Washougal Rate Study

CAC Meeting #1: Rate Setting Fundamentals

January 25, 2023

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Solutions-Oriented Consulting

consor

Welcome & Introductions

- **Welcome!**
- **Team Introductions**
- **CAC Introductions**

Agenda

- Welcome & Introductions
- CAC Role & Schedule
- Rate Setting Fundamentals
- Prior Rate Setting Background
- Wrap-up & Next Steps

CAC Role & Schedule

- Role in public process
- Meet 5 times: January – September 2023
- Represent the Community
- Provide input, feedback, and recommendations
- Discussion/Questions

Operating Principles

1. I will come to each meeting with an open mind
2. I will focus on solutions
3. I will listen to what others have to say and do my best to understand
4. I will let others participate
5. I will treat others with respect
6. I will think before speaking
7. It's ok to disagree, but I will do my best to find common ground
8. I will stay on topic
9. I will explore interests, not positions
10. I will tackle the topic, not the person
11. I will work to reach consensus on all decisions

Rate Setting Fundamentals

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Discussion Overview

- **System description**
- **Role of rate studies**
- **Overview of the rate setting process**
  - Revenue Requirement
  - Cost of Service
  - Rate Design
- **Input / questions / discussion**
- **Next steps**

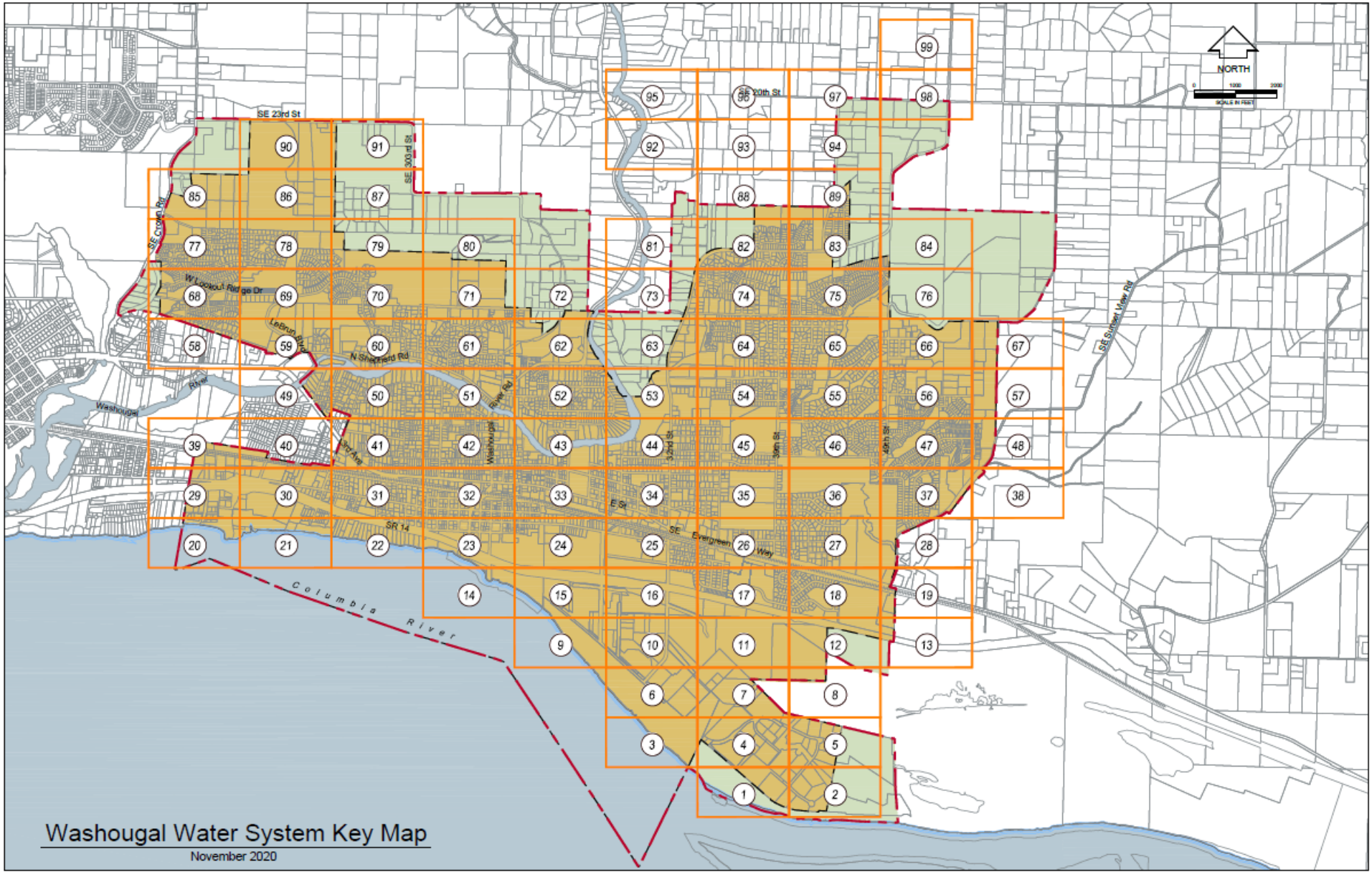
Glossary of Terms

- A&G – administrative and general
- BOD – biochemical oxygen demand
- CAC – citizen advisory committee
- CCF – 100 cubic feet
- CIAC – contributions in aid of construction
- CIP – capital improvement program
- COSA – cost-of-service analysis
- CPI – consumer price index
- DSC – debt service coverage
- ELIL – extremely low income level on the HUD federal site
- ERU – equivalent residential unit
- HUD – housing and urban development
- M&S – meters & services
- MCE – meter capacity equivalent
- MSE – meter service equivalent
- O&M – operating & maintenance
- R&R – renewal and replacement
- RRF – replacement reserve funding
- SDC – system development charge
- T&D – transmission & distribution
- TSS – total suspended solids
- VLIL – very low income level on the HUD federal site

