EAST BAY MUNICIPAL UTILITY DISTRICT

General Manager's Proposed Budget & Rates FY 2016 and FY 2017

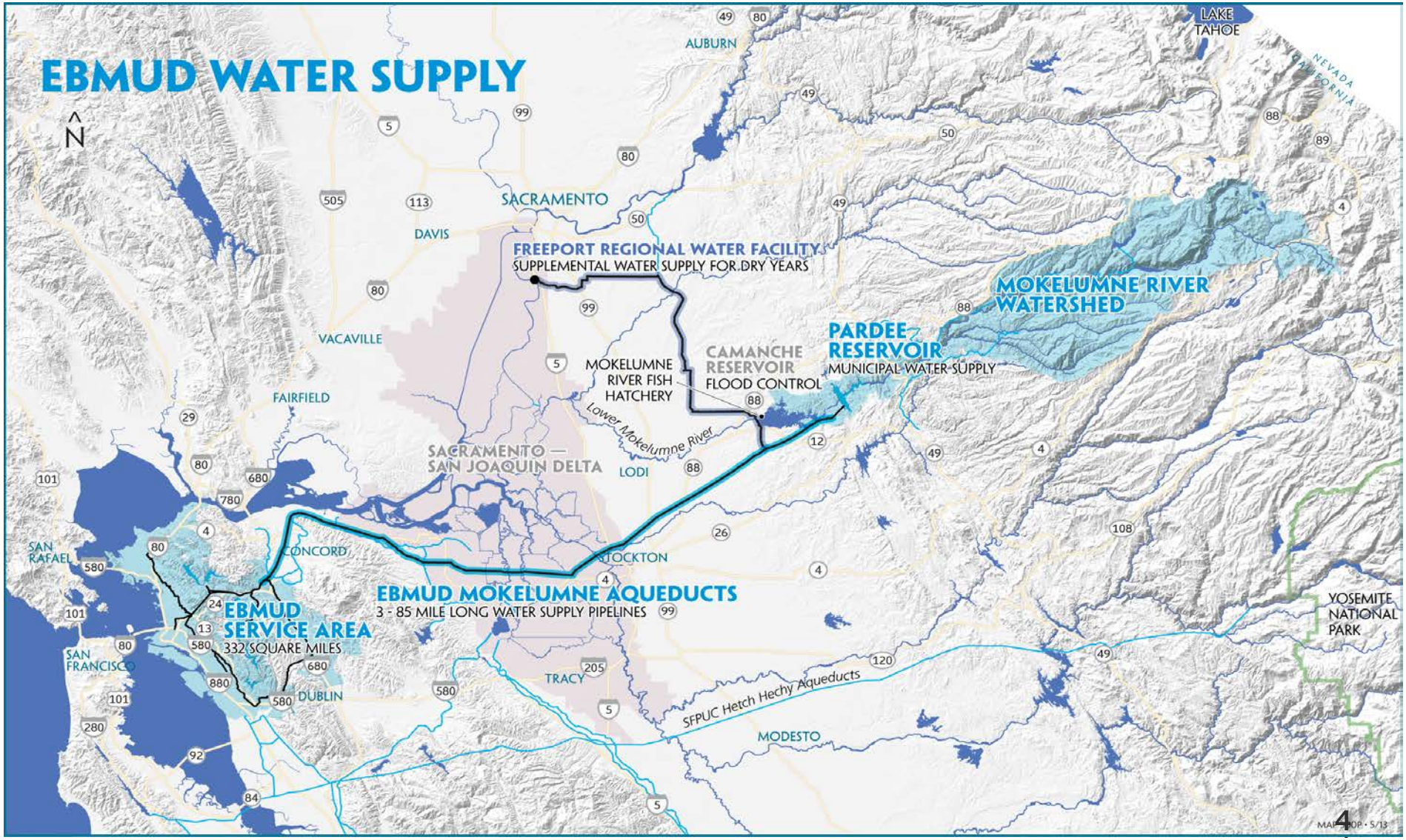
Board Workshop
March 24, 2015

Workshop Agenda

- Introduction
- Budget priorities
- Recommended budget
- Break
- Recommended rates and charges
- Drought rates
- Board discussion

Introduction

EBMUD Footprint—From Sierra Crest to San Francisco Bay



EBMUD Responsibilities are Extensive and Essential

- Operations span seven counties—Alameda, Contra Costa, Alpine, Amador, Calaveras, Sacramento, and San Joaquin
- Fully integrated water utility—watershed management, source of supply, treatment and distribution
- Infrastructure replacement value—$14.4 billion
- Health and safety of 1.3 million people
- Essential to $388 billion regional economy

Where We Have Been

- Fiscal challenges from drought & recession
  - Reduced sales volumes, capacity charge revenues, and interest earnings
- Multi-year effort to mitigate rate increases
  - Approximately $200 million in expenditure reductions/deferrals
    - Hiring freeze, no general salary increase for FY12 & FY13
    - Capital project reductions/deferrals
    - Refinanced outstanding debt & reduced discretionary and contract expenses
- Some mitigation strategies unsustainable
  - Increasing maintenance backlog, aging infrastructure, customer impacts, “negative outlook” on AAA rating
- Biennial budget priorities—FY14 & FY15
  - Invest in capital—increased CIP spending, greater cash funding of CIP, higher debt service coverage
  - Invest in operations—funded positions to enhance maintenance, renew infrastructure and improve customer service
  - Plan for long-term financial stability—base budget and rates on realistic growth assumptions
- Identified planning activities for future budget
  - Conduct a series of workshops on long-term financial stability
  - Complete cost of service studies for water and wastewater rates
  - Continue to refine infrastructure replacement requirements and delivery strategies

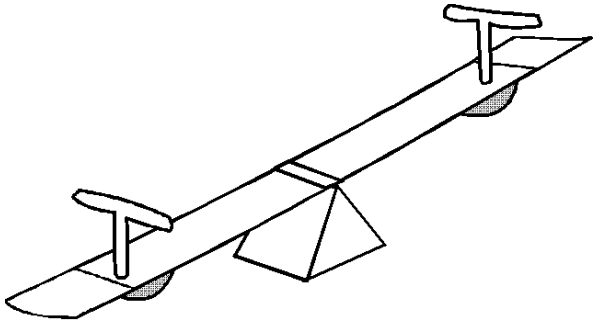
Budget Balancing Act

Upward pressures

- Reinvest in aging physical infrastructure
  - Raw water system, reservoirs, & treatment plants
  - Distribution pipelines—10 to 40
  - Wastewater programs
- Invest in critical IT infrastructure
  - Equipment replacement
  - Major enterprise system replacement
  - IT security
- Manage impacts of extended drought
  - Conservation outreach
  - Supplemental supplies
  - Reduced consumption

Offsetting measures

- Manage long-term cost drivers
  - Refunded debt to reduce long-term costs
  - Benefit cost increases slower than projected
- Growth in non-commodity revenues
  - Resource recovery program
- Slower pace to meet enhanced financial metrics
  - Cash funding of capital plan
  - Debt service coverage ratio



Biennial Budget—FY16 & FY17

Budget Priorities

- Make sustained reinvestments in aging physical infrastructure
- Invest in critical information technology infrastructure
- Manage impacts of extended drought

Rates and Charges

- Increase rates in line with prior projections
- Implement staged system of drought rates

Biennial Budget—FY16 & FY17

FY16 & FY17 APPROPRIATIONS ($ Thousands)							
	FY16			FY17			FY16 & FY17
Proposed Budget	Water	Wastewater	Total	Water	Wastewater	Total	Total
Operations	248,264	65,448	313,712	262,232	70,717	332,949	646,661
Debt Service	169,894	33,693	203,587	180,191	33,956	214,147	417,734
Capital Appropriation	249,042	70,536	319,578	290,392	32,583	322,975	642,553
Total	667,200	169,677	836,877	732,815	137,256	870,071	1,706,948
Drought Contingency	64,206	-	64,206	62,078	-	62,078	126,284
Total	731,406	169,677	901,083	794,893	137,256	932,149	1,833,232

Rates & Charges—FY16 & FY17

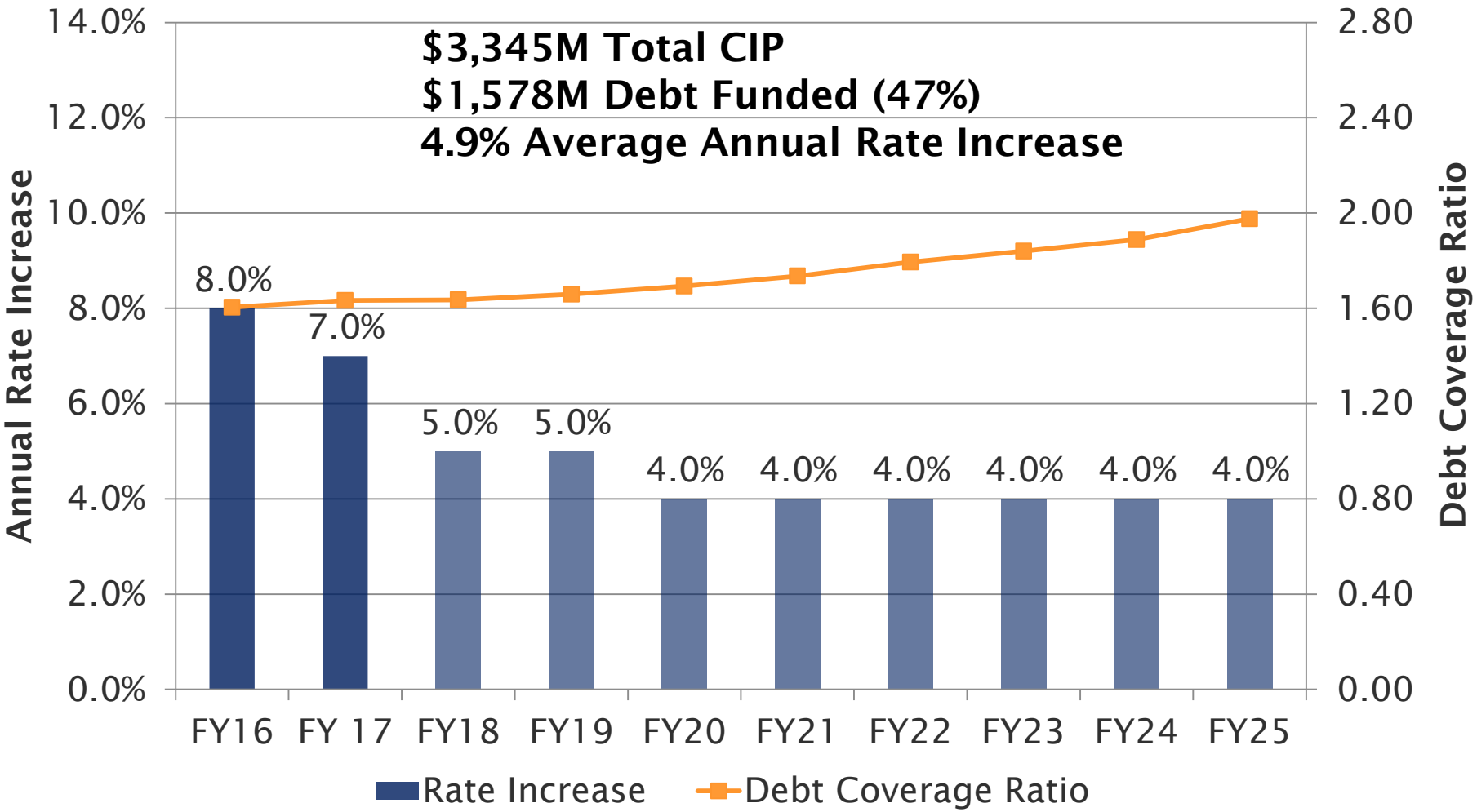
Prior Five-Year Forecast					
	Adopted		Projected		
	FY14	FY15	FY16	FY17	FY18
Water	9.75%	9.5%	8.0%	7.0%	5.0%
Wastewater	9.0%	8.5%	5.0%	5.0%	5.0%

Combined Monthly Water and Wastewater Impacts—Average SFR

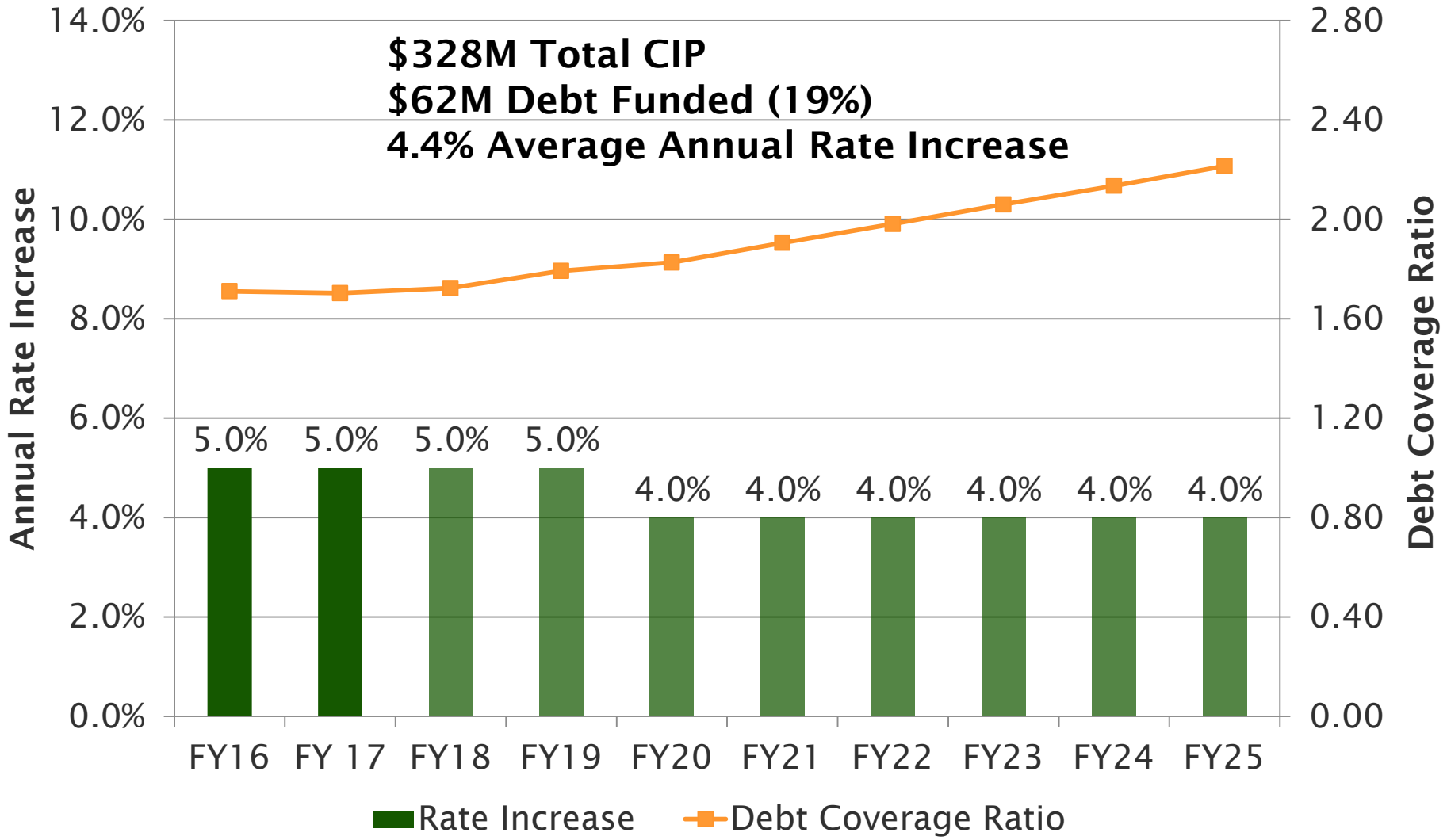
	FY15 Current	FY16 Proposed	Change		FY17 Proposed	Change	
Water – 10 Ccf/mo	$48.60	$52.17	$3.57	7.3%	$55.83	$3.66	7.0%
Wastewater – 6 Ccf/mo*	$19.25	$19.01	-$0.24	-1.3%	$19.93	$0.92	4.8%
Total	$68.85	$71.18	$3.33	4.8%	$75.76	$4.58	6.0%

