



City of Seal Beach

Water and Wastewater Rate Study

August 10, 2020

Terms You Will Hear

- **Cost of Service** – Utility's cost to provide water service to each customer class based on demands they place on utility
- **Customer Class** – Residential, Commercial, City, and Irrigation
- **Fixed Charge** – Amount charged by meter size. Does **not** vary by water use
- **hcf** – Common billing unit used to charge for water in California. hcf = 100 cubic feet = 748 gallons
- **Meter Size** – Meters track water usage at the property. Size determined by its supply line. Most residential meters are ¾"
- **Rate** – Amount charged per unit of water
- **Rate Structure** – Rates and charges applied to various customer classes
- **Rate Study** – Process of determining proposed future water rates
- **Tiered Rate Structure** – Pricing water so that cost per unit increases as consumption increases
- **Uniform Rate Structure** – Charging same amount per unit of water used, regardless of how much water is used
- **Volumetric Rate** – Amount charged per unit of water use. Measured in **hcf** by City.



Agenda

1. A Quick Preview of Bill Impacts for SFR (87% of customers)
2. Rate Study Background
3. Water System
 - Water Financial Plan
 - Proposed Water Rate Changes and Rates
 - Water Bill Impacts
4. Wastewater System
 - Wastewater Financial Plan
 - Proposed Wastewater Changes and Rates
 - Wastewater Bill Impacts
5. How **Total Water and Sewer** Customer Bills are Affected - combined Water and Wastewater Bill Impacts
6. Next Steps

Combined Water and Sewer, Single Family Residential (SFR), 3/4" Meter

- Average SFR customer bill will go down
- >80% of SFR combined Water & Sewer Bills will stay the same or go down
- Due to a decrease in sewer bills

Bi-Monthly Water Use (hcf)	Total Proposed Charge	Total Current Charge	Difference (\$)	Approximate % of 3/4" SFR Customers
5	\$87.11	\$103.11	-\$16.00	17%
10	\$103.77	\$116.72	-\$12.94	16%
15	\$122.77	\$130.32	-\$7.54	19%
20	\$138.71	\$143.92	-\$5.21	17%
25	\$157.29	\$157.52	-\$0.23	11%
				81% of customers

Rate Study Background



2019 Rate Study

- Consistent with City's Strategic Plan goal:
 - › Ensure that water and sewer rates are properly set to provide the appropriate level of revenue
 - › Utility Rates meet cost-of-service requirements and be equitably distributed over the customer base
- Solicited proposals from nationally recognized utility rate setting firms and selected Raftelis:
 - › National firm specializing in Water and Wastewater financial planning, rate setting, public outreach and IT for Utilities
 - › 120+ Staff Consultants
 - › Raftelis project staff have worked on hundreds of water and wastewater rate studies in CA
 - › Local water and wastewater projects include City of Orange, Lakewood, Long Beach, Huntington Beach, Signal Hill, Newport Beach, Mesa Water District, Trabuco Canyon Water District to name a few

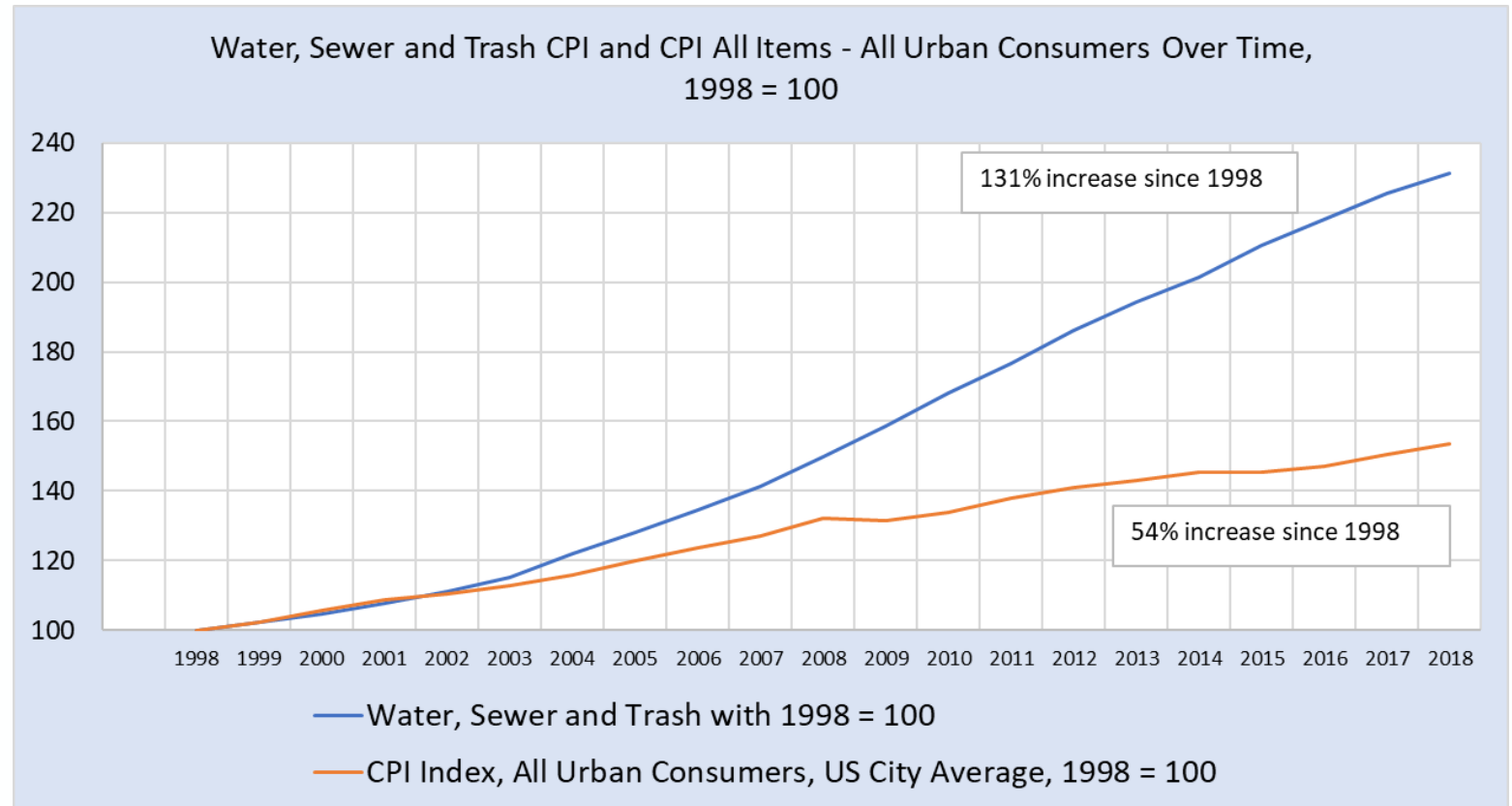
Why Water Rate Changes Are Needed

- Last water rate increase was the beginning of FY2014
- City's costs to provide water service are rising
- Fund critical water infrastructure repair and replacement capital costs projects
 - › City plans to invest an average of \$3.86 million per year, over the next 5 years, starting in FY 2021
 - › Total cost of the planned five year CIP is \$19.2 million
 - › Issuance of a \$12 million bond will be required
- Implement rate structure changes to increase fairness and equity in accordance with Prop 218 requirements



Water, Sewer, and Trash vs CPI

Across the country Water, Wastewater and Trash rates are rising faster than normal goods/services.

