

Water conservation impacts on wastewater services

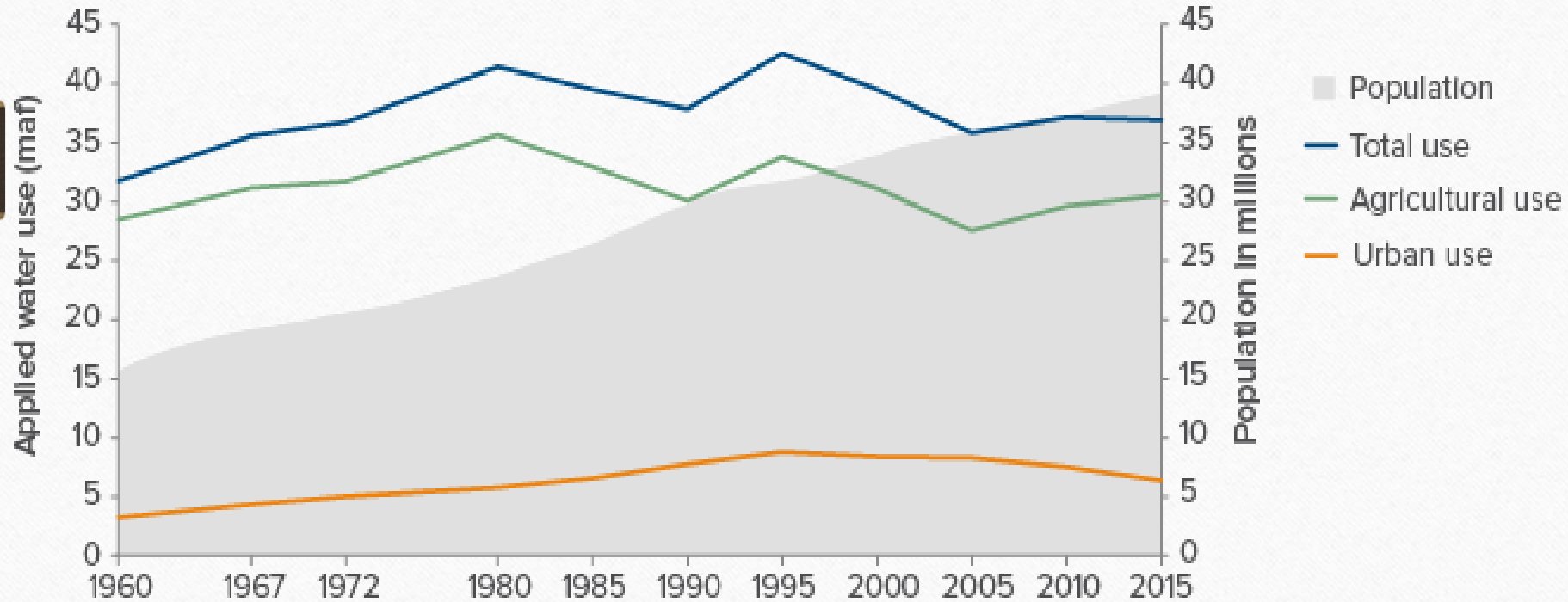


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Conservation is a way of life in California



