

2023 Water & Sewer Rate Study

Cost of Service Overview

January 6, 2022

Rate Fairness Board

Meeting Objective

- Ensure that all parties understand the methodology used in preparing the draft cost of service analysis
- Confirm that data used in models are appropriate
- Gain consensus around assumptions used for allocating costs to customer classes

Agenda

1. Rate Study Process Overview
2. Update on Rate Plan
3. Cost of Service Overview
 - i. Cost of Service Methodology
 - ii. Overview of Cost Functionalization
4. Water Allocations
5. Wastewater Allocation Overview
6. Next Steps

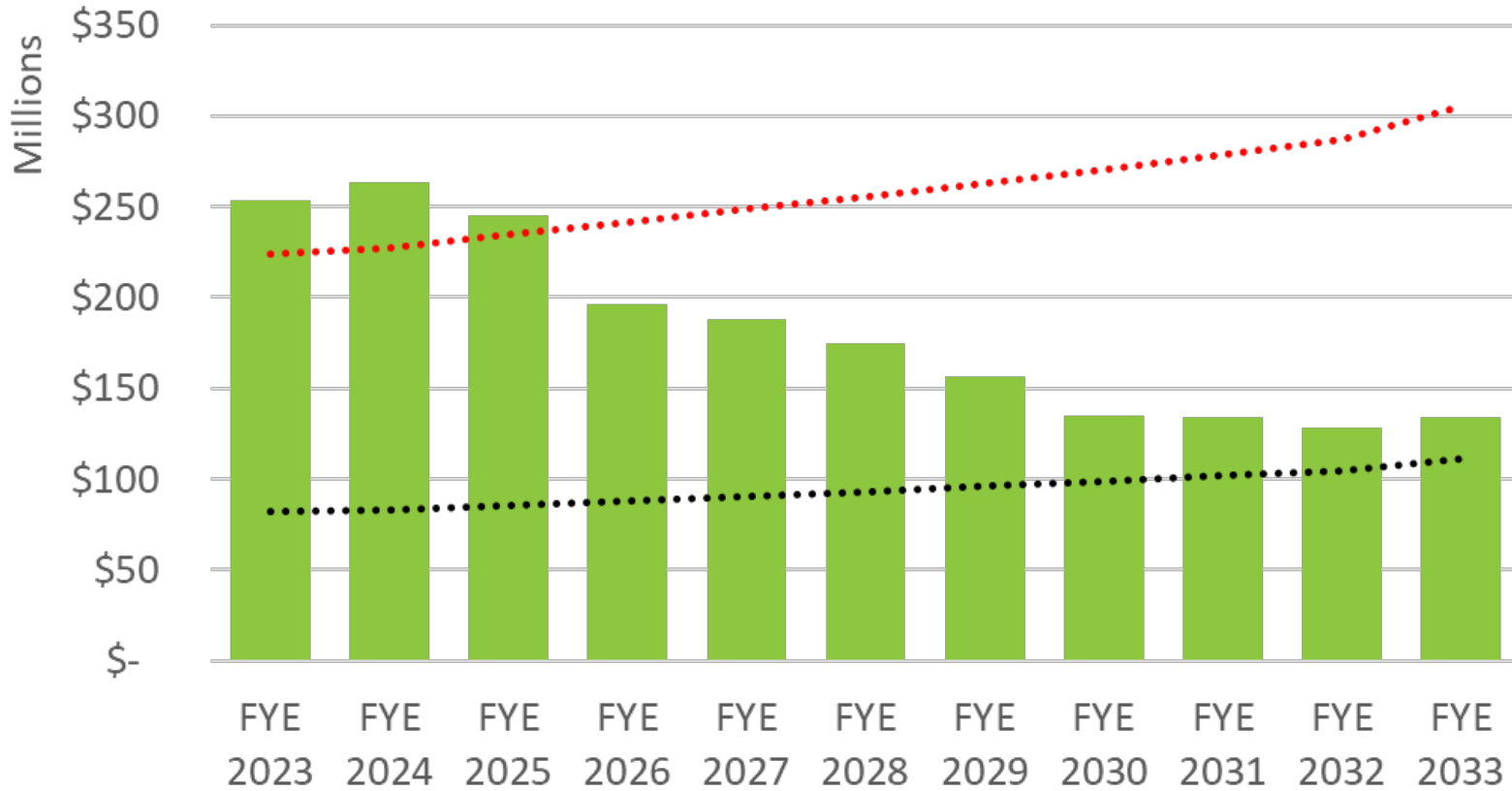


UPDATE ON RATE PLAN



Forecasted Water Rate Adjustments and Fund Balance

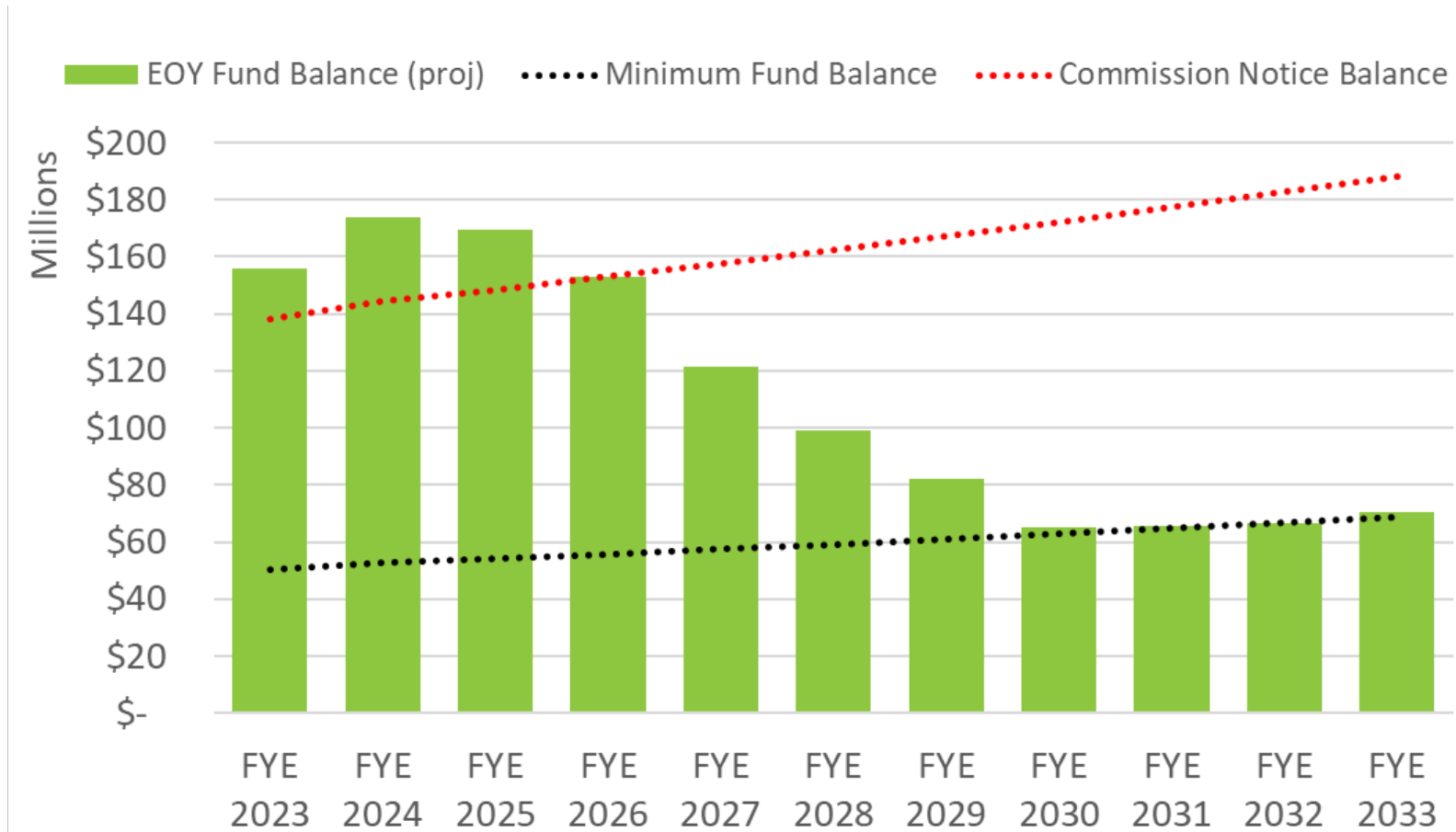
■ EOY Fund Balance
 ●●●● Minimum Fund Balance
 ●●●● Commission Notice Fund Balance



Rate Δ	0%	5.0%	5.0%	5.0%	4.0%	4.0%	4.0%	4.0%	3.0%	3.0%	3.0%
DSC Current	1.27	1.24	1.19	1.11	1.16	1.12	1.14	1.11	1.12	1.13	1.13
DSC Indenture	1.73	1.91	1.98	1.76	1.69	1.59	1.56	1.47	1.43	1.44	1.43



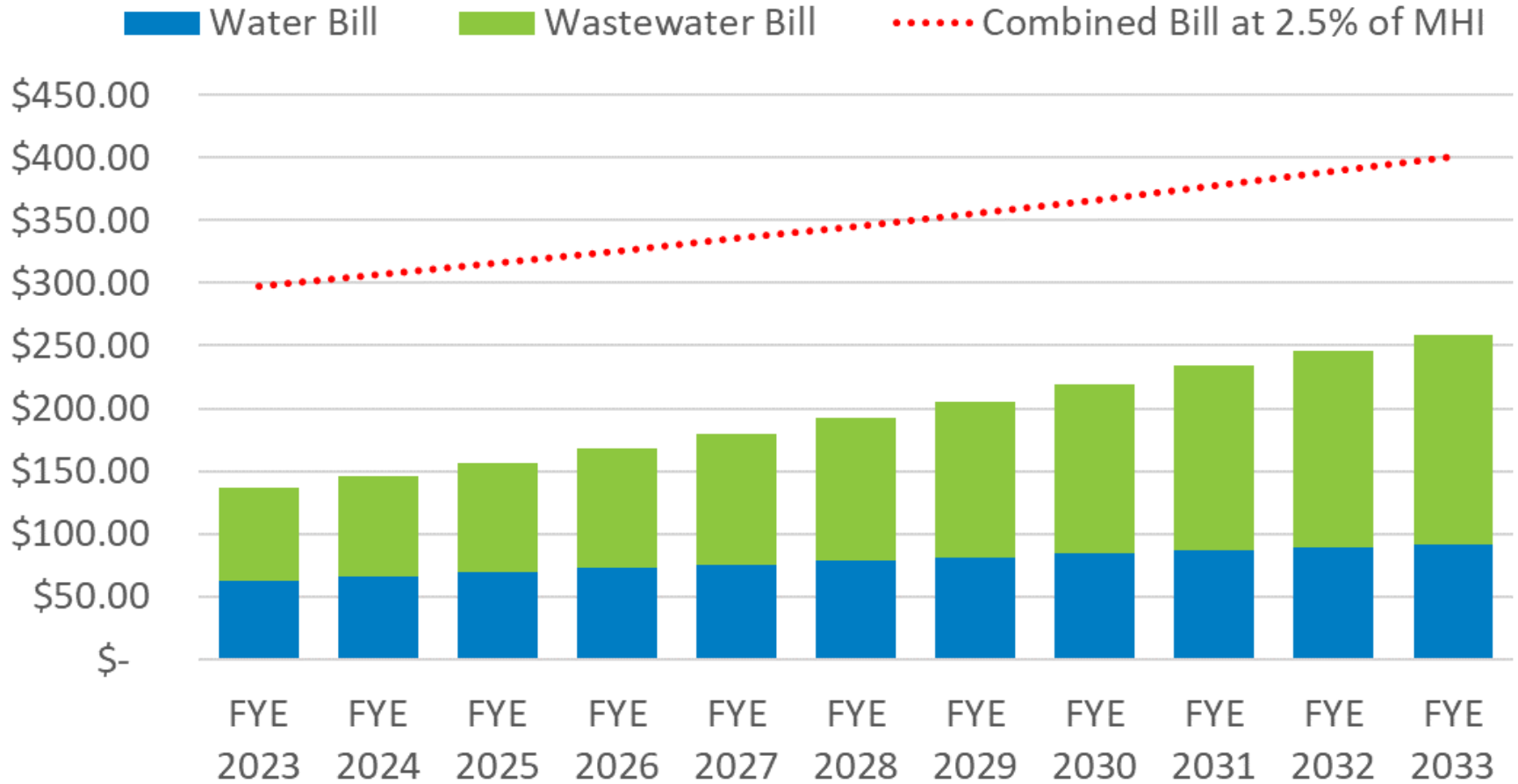
Forecasted Wastewater Rate Adjustments and Fund Balance