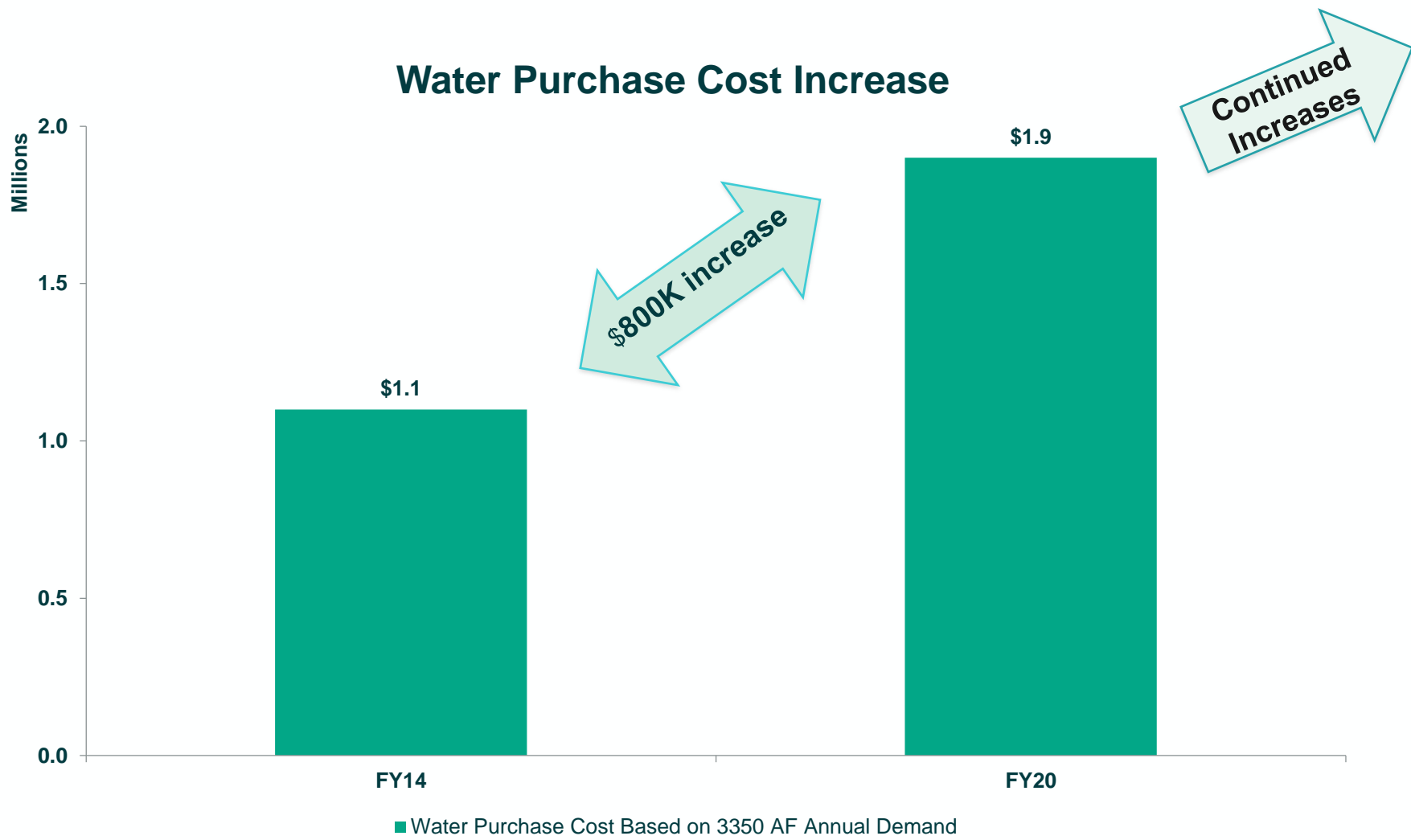


Source: <https://data.bls.gov/timeseries/CUSR0000SEHG>

Water Supply Costs (Acre-Feet)