Source of figure: Water use in California, PPIC

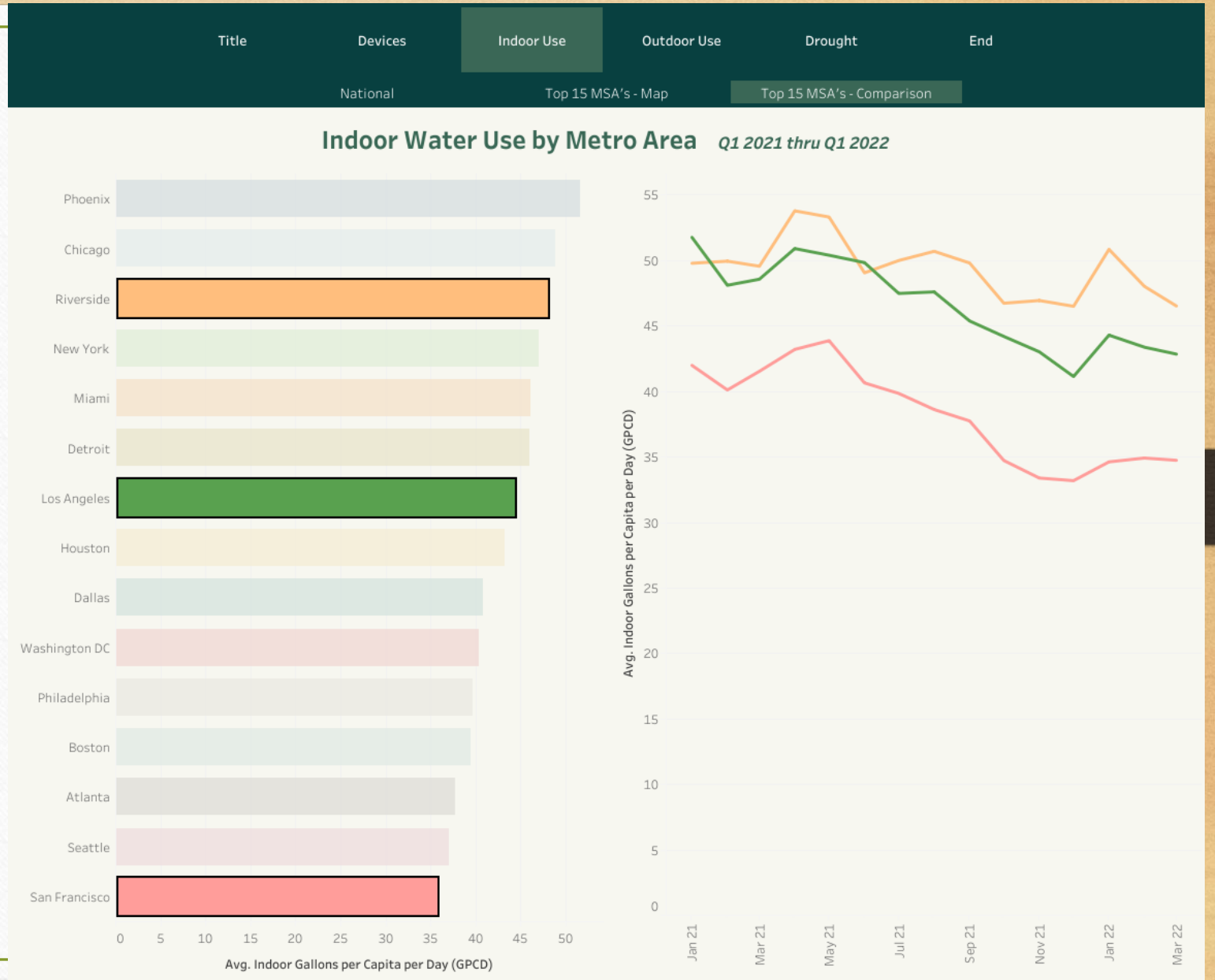
Proposed legislation will reduce indoor water use targets

- In 2017 to 2019, for indoor water use:
 - Statewide average was 51 GPCD
 - Statewide median was 48 GPCD

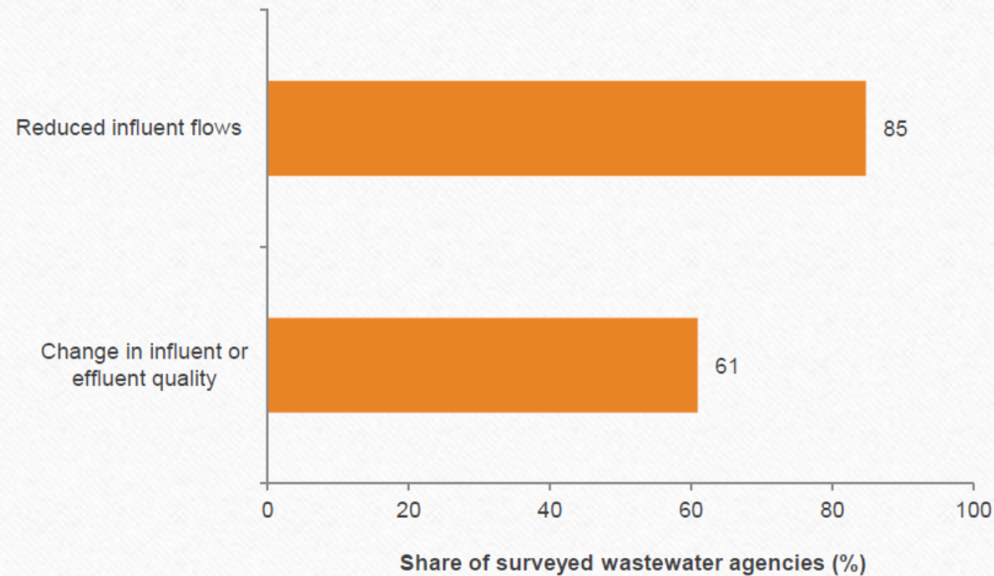
Year	Statute (gpcd)	DWR-SWB Recommendation (gpcd)
2020	55	No Change
2025	52.5	47
2030	50	42