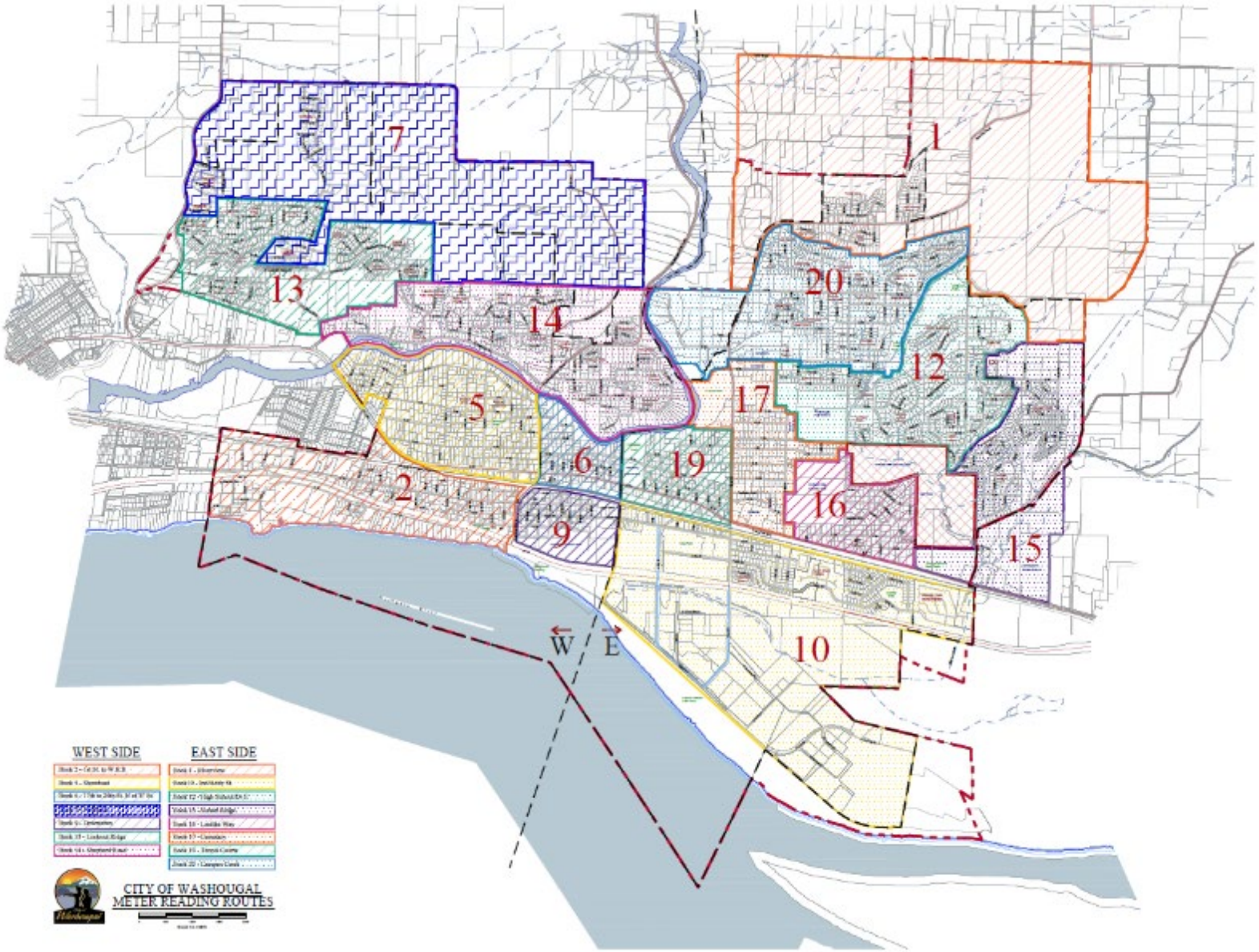
System Overview – Water

- **2021 System Description**
  - 5,700 customers
  - 603,243,000 gallons produced
  - 83 miles of water mainline
  - 6 active groundwater wells
  - 4,908 water quality samples
  - 7 water leaks repaired
  - 1,472 radio read water meters installed

Water System Map



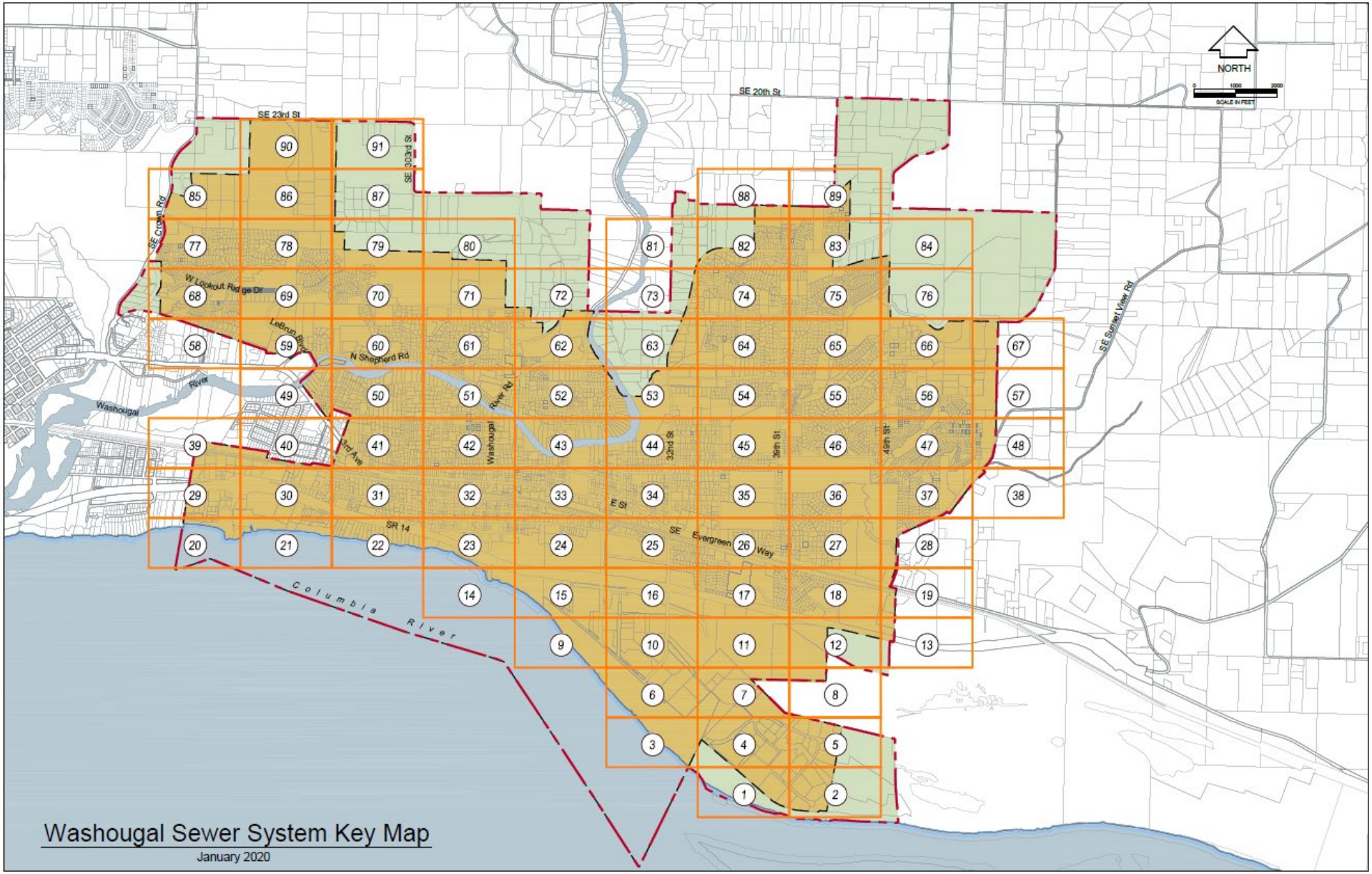
Meter Reading Map



System Overview – Sewer

- **2021 System Description**
  - 5,400 customers
  - 448,825,000 gallons treated
  - 4.6 miles sewer inspected
  - 255 tons of biosolids produced
  - 5,588 wastewater lab tests