Rate Δ	0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.25%	9.25%	6.0%	6.0%
DSC Current	1.91	2.18	2.06	1.85	1.57	1.55	1.52	1.46	1.48	1.46	1.46
DSC Indenture	3.48	3.70	3.50	3.01	2.33	2.09	1.91	1.73	1.68	1.65	1.64



Forecasted Wastewater Fund Balance: Proposed Rate Adjustments



Combined Bill Impact	0%	7.2%	7.2%	7.2%	6.8%	6.9%	7.0%	6.8%	6.9%	4.9%	4.9%
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RATE STUDY PROCESS OVERVIEW

Rate Study Process



Policy & Rate Structure Review

- Financial Policies
- Sources of revenues
- Uses of Funds
- Long-term investments



Revenue Sufficiency Analysis

Compares the revenues of the enterprise to expenses to determine the level of rate adjustments needed.



Cost of Service Analysis

Equitably allocates the revenue requirements between customer classes



Rate-Design Analysis

Design rates for each customer class to meet the revenue needs of the utility along with other rate design goals



Integrated Public Outreach & Messaging

Develop a cohesive messaging and outreach program that harmonizes technical cost of service requirements and community values



COST OF SERVICE OVERVIEW

Cost of Service Methodology

Rate Revenue Requirements

Functionalization of Costs

Water

- Source of Supply
- Transmission
- Distribution
- Treatment
- Meters and Services
- Customer Service
- Fire Service

Wastewater

- Collection
- Stormwater
- Treatment
- Discharge
- Customer Service

Allocate Functions to Cost Components

Water

- Water Supply
- Avg. Day Demand
- Peak Day Demand
- Meters
- Customer Service
- Fire Protection

Wastewater

- Sewage Flow
- Stormwater Flow
- COD/TSS/FOG
- Customer Service

Distribute Cost Components to Customer Classes

Water

- Single Family
- Multi-Family
- Non-Residential
- Irrigation
- Contractors
- Fire Service
- Raw Water

Wastewater

- Single Family
- Multi-Family
- Non-Residential
- Stormwater Only

Functionalization

O&M Allocations

- Allocations determined using best available information
 - Maximo Data
 - FTE Analysis
 - Department lead's understanding of time spent

Debt Service Allocations

- Allocated by debt issuance
- BI Data used to assign funded projects to functions

CIP Allocations

- Allocations based on projects funded

Offsetting Revenues

- Allocations based on the nature of the revenue source



WATER ALLOCATIONS



Water Revenue Requirements

Expense Summary

Operating & Programmatic Expenses	\$335,462,308
Debt Service	\$333,499,425
Cash Funded Capital	\$50,376,658
Revenue Requirements	\$719,338,391

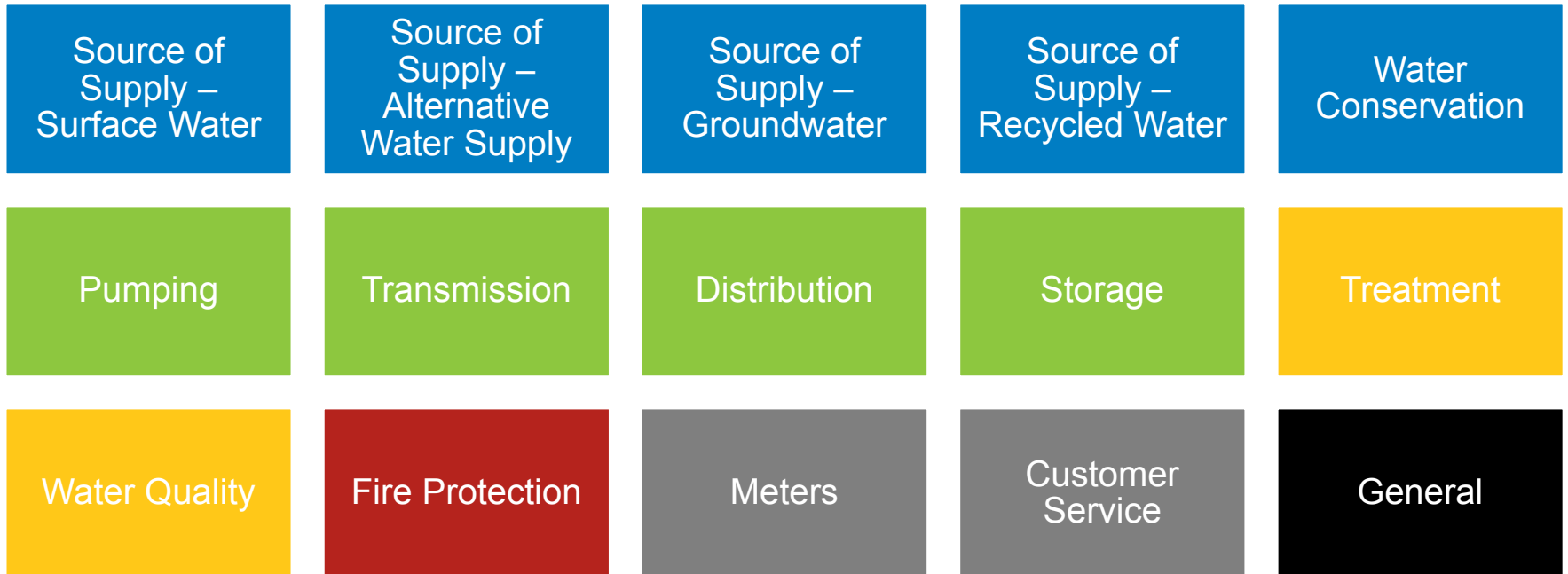
Offsetting Revenues

CAP Use of Revenues	\$7,000,000
Programmatic Revenues	(\$8,448,000)
Capacity Fees	(\$2,211,000)
Wholesale Water Sales	(\$318,249,517)
Misc Income	(\$53,530,007)
Use of Fund Balance	(\$1,464,218)
Total Offsetting Revenues	(\$376,902,743)