Conservation is especially a way of life in the San Francisco Bay Area

Source: Flume Datalabs



PPIC: Most wastewater agencies saw reduced flows during the last drought (2014-2017)



SOURCE: PPIC California Wastewater Agency Survey 2017.

NOTE: Overall sample size: 105.

In our region, we are already seeing impacts of low flows on wastewater services

- Collection system
- Wastewater treatment
- Recycled Water



Impacts of low flows on collection systems

- Slower flows increase sedimentation and blockages
 - Increased energy consumption
 - Increased risk of failure and spills
- Lower flows mean higher wastewater concentration
 - Increased odors
 - Increased toxicity
 - Increased corrosion



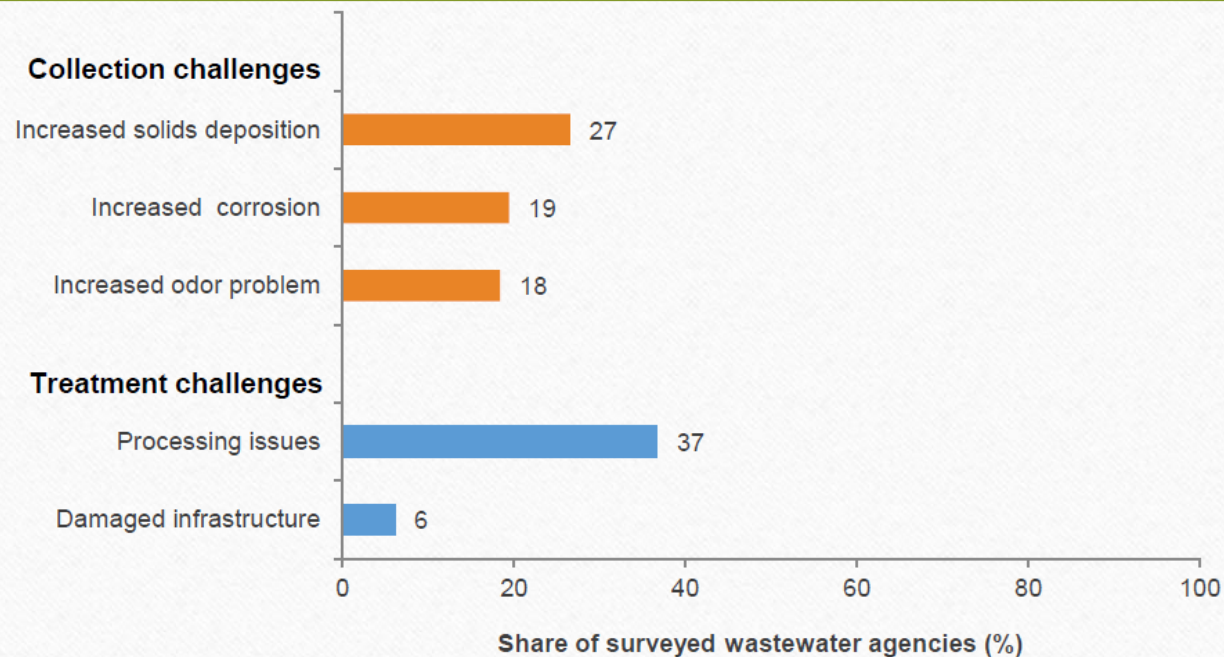
Wastewater Treatment

- Increased sulfide odor, corrosion, chemicals
- Overloading solids handling system
- Increased maintenance
- Process impacts on nutrient removal and energy generation
- Impaired effluent quality