Water Supply Cost Increase



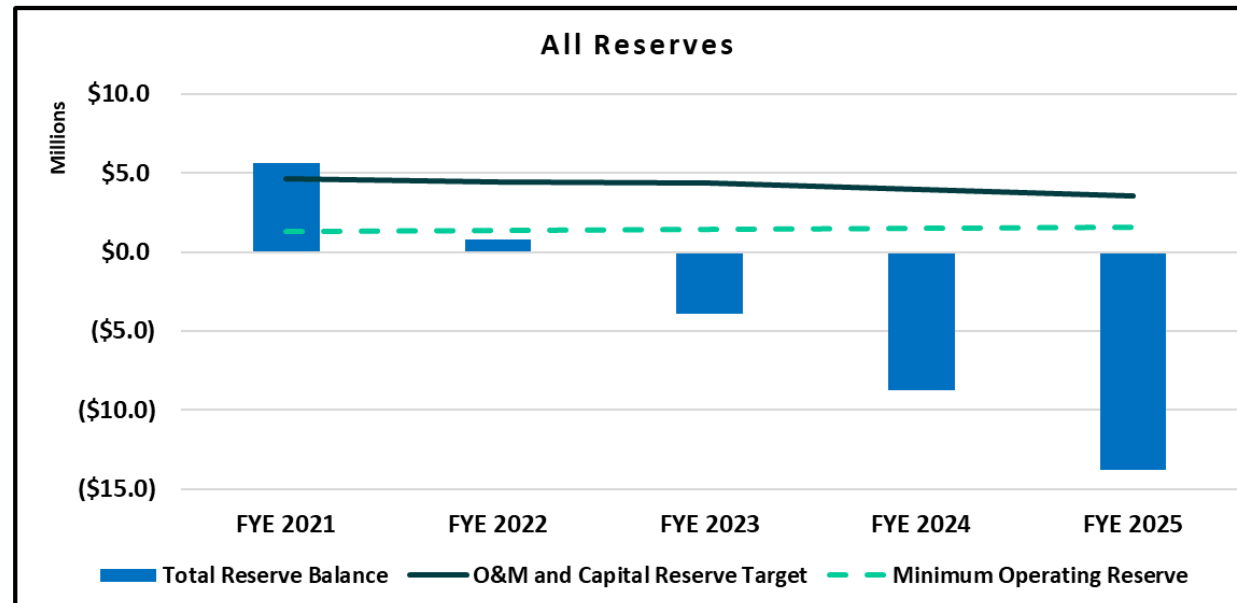
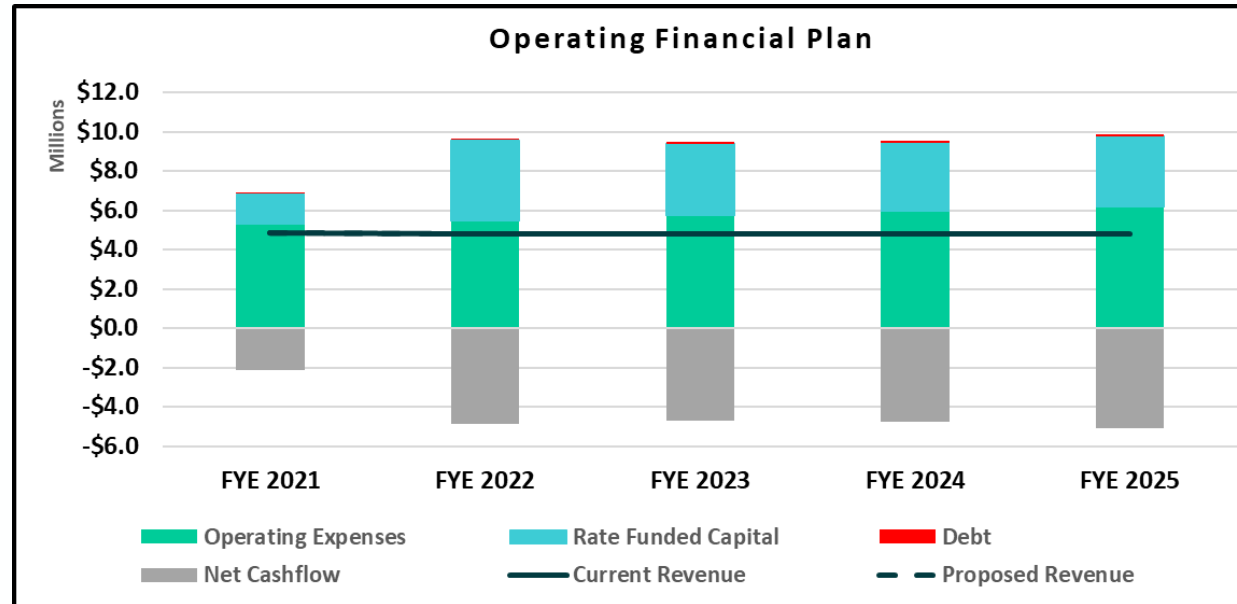
Water Enterprise Financial Health



What Is Funded By The Water Rates You Pay

- City's water utility is funded entirely by the money it receives from the water rates on utility bills sent to customers
- City's water utility is an enterprise fund—it does not receive money from taxes
- The water rates you pay on your utility bill fund all the operating costs and the infrastructure investments for the city's water system