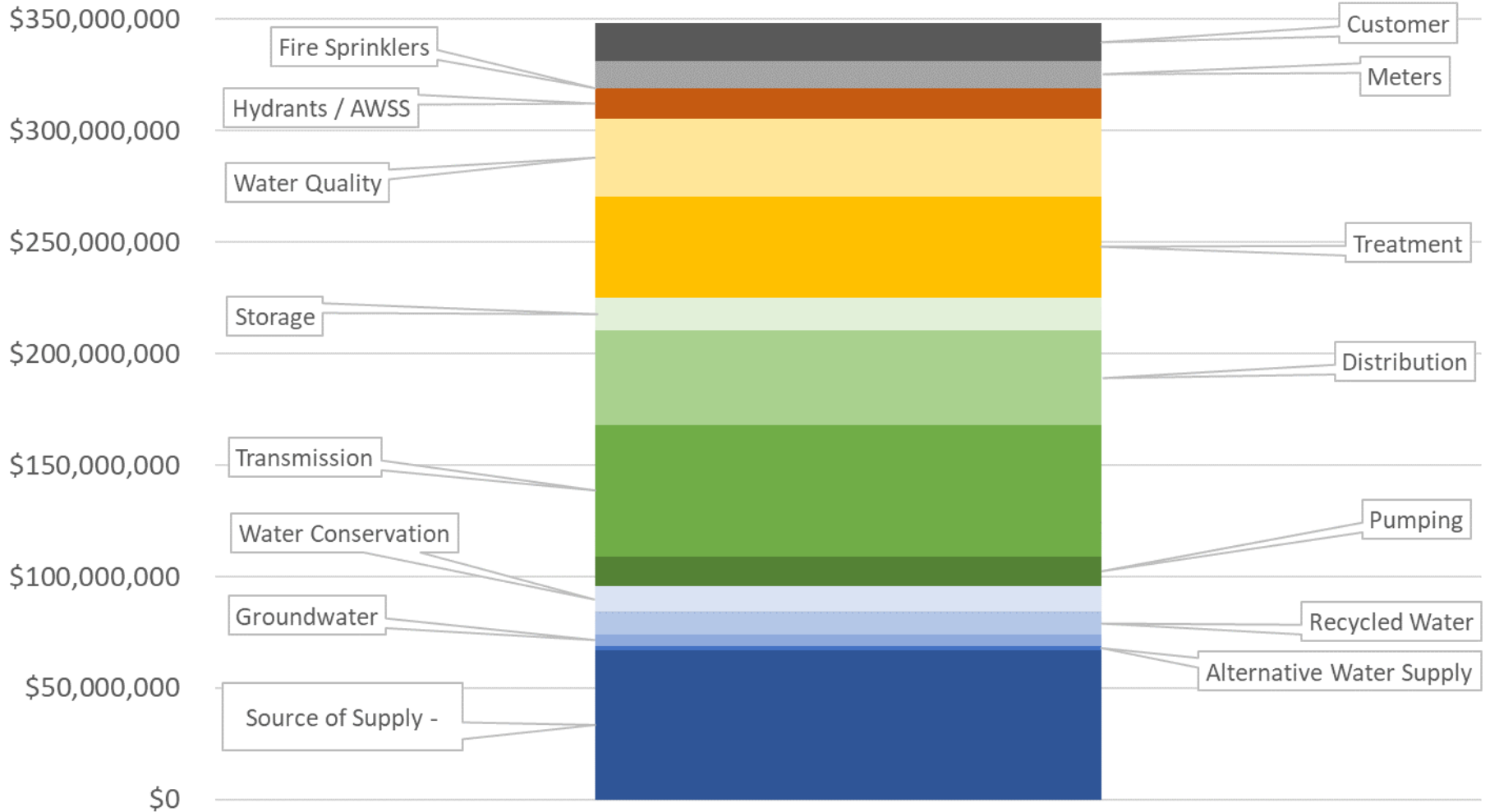
Retail Rate Revenue Requirements	\$342,435,648
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Water Functional Groups

1. Costs are allocated to functional categories



Functionalization Results



Water Cost Components

2. Functionalized costs are allocated to cost components

Raw Water
Supply

Base Demand
(Avg. Day)

Peak Demand
(Peak Day)

Conservation

Meters

Customer
Service

Fire
Protection

General

Water Function to Cost Components

Functional Categories

- Surface Water
- Alternative Water Supply
- Groundwater
- Recycled Water
- Water Conservation
- Pumping
- Transmission
- Distribution
- Storage
- Treatment
- Water Quality
- Meters
- Fire Protection
- Customer Service
- General

Cost Components

- Raw Water Supply
- Base (Avg. Day Demand)
- Peak (Peak Day Demand)
- Conservation
- Customer
- Meter

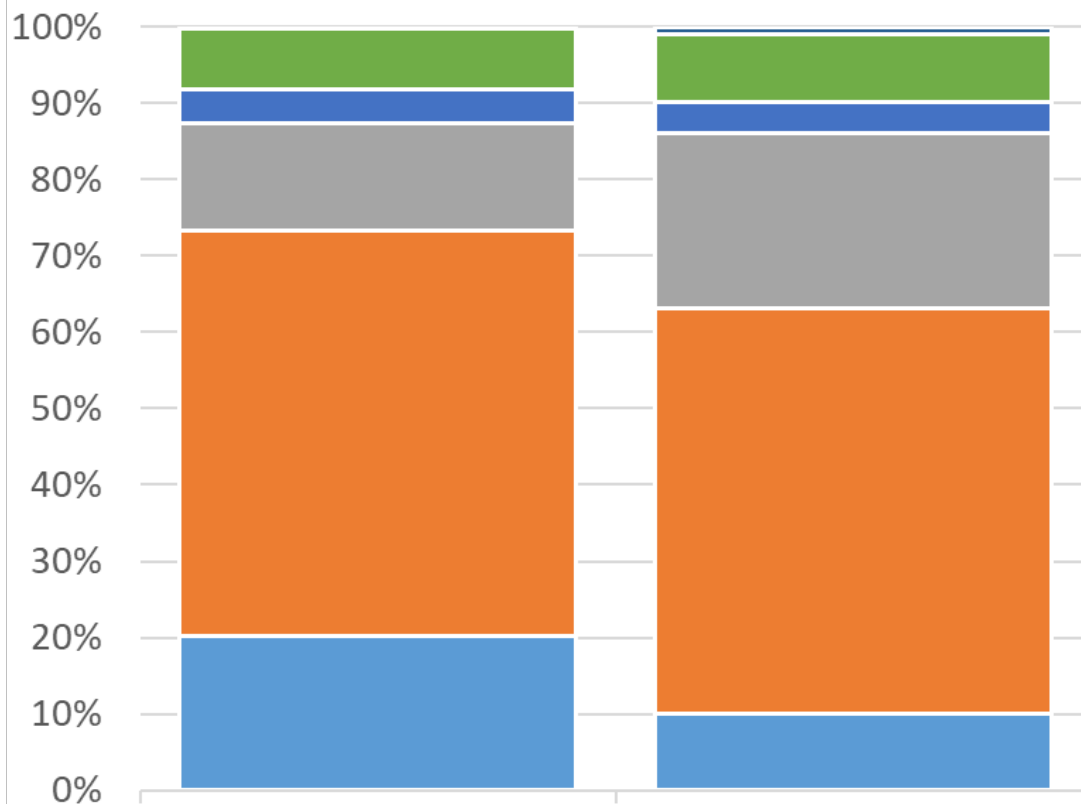
$$\frac{\text{Max Day (263.86 MGD)}}{\text{Average Day (198.15 MGD)}} = 1.33$$