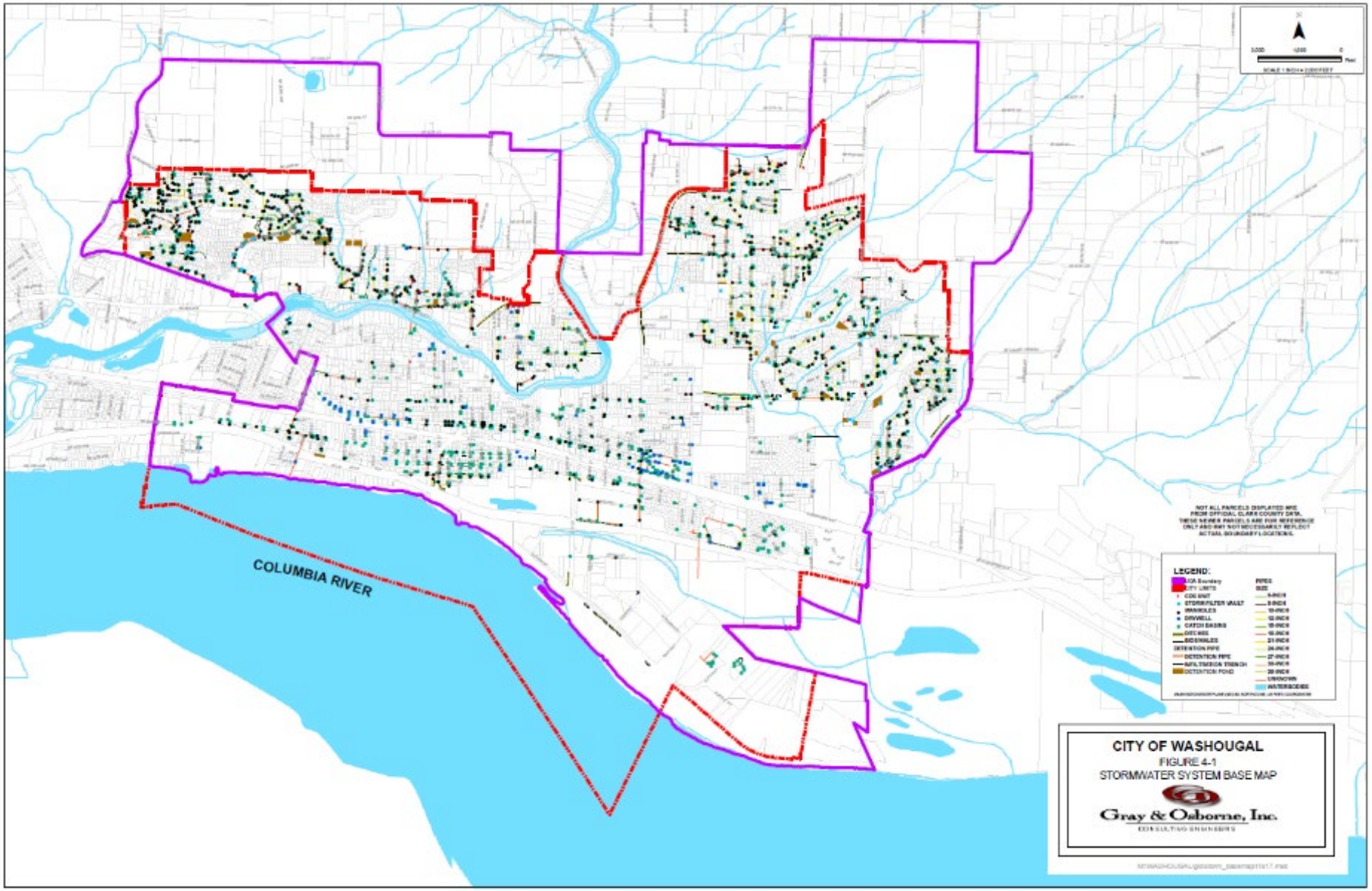
Sewer System Map



System Overview – Stormwater

- **2021 System Description**
  - 5,800 customers
  - 38+ miles of pipes
  - 10 miles of drainage ditches
  - 875 catch basins cleaned / inspected
  - 509 tons of debris cleared from streets and facilities
  - 187 City stormwater facilities
  - 50 planters + 35 bioswales
  - 20 detention ponds + 219 City owned drywells

Stormwater System Map



Role of Long-Term Financial Planning


Maintain the long-term health and integrity of utility systems


Quantify policies, priorities, and initiatives


Tell the “true” cost of providing service

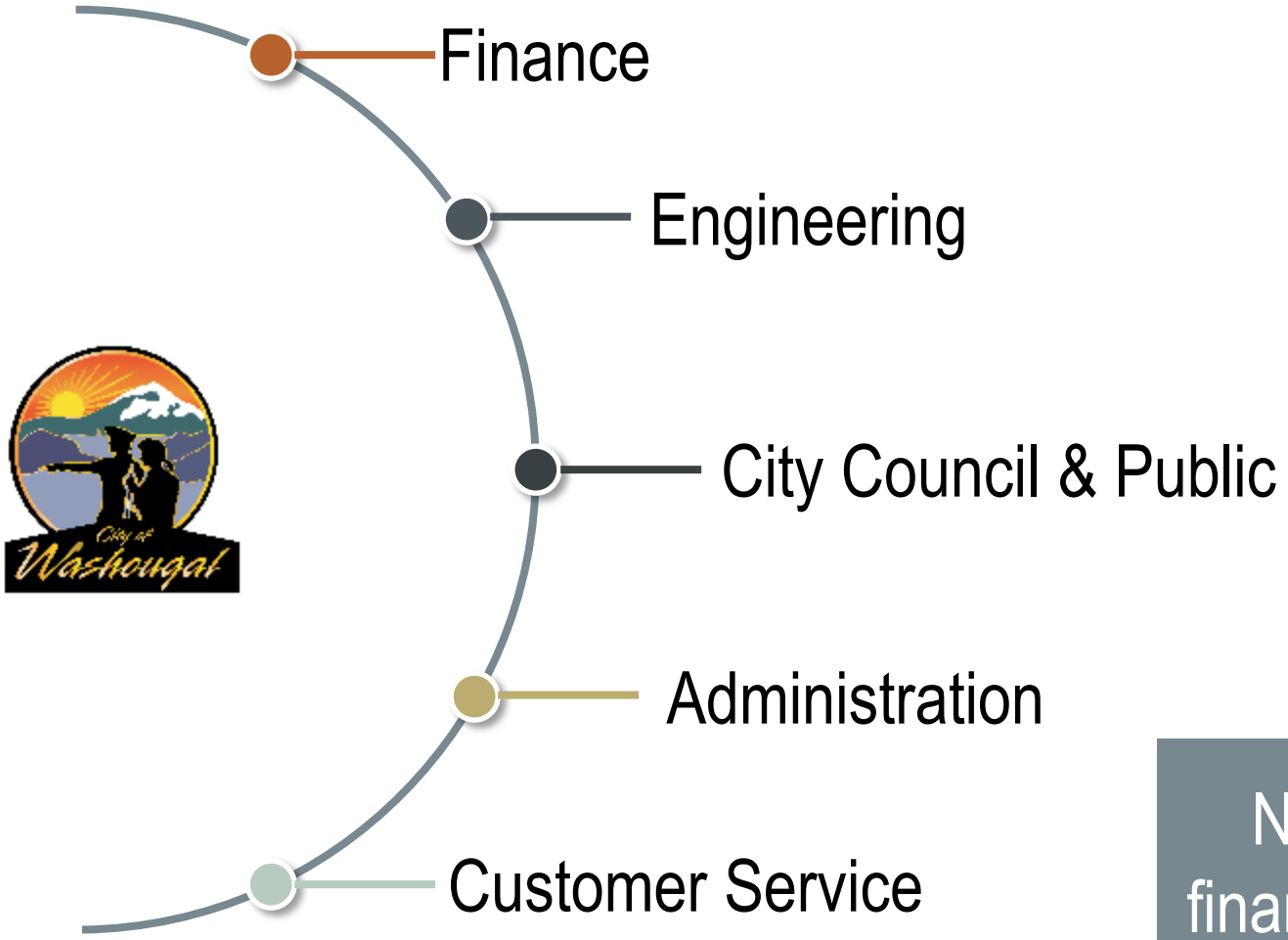

Track cost information


Evaluate equity among customer groups


Communicate financial decisions and their impact


Management tool

A Successful Rate Study is…



Not simply a financial exercise

Overview of Rate Setting Process

Fiscal Policies – Set the Management Foundation

Step 1:
Revenue Requirement
(defining overall needs)

- Revenue
- Debt
- Reserves
- O&M
- Capital

Step 2:
Cost of Service
(equity evaluation)

- Define Customer Classes
- Allocate Costs

Step 3:
Design Rates
(collect target revenue)

- Fixed Charge
- Variable Charge

Financial Policies

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Role of Financial Policies

Performance & Budgeting

How well are we financially performing compared to our standards and goals?

Contingency Planning

Are we financially prepared to respond to disruptions (e.g., natural disaster, economic downturn, equipment failure)?

Decision Framework

Do our financial and rate decisions align with our strategic goals, public priorities, and utility obligations?

Communication Tool

Do our financial policies provide documentation of our management philosophy to customers and stakeholders?

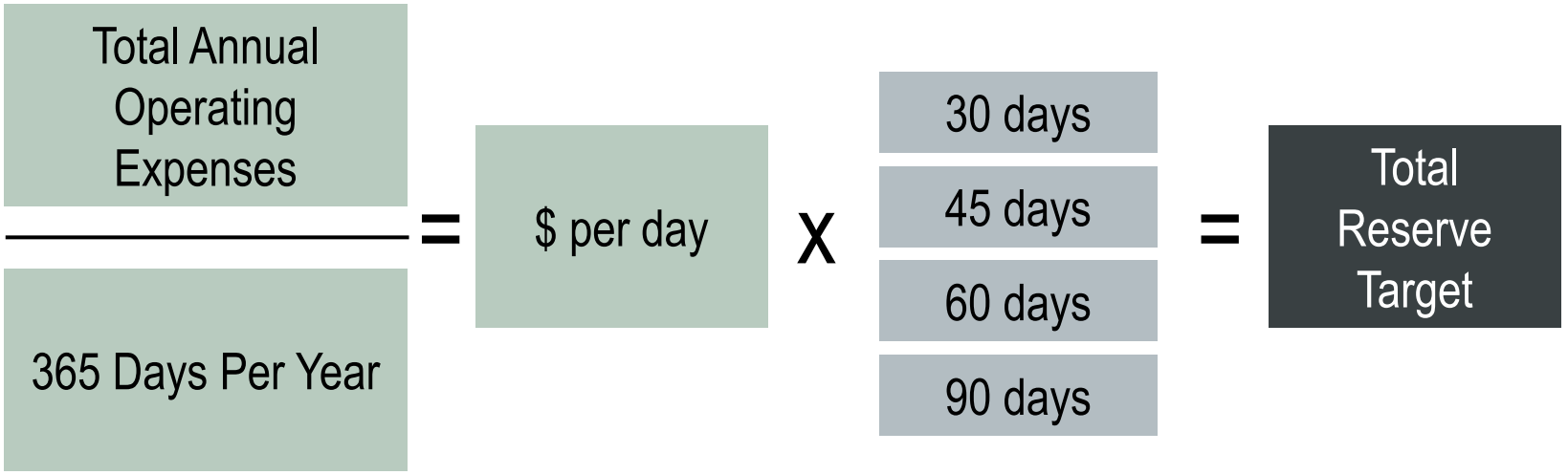
Documentation of Policies is Ideal

Example Financial Policies

Policy	Purpose	Target
Operating Reserve	Liquidity cushion to accommodate cyclical cash flow fluctuations	Water: 60-90 days O&M Sewer: 45-60 days of O&M Stormwater: 30-45 days of O&M
Capital Contingency Reserve	To meet emergency repairs, unanticipated capital, and project cost overruns	1% of assets value
Replacement Reserve Funding (RRF)	Promote ongoing system replacement through reinvestment in the system	Phase-in towards annual depreciation expense
Debt Service Coverage (DSC)	Compliance with existing loan/debt covenants and maintain credit worthiness for future debt issuance	Target 2.00; Minimum Requirement 1.25
Rate Setting	A multi-year financial plan	Five-year plan 2024-2028
Revenue Sufficiency	Set rates to meet the total annual financial obligations of each utility and be self supporting	Rates shall be set to cover O&M, debt service and fiscal policy achievement