Water Financial Health Without Revenue Changes



Proposed Revenue Increases

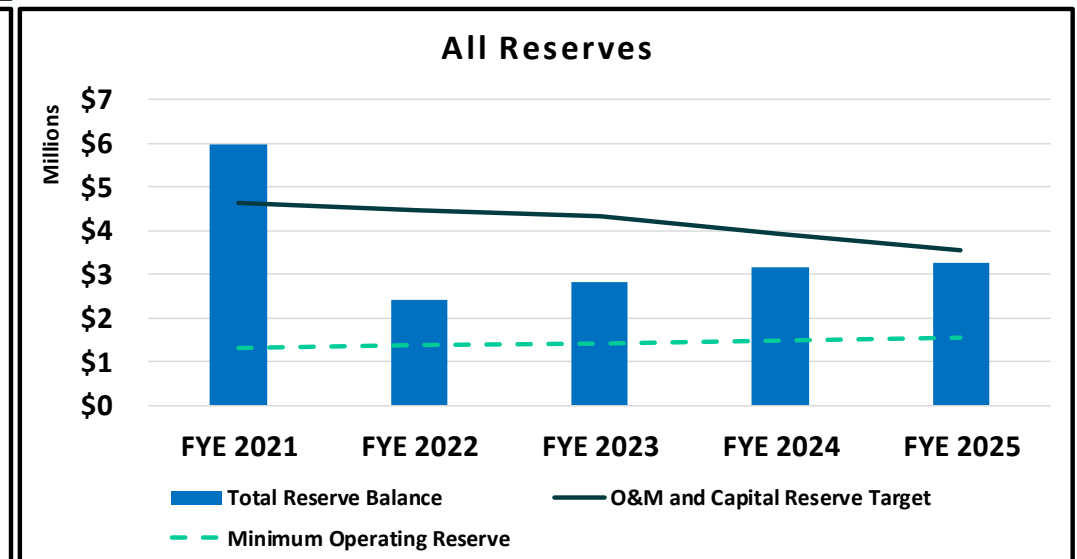
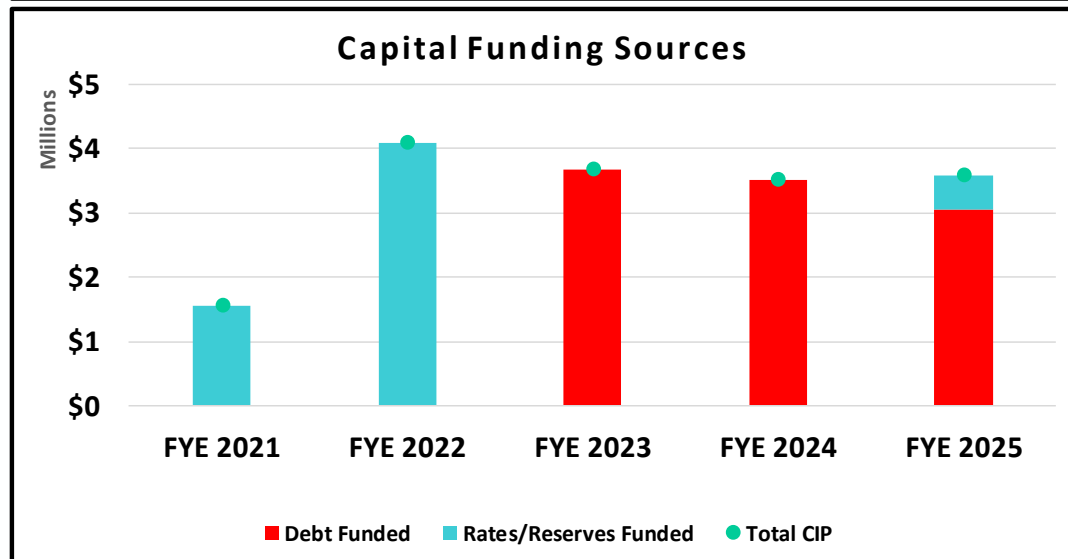
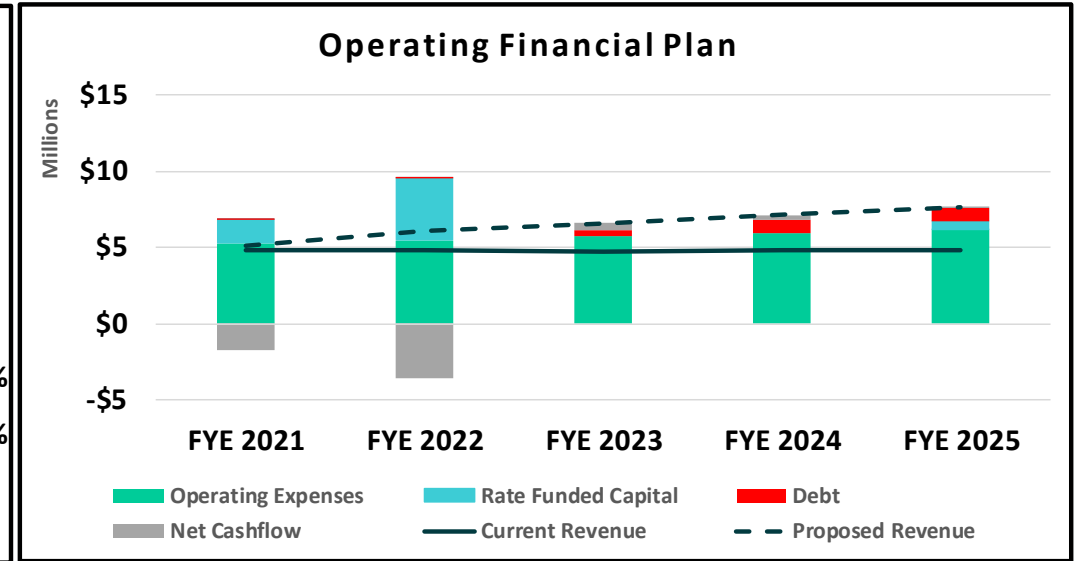
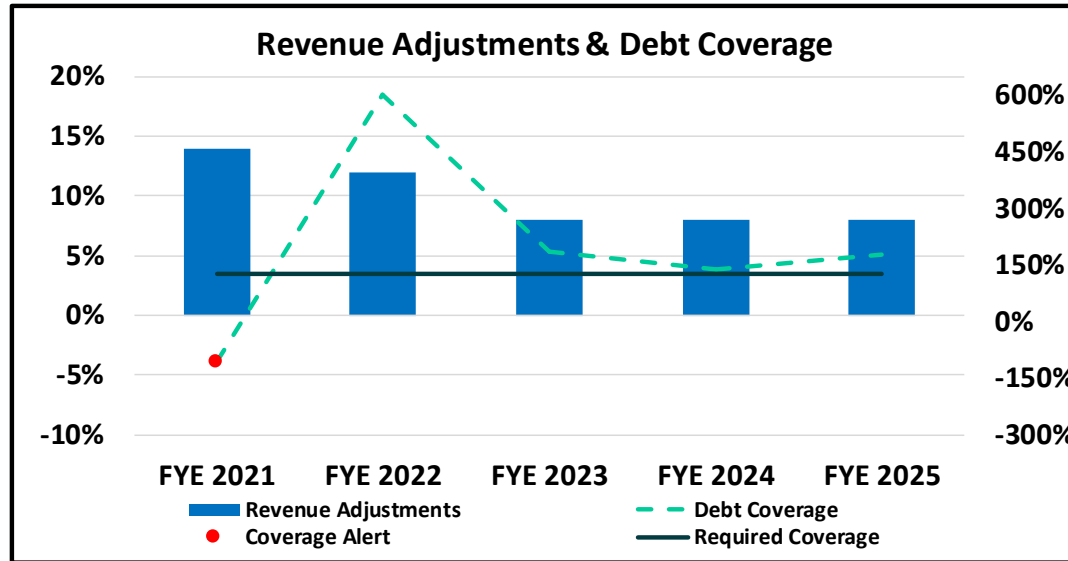
1. Developed by projecting revenue and expenses and assessing if revenue was sufficient to cover costs
2. Costs include O&M, capital, debt and reserve planning
3. Assumes \$12M debt issuance to fund capital in FY 2023

FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025
Jan 1, 2021	July 1, 2021	July 1, 2022	July 1, 2023	July 1, 2024
14.0%	12.0%	8.0%	8.0%	8.0%

Proposed Cash Reserve Policies

- City has no formal reserve policies for the Water Enterprise
- Purpose of reserves are to:
 - › Provide sufficient cash on hand to cover short-term operating costs
 - › Provide sufficient funding to quickly and efficiently award construction contracts
 - › Mitigate financial risk of potential asset failure
 - › Enhance credit rating for more cost-effective debt financing options
- Raftelis' recommended reserve policy
 - › Operating reserve target: 90 days of operating cash on hand
 - › Capital reserve target: 1 year of annual average CIP

Water Financial Plan with Revenue Increase



Water Rate Changes



Current Rate Structure

hcf = 100 cubic feet = 748 gallons

Water Capital Fund Fixed Charge

5/8" - 3/4"	\$37.86
1"	\$47.89
1 1/2"	\$72.97
2"	\$103.06
3"	\$183.32
4"	\$273.60
6"	\$524.39
8"	\$825.34
10"	\$1,176.45
12"	\$1,577.72

Residential Bi-monthly (Includes Multi-family Accounts)

All Meter Sizes	\$ / hcf
Tier 1 0 - 26 hcf	\$2.23
Tier 2 26+ hcf	\$2.88

Commercial Bi-monthly

5/8 - 3/4"	
Tier 1 0 - 26 hcf	\$2.25
Tier 2 27+ hcf	\$2.81
1"	
Tier 1 0 - 43 hcf	\$2.25
Tier 2 44+ hcf	\$2.81
1 1/2"	
Tier 1 0 - 88 hcf	\$2.25
Tier 2 89+ hcf	\$2.81
2"	
Tier 1 0 - 205 hcf	\$2.25
Tier 2 206+ hcf	\$2.81
3"	
Tier 1 0 - 420 hcf	\$2.25
Tier 2 421+ hcf	\$2.81

Commercial Bi-monthly

4"	
Tier 1 0 - 686 hcf	\$2.25
Tier 2 687+ hcf	\$2.81
6"	
Tier 1 0 - 1,941 hcf	\$2.25
Tier 2 1,942+ hcf	\$2.81
8"	
Tier 1 0 - 4,951 hcf	\$2.25
Tier 2 4,952+ hcf	\$2.81
10"	
Tier 1 0 - 7,117 hcf	\$2.25
Tier 2 7,118+ hcf	\$2.81
12"	
Tier 1 0 - 45,490 hcf	\$2.23
Tier 2 45,491+ hcf	\$2.88

Leisure World

Capital Fund Fixed Charge

12"	\$788.86
Tier 1 0 - 45,490 hcf	\$2.23
Tier 2 45,490 + hcf	\$2.88

City Volumetric Rate

All Water Use	\$2.42
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Proposed Water Rate Structure

Why the Proposed Changes?