Photo credit: CWEA

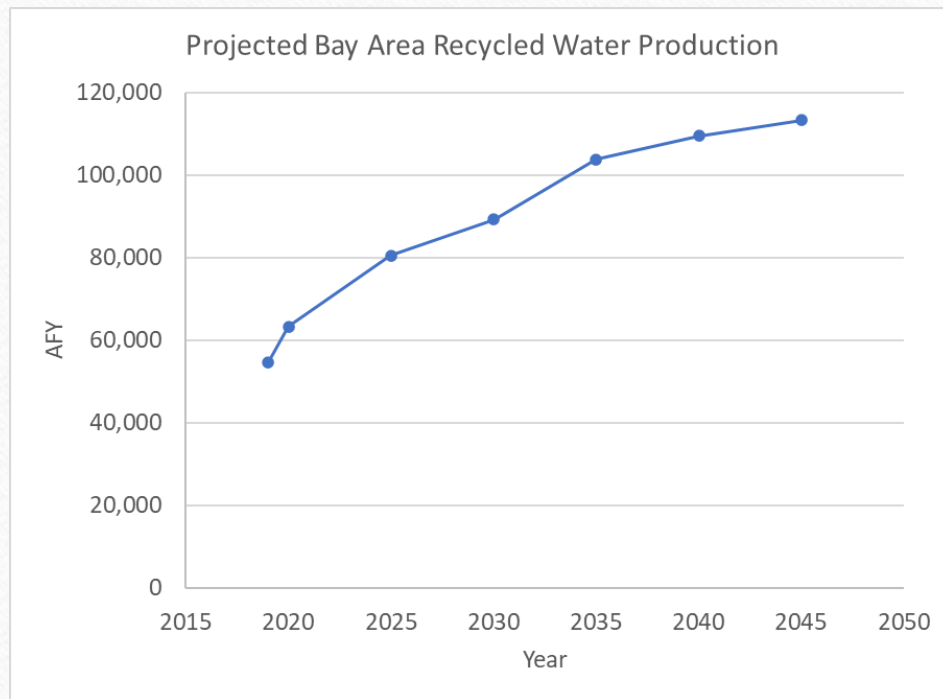
Some wastewater agencies had problems with their collection and treatment systems during the drought



SOURCE: PPIC California Wastewater Agency Survey 2017.

NOTES: Overall sample size: 98. Limited to respondents reporting reduced influent flow or quality during the drought.

Bay Area agencies are planning to increase recycled water production



Major recycled water uses in our region are:

- Industrial
- Irrigation:
 - Landscape
 - Agriculture
 - Golf Course

Low flows impact quality and quantity of recycled water

- High levels of salt and organic materials impact the suitability of the recycled water for industrial and residential nonpotable reuse

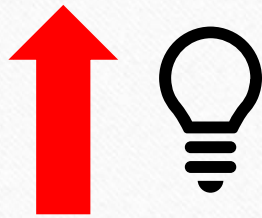


Low flows impact quality and quantity of recycled water

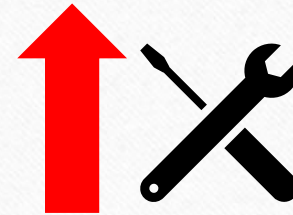
- Recycled water landscape irrigation users will need to plan salt-tolerant landscaping
- Ultimately capital investments will need to be planned to keep current levels of water recycling



Aggregate impacts of lower flows on wastewater services



Increased Energy use (and GHG emissions)



Increased maintenance and equipment replacement



Increased chemical use

Impacts on the community with business as usual



- Increased sewer overflows, especially in low lying areas
- Increased odor impacts in low lying areas and near treatment plants
- Increased rates, with significant impact to low-income households

EAST BAY MUNICIPAL UTILITY DISTRICT
EBMUD 1-866-40-EBMUD YOUR ACCOUNT NO. IS: [REDACTED]
Next Read Date is 07/07/2017
Your Payment is Due by 05/30/2017
Delivering reliable, high quality water takes financial stewardship.
Learn how EBMUD reinvests in our water and wastewater systems to better serve you.
Visit ebmud.com/stewardship.