*Wastewater discharge based on winter water use

Long-Term Rate Forecast—Water



Long-Term Rate Forecast—Wastewater



Budget Priorities

Budget Priority #1

EBMUD

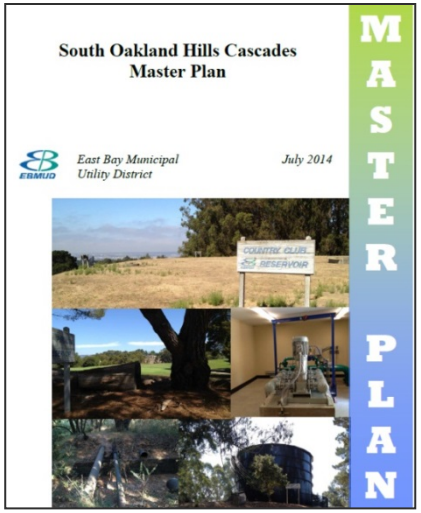
Make Sustained Reinvestments in Aging Physical Infrastructure

Infrastructure Topics

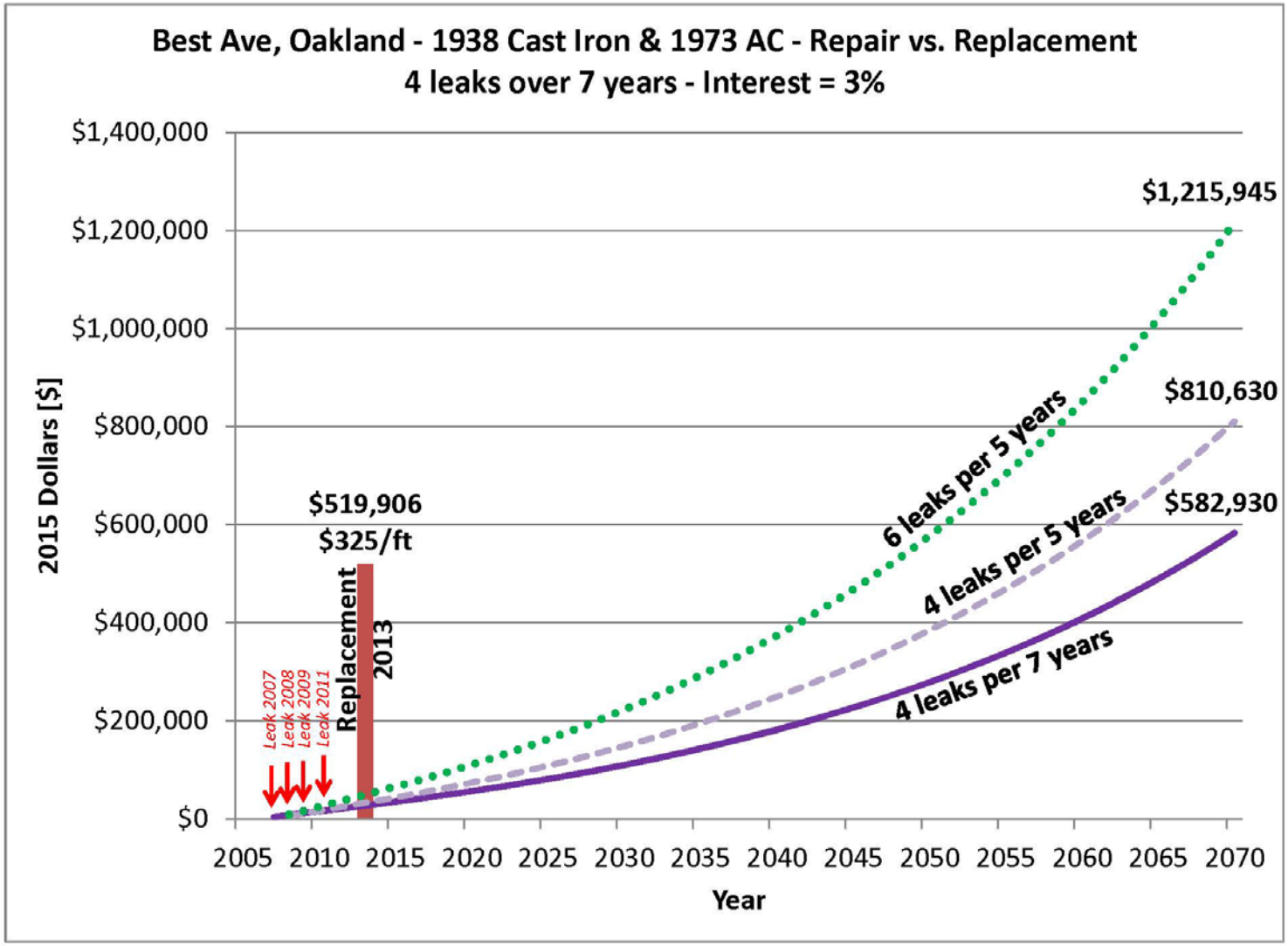
- Water infrastructure replacement
  - Raw water system
  - Reservoirs
  - Pumping plants
  - Treatment plants
  - Pipeline replacement (10-to-40)
- Wastewater programs
  - Consent Decree
  - Food waste
  - Odor control

CIP Priorities Reflected in Proposed Budget

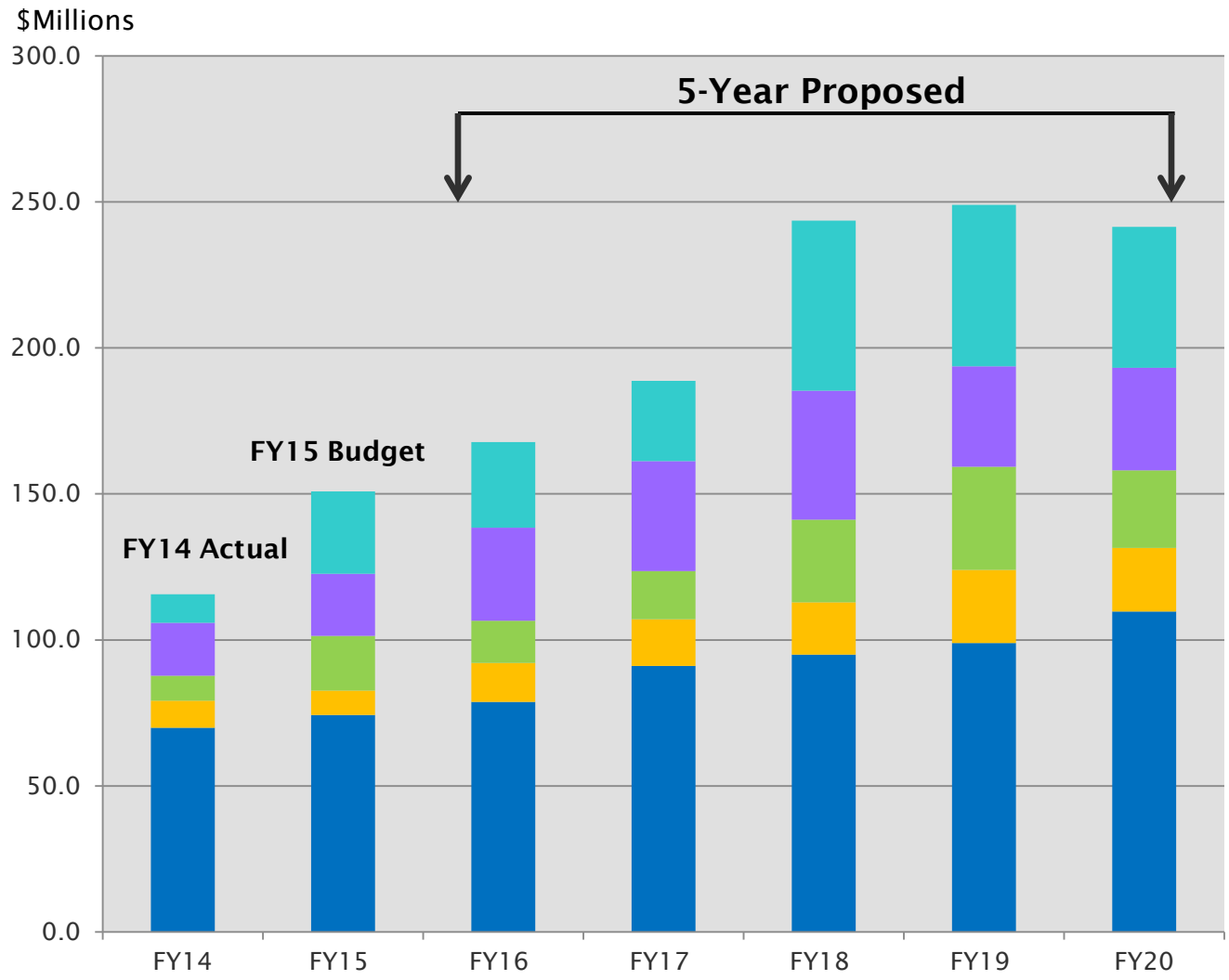
Priority	Example
1. Safety	Security and fire alarm improvements.
2. Regulatory	Upgrade dams, retrofit and replace diesel engines, improve wastewater treatment plant odor control.
3. Critical Reliability	Address reliability issues that could impact customers, e.g., replace filter underdrains at the Orinda Water Treatment Plant.
4. Cost Effectiveness	Replace or rehabilitate infrastructure that is cost-effective, such as replace pipes with leak histories, recoat steel tanks.



Cost-Effectiveness Example



Cash Flow—Water



Five-Year Proposed Cash Flow by Asset Class

- Raw Water $218.5 M
- Treated Water Reservoirs $183.3 M
- Pumping Plants $121.3 M
- Water Treatment Plants $94.0 M
- Pipelines $473.5 M

Raw Water System Issues and Key Projects

Issues

- Delta hazards: flood, EQ, soil subsidence
- Proposed BDCP tunnels
- Levee and dam safety
- Aging infrastructure

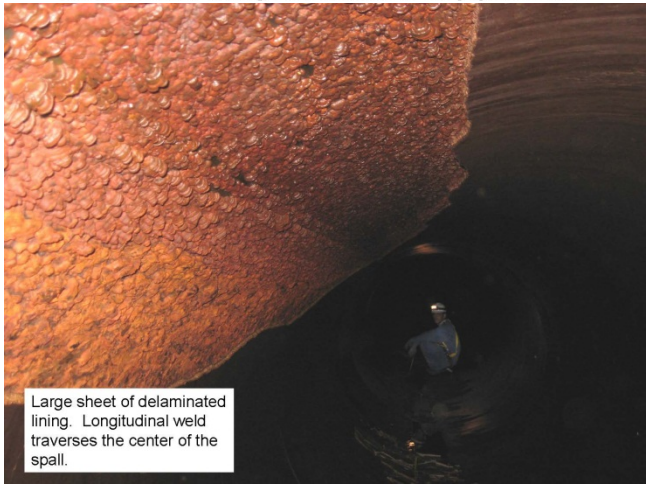
Key projects

- Improve Chabot dam & tower
- Reline Mokelumne aqueducts
- Address subsidence of temperature anchors
- Perform geotech studies to address future tunnels, AQ#3 seismic performance
- Rehab Briones, Moraga raw water pumping plants

Mokelumne Aqueducts Lining

75-miles of Mokelumne Aqueducts Lining Failures:
AQ No. 3 Above Ground and AQ No. 2 Above & Below Ground

Delaminated lining accumulated on pipe invert

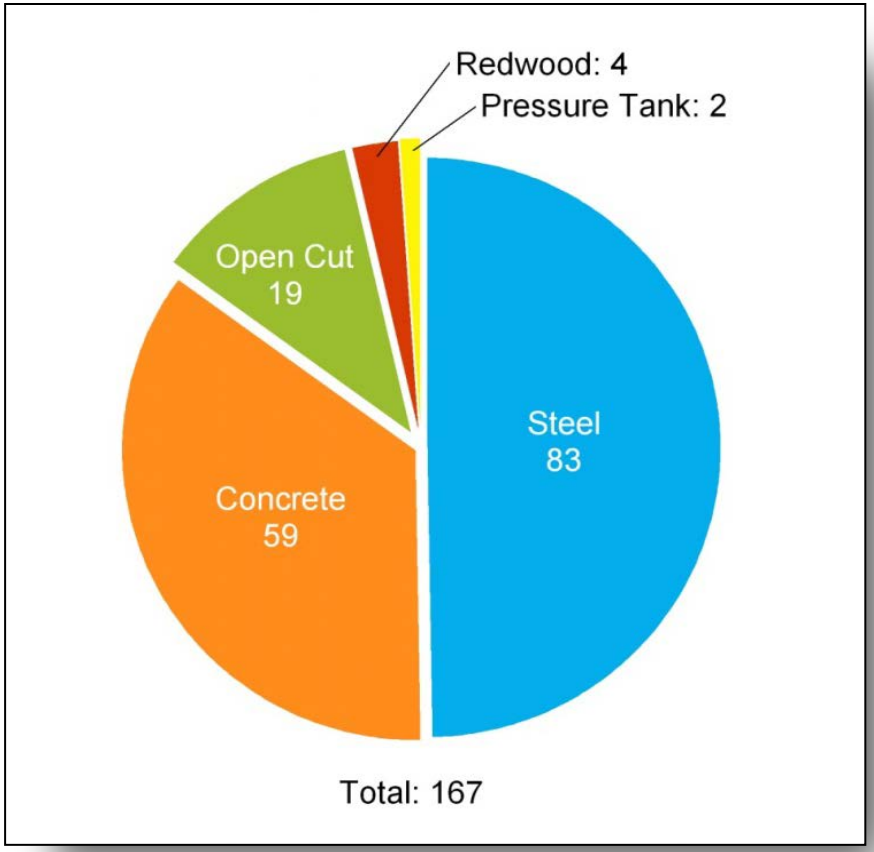


CML installation, New Irvington Tunnel, SFPUC, 2014

Approach:

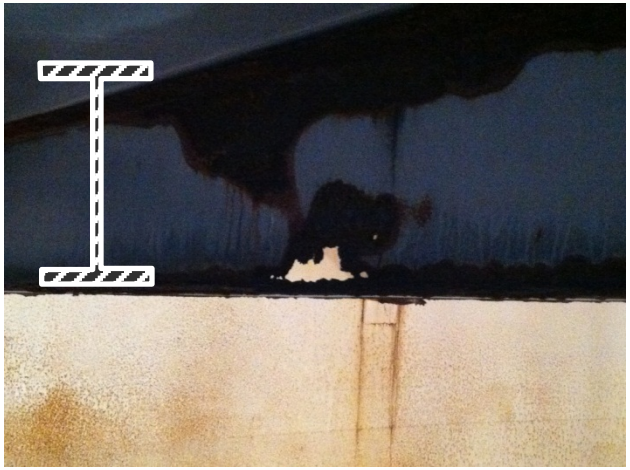
- Study alternatives (completed FY14-15)
- Perform additional sampling and analysis (FY16-17)
- Replace lining in stages ($225 Million through FY25)

Treated Water Reservoirs



- 167 treated water reservoirs
- Typical rehabilitation scope includes:
  - Roof repair or replacement
  - Replacement of steel reservoir coatings
  - Improvements for employee safety such as stairs for roof access
- Water quality is improved when reservoirs are replaced with smaller reservoirs
- KPI: Award three steel reservoirs per year on average (KPI met)

Typical Reservoir Rehab Scope

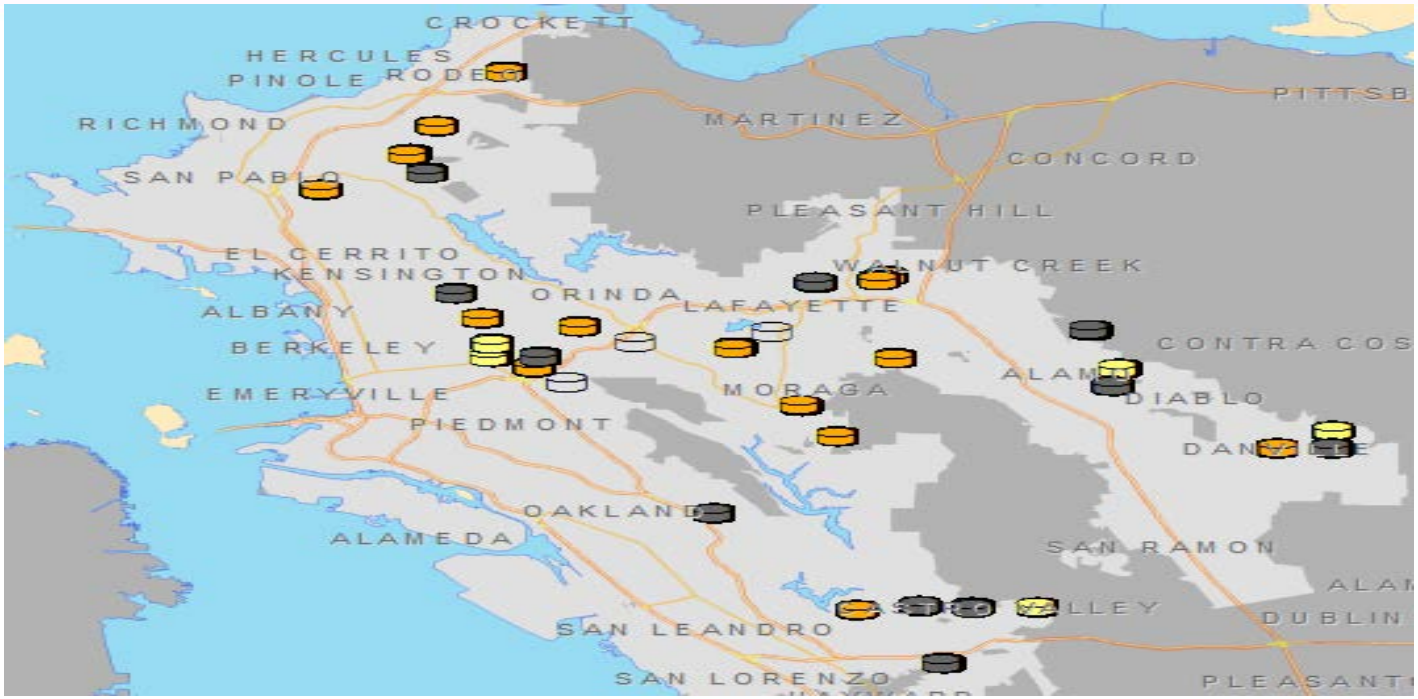


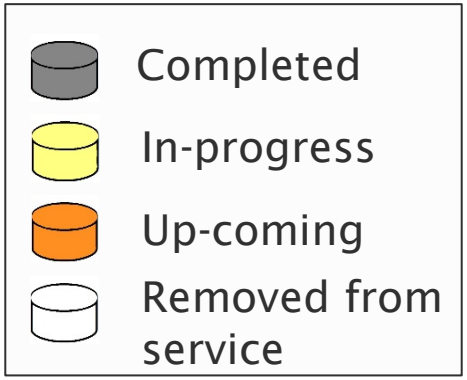
Hink No. 2

Rheem

Miranda

Steel Tank Rehabilitation Projects



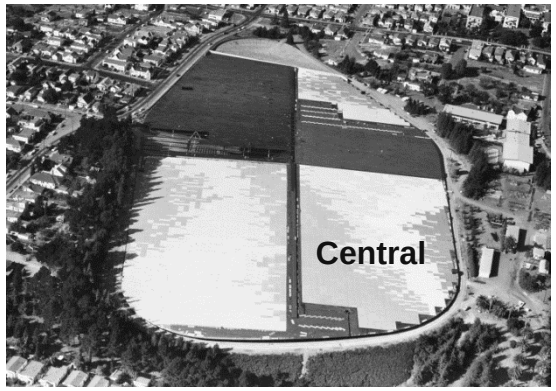


Category	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20
Rehabilitations & Replacements	Alamo Bayview No. 2 Fire Trail No. 2 Gwin	Proctor No. 2 Rilea Shawn	Blackhawk No. 2 Hink No. 2 Miranda	Woods	Acorn Eden Round Hill University	Bacon Mendocino Woods	Dos Osos Pearl Rheem	Arcadian Blackhawk No. 1 Carter Larkey	Berkeley View No. 2 Birch Grizzly Verde	Arroyo Proctor No. 2 Scenic East Sherwick
Demolitions				Crossroads Pinehaven No. 1 Pinehaven No. 2 Sunset Trilane	Stonewall					

Open-Cut Reservoir Highlights

Recent accomplishments:

- Schapiro (FY13 completion)
- Estates (FY14 completion)
- Summit Reservoir (in progress)
- South Reservoir (in progress)



Upcoming projects:

Project Name	FY16	FY17	FY18+
South		√	√
San Pablo CW	√	√	√
Leland			√
Central	√	√	√

Pumping Plants

- 136 pumping plants
- Typical rehabilitation scope includes:
  - Electrical equipment replacement
  - Mechanical equipment replacement
  - Structural improvements as needed
- KPI: Rehab or replace at least three pumping plants per year
- KPI being met; 19 PP's will be in design or construction during the FY16-17 budget period

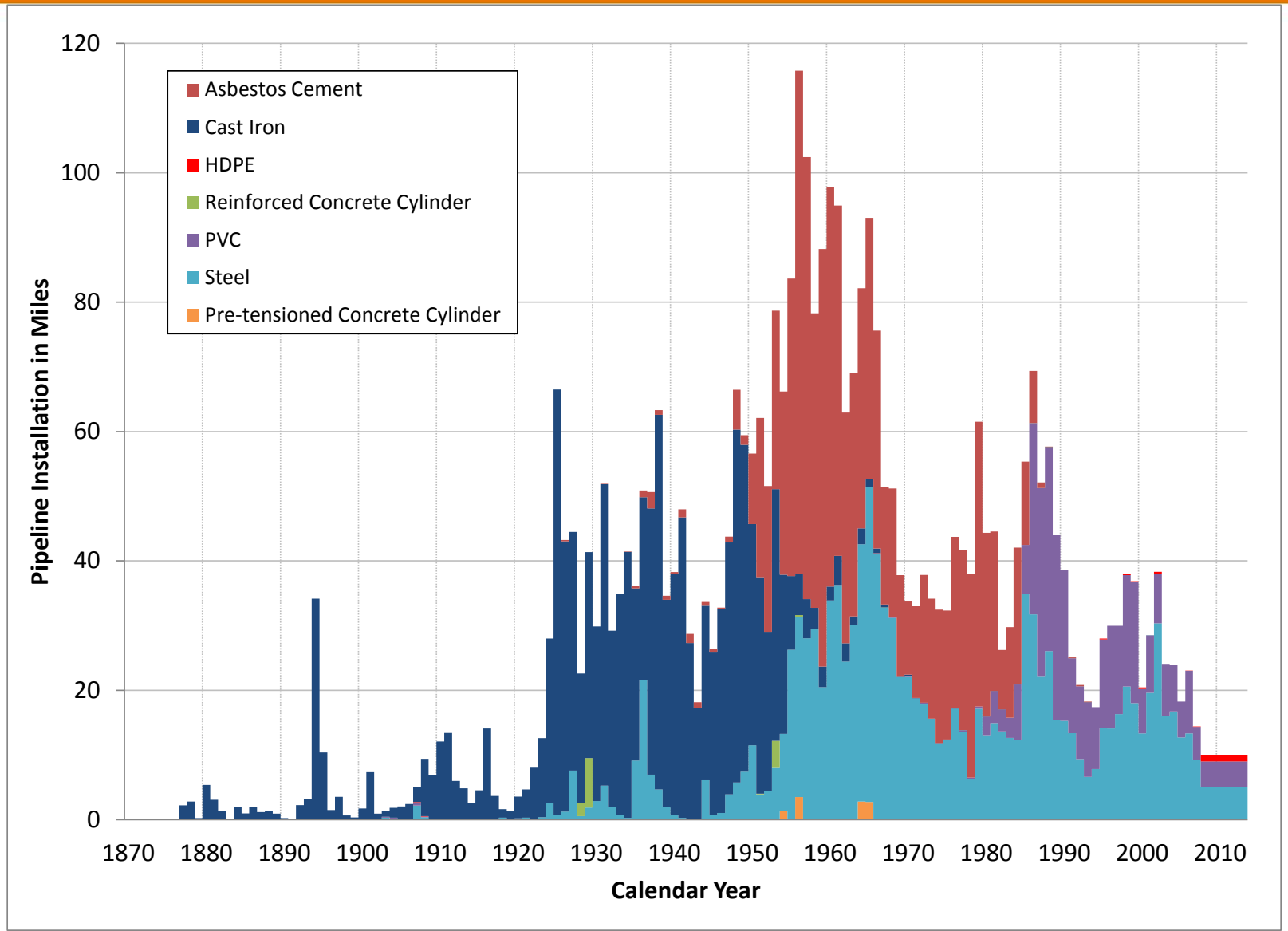
Redwood/39th Ave PPs

Treatment Plant Highlights

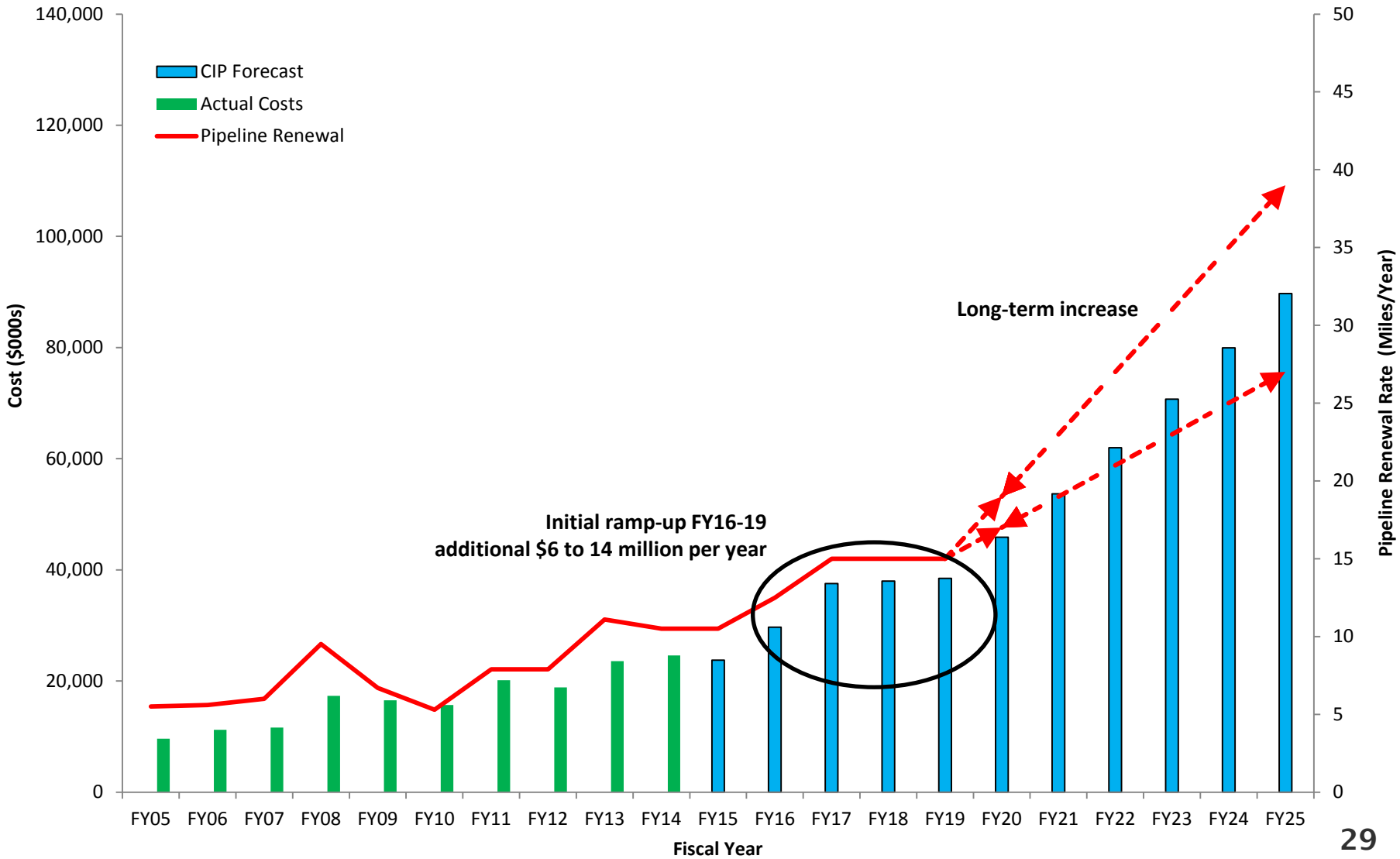
Design replacement for aging ozone systems at USL and Sobrante WTPs