- Traditional rate setting groups customers by **class** (SFR, MFR, Commercial, Irrigation, etc.) instead of meter size because customers in each class tend to use water similarly.
 - › e.g., 1” commercial customer has constant use throughout the year whereas 1” irrigation customer has summer peaking periods. They use water very differently. We set rates based on how customers use water.
- State Water Conservation Policies (SB 606 and AB 1668) will require each water provider to calculate water budget by June 2022.
 - › Possible fine for providers that do not meet budget by 2027.
 - › Smaller Tier 1 (17 hcf instead of 26 hcf) will incentivize conservation to make sure Seal Beach stays within its budget.
- Fixed charges are being calculated in proportion to American Water Works Association hydraulic capacity factors – the industry standard for setting fixed charges. Thus, the fixed charge increase for larger meters.

Proposed Water Rate Structure (Cont.)

- **Single Family Residential (SFR)**
 - › No change to *structure*, but a change to the *tier widths* to better align with average water use
 - › Tier 1 = average yearly water use for SFR account (17 hcf). This is average indoor and outdoor water use for the average home.
- **New Multi-Family Residential (MFR) class with tiers by dwelling unit.**
 - › Quadplex would get $4 \times 17 = 68$ units in Tier 1.
 - › This is more equitable for large MFR customers.
- **Commercial**
 - › Uniform Rate; commercial customers generally have much lower irrigation needs.
- **Irrigation**
 - › Uniform Rate; created because this class has the highest peak summer water use
- **City**
 - › Uniform Rate

Proposed Water Rate Structure

Fixed Charges

Meter Size	Bi-monthly Fixed Charge
5/8"	\$37.37
3/4"	\$37.37
1"	\$55.56
1.5"	\$107.63
2"	\$162.76
3"	\$289.49
4"	\$481.69
6"	\$948.41
8"	\$1,516.96
10"	\$2,171.28
6" - Leisure World (Monthly)	\$474.20

Volumetric Charges

Single Family Residential Bi-Monthly	
All Meter Sizes	\$/hcf
Tier 1 0 - 17 hcf	\$2.63
Tier 2 18+ hcf	\$2.78
Multi-family (Tiers are per dwelling unit)	
All Meter Sizes	\$/hcf
Tier 1 0 - 17 hcf	\$2.63
Tier 2 18+ hcf	\$2.76
All Meter Sizes	
Commercial	\$/hcf
Irrigation	\$/hcf
City	\$/hcf
Leisure World - Same as Multi-family	

Single Family, Multi-Family, and Leisure World have tiered volumetric rates.

Commercial, Irrigation and City have uniform volumetric rates.

Two new customer classes: Multi-Family Residential & Irrigation

Water Bill Impacts



Single Family Residential Bill Impacts

- Most large bill impacts are likely not SFR customers but MFR customers (classification errors)

Bi-monthly SFR Water	
Bill Impact	No. of Customers
\$120	6
\$70	2
\$60	-
\$50	21
\$40	11
\$30	-
\$20	1,054
\$10	1,568
\$5	1,413
-\$50	1
Total Customers	4,076

Multi-Family Residential Bill Impacts, All Meters

- The large impacts shown at the top are for a large apartment complex which will see large sewer decreases to offset the overall bi-monthly bill impacts

Bi-monthly MFR	
Water Bill Impact	No. of Customers
\$500	5
\$250	8
\$100	17
\$50	13
\$40	11
\$30	3
\$20	78
\$10	85
\$5.0	38
\$0.0	2
Total Customers	260

Commercial Bill Impacts, All Customers

- Uniform volumetric rate

Bi-monthly Commerical	
Water Bill Impact	No. of Customers
\$5.0	1
\$0	3
-\$25.0	170
-\$50.0	76
-\$100	10
-\$250.0	3
-\$500.0	1
Total Customers	264

Monthly LW Water Cost Per Apartment

6608 Residential Apartments

	Billing Units (HCF) Used	Current Cost /Month	Current Cost/Apt		Proposed Cost /Month	Proposed Cost /Apt	Change Per Apt Per Month
Monthly Min HCF	19,486	\$ 44,243	\$ 6.70		\$ 51,722	\$ 7.83	\$ 1.13
Monthly Average HCF	39,198	\$ 88,199	\$ 13.35		\$ 103,564	\$ 15.67	\$ 2.33
Monthly Max HCF	53,302	\$ 124,730	\$ 18.88		\$ 140,695	\$ 21.29	\$ 2.42
Tier 2 Break Point	56,168	NA			NA		NA

Irrigation

- Irrigation is a new customer class created from Commercial, City, and Residential irrigation accounts to account for how this class uses water.
- Classes are based on peaking characteristics and Irrigation has a different peaking factor compared to other classes.
- About 50 - 2" meters
- Uniform volumetric rate