Operating Reserve Example

- **Target typically equals a "number of days"**
- **For example 30, 45, 60, or 90 days**
- **Higher target for utilities with longer billing cycles / volatile revenue**



Coverage Example

Description		Example	
Total revenue	$	4,000,000	
less: O&M expenses		3,500,000	
Net available for debt service	**$**	**500,000**	A
Annual revenue bond debt service	$	250,000	B
Coverage ratio		**2.00**	A ÷ B

EXAMPLE ONLY

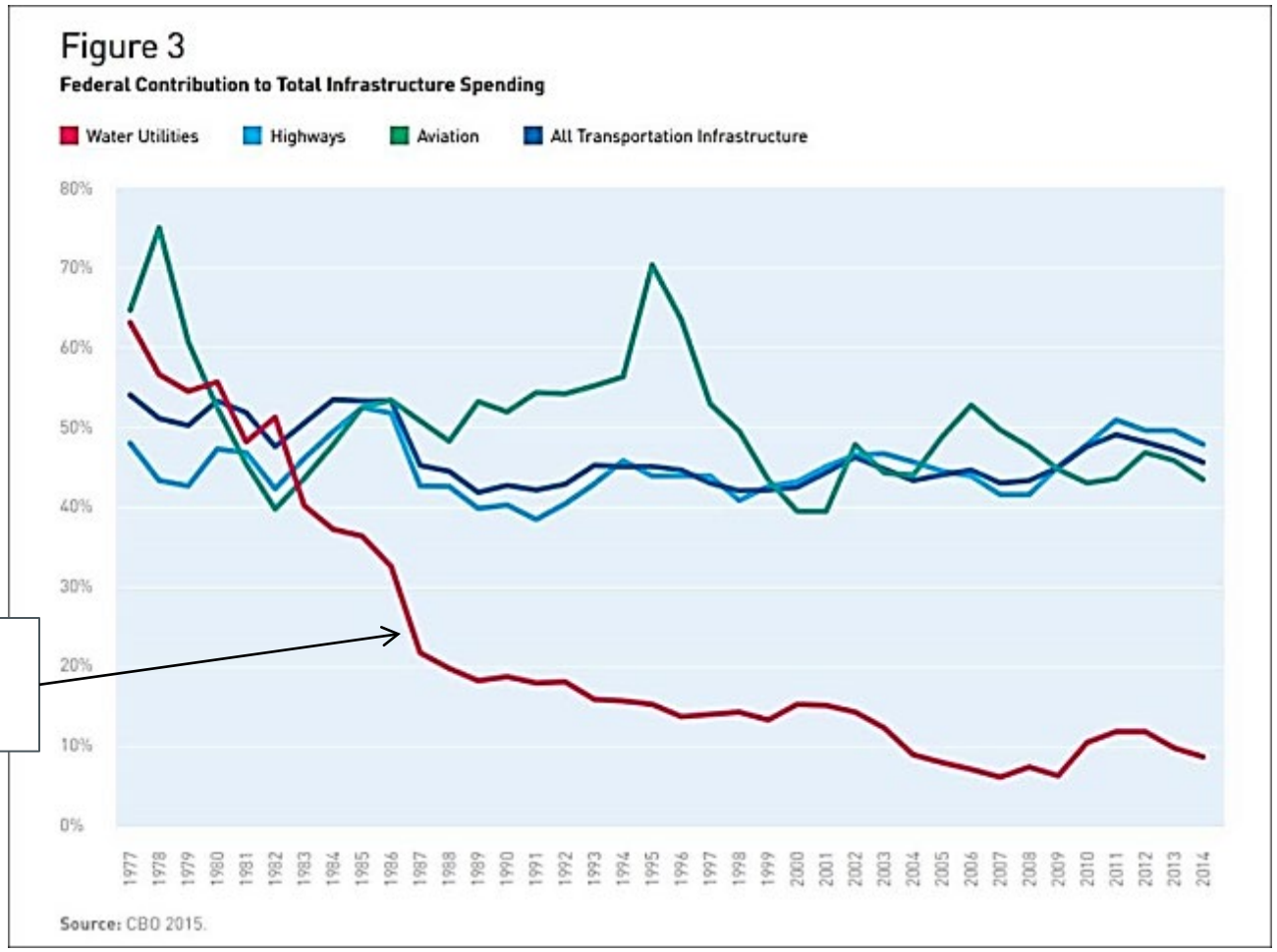
Replacement Reserve Funding

- **Utilities must build, maintain, and replace infrastructure**
- **Long lived assets require long-term management**
  - » Operational management: condition assessments & maintenance
  - » Financial management: saving money for repair and replacement

Decline in Federal Spending for Utilities

>60%

Water Utilities



<10%

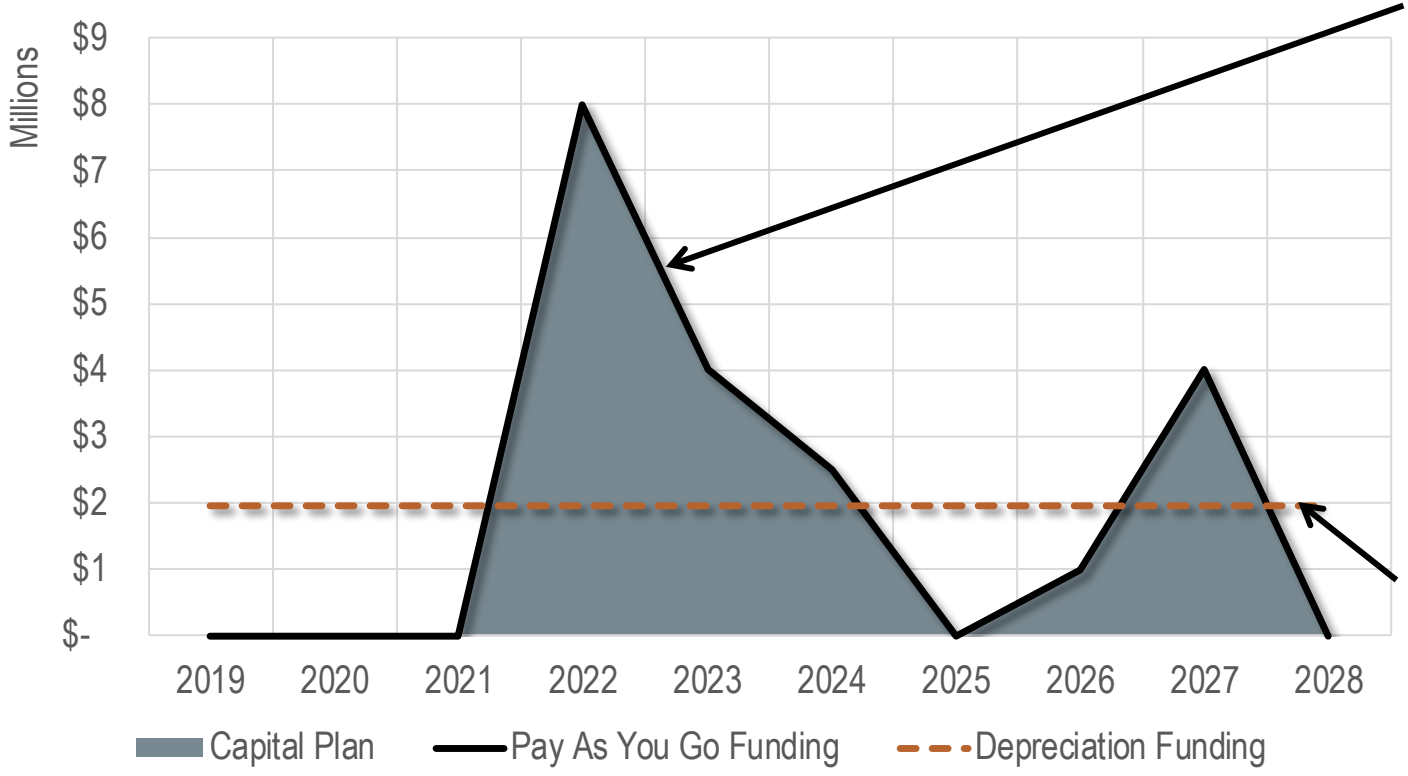
Proactive RRF Plan Needed

- **Rate Funded RRF – what is it?**
  - An annual cash contribution from current rate revenue
  - Pays for same-year repair & replacement projects… or
  - Saved for future capital projects