Base Allocation: $\frac{\text{Avg Day Factor (1)}}{\text{Max Day Factor (1.33)}} = 75.1\%$

Max Day Allocation: $1 - 75.1\% = 24.9\%$

Allocations of Functional Categories to Cost Components are based on System Performance.

Cost Component Comparison



KEY CHANGES

- Reduction in Peaking
- Increase in Base, Water Supply, Meters, Customer, and Fire Protection
- Addition of Conservation

NEXT STEPS

- Refine assumptions for allocations
- Validate Peaking assumptions

Updated COS (\$)

Prior COS (\$)

Raw Water Supply
Max Day Peaking
Meters

Base Delivery
Conservation
Fire Sprinklers

Max Hour Peaking
Customer Service

Water Distribution to Classes

3. Cost component totals are allocated to customer classes

Single Family
Residential

Multi-Family
Residential

Non-Residential

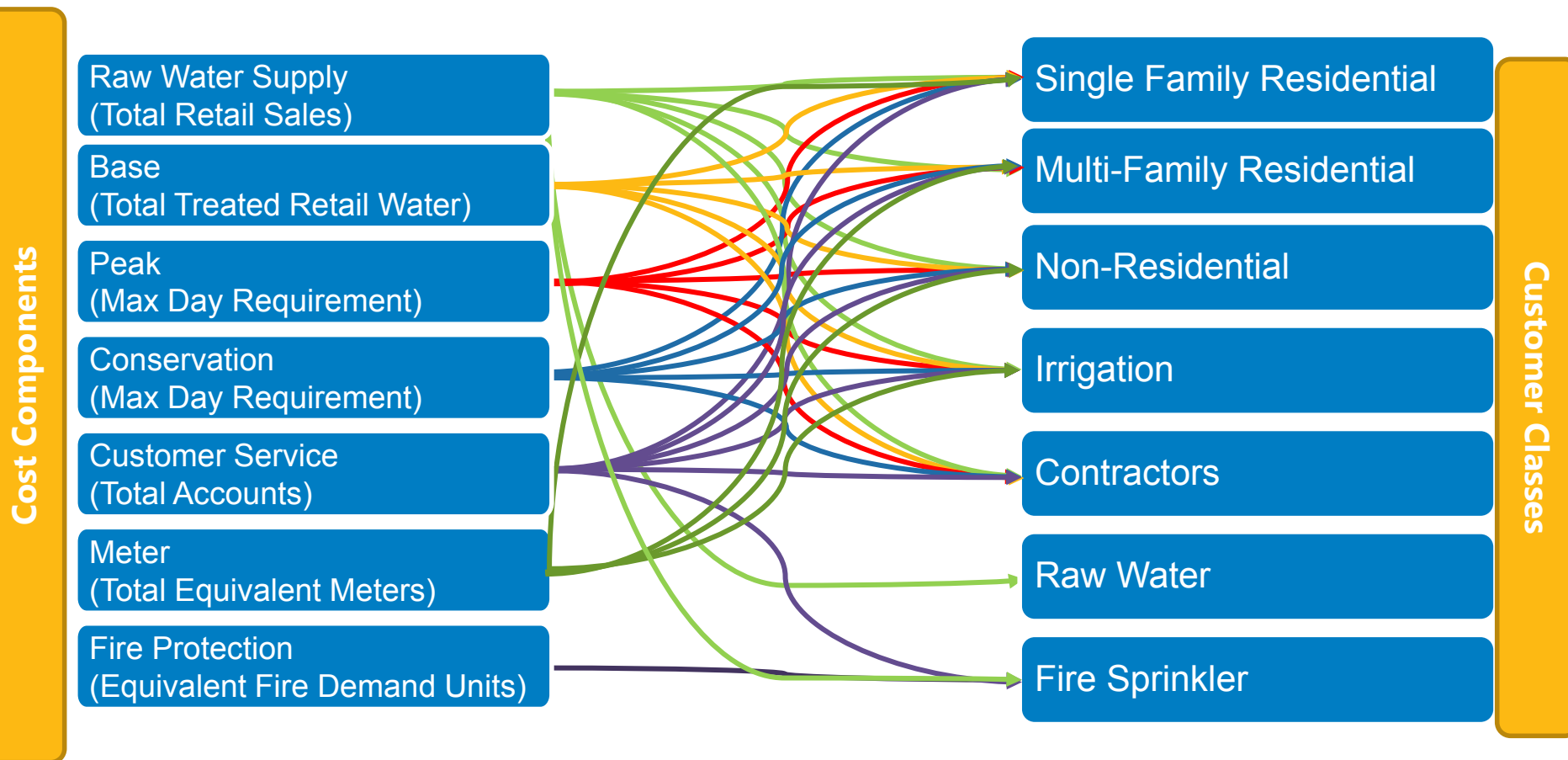
Irrigation

Raw Water

Contractors

Fire Sprinklers

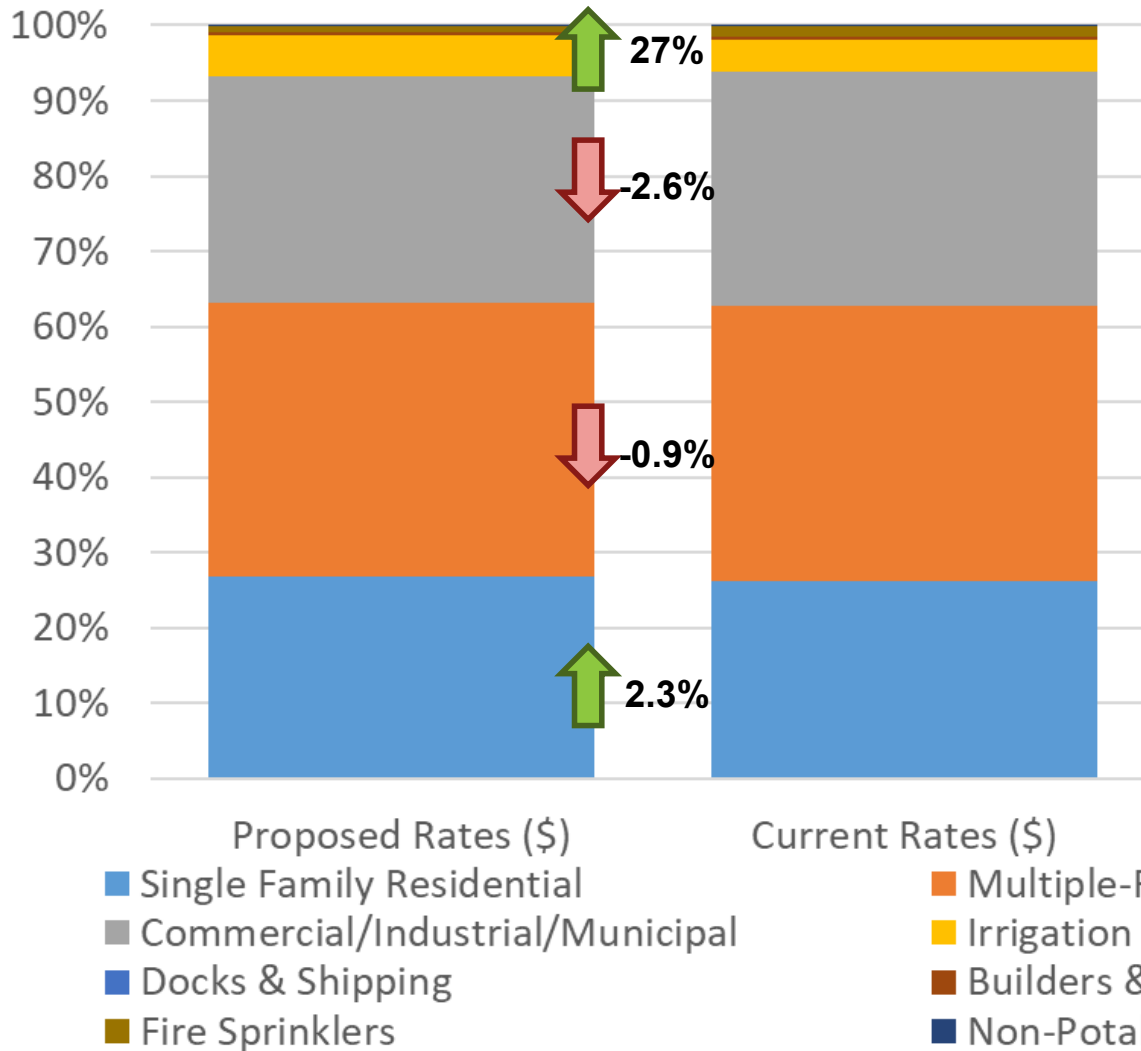
Water Cost Component to Customer Class



Allocations of Cost Components to Customer Classes are based on Customer Class Demand Using FY 2022 Data.



Allocation of Revenue Requirements to Customer Classes



KEY CHANGES

- Increase to Single Family
- Decrease to Multi-Family and Non - Residential
- Large increase to Raw Water and Irrigation
- Large decrease to Fire Sprinklers

Changes shown are additive to the first year of rate increases for an average customer