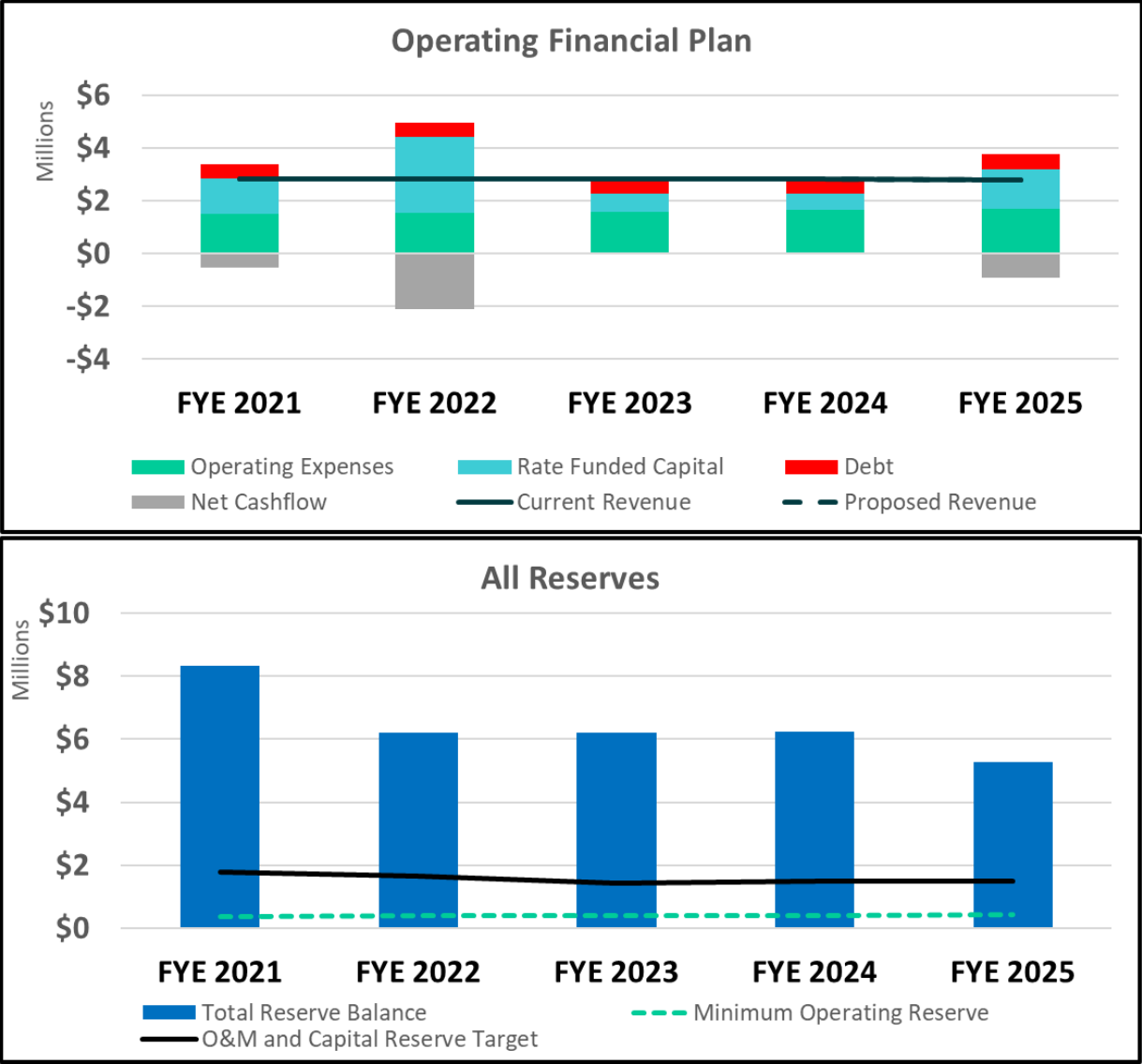
Wastewater Enterprise Financial Health



Current Wastewater Rate Background

- A Sewer Rate increase was last issued in 2005
 - Implemented a series of fix fee increases (aka capital charge) over 10 years ending in 2016
 - › Primary goal was to raise revenue to repair the failing sewer infrastructure
- \$3.3 million Sewer Revenue Bond issued in 2011 to fund sewer capital projects
- Sewer CIP reserve targets met

Wastewater Financial Health Without Revenue Changes

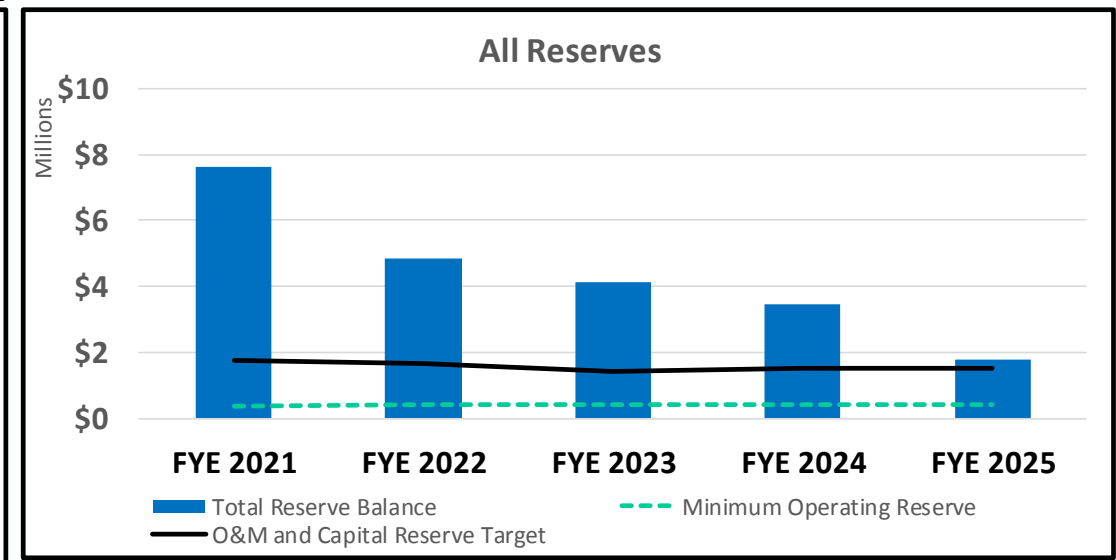
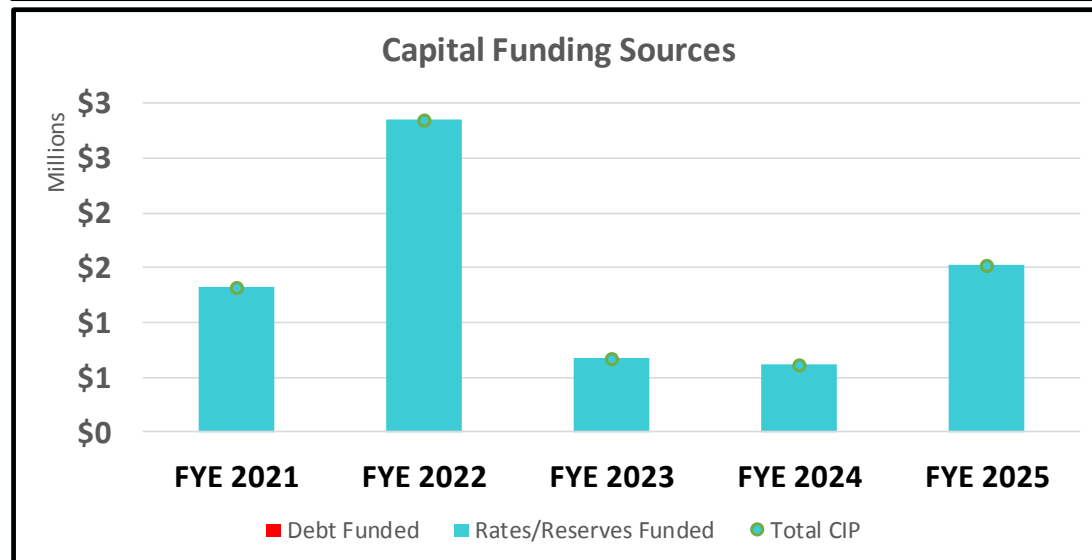
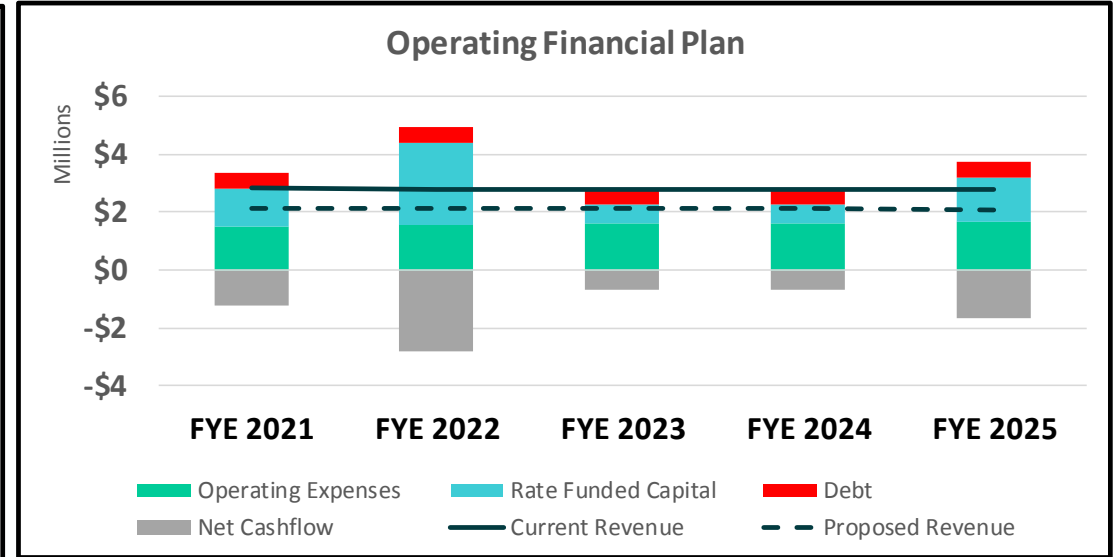
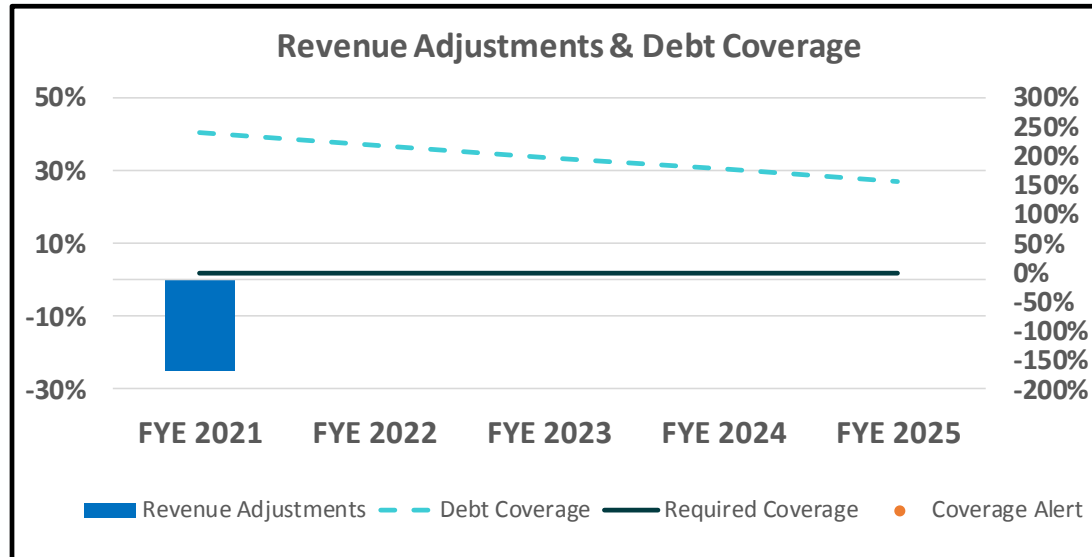