- **Policy Targets – how much do we need?**
  - Original or replacement cost annual depreciation
  - Average annual repair & replacement projects
  - Asset management plan

Build ‘Replacement Reserve Funding ’ into annual revenue needs

Replacement Reserve Funding Example



- With pay-as-you go, rates are very volatile
- Depreciation funding recognizes annual CIP spending may not be uniform
- With annual funding, rate adjustments can be smoothed over time

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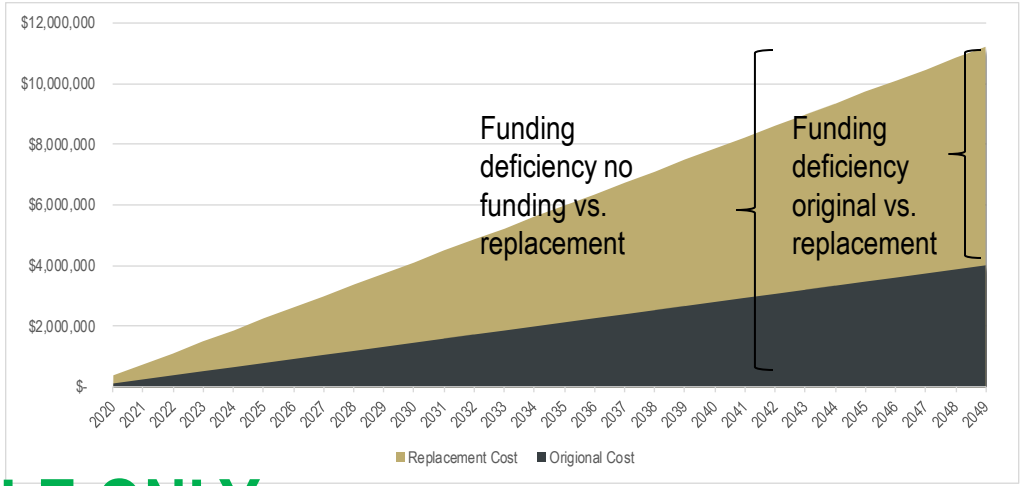
Funding Impacts Example

- **Storage tank original cost: $4.0 million**
- **Useful life: 30 years**
- **Inflation: 3.5%**
- **Replacement cost: $11.2 million**
- **Annual funding:**
  - » Original cost: $133k per year
  - » Replacement cost: $374k per year
- **At time of replacement:**
  - » No funding: $11.2 deficient
  - » Original cost: $7.2 deficient



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Revenue Requirement

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Revenue Requirement Objectives

- **Determine the amount of annual revenue necessary to fund all financial obligations on a *standalone basis***
  - » Operating expenses
  - » Debt service (principal & interest)
  - » Capital costs and funding approach
- **Meet financial parameters and targets**
  - » Target debt service coverage ratios
  - » Maintain target reserve balances
- **Evaluate revenue sufficiency over a multi-year period**
- **Develop rate plan to balance financial needs and minimize customer impacts**

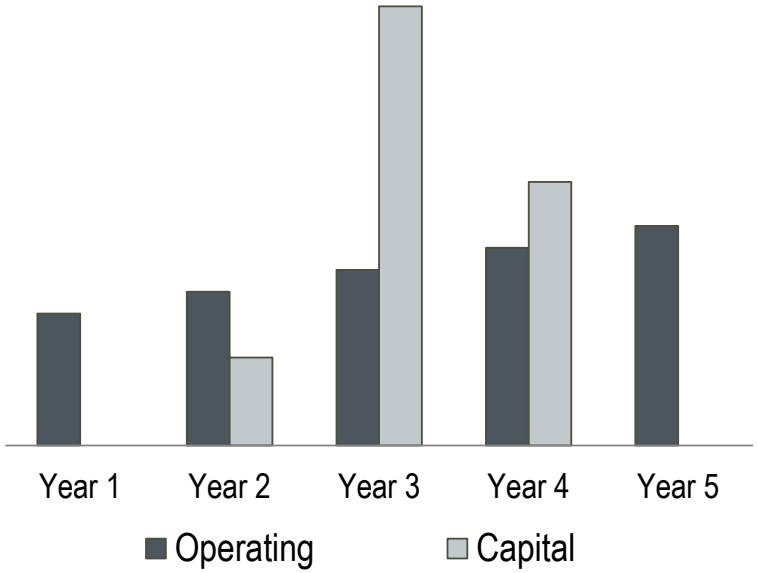
Revenue Requirement Elements

Revenue Considerations

- **Forecast of revenue generated by customer class**
  - » Should consider 3-5-year historical revenue trends
  - » Consider normalizing for weather impacts
- **Include revenue from other operating fees / charges**
- **Do not include beginning balance**
  - » One-time revenue that can hide rate evaluation
  - » Used to smooth out rate plans, not an ongoing funding source

Two Primary Types of Costs

- **Operating costs (regular / ongoing)**
  - » Employee salaries and benefits
  - » Power and chemicals
  - » Asset repair and maintenance
  - » Budget documents as baseline
- **Capital costs (irregular / periodic)**
  - » Infrastructure replacement
  - » Facility expansions and upgrades
  - » Based on City's long range capital plans



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Operating Cost Considerations

- Historical cost review
- Inflation factors, CPI, CCI, labor contracts
- Strategic program initiatives
- Additional or enhanced needs (staffing, regulatory requirements)
- Increasing costs (purchases, materials, supplies, utilities)

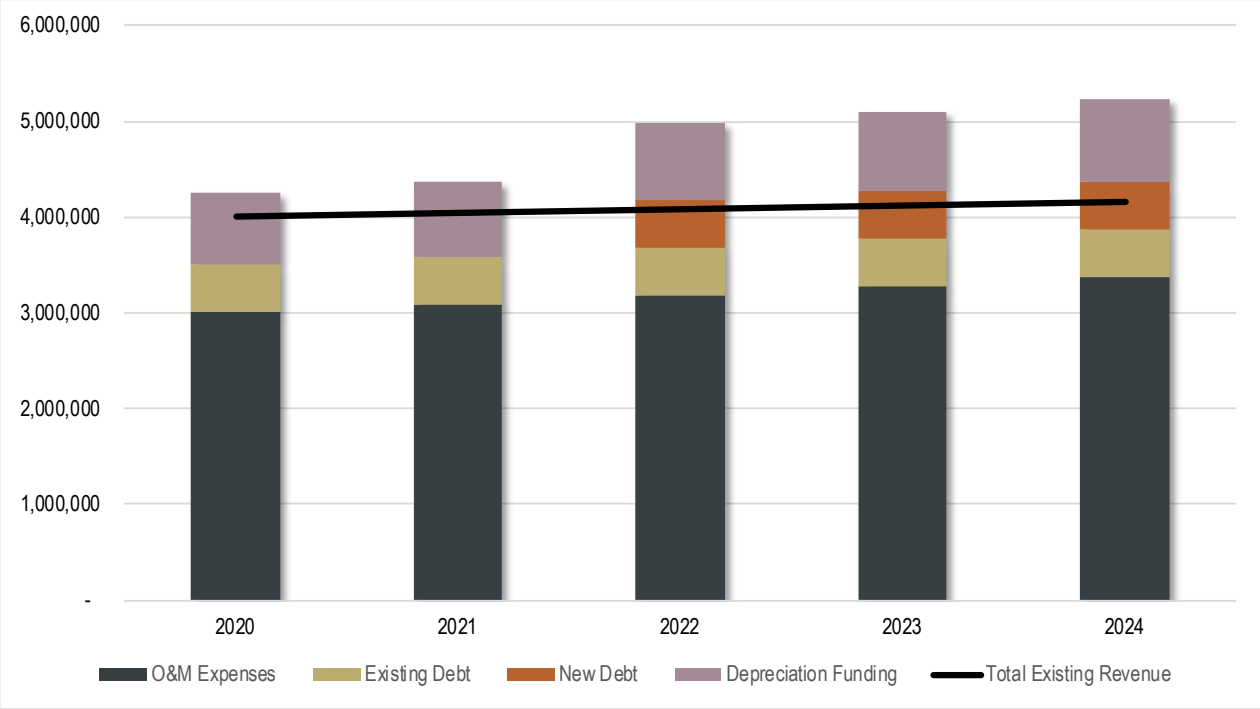
Capital Cost Considerations

- **Funding Philosophy**
  - » Cash (pay-as-you-go) – **Higher Near-Term Rates**
    - – Existing customers pay 100% of initial costs
  - » Debt financing – **Lowest Near-Term Rates**
    - – Mitigates immediate rate impacts of costly capital
    - – Aligns costs to useful life of asset
    - – Spreads costs between existing and future ratepayers
    - – Debt capacity may be an issue
  - » Hybrid
    - – Define a reasonable basis for cash/rate funding (R&R projects?)
    - – Evaluate need for debt (large, long life projects)
    - – Aligns funding with nature of capital project

Revenue Sufficiency

- **Evaluated in terms of two tests:**
  - *Cash flow*: revenue sources will meet total cash outlays
  - *Coverage*: allowable revenue will equal at least cash operating expenses plus a multiple of revenue bond debt service (e.g., 2.00 times annual bond payment)

Rev. Requirement / Overall Revenue Needs



- Identifies total financial obligations
- Evaluates sufficiency of existing rates
- Develops annual rate strategy

Description	2020	2021	2022	2023	2024
Example Utility		**3.00%**	**3.00%**	**3.00%**	**3.00%**
Example Residential Bill	*$ 60.14*	*$ 61.94*	*$ 63.80*	*$ 65.71*	*$ 67.68*
$ Difference		*$ 1.80*	*$ 1.86*	*$ 1.91*	*$ 1.97*

EXAMPLE ONLY

Initial Scenarios for Consideration

- **Rate study will initially focus on the following alternatives for each utility**
  - Option 1: decrease rates over a 5-year period
  - Option 2: maintain existing rates over a 5-year period
  - Option 3: consider increases taking into account inflation and conservative CIP
  - Option 4: consider increases taking into account inflation and programmed CIP

Cost of Service Analysis

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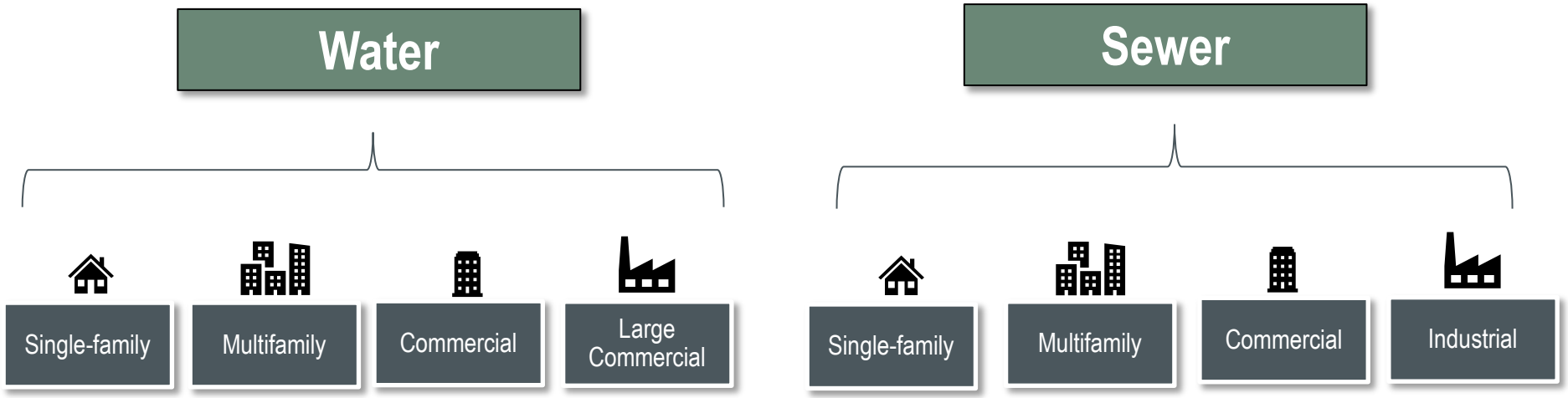
What is Cost of Service?

- **An equitable distribution of cost share that considers utility specific data**
  - Measures of usage and demand
  - Planning, engineering and design criteria
  - Facility requirements
- **Cost of Service analysis determines:**
  - Total cost by class (equity)
  - Unit costs ($/usage; $/customer)
- **Fundamental question: Do cost differences exist to serve different customer classes of service?**

Customer Class Designations

- **Rate study evaluates the existing classes of service for each utility**



Cost of Service

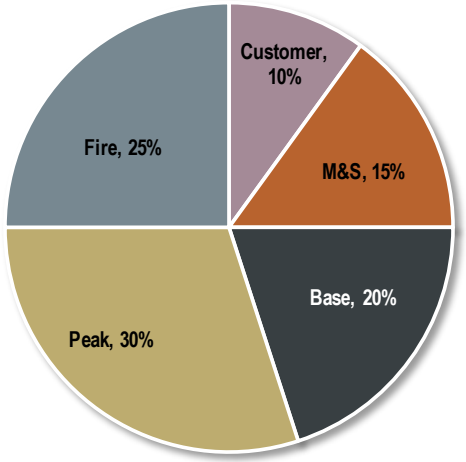
- **Defines equitable shares of cost responsibility by customer class**
- **Allocates total utility cost by function**

Water Utility Functions*	Sewer Utility Functions*
• Customer	• Customer
• Meters & Services	• Flow
• Base Demand (avg. use)	• Strength
• Peak Demand (peak use)	
• Fire Protection	

- **Develops allocation factors using customer facility requirements and usage characteristics**
- **Allocates costs to customer classes**

* Industry Standard Methodologies; AWWA Principles of Water Rates, Fees and Charges, M1 Manual and the Water Environment Federation Financing and Charges for Wastewater Systems Manual 27

Classification of Cost Shares (Water)



Base

Costs relate to average service provided on demand and are essentially correlated with year-round water consumption.

Peak

Costs relate to peak demand service; associated with the ability of the system to provide capacity to customers with higher than average volume.

Fire

Costs associated with providing adequate capacity and water flow corresponding to min. fire safety standards. Incremental costs for storage, T&D, and hydrants for fire protection.

Customer

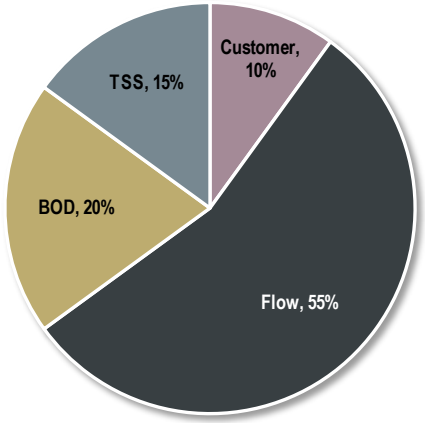
These are the costs associated with establishing, maintaining, and serving water customers and tend to include administrative, billing, and customer service costs.

M&S

Costs associated with installation, maintenance, and repairs of meters and services.