These changes are likely going to change as we refine our assumptions



Remaining Work to Complete Water Allocations

Deep Dive Review
of the COS
Assumptions with
RFC

Validate data
source for
Peaking Behavior

Review Fire
Protection
Methodology



WASTEWATER ALLOCATIONS

Wastewater Allocation Methodology

1. Costs are allocated to functional categories

Headworks

Primary
Treatment

Secondary
Treatment

Disinfection
/ Discharge

Solids
Handling

Pumping /
Lift Stations

Stormwater

General
Collections

Customer
Service

General

2. Functionalized costs are allocated to cost components

Stormwater
Flow

Sewage
Flow

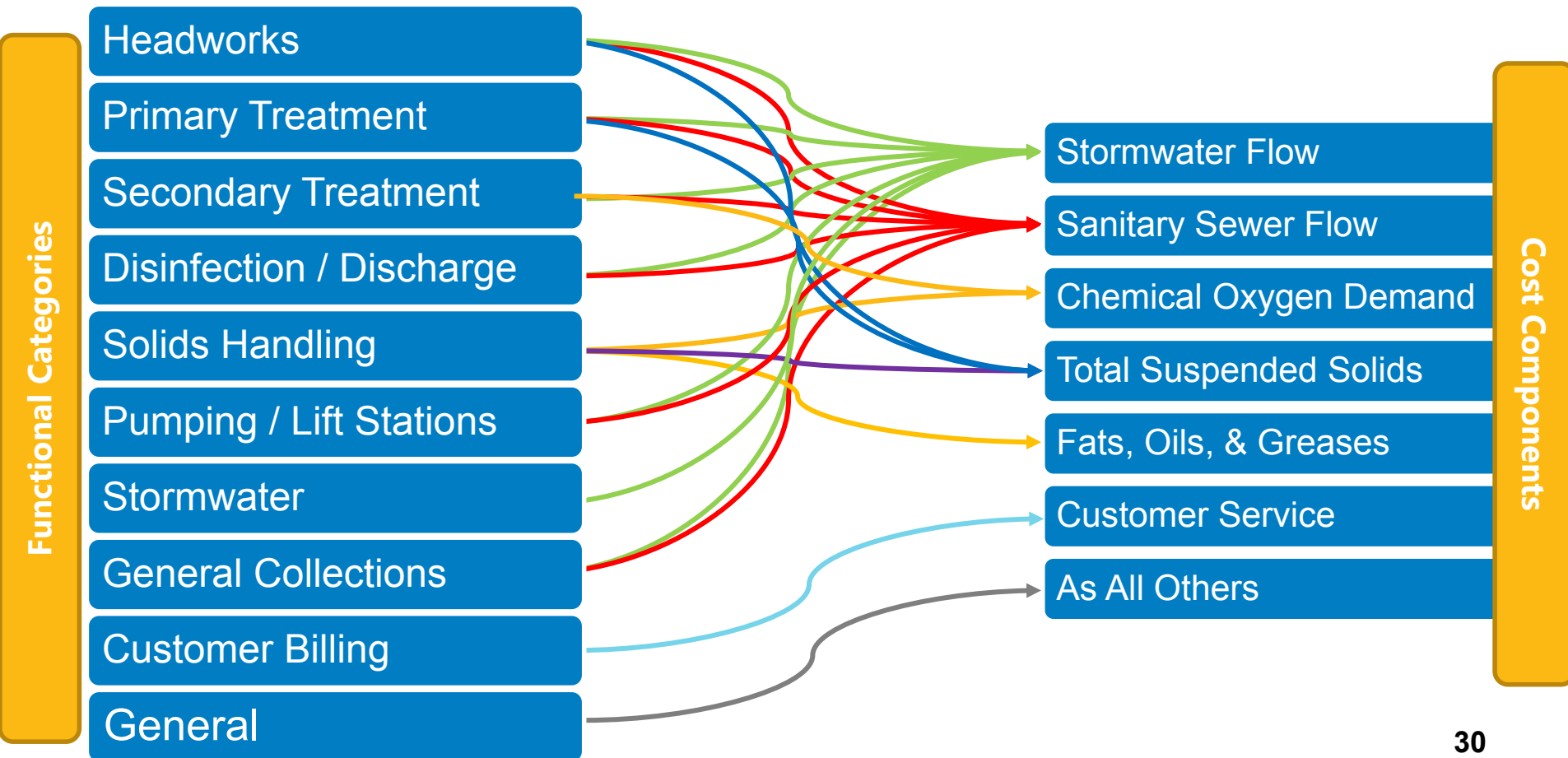
Chemical
Oxygen
Demand

Total
Suspended
Solids

Fats, Oils, &
Greases

Customer
Service

Wastewater Allocation Methodology



3. Cost component totals are allocated to customer classes

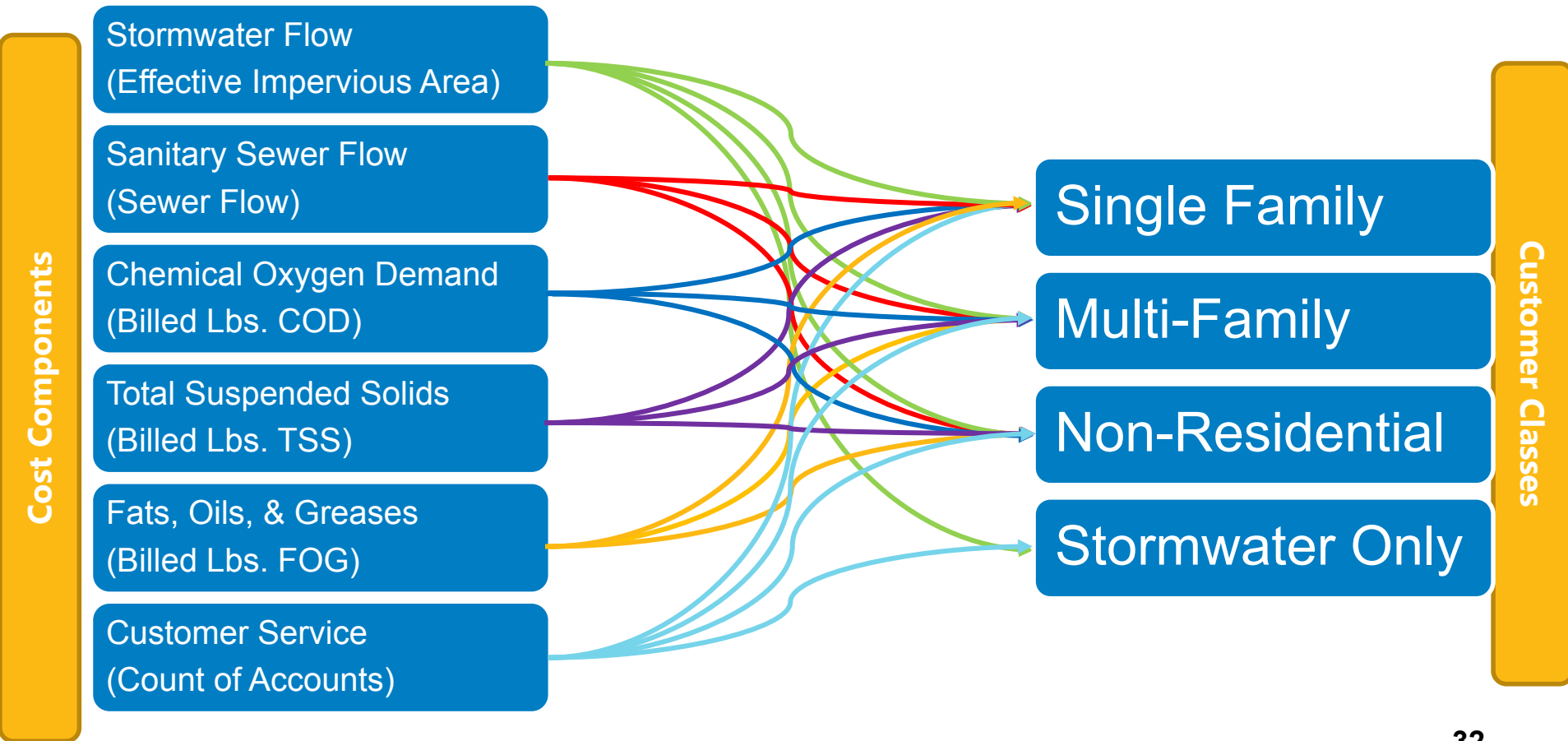
Single
Family
Residential

Multi-Family
Residential

Non-
Residential

Stormwater
Only

Wastewater Allocation Methodology



Remaining Work to Complete Wastewater Allocations



Prepare Draft allocations
to Cost Components
and Classes

Evaluate Implications of
Phasing in Stormwater
COS



NEXT STEPS

Next Steps

- Scrub COS assumptions with Consultant
- Initiate the Rate Design Process
- Finalize customer outreach and engagement plan
- Develop implementation plan and timeline for billing system

RFB Schedule

Approximate Timing (Week of)	Topic
January 23	<ul style="list-style-type: none">• Rate Design Process• Preliminary Rate Structure Alternatives
February 13	<ul style="list-style-type: none">• Discussion of Preferred Rate Structure• Final Schedule of Rates
February 27	<ul style="list-style-type: none">• Review of Draft Report• Review of Proposal to Commission
March 20	<ul style="list-style-type: none">• Prepare for Prop 218 Hearing

Schedule will likely adjust as we proceed with the rate study.

Discussion & Questions





WATER ENTERPRISE DETAILS



Water Functionalization to Cost Components

Allocation of Functions to Cost Components (\$)	Raw Water Supply	Base Delivery	Max Day Peaking	Max Hour Peaking	Conservation	Customer Service	Meters	Private Fire Protection	General	Revenue Offsets	Total
Functions											
Source of Supply - Surface Water	\$20,163,687	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$20,163,687
Alternative Water Supply	\$0	\$6,324,631	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$6,324,631
Groundwater	\$0	\$6,088,217	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$6,088,217
Recycled Water	\$0	\$11,177,565	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$11,177,565
Water Conservation	\$0	\$0	\$0	\$0	\$8,750,118	\$0	\$0	\$0	\$0	\$0	\$0 \$8,750,118
Pumping	\$0	\$8,611,730	\$2,855,616	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$11,467,346
Transmission	\$0	\$77,261,655	\$25,619,662	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$102,881,317
Distribution	\$0	\$14,401,542	\$4,775,495	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$19,177,037
Storage	\$0	\$27,753,789	\$9,203,048	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$36,956,837
Treatment	\$0	\$62,313,302	\$20,662,847	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$82,976,149
Water Quality	\$0	\$22,537,502	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$22,537,502
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$16,437,949	\$0	\$0	\$0	\$0 \$16,437,949
Hydrants / AWSS	\$0	\$0	\$0	\$0	\$0	\$0	\$5,671,270	\$0	\$0	\$0	\$0 \$5,671,270
Private Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,049,828	\$0	\$0	\$0 \$1,049,828
Customer	\$0	\$0	\$0	\$0	\$0	\$15,818,572	\$0	\$0	\$0	\$0	\$0 \$15,818,572
Bureau	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
Indirect - General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 \$0
Revenue Offsets	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0 (\$25,042,377)	(\$25,042,377)
Preliminary Cost of Service Allocation	\$20,163,687	\$236,469,933	\$63,116,668	\$0	\$8,750,118	\$15,818,572	\$22,109,219	\$1,049,828	\$0	(\$25,042,377)	\$342,435,648



Water Customer Class Units of Service

Retail Customer Peaking	Annual Water Use (CCF)	Annual Water Use (CCF)	Average Daily Water Use (CCF)	Max Day Factor	Max Day Capacity (CCF/Day)	Max Day Extra Capacity (CCF/Day)
Single-Family Residential						
Tier 1	4,041,084	4,041,084	11,071	1.03	11,385	313
Tier 2	2,360,931	2,360,931	6,468	1.20	7,776	1,308
Subtotal	6,402,014	6,402,014	17,540		19,161	1,621
Multiple-Family Residential						
Tier 1	6,888,953	6,888,953	18,874	1.00	18,824	-50
Tier 2	3,850,847	3,850,847	10,550	1.05	11,127	577
Subtotal	10,739,799	10,739,799	29,424		29,951	526
Non-Residential	8,238,134	8,238,134	22,570	1.10	24,863	2,293
Municipal	794,151	794,151	2,176	1.10	2,397	221
Irrigation	1,216,473	1,216,473	3,333	1.10	3,671	339
Untreated Water	169,588	169,588	465	N/A	N/A	N/A
Fire Service	31,711	0	0	N/A	N/A	N/A



Water Cost Components to Customer Class

Allocation of Functions to Cost Components (\$)	Raw Water Supply	Base Delivery	Max Day Peaking	Max Hour Peaking	Conservation	Customer Service	Meters	Private Fire Protection	Revenue Offsets	Total
Single Family Residential	\$4,683,870	\$55,270,257	\$14,605,370	\$0	\$2,836,934	\$10,037,614	\$14,632,169	N/A	(\$5,853,170)	\$96,213,044
Multiple-Family Residential	\$7,857,500	\$92,719,482	\$4,743,740	\$0	\$921,420	\$3,265,335	\$10,948,582	N/A	(\$9,819,076)	\$110,636,982
Non-Residential	\$6,027,220	\$71,121,953	\$20,657,365	\$0	\$4,012,469	\$1,387,267	\$6,367,941	N/A	(\$7,531,878)	\$102,042,337
Municipal	\$581,020	\$6,856,113	\$1,991,357	\$0	\$386,800	\$69,883	\$869,063	N/A	(\$726,068)	\$10,028,168
Irrigation	\$890,001	\$10,502,129	\$3,050,342	\$0	\$592,496	\$147,627	\$912,338	N/A	(\$1,112,185)	\$14,982,749
Untreated Water	\$124,075	N/A	N/A	N/A	N/A Sales		\$0	N/A	N/A	\$124,075
Fire Service	N/A	N/A	N/A	N/A	N/A	\$910,847	N/A	\$7,497,446	N/A	\$8,408,293
Total	\$20,163,687	\$236,469,933	\$45,048,175	\$0	\$8,750,118	\$15,818,572	\$33,730,094	\$7,497,446	(\$25,042,377)	\$342,435,648