Proposed Revenue *Decrease*

- Sewer enterprise has ample reserves for a one-time revenue decrease
- City reaches its reserve targets within 5 years

FYE 2021	FYE 2022	FYE 2023	FYE 2024	FYE 2025
Jan 1, 2021	July 1, 2021	July 1, 2022	July 1, 2023	July 1, 2024
-25%	0%	0%	0%	0%

Wastewater Financial Plan with Revenue Decrease



Wastewater Rate Changes



Current Bi-monthly Sewer Rate Structure

- How Sewer Customers are billed:
 - Residential, Commercial, and City Sewer Service Charge is currently 22% of (Water Service Charge + Water Capital Charge) + **Sewer Capital Charge**
- 75% of current sewer revenue (\$2M of \$2.7M) is collected by the **Sewer Capital Charge**

Residential Capital Charge	
5/8"	\$43.32
3/4"	\$43.32
1"	\$59.88
1.5"	\$110.26
2"	\$173.46
3"	\$1,228.60
4"	\$2,055.54
Commerical Capital Charge	
5/8"	\$47.26
3/4"	\$47.26
1"	\$102.38
1.5"	\$133.88
2"	\$535.54
3"	\$1,480.62
4"	\$2,669.84
6"	\$3,772.42
8"	\$7,875.62
10"	\$7,875.62

Why Are Wastewater Rate Structure Changes Needed?

- The proposed rate structure is more equitable
 - Rate structure does not charge in proportion to meter size, but charges in proportion to estimated sewer flow.
 - › e.g., park with 2” meter may only have a small bathroom; the rest of water use is for irrigation and does not go into the sewer.
- Industry moving away from meter size as estimate of *potential* sewer use.

Proposed Sewer Rate Structure

- Residential (SFR) sewer flow = minimum water use during the year (minimum billing cycle)
- Total SFR Sewer Charge = Flat Charge + lowest billing cycle use (hcf) x \$ Volumetric Rate (\$/hcf)
- SFR sewer use has a minimum and cap (4 hcf and a 24 hcf cap, bi-monthly)
- All other customers sewer bills vary every billing cycle = Bi-monthly fixed charge + Sewer Rate (\$ / hcf) x water use x return to sewer (RTS) factor.
- RTS = 100% for MFR, 90% for Commercial and 50% for City.

Customer Class	Proposed Bi-Monthly Fixed Charge	Proposed Bi-monthly Billing & Customer Service Charge	Proposed Bi-Monthly Volumetric Charge (\$/hcf)
Single Family	\$31.91		\$1.17
Multi-family		\$0.81	\$3.83
Commercial		\$0.81	\$3.83
City		\$0.81	\$3.83

Leisure World Calculation

- Leisure World currently does not pay sewer charges even though it discharges sewage through a City-owned pipe connected to the Orange County Sanitation District.
- Raftelis and City Staff assessed an equitable rate based on the cost to maintain/replace the pipe and LW's proportionate share of sewer flow:
 - › Proposed rate is the capital cost of the sewer pipe (\$1M) serving Leisure World divided by 80 years (i.e., the expected life) plus yearly O&M
 - › Pipe cost is prorated for Leisure World's contribution to sewer flow (95%)
- Leisure World's fixed monthly sewer charge:
 - › \$79.17 for O&M (95% of \$1,000)
 - › \$1,019.25 for capital maintenance/replacement of sewer pipe (95% of \$1M / 80 yrs)
 - › TOTAL: \$1,098.42 per month



Navy Sewer Calculation

Sewer—charged monthly

- Navy represents roughly:
 - › 5.4% of total miles of sewer pipe collection system
 - › 15.2% of total sewer flow
- Annual capital cost x 5.4% x 15.2% = \$10,812
- Annual O&M cost x 5.4% x 15.2% = \$808
- TOTAL **annual** sewer charge = \$10,812 + \$808 = \$11,620

Wastewater Customer Bill Impacts



Sewer Single Family Residential (SFR), All Customers

SFR Bi-monthly Sewer Bill Impact	No. of Customers
\$5.0	3
\$2.5	9
\$0	118
-\$5	502
-\$10	1,126
-\$15	1,781
-\$25	489
-\$50	36
-\$100	11
-\$200	0
Total Customers	4,075

Multi Family Residential (MFR), All Customers

Bi-monthly MFR	
Sewer Bill Impact	No of Customers
\$650	4
\$250	14
\$100	11
\$75	17
\$50	28
\$25	62
\$0	17
-\$5	25
-\$15	23
-\$25	32
-\$50	14
-\$100	8
-\$250	1
-\$500	2
-\$1,200	2
Total Customers	260

Commercial, All Customers

Bi-monthly Commerical Sewer Bill Impact		No. of Customers
\$1,650		3
\$1,000		2
\$750		7
\$500		10
\$250		15
\$100		10
\$50		10
\$25		11
\$0		176
-\$500		11
-\$1,000		3
-\$2,000		6
Total Customers		264

Estimated Combined Water and Wastewater Bill Impacts



Combined Water and Sewer, Single Family Residential (SFR), 3/4" Meter

- Average SFR customer bill will go down
- >81% of SFR combined Water & Sewer Bills will stay the same or go down due to a decrease in sewer bills.

Bi-Monthly Water Use (hcf)	Total Proposed Charge	Total Current Charge	Difference (\$)	Approximate % of 3/4" SFR Customers
5	\$87.11	\$103.11	-\$16.00	17%
10	\$103.77	\$116.72	-\$12.94	16%
15	\$122.77	\$130.32	-\$7.54	19%
20	\$138.71	\$143.92	-\$5.21	17%
25	\$157.29	\$157.52	-\$0.23	11%
				81% of customers

Combined Water and Sewer, Multi-family Residential (MFR), Fourplex, 1” Meter

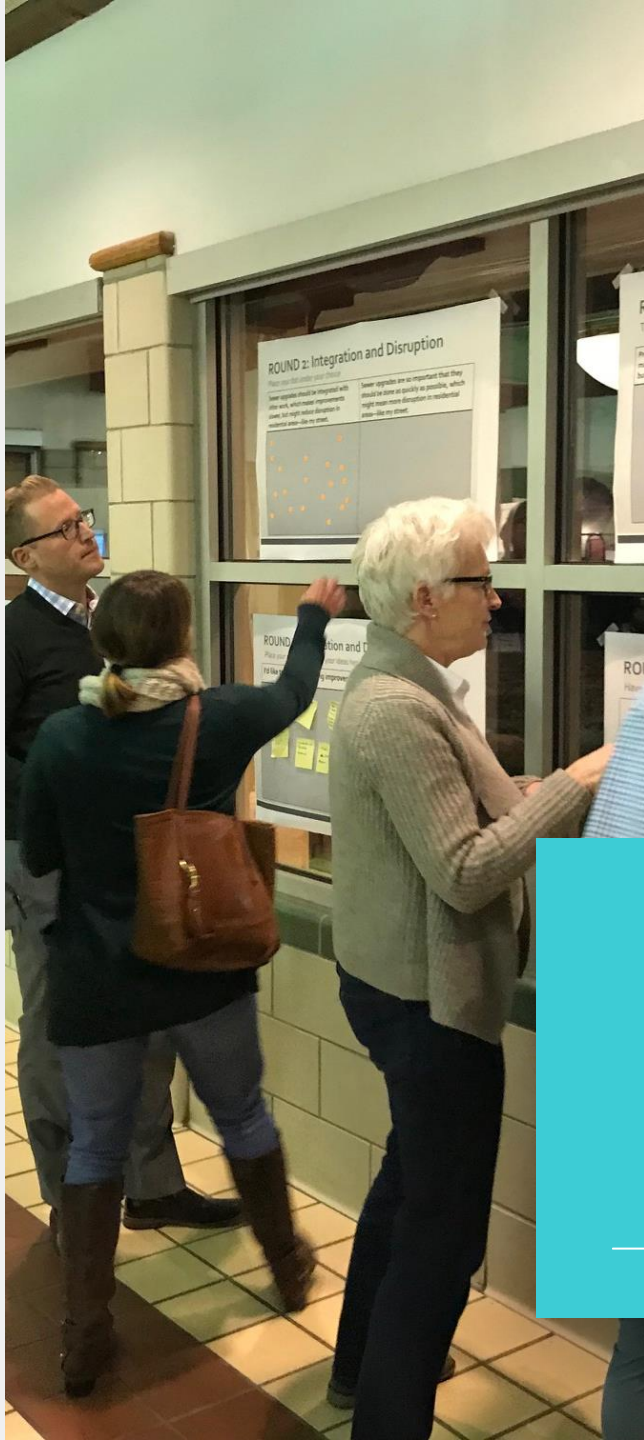
- Shows a typical 4-plex which is most common for a 1” meter
- Bill impacts will depend on how much water each customer uses

Bi-Monthly Water Use (hcf)	Total Proposed Charge	Total Current Charge	Difference (\$)	Approximate % of 1" MFR Customers
16	\$140.56	\$161.84	-\$21.28	30%
20	\$162.56	\$172.72	-\$10.15	9%
25	\$191.03	\$186.32	\$4.70	13%
30	\$215.66	\$203.10	\$12.56	10%
35	\$244.12	\$220.66	\$23.46	10%
				73% of customers

Combined Water and Sewer, Commercial, 1” Meter

- 1” is the most common commercial meter size
- Bill impact depends on water use

Bi-Monthly Water Use (hcf)	Total Proposed Charge	Total Current Charge	Difference (\$)	Approximate % of 1" Commercial Customers
8	\$105.07	\$182.77	-\$77.70	33%
12	\$129.42	\$193.75	-\$64.33	11%
16	\$153.76	\$204.73	-\$50.96	7%
25	\$208.55	\$229.43	-\$20.88	11%
35	\$269.42	\$256.88	\$12.54	12%



Next Steps

Seek Council approval to set the Public Hearing Date at the September 13th City Council Meeting



Utility Rate Study Schedule

Aug. 10 – Water and Sewer Rate Study Update

Sep. 14 – City Council sets public hearing date

Oct. 14 – Community workshops begin (3)

Nov. 23 – City Council Public Hearing

Jan.1, 2021 – New rates become effective

End of Presentation

Questions?