EXAMPLE ONLY

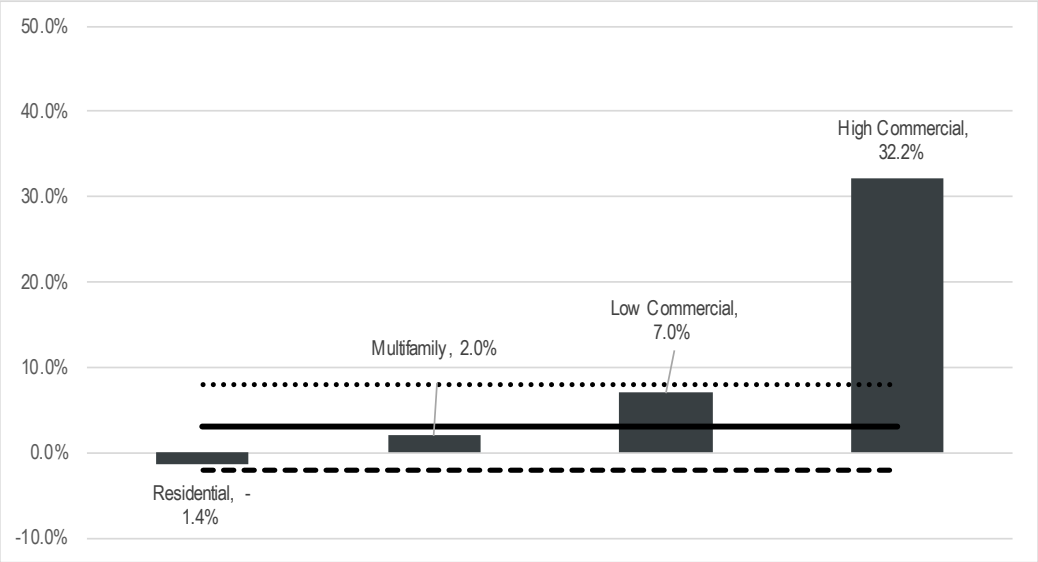
Classification of Cost Shares (Sewer)



Flow	Costs related to sewer volume processed within the system in a year.
BOD	Costs related to strength of sewage processed related to biochemical oxygen demand (BOD).
TSS	Costs related to strength of sewage processed related to total suspended solids (TSS).
Customer	These are the costs associated with establishing, maintaining, and serving sewer customers and tend to include administrative, billing, and customer service costs.

EXAMPLE ONLY

Cost of Service Results: Equity (Sewer)



- **Class results of ± 5.0% of average are considered to be within COSA**

Class of Service	Existing		COSA		Difference	
	$	% Share	$	% Share	$	% Change
Residential	2,266,112	73.8%	$ 2,234,333	70.7%	(31,779)	-1.4%
Multifamily	260,097	8.5%	265,299	8.4%	5,202	2.0%
Low Commercial	222,879	7.3%	238,480	7.5%	15,602	7.0%
High Commercial	319,512	10.4%	422,546	13.4%	103,033	32.2%
Total	**$ 3,068,600**	**100.0%**	**$ 3,160,658**	**100.0%**	**$ 92,058**	**3.00%**

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Cost of Service Results: Phase-In (Sewer)

- **Results may be phased-in to allow customers to adjust to changes and the City to keep tracking changes**

Class	Full COSA	Phase-In			
		2021	2022	2023	2024
Residential	-1.4%	2.0%	1.9%	1.9%	1.8%
Multifamily	2.0%	2.75%	2.75%	2.75%	2.75%
Low Commercial	7.0%	4.00%	4.00%	4.00%	4.00%
High Commercial	32.2%	9.50%	9.50%	9.50%	9.50%
Total	**3.00%**	**3.00%**	**3.00%**	**3.00%**	**3.00%**

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Rate Design

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Overview of Rate Design

- **Development of fixed and variable charges assessed to customers**

Aligns fixed and variable costs with fixed and variable revenue sources

Generates sufficient revenue to meet utility requirements

Meet goals and objectives of the utility (e.g., conservation)

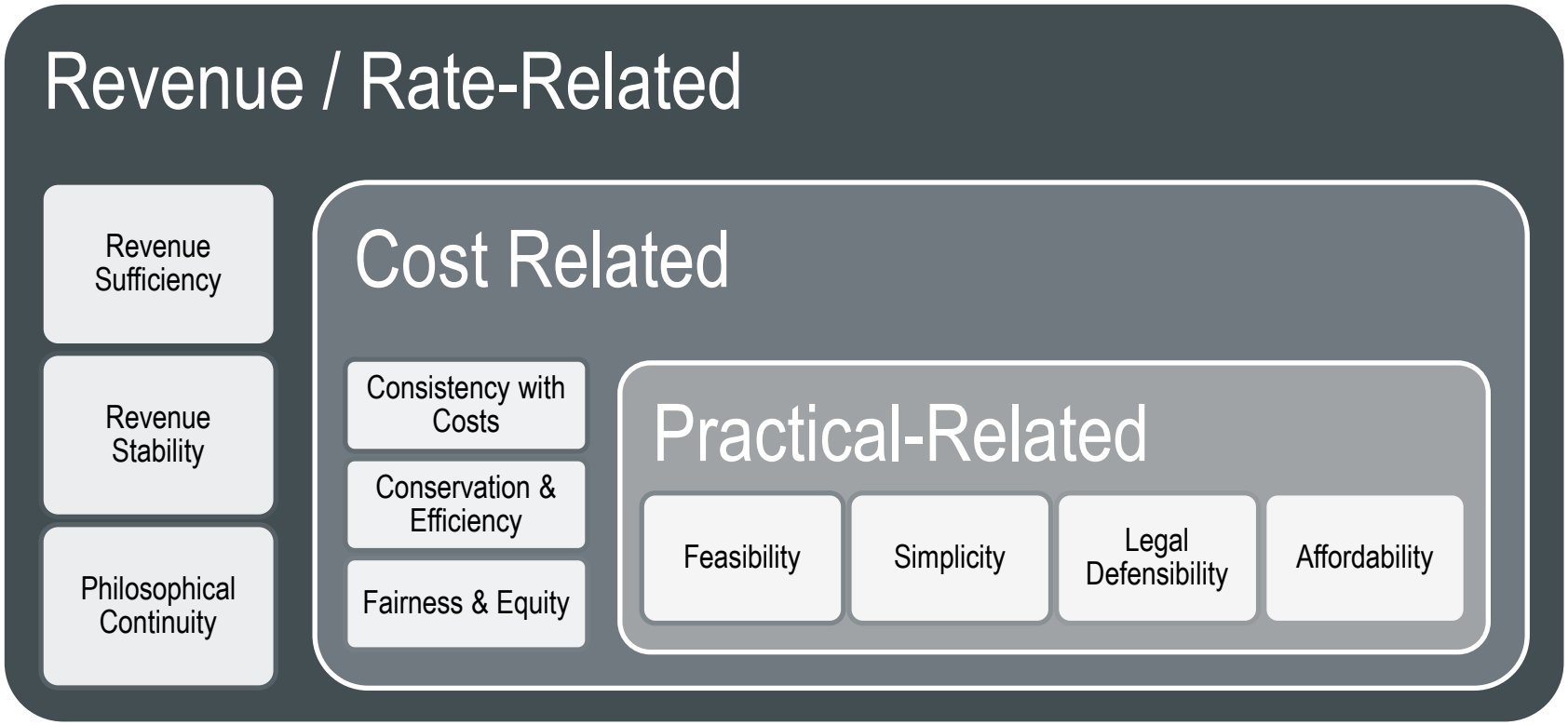
Evaluate monthly rate impact for different levels of use

Overview of Rate Design (continued)

- **Utility rates generally consist of two components**
  - Fixed Charges:
    - Imposed on each meter, account, or ERU
    - Do not vary with the amount of use
    - Provides a predictable source of revenue
  - Variable Charges:
    - Imposed on each unit (ccf = 748 gallons) of use/flow
    - Recover a greater share of revenue from customers who place the greatest demand on the system
    - Encourage conservation and efficiency in use
    - Introduces additional revenue volatility and seasonality

Rate Design Goals

- **No structure can completely achieve all the objectives – it's a balancing act**



Source: *Principles of Public Utility Rates,* Bonbright, Danielson and Kamerschen

Existing Rates: Water

Meter		2023
Bi-Monthly Fixed		
3/4"	$	44.54
1"		50.87
1.5"		84.66
2"		124.15
3"		260.25
4"		392.84
6"		658.77
8"		1,099.07
Volume (per 100 cf or 1 ccf)		
Single-family		
Block 1 (0-12 ccf)	$	2.47
Block 2 (13-30 ccf)		6.70
Block 3 (31+ ccf)		8.39
Multifamily		4.64
Commercial		4.60
Large Commercial		2.91

Notes:

Outside City rates are 1.6 times the inside City rates.

Low income senior/disable rate available.

Existing Rates: Sewer

Class		2023
Bi-Monthly Fixed		
Single-family	$	86.84
Multifamily		
First unit		144.73
Each additional unit		121.40
Commercial		160.61
Volume Rate (per 100 cf or 1 ccf)		
Single-family (winter avg.)	$	6.35
Commercial (actual usage)		
0-14 ccf allowance		-
15+ ccf		11.92

Notes:

Low income ELIL and VLIL rate available.

Industrial rates available.

Outside City rates are 1.5 times the inside City rates.

Existing Rates: Stormwater

Description		2023
Bi-Monthly Fixed		
Single-family	$	35.17
Commercial (per ERU)		
Standard		35.17
w. Credit		17.59

Notes:

Low income ELIL and VLIL rate available.

ERU = 3,900 square feet of impervious surface area.

Discussion/Questions

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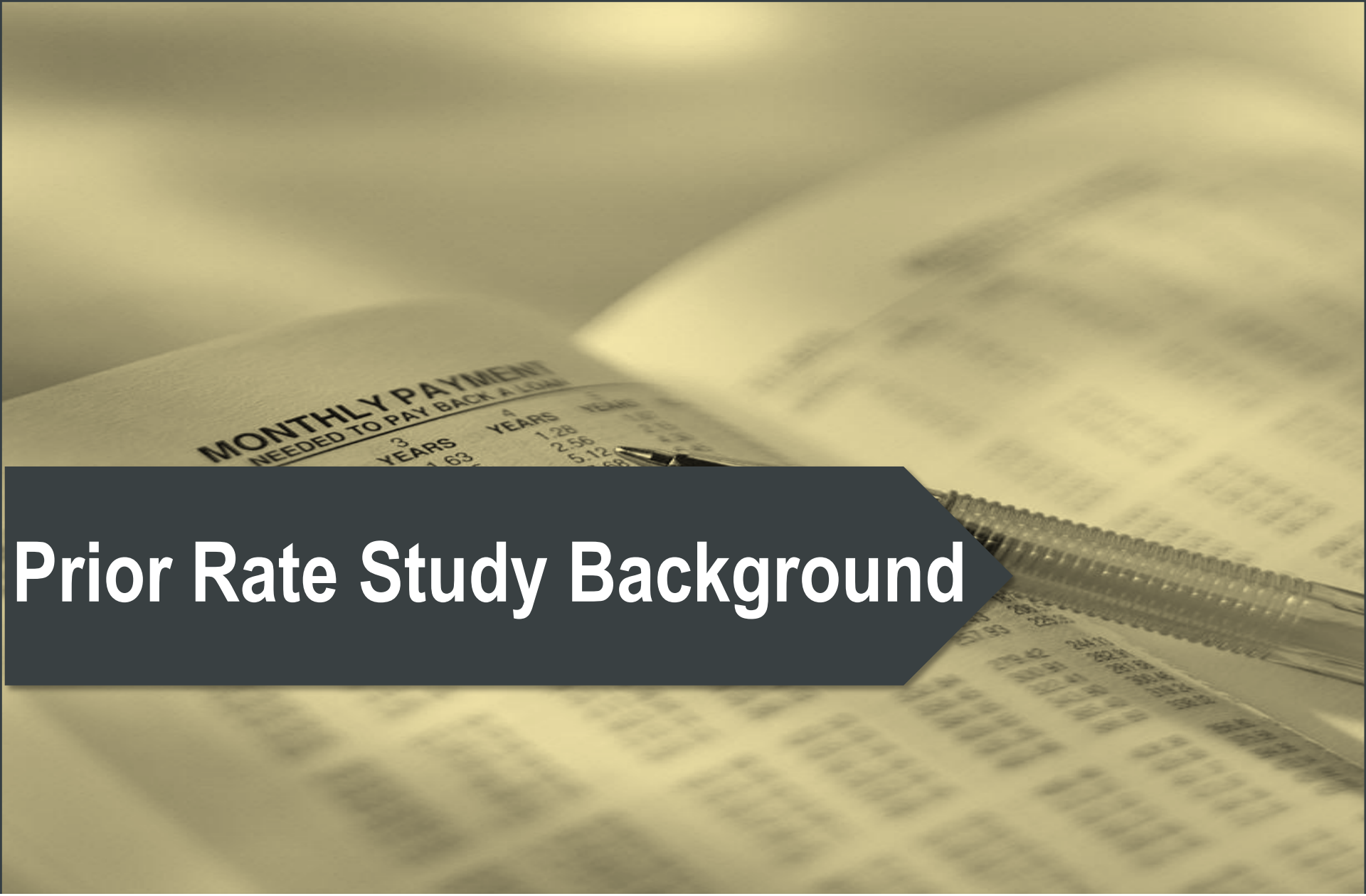

Prior Rate Study Background

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Prior Rate Studies

2010 Comprehensive Study

- Performed revenue requirements for water, sewer and stormwater utilities.
- Updated financial policies.
- Initiated cost of service and postponed to collect additional data.

2013 Rate Study Update

- Updated water and sewer revenue requirements.
- Completed water cost of service analysis.
- Developed conservation based single family 3-tier structure.
- Started to phase-out allowance from 10 to 5 ccf.

2015 Rate Study Update

- Performed sewer cost of service analysis.
- Developed a phase-in through 2018 to get commercial customer classes to cost of service.

2018 Comprehensive Study

- Performed revenue requirements for water, sewer and stormwater utilities.
- Updated RRF policy.
- Calculated stormwater mitigation credit.
- Updated water rate design.
- Update sewer rate design.
- Updated SDCs.
- Evaluated monthly billing.

Discussion/Questions

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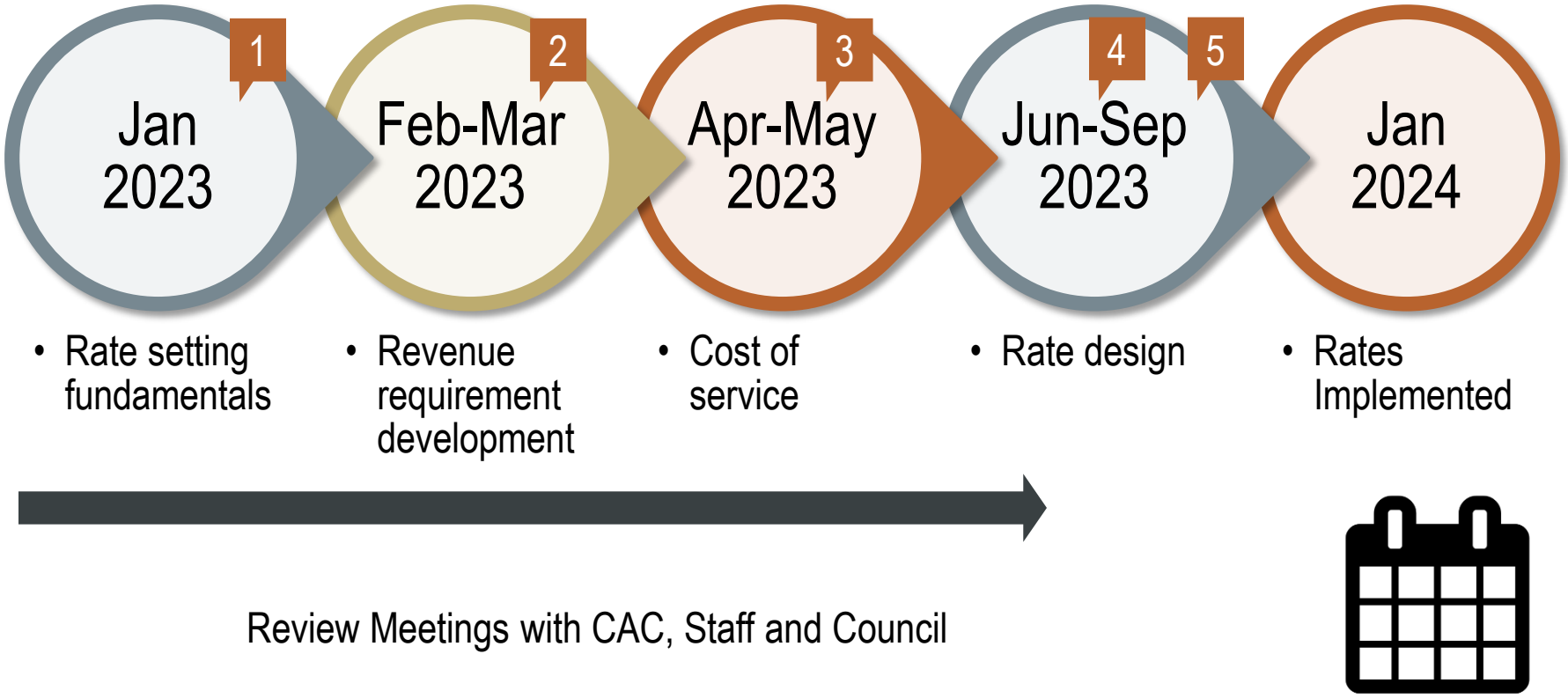
Wrap-up & Next Steps



Thank you!

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