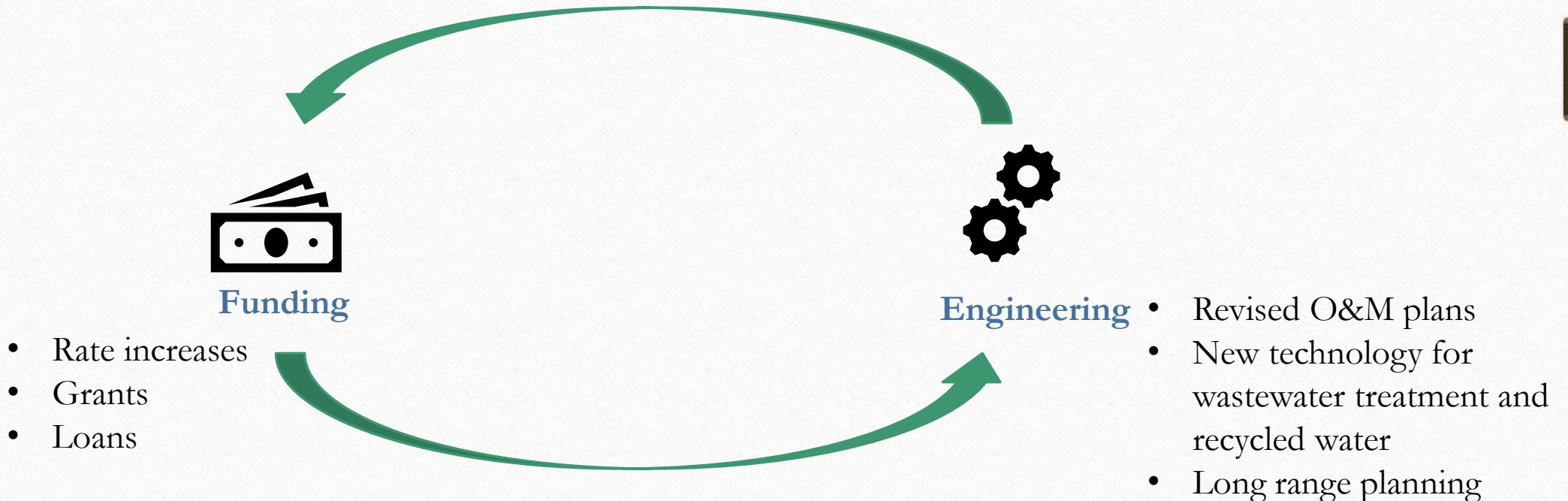
Bill Date: 05/15/17
Billing Period
From 3/28/17 To 5/9/17
OAKLAND, CA 94611-5377

For: Private Residence

	AMOUNT	TOTAL				
PREVIOUS CHARGES AND CREDITS						
PREVIOUS AMOUNT DUE						
WATER CHARGES - EBMUD	0.00	0.00				
WATER SERVICE CHARGE	28.97					
ACCOUNT ESTABLISHMENT FEE	52.00					
WATER FLOW CHARGE 2 UNITS @3.16	6.32	87.29				
WASTEWATER CHARGES - EBMUD						
WASTEWATER TREATMENT CHARGE	20.65					
SF BAY POLLUTION PREVENTION FEE	0.28	20.93				
CITY OF OAKLAND SEWER SERVICE		52.60				
PLEASE SEE REVERSE SIDE FOR BILLING EXPLANATION						
Please Pay This Amount Now Due		160.82				
METER SIZE 5/8 inch	ELEV. Band 1	METER READINGS Current 11 Previous 13	UNITS 2	CONSUMPTION INFORMATION 1,496 Gallons	42 Days	36 Gall/Day
		BASE YEAR	NOT AVAILABLE			

Planning for the future

Nothing I've covered is an existential threat. Problems can be solved:



Path to a more equitable future

- Creative funding and financing to minimize impacts on rates, or to provide relief to low-income households
- Implement technologies to minimize odor impacts on nearby communities
- Design sewer system management plan to consider the ancillary impacts of low flows on low income and overburdened communities



Photo credit: EBMUD

Questions?



Contact

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