Design and install new filter underdrains at Orinda WTP

Pipe Inventory by Installation Year



Pipeline Renewal—CIP Forecast

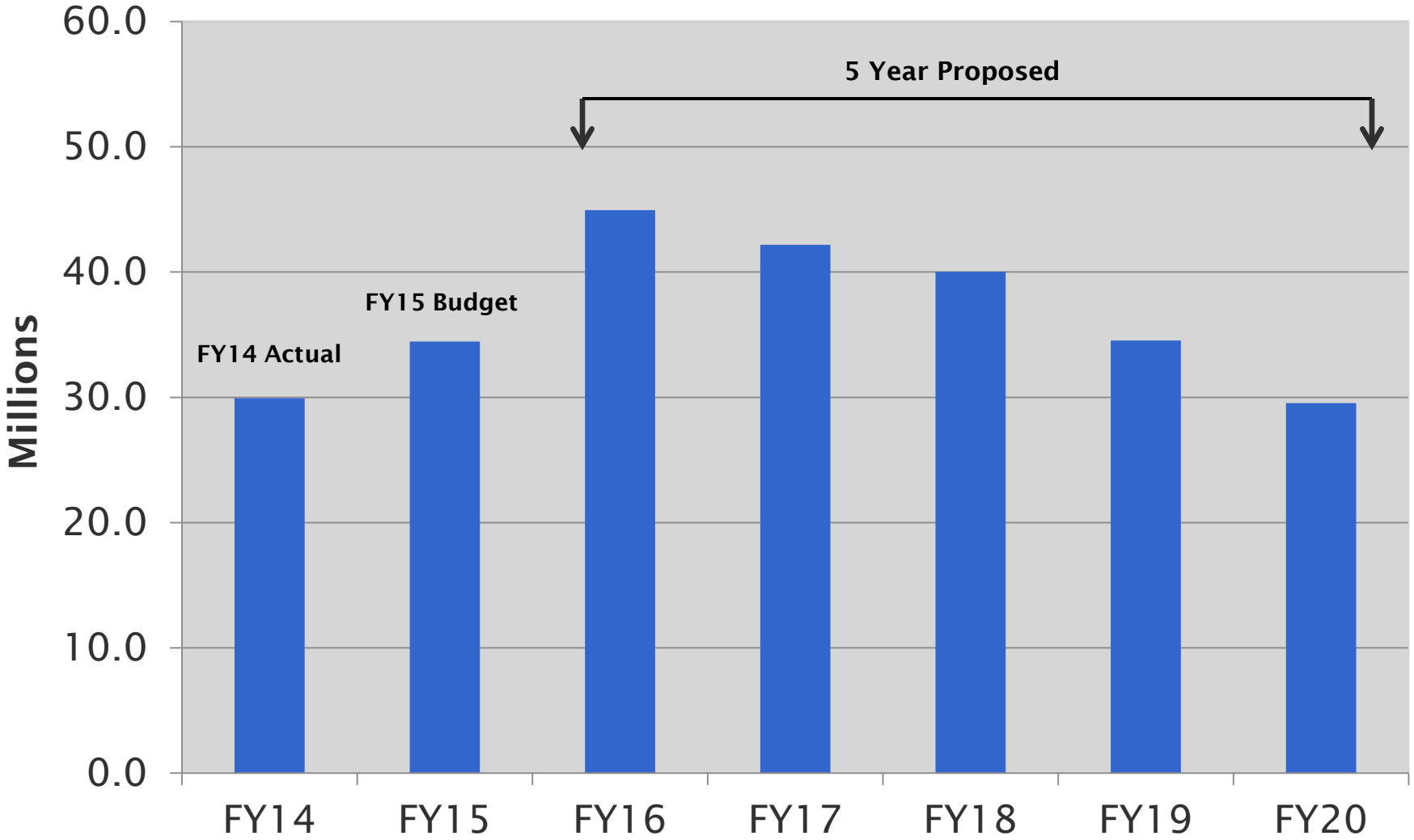


Resources Needed—FY16 & FY17

- Accomplish Ramp-Up from 10 to 15 miles mostly with District staff
- Evaluate alternative renewal technologies via contract
- Evaluate metrics

Field Resources	28 positions	• Two Pipeline Installation Crews • One Paving Crew • Pool Resources
Technical Resources	8 positions	• Engineers and Designers • Construction Inspectors • Support Staff

Cash Flow—Wastewater

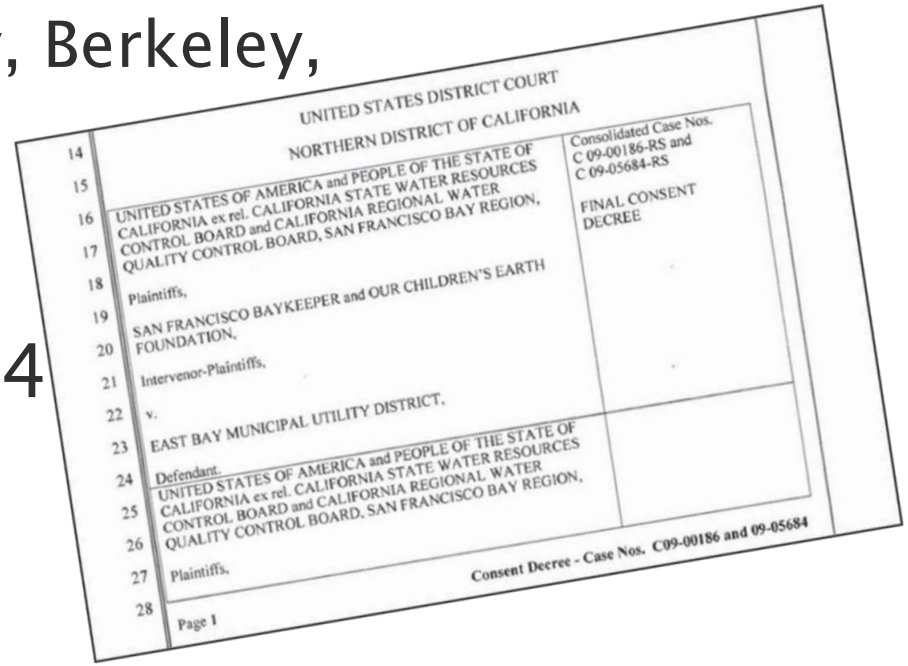


Wastewater Program Topics

- Wet weather Consent Decree implementation
- Food waste initiative
- Odor control

Consent Decree Background

- Federal Order dealing with peak wet weather flows for EBMUD and 7 Satellite collection systems
  - Cities of Alameda, Albany, Berkeley, Emeryville, Oakland and Piedmont, plus Stege Sanitary District
- Effective September 2014 for 22-years



UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

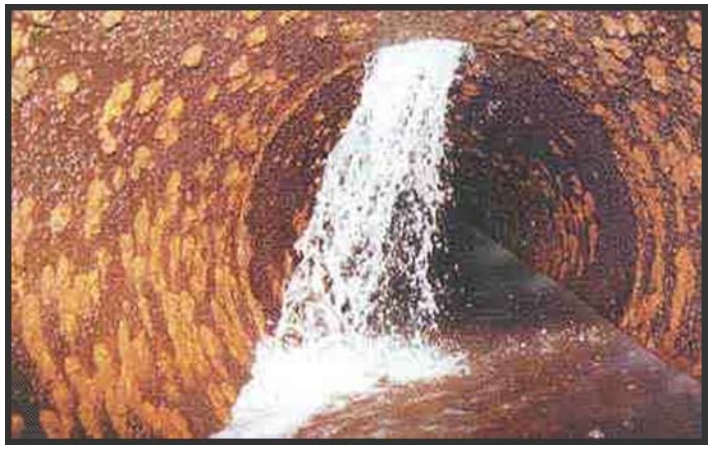
UNITED STATES OF AMERICA and PEOPLE OF THE STATE OF CALIFORNIA ex rel. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD and CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION, Plaintiffs, SAN FRANCISCO BAYKEEPER and OUR CHILDREN'S EARTH FOUNDATION, Intervenor-Plaintiffs, v. EAST BAY MUNICIPAL UTILITY DISTRICT, Defendant.	Consolidated Case Nos. C 09-00186-RS and C 09-05684-RS FINAL CONSENT DECREE
UNITED STATES OF AMERICA and PEOPLE OF THE STATE OF CALIFORNIA ex rel. CALIFORNIA STATE WATER RESOURCES CONTROL BOARD and CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION, Plaintiffs,	

Page 1 Consent Decree - Case Nos. C09-00186 and 09-05684

Consent Decree Background (cont'd)

Required district activities – (In addition to significant infrastructure investment required by Satellite agencies)

- Capital improvements - Urban Runoff Diversion Project and pump station flow reversal
- Private sewer lateral program
- Annual hydraulic modeling
- Regional technical support program
  - Investigate/identify sources of I/I within the systems of Satellite agencies
  - Required spend of $2M/yr, exclusive of administration costs
  - Near-term significant contract support to ramp-up program; over next 2 yrs. develop long-term plan to resource program



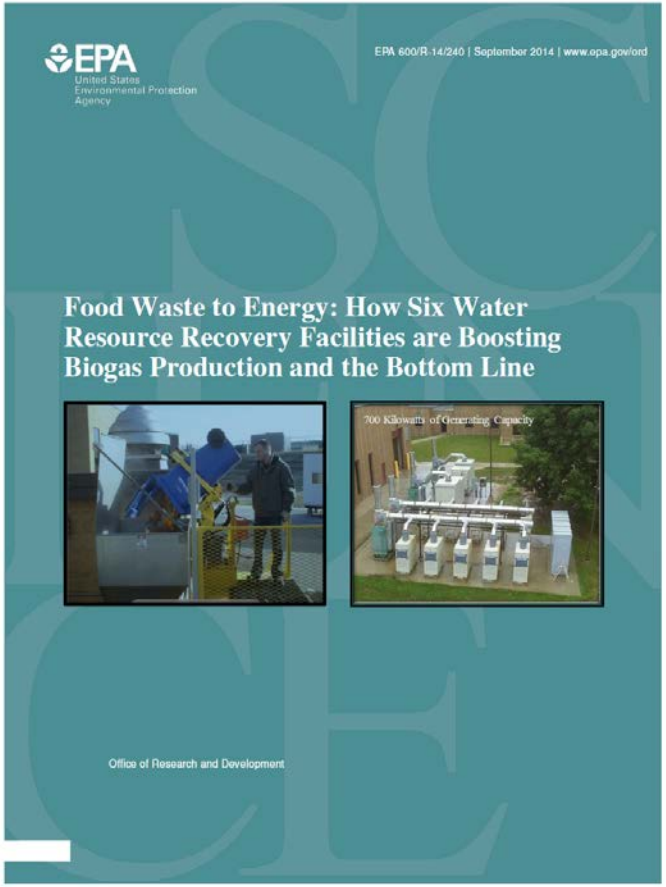
Consent Decree Key Challenges

<u>Midcourse check-ins in 2022 and 2030</u> - Failure to meet check-in targets results in a defined process with significant EPA discretion on potential additional requirements

- PSLs; Rate of turnover, HOAs, >1000 ft. properties, public properties
- Uncertainty on what sources of I/I identified via RTSP
- Effectiveness of means/methods of I/I reduction work (public and private)

Food Waste Background

- WWTP currently generates 130% of power demand (vs. industry standard of 50-60%)
- District continues to be regarded as a pioneer and leader in converting organic waste material to renewable energy
- District currently accepts approximately 10 tons per day of food waste (CCCSWA)
- CEQA clearance for up to 600 T/day of collected food waste
- Pursuing a scale up of the program over the next two years, through receipt of 50+ tons per day of the City of Oakland's food waste



Food Waste Budget Implications

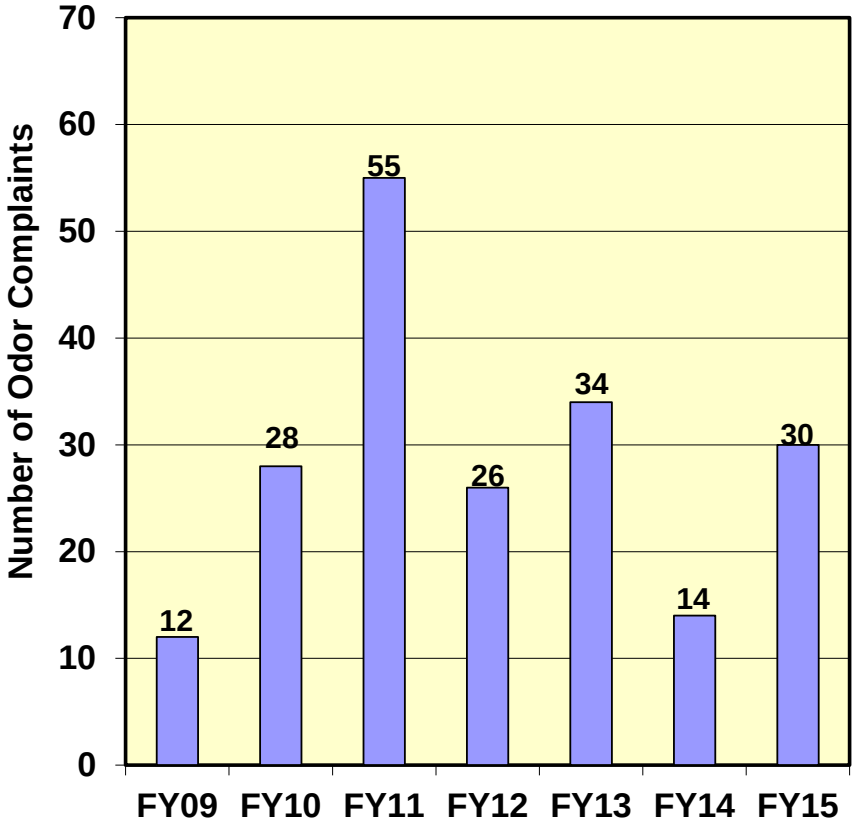
- Operating costs
  - No additional costs in FY16
  - FY17 incremental costs:
    - Grit disposal
    - Digestate hauling
    - Polymer
- Capital costs
  - Preprocessing project
  - Dedicated digestion and dewatering
- Costs offset by revenue stream
  - Tipping fee
  - Renewable energy generation

Food Waste
Key Challenges

- Once constructed, this will be the largest food waste digestion-to-energy operation in the country
- The nature of this project, with the District leading industry innovation, gives rise to an unusual set of challenges for the District
  - Technology suitability
  - Operational impacts
  - Backup/interim plans
  - Offsite odor concerns
  - Aggressive schedule to meet Oakland timeline

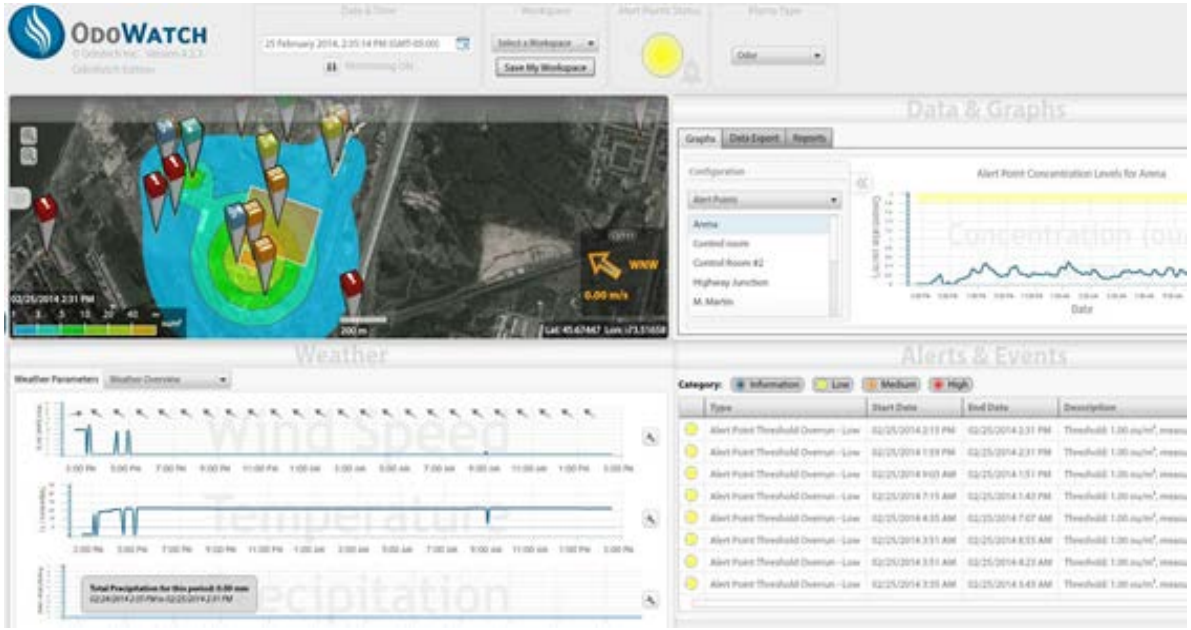
Odor Control Background

- Continued commercial and residential redevelopment near the MWWTP
- Continuing public concerns regarding odors
- Linkage to food waste initiative
- Commitment to continuous improvement



Odor Control Capital Budget Implications

- District is nearly quadrupling the rate of investment in odor control capital infrastructure
  - $19M in 5-year CIP based on phased-implementation approach to mitigating odors
- Key Projects:
  - Influent Pump Station Odor Control ($3.7M)
  - Primary Sedimentation Tank Odor Control ($8.9M)
  - Innovative Odor Monitoring System ($0.8M)



Odor Control
Key Challenges

- Capital improvement program implementation timeline
  - Phased approach with monitoring for improvements after each major capital improvement
- Effective utilization of technology and resources to identify and mitigate odor sources prior to causing an off-site impact
  - Complete installation of pilot OdoWatch® odor monitoring system pilot (May 2015)
  - Operational practices
- Effective engagement on odor control activities with West Oakland community

Make Sustained Reinvestments in Aging Physical Infrastructure

- Water—key priorities
  - Raw water system elements such as Chabot Dam, Mokelumne Aqueduct relining
  - Maintain progress on pumping plants and reservoirs
  - Orinda WTP filters, Sobrante/USL ozonation
  - Pipeline replacements will grow to 15 miles/year within 5 years
- Wastewater—key priorities
  - Consent Decree
  - Food waste
  - Odor control
- Increased position funding by 50

Budget Priority #2

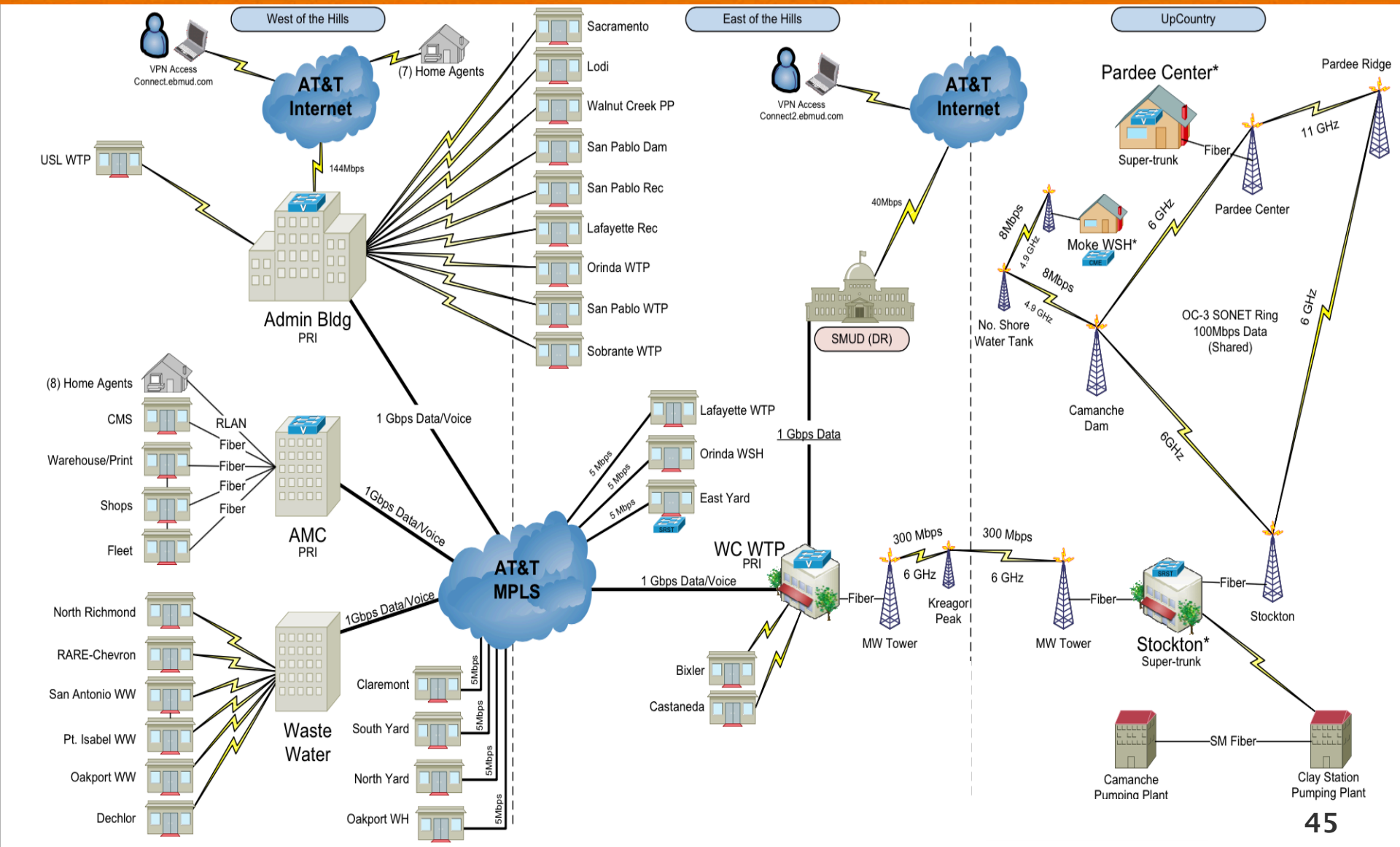
EBMUD

Invest in Critical Information Technology Infrastructure

Information Technology Infrastructure Topics

- Overview of the infrastructure
  - Lifecycle of IT infrastructure
  - What needs to be replaced or upgraded?
- Other IT cost drivers
  - Security and disaster recovery
  - Cyclical market trends

Scope of District IT as Extensive as Water System



Lifecycle of IT Infrastructure

Component	Lifecycle
Major business systems	5-25 years
Network hardware	10 years
Server hardware	5-7 years
Desktops and laptops	4-5 years
Mobile phones and tablets	2 years
Server and desktop software	2-7 years Up to 30 days between patches
Communication service plans and associated hardware	Driven by market forces and communication demand changes

What Needs to be Replaced?

FY16	FY17	FY18	FY19	FY20
Purchasing System (MMIS) Implemented 1987				
Finance System (FIS) Implemented 1999				
HR System (HRIS/HCMS) Implemented 1999				
	Work Management Systems (GWO, AIM, POS, COS, etc.) Implemented 1999-2006			

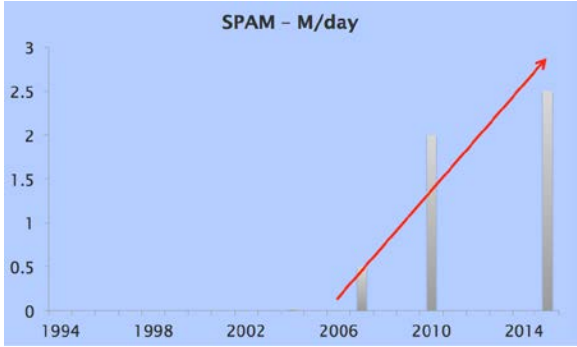
What Needs to Be Replaced?

Network and Server Hardware

- Some network switches beyond 10 years in service
- Many servers beyond 8 years in service
- Storage systems approaching 8 years in service
- FY16 and FY17 include $2.4M and $2.0M contributions to equipment replacement fund

Security Challenges

- Control system security
  - Record level of threats with intentional targeting of utilities
  - Recent assessment identified numerous opportunities to improve security

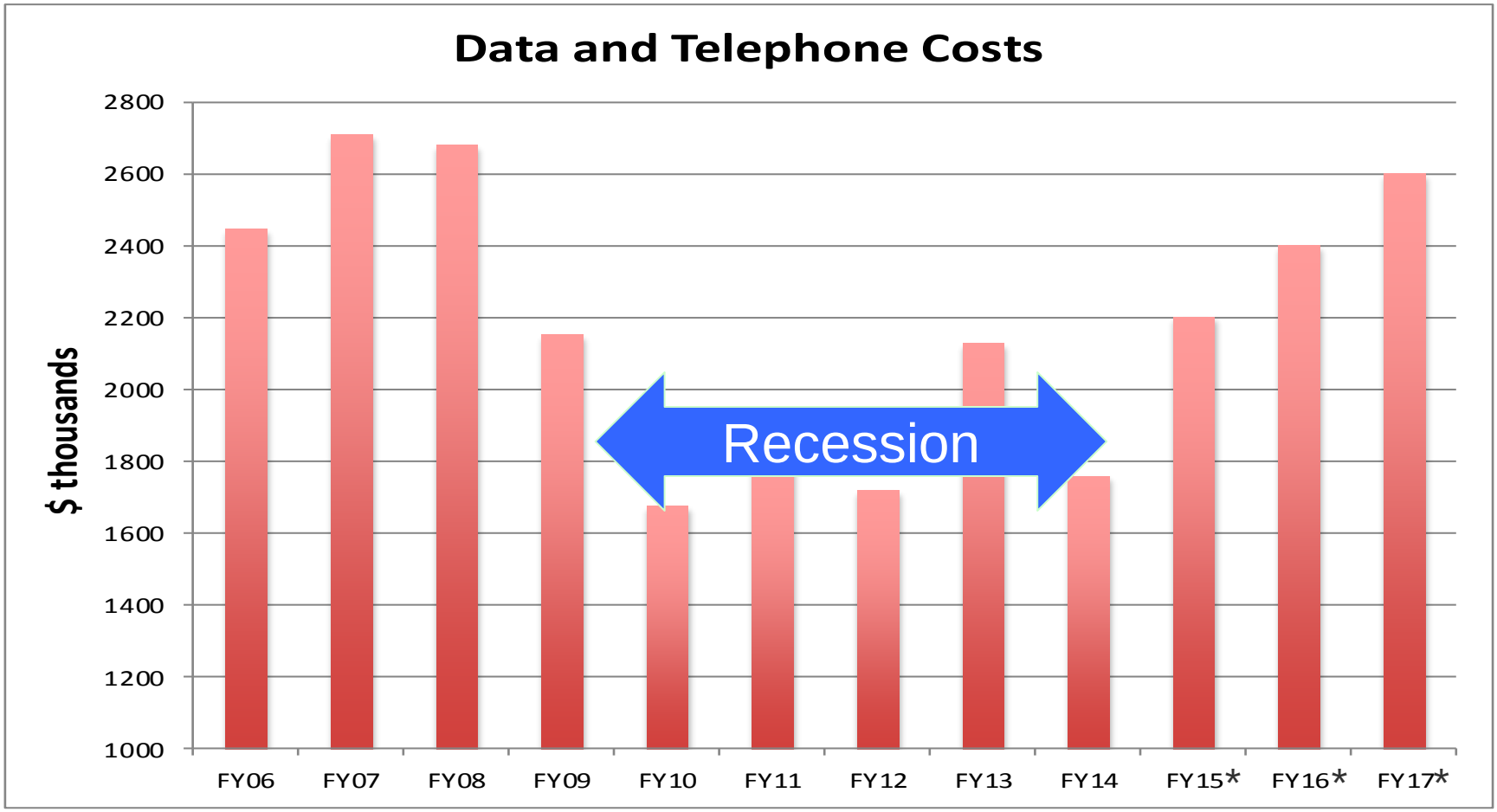


- Business network security
  - Malicious emails
  - Web site “drive by” hazards
  - Growth in “zero day” vulnerability exploits
  - Improvements in our server management capabilities needed

Disaster Recovery Improvements

- FY14 outage recovery revealed limitations of disaster recovery (DR) infrastructure
- FY16 budget includes funds for replacement storage at SMUD DR site
- FY16-17 projects to develop recovery plans for additional business systems

Cyclical Nature of IT Market



* estimated

Invest in Critical Information Technology Infrastructure

- IT key priorities
  - Replace aging enterprise software
  - Replace network & server hardware
  - Address security challenges & disaster recovery
- Increased position funding by 12
  - Server maintenance
  - Security
  - Enterprise systems replacement (limited-term)

Budget Priority #3

Manage Impacts of Extended Drought

Drought 2014

- One of the driest years on record
- State emergency regulations
- EBMUD water shortage emergency:
  - Adopted Section 28 Regulations
  - Drought management plan

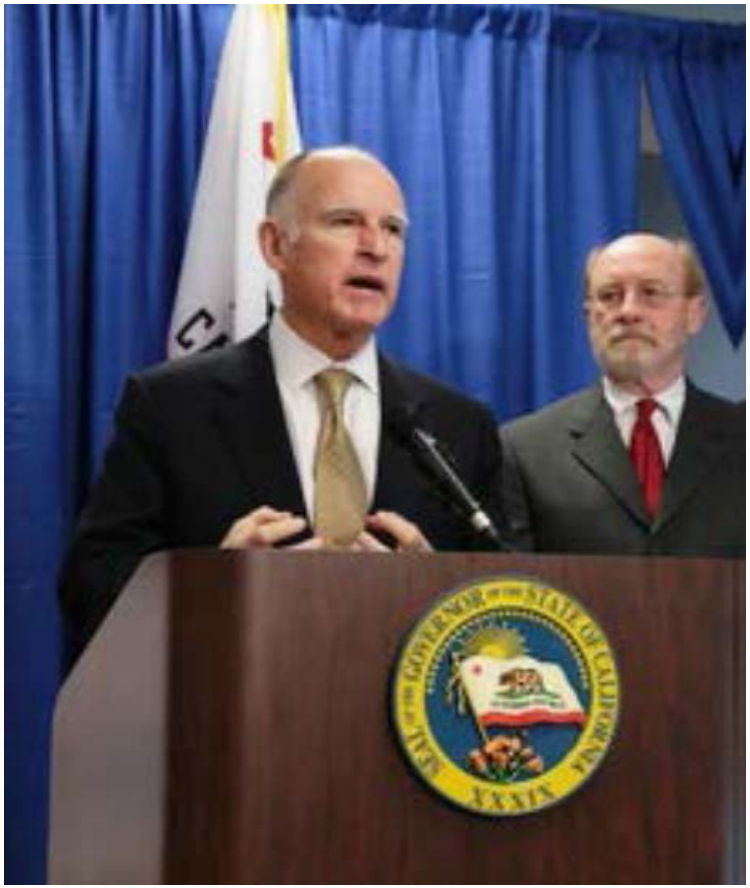
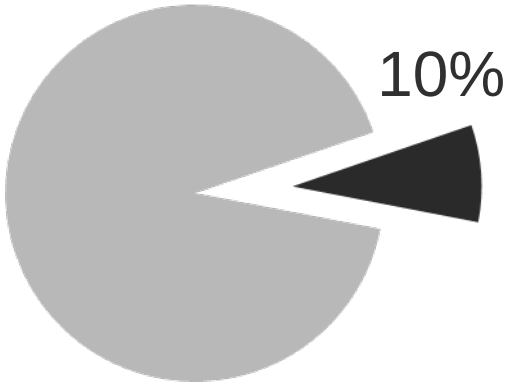
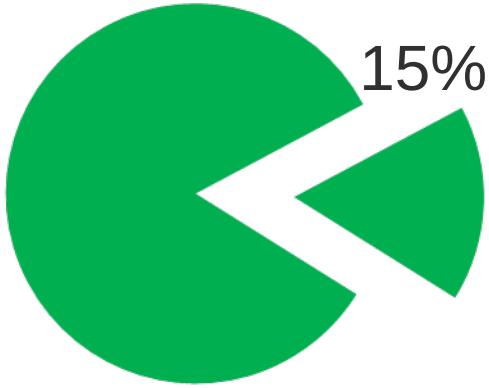
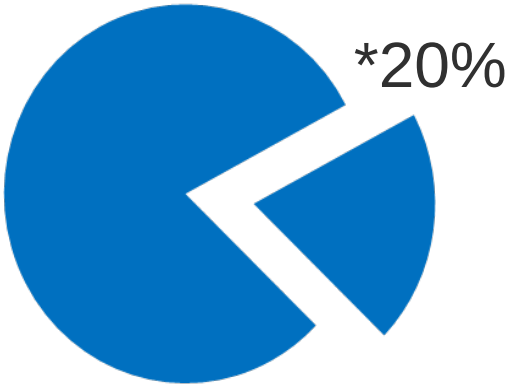


Photo courtesy of CA State Department of Public Affairs

Customer Conservation Savings Goal

February 2014	December 2014	April 2015
		
Voluntary	**Voluntary**	**Mandatory**

* Proposed

Actual Savings Rate February 2014 - 2015 = over 12%

Drought Operational Impacts

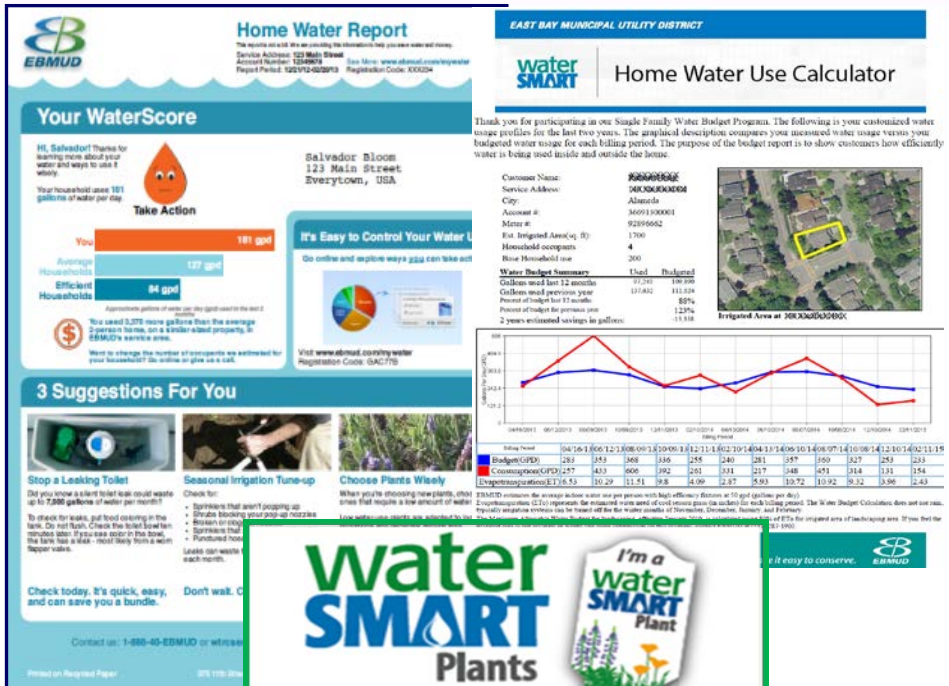
- Direct contact and customer support
- Increased outreach to the community
- Increased programs, services, & rebates
- Enforcement of regulations
- Responsive customer service
- Advertising, media, and education
- Leak detection and repair

2014 Education and Outreach Highlights

- ~125 Community presentations, events, workshops
- ~593 Media interactions
- Targeted mailing to all customers including tenants
- ~2000 Water waste reports

2014 Program and Service Highlights

- ~14,000 Conservation rebates
- 50,000+ Home water reports
- ~38,700 Water audits, survey kits, landscape water budgets
- ~5,700 Conservation device distribution
- Leak detection



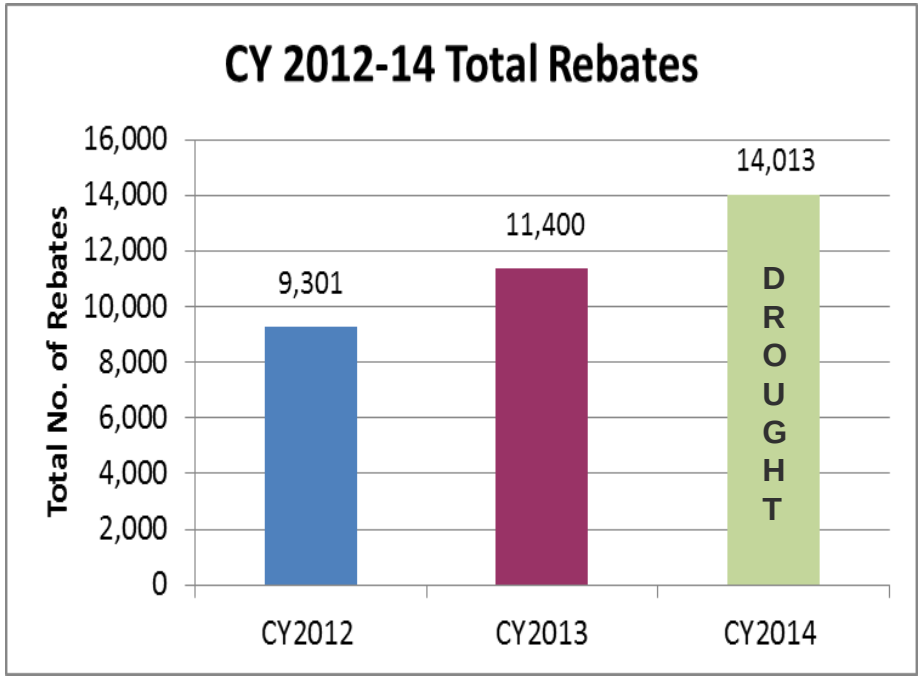
Supply Side Conservation

- 670+ Leak detection loggers installed

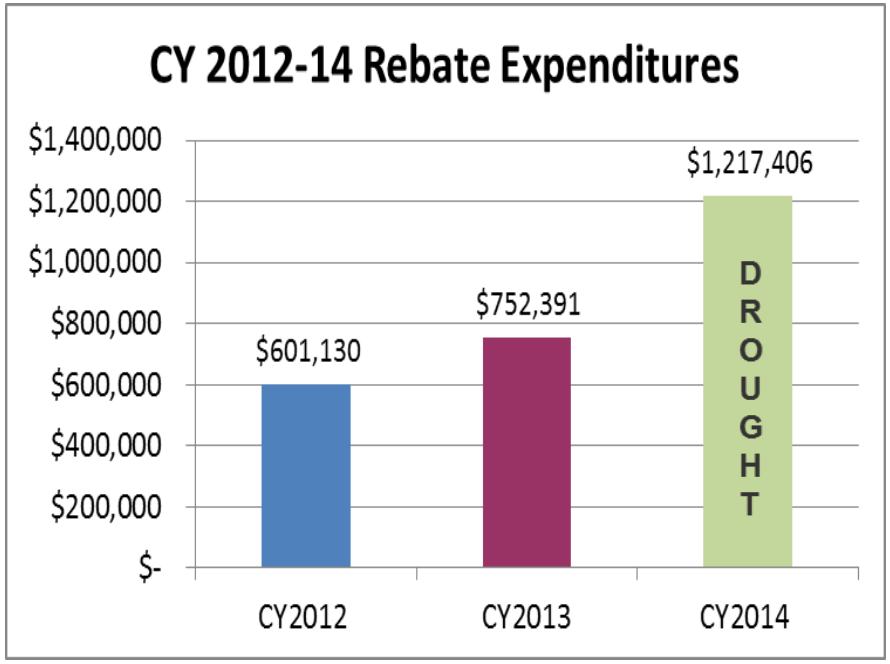
- 95% of District facilities meeting 20% conservation goal

Drought Water Conservation Response

23% increase



62% increase



Customer Service Response—2014

Contact Center

322,630 Call Volume

✓ 48 seconds average speed of answer

Field Services

1,239 Inspections

Drought Impacts on Budget

EBMUD

D R O U G H T

- ✓ Water supply, treatment, delivery
- ✓ Drought management program
- ✓ Lost revenue from reduced water sales

Manage Impacts of Extended Drought

Category	FY16 (Millions)	FY17 (Millions)
Water purchase treatment and delivery	$55.8	$55.8
Treatment costs at terminal reservoirs	6.1	3.0
LT labor and other drought expenses	2.3	3.2
Total	$64.2	$62.0

- Drought – key priorities
  - Water purchase, delivery and treatment as needed
  - Customer support and outreach
  - Increased programs, services and rebates
  - Advertising, media and education
- Increased limited-term position funding by 15 in drought contingency

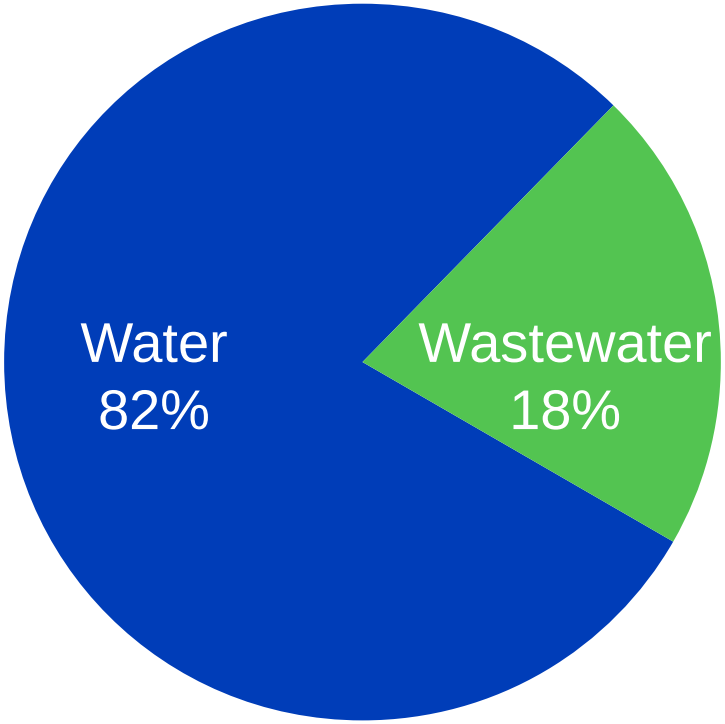
Recommended Budget

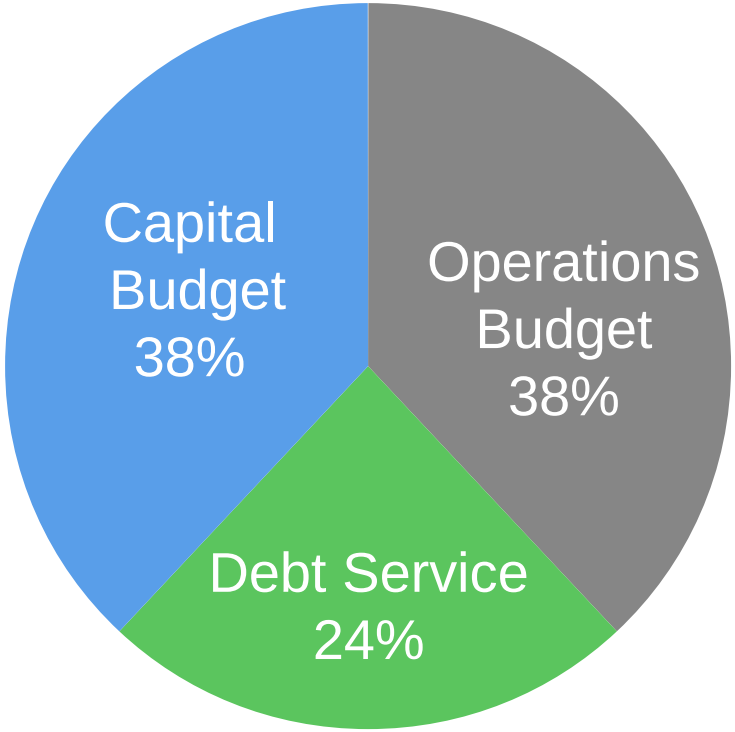
Biennial Budget—FY16 & FY17

FY16 & FY17 APPROPRIATIONS ($ Thousands)							
	FY16			FY17			FY16 & FY17
Proposed Budget	Water	Wastewater	Total	Water	Wastewater	Total	Total
Operations	248,264	65,448	313,712	262,232	70,717	332,949	646,661
Debt Service	169,894	33,693	203,587	180,191	33,956	214,147	417,734
Capital Appropriation	249,042	70,536	319,578	290,392	32,583	322,975	642,553
Total	667,200	169,677	836,877	732,815	137,256	870,071	1,706,948
Drought Contingency	64,206	-	64,206	62,078	-	62,078	126,284
Total	731,406	169,677	901,083	794,893	137,256	932,149	1,833,232

Biennial Budget—FY16 & FY17

$1.71 Billion*

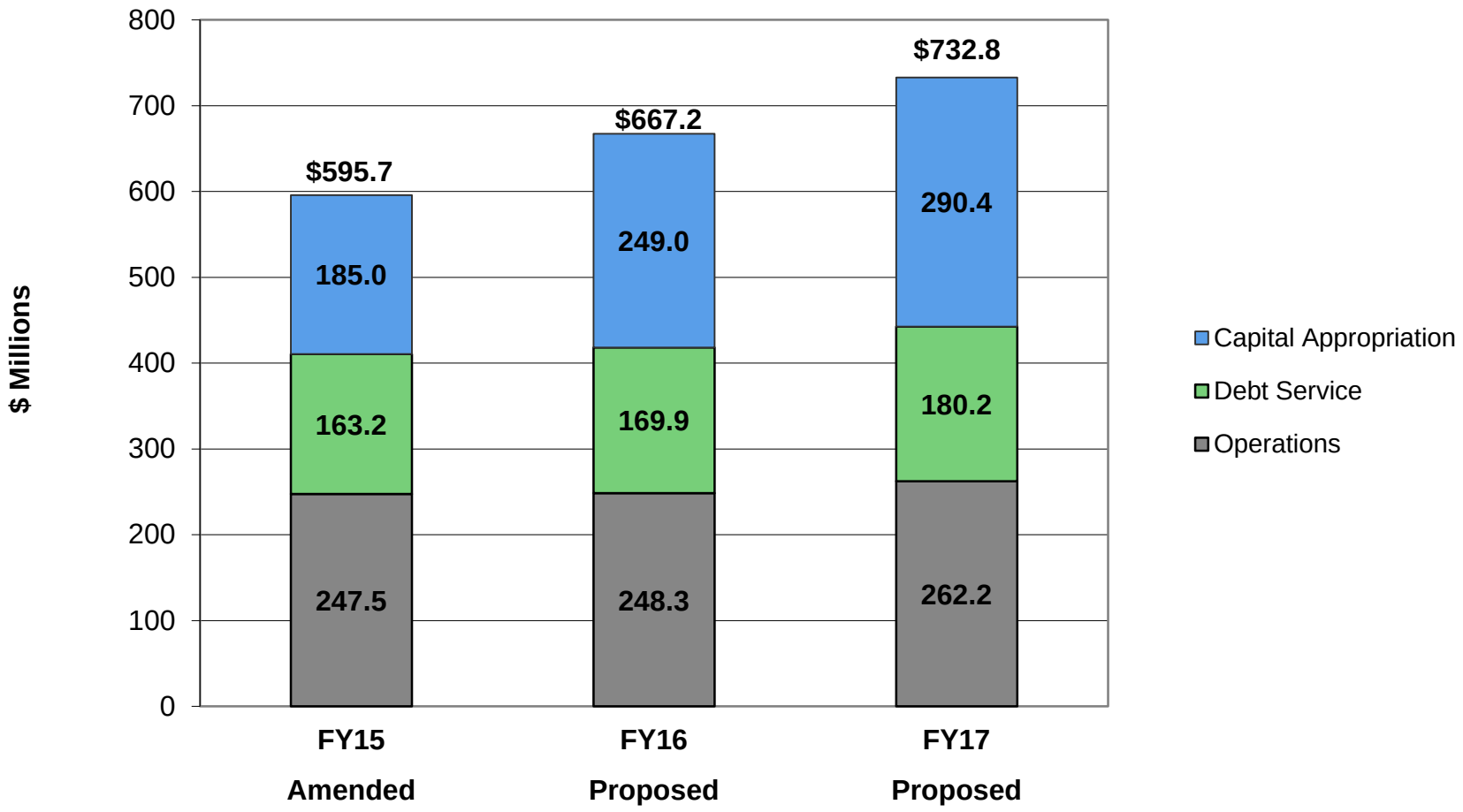




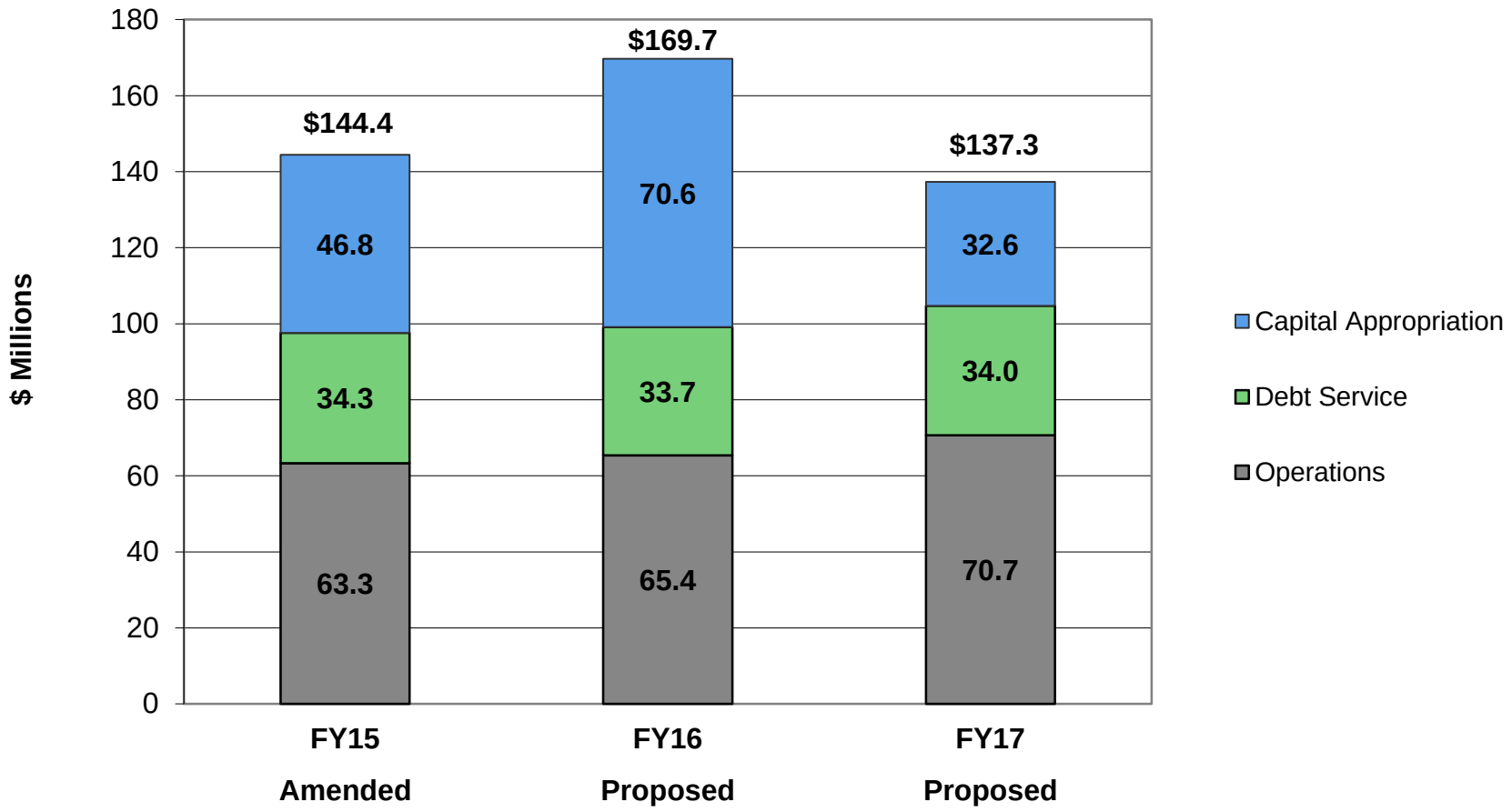
- Water budget 4.5x Wastewater budget
- 62% of budget is capital investment-related

*Excludes drought contingency

Water System Budget Comparison



Wastewater System Budget Comparison



Five-Year Capital Improvement Program Cash Flows ($ Millions)

	FY16	FY17	FY18	FY19	FY20	5-Year Total
Water	$225	$236	$296	$310	$309	$1,376
Wastewater	$39	$37	$35	$31	$27	$168
Total	$264	$273	$331	$341	$336	$1,544

Discounted cash flow includes Administration of Capital

Capital Improvement Program
Major Water System Projects ($ Millions)

Project	Cash Flow FY16-20
– Pipelines, Regulators & Appurtenances	$ 429
– Raw Water Aqueducts	$ 229
– Pressure Zone Improvements	$ 135
– Reservoir Rehabilitation	$ 100
– Water Treatment & Transmission	$ 92
– Pumping Plant Rehabilitation	$ 75
– North Richmond Recycled Water Facility	$ 70

Capital Improvement Program
Major Wastewater System Projects ($ Millions)

Project	Cash Flow FY16-20
– 3rd Street Sewer Interceptor Rehab	$ 33
– Treatment Plant Infrastructure	$ 24
– Odor Control Improvements	$ 19
– Concrete Rehabilitation at MWWTP	$ 15
– Resource Recovery	$ 14
– Digester Upgrades	$ 12
– Wood Street Sewer Interceptor Rehab	$ 12

Authorized Positions—FY16 & FY17

EBMUD

Proposed changes to Position Resolution

- Total authorized positions of 2,096
- Net increase of 39* positions
  - Additions 56
  - Deletions 17

*38 FTEs

Break

Recommended Rates and Charges

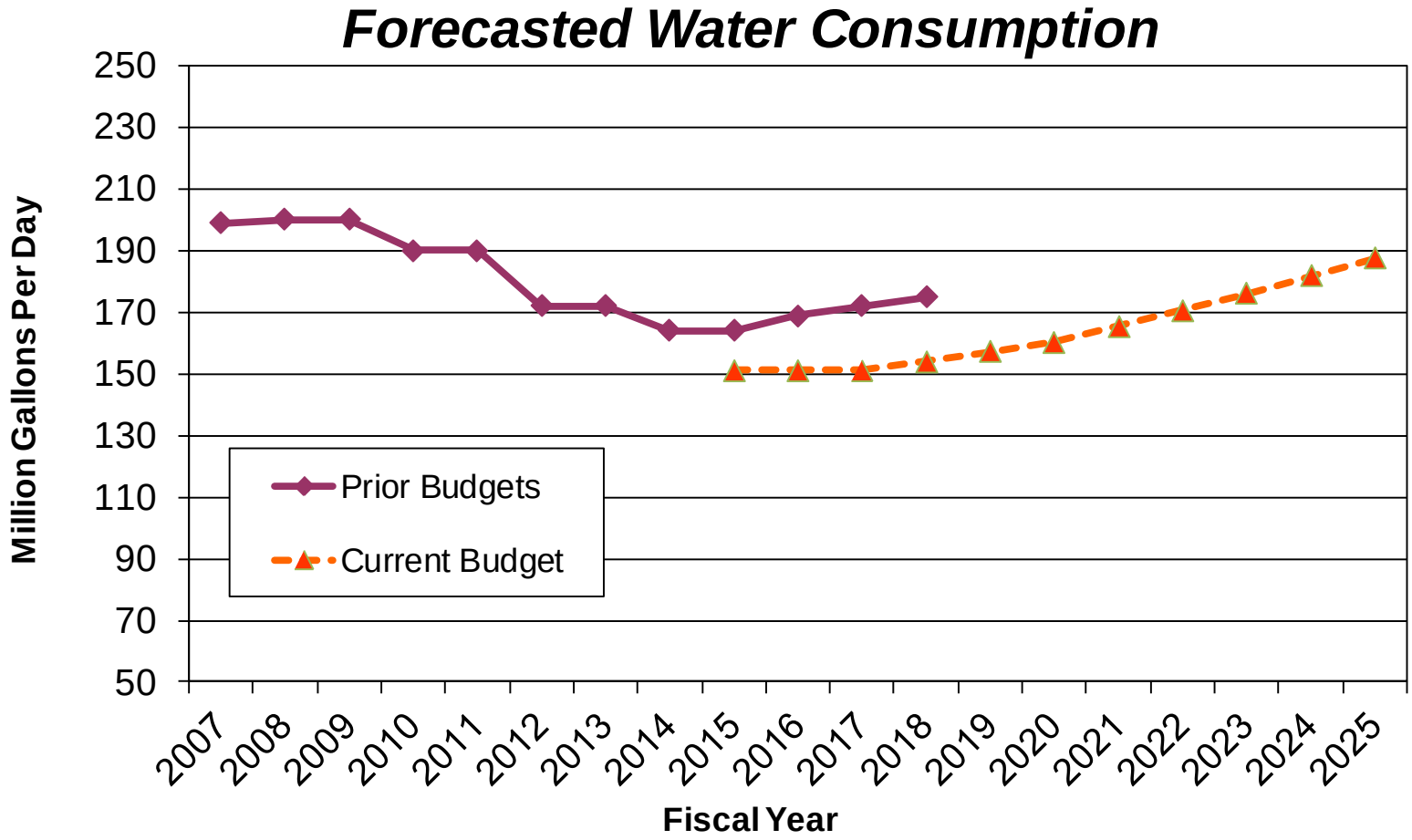
Rates & Charges Topics

- Overall rate increase
  - Same as prior forecast
- Cost of service adjustments
  - Required adjustments in FY16
- Customer bill impacts
- Rates & charges

Recommended Rate Increases

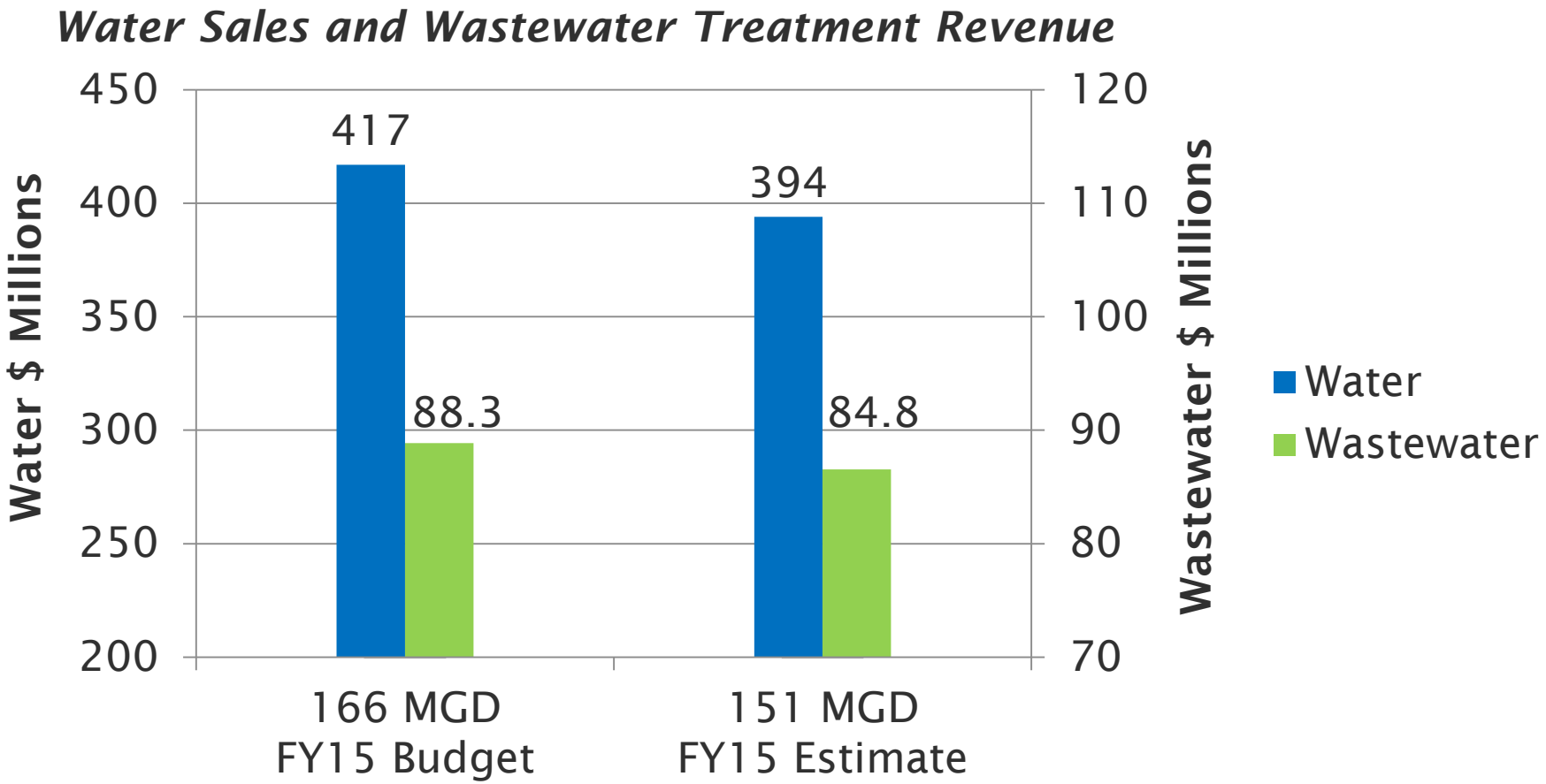
Prior Five-Year Forecast					
	Adopted		Projected		
	FY14	FY15	FY16	FY17	FY18
Water	9.75%	9.5%	8.0%	7.0%	5.0%
Wastewater	9.0%	8.5%	5.0%	5.0%	5.0%

Drop in Water Consumption



- *Rates for FY16 and FY17 based on average consumption of 151 MGD*

Drives Revenue Reduction



- *Revenue from existing rates and charges is $23 million (Water) and $3.5 million (Wastewater) less than expected*

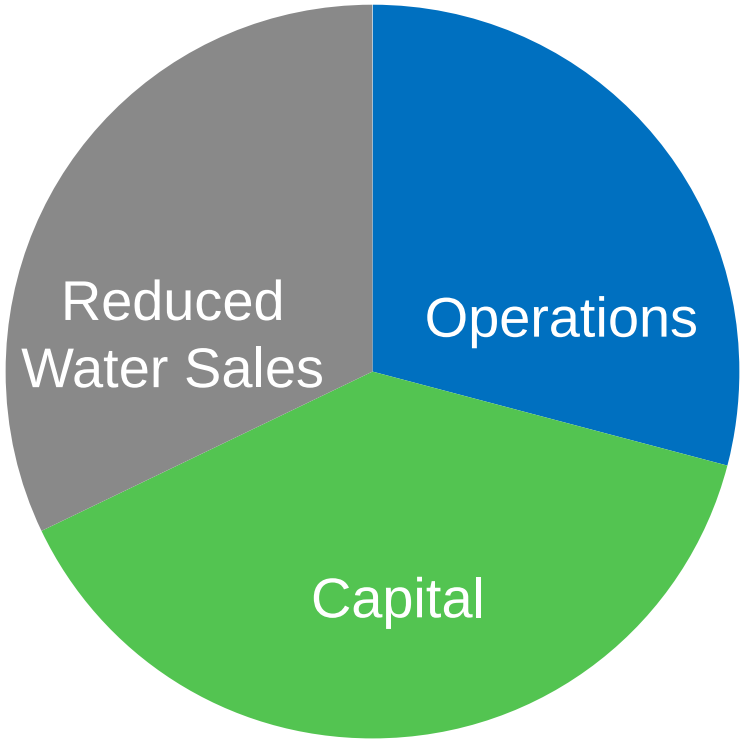
2-Year Revenue Adjustment—Water FY16—8% and FY17—7%

	FY15	FY17	2-Yr Δ
Revenue Requirement			
+ O&M expense	$247.5	$262.2	5.9%
+ Debt service expense	163.2	180.2	10.4%
+ Capital expense	195.9	236.1	20.5%
Total expenses =	606.6	678.5	11.9%
- Other revenues	-189.6	-225.5	18.9%
Revenue requirement =	417.0	453.0	8.6%
Revenue Adjustment			
+ Revenue requirement		453.0	
- Revenue from existing rates		-394.0	
Difference =		59.0	
		15%	

- Capital and debt service drive increase in total expense
- Other revenues—bond proceeds and use of capital reserves—offset increased expenses
- Revenue requirement increasing about 4.3% annually

- Total increase $59 MM—15%
  - FY16—8%
  - FY17—7%

Water Rate Drivers



Capital—rate funded capital, debt service

Operations—additional funded positions, labor & benefits, and non-labor costs

Reduced Water Sales —assumes water sales of 151 MGD

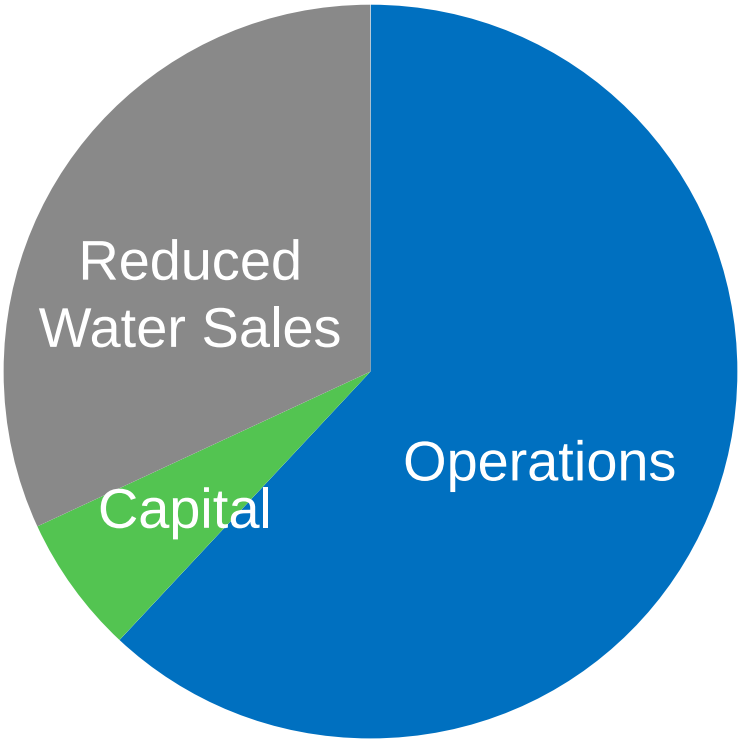
2-Year Revenue Adjustment—Wastewater FY16—5% and FY17—5%

	FY15	FY17	2-Yr Δ
Revenue Requirement			
+ O&M expense	$63.3	$70.7	11.7%
+ Debt service expense	34.3	34.0	-0.9%
+ Capital expense	30.9	36.7	18.8%
Total expenses =	128.5	141.4	11.9%
- Other revenues	-40.2	-48.3	20.1%
Revenue requirement =	88.3	93.1	5.4%
Revenue Adjustment			
+ Revenue requirement		93.1	
- Revenue from existing rates		-84.8	
Difference =		8.3	
		10%	

- O&M and capital drive increase in total expense
- Other revenues—Resource Recovery, bond proceeds and use of capital reserves—offset increased expenses
- Revenue requirement increasing about 2.7 % annually

- Total increase $8.3 MM—10%
  - FY16—5%
  - FY17—5%

Wastewater Rate Drivers



Operations—non-labor costs, consent decree program costs, labor & benefits

Reduced Water Sales—lower reduction then water service area

Capital—rate-funded capital and debt service coverage

Cost of Service Impacts—Water

- Fixed charges
  - Significant reduction to private fire meter charges
  - SIP charge sunsets
- Volume rates
  - Steeper tiered rates
  - Modest changes to elevation and recycled water rates

Cost of Service Impacts—Wastewater

- Treatment rates
  - Domestic strength waste concentration increased
- Wet weather charge
  - Allocated by parcel size to reflect linkage to infiltration and inflow

Combined Monthly Water and Wastewater Impacts—Average SFR

	FY15 Current	FY16 Proposed	Change		FY17 Proposed	Change	
Water – 10 Ccf/mo	$48.60	$52.17	$3.57	7.3%	$55.83	$3.66	7.0%
Wastewater – 6 Ccf/mo*	$19.25	$19.01	-$0.24	-1.3%	$19.93	$0.92	4.8%
Total	$68.85	$71.18	$3.33	4.8%	$75.76	$4.58	6.0%

*Wastewater discharge based on winter water use

Monthly Single Family Residential Customer Impacts—Water

	SFR Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change
25th Percentile	4	$29.07	$31.14	$2.07	7.1%	$33.33	$2.19	7.0%
50th Percentile	7	$37.80	$39.99	$2.19	5.8%	$42.81	$2.82	7.1%
75th Percentile	12	$55.80	$60.29	$4.49	8.0%	$64.51	$4.22	7.0%
95th Percentile	30	$132.08	$151.57	$19.49	14.8%	$162.23	$10.66	7.0%
Average SFR Use *	10	$48.60	$52.17	$3.57	7.3%	$55.83	$3.66	7.0%

*10 Ccf/month represents historical average single-family residential use

Monthly Other Customer Impacts—Water

	Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change
Multi-Family Residential 4 Units	25	$125.54	$133.45	$7.91	6.3%	$142.74	$9.29	7.0%
Multi-Family Residential 5+ units	50	$217.54	$237.70	$20.16	9.3%	$254.24	$16.54	7.0%
Commercial	50	$225.08	$236.70	$11.62	5.2%	$253.24	$16.54	7.0%
Industrial	500	$2,046.68	$2,158.48	$111.80	5.5%	$2,309.32	$150.84	7.0%

Monthly Customer Impacts—Wastewater Treatment

	Use (Ccf)	FY15 Current	FY16 Proposed	Change		FY17 Proposed	Change	
Single Family Residential Avg	6	$19.25	$19.01	-$0.24	-1.3%	$19.93	$0.92	4.8%
Single Family Residential Max	9	$21.61	$22.13	$0.52	2.4%	$23.20	$1.07	4.8%
Multi Family Residential 4 units	25	$56.41	$61.21	$4.81	8.5%	$64.16	$2.95	4.8%
Commercial Office	50	$105.61	$128.77	$23.16	21.9%	$135.03	$6.26	4.9%
Commercial Restaurant	50	$229.61	$246.27	$16.66	7.3%	$258.53	$12.26	5.0%
Industrial	500	$6,557.61	$6915.77	$358.16	5.5%	$7,261.03	$345.26	5.0%

Annual Customer Impacts— Wet Weather Facilities Charge

Wet Weather Facilities Charge on Property Tax Bill							
	FY15	FY16			FY17		
Single Family Residential	$89.34	$89.62 Small Lot 0 – 5,000 sq ft	$140.00 Medium Lot 5,001 – 10,000 sq ft	$320.00 Large Lot >10,000 sq ft	$94.10 Small Lot 0 – 5,000 sq ft	$147.00 Medium Lot 5,001 – 10,000 sq ft	$336.00 Large Lot >10,000 sq ft
Multi-Family Residential 2 Units	$178.68						
Multi-Family Residential 4 Units	$357.36						
Multi-Family Residential 5+ Units	$446.70						
Commercial	$134.00						
Industrial	$134.00						
Parcels with Multiple Accounts	$223 to $670 +						

Water—Fixed Charges

		FY15 Current	FY16 Proposed	Change	FY17 Proposed	Change
Private Fire Service Charge						
	4"	$132.26	$100.34	-24.1%	$107.36	7.0%
	6"	$255.66	$196.14	-23.3%	$209.87	7.0%
	8"	$403.75	$311.09	-22.9%	$332.87	7.0%
Water Service Charge						
Single Family Residential	5/8" & 3/4"	$17.43	$19.34	11.0%	$20.69	7.0%
Multi-Family Residential	2"	$73.14	$83.48	14.1%	$89.32	7.0%
Other	4"	$189.52	$251.24	32.6%	$268.83	7.0%

- Cost of Service study re-examined fire protection and meter maintenance cost allocations resulting in reductions to private fire service meter charges.

Water—Volume Charges

Volume Charges	FY15 Current	FY16 Proposed	Change	FY17 Proposed	Change
Single Family Residential					
Tier 1 up to 7 Ccf	$2.91	$2.95	1.4%	$3.16	7.1%
Tier 2 up to 16 Ccf	$3.60	$4.06	12.8%	$4.34	6.9%
Tier 3 over 16 Ccf	$4.42	$5.36	21.3%	$5.74	7.1%
Multi-Family Residential	$3.68	$4.17	13.3%	$4.46	7.0%
Commercial/Industrial	$3.96	$4.15	4.8%	$4.44	7.0%
Non Potable (Recycled)	$3.17	$3.23	1.9%	$3.46	7.1%
Elevation					
Band 2	$0.55	$0.60	9.1%	$0.64	6.7%
Band 3	$1.12	$1.24	10.7%	$1.33	7.3%

Wastewater—Treatment Rates

Unit Rates	FY15 Rate	FY16 Proposed	Change	FY17 Proposed	Change
Service Charge ($/acct)	$7.13	$5.29	-25.8%	$5.55	4.9%
Volume ($/Ccf)	$0.787	$1.04	32.1%	$1.09	4.9%
CODf ($/lb)	$0.294	$0.306	4.1%	$0.321	4.9%
Total Suspended Solids ($/lb)	$0.431	$0.447	3.7%	$0.469	4.9%

Drought Rates

Staged System of Drought Rates

- Six month public engagement process
  - 2 public workshops
  - 4 public meetings throughout service area
- Four stages depending on severity
- Three elements
  - Series of increasing surcharges on volume
  - Supersaver recognition
  - Excessive use penalty
- Costs recovered by drought rates
  - Cost to purchase, pump and treat supplemental supplies
  - Loss of sales
  - Customer service/outreach

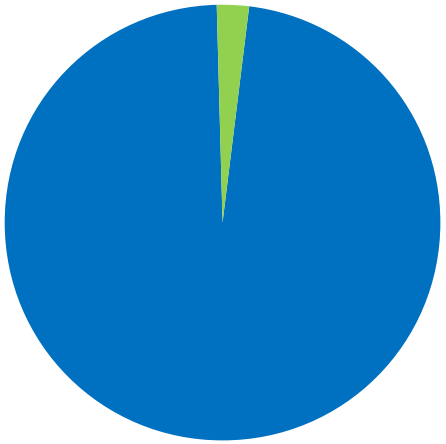
Staged System of Drought Rates

Stage	0	1	2	3	4
Demand Reduction		Voluntary 0-15%	Voluntary 0-15%	Mandatory 15%	Mandatory 15%
Supplemental Supplies			Up to 35,000 acre feet	35,000-65,000 acre feet	> 65,000 acre feet
Rates and Charges	**Normal rates**	**Normal rates**	**Normal rates** **+ 8%**	**Normal rates** **+ 20%** **Supersaver recognition*** **Excessive use penalty***	**Normal rates** **+ 25%** **Supersaver recognition*** **Excessive use penalty***

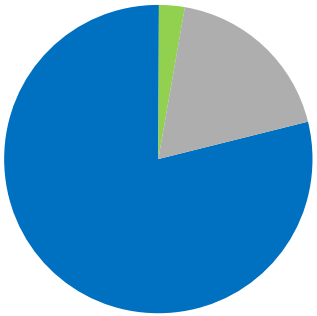
*Supersaver recognition and excessive use penalty not subject to Prop 218 requirements.

Supply Mix Drives Drought Cost

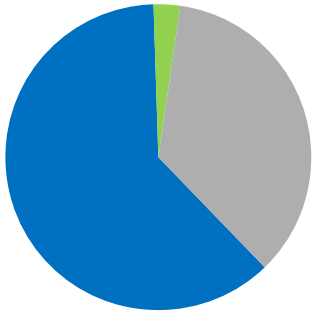
Normal Conditions



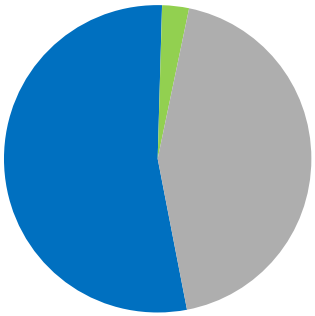
Stage 2



Stage 3



Stage 4



- Mokelumne and Local Supply
  - -Low cