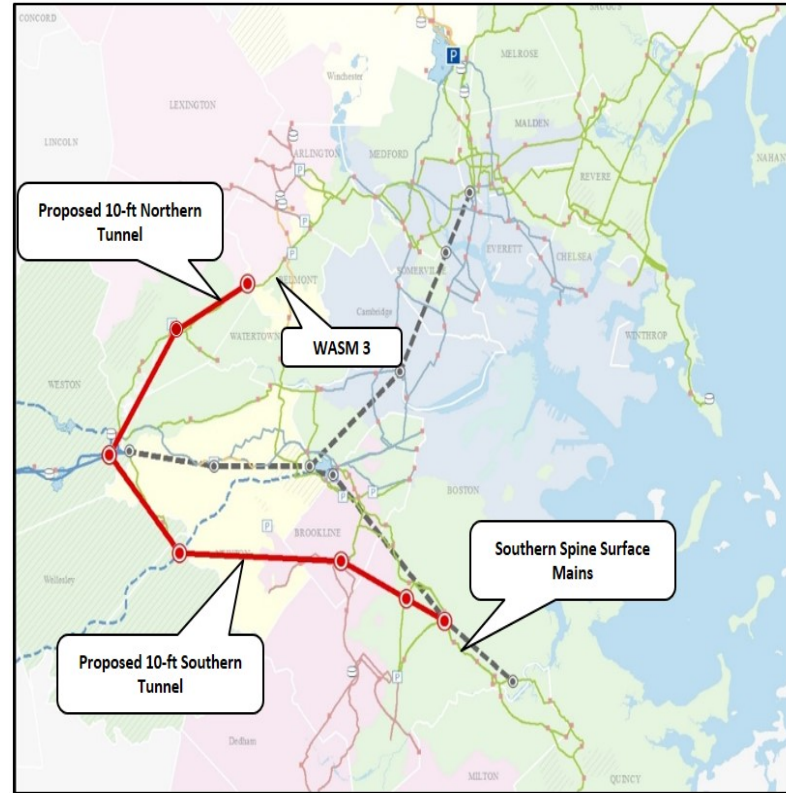
- Lessons learned from Chelsea Headworks Upgrades
- Continue Asset Protection
- Metropolitan Tunnel Redundancy



# Metropolitan Tunnel Redundancy Program

## FY19-23 Projected Expenditures

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





# Review of Tunnel Program CIP

- October 2016 Special Board Meeting on Metropolitan Tunnel Redundancy
  - Staff Presented Preferred Two-Tunnel Alternative
  - 14 miles (4.5 miles North, 9.5 miles South) of 10-ft diameter deep rock tunnel
- Estimated midpoint of construction cost: \$1.47 - \$1.70 billion
  - 17 to 23 year program with preliminary design beginning in 2017 and tunnel construction beginning in 2022
  - Duration depends on program phasing (Advisory Board recommended concurrent construction of north and south tunnels)
  - 30% contingency factor
  - 4% annual escalation
- Current schedule is to begin Preliminary Design in 2020
- Current estimate for tunnel construction start is 2027-ish



# Review of Tunnel Program CIP (continued)

- Select key variables affecting Tunnel Program
  - Underground conditions (geology)
  - Selection of shaft sites and tunnel alignment/land acquisition
  - Future water demands (length of tunnel)
  - Schedule (time value of dollars)
- Many variables will be evaluated during preliminary design (2020-2023)
- Key findings will be presented to Board as preliminary design progresses



## Next Steps

- Work with the Advisory Board
- Finalize FY21 CIP
- Submit FY21 Final CIP to Board of Directors for approval in June 2020



## FY21 Proposed Current Expense Budget



***Thank You – Stay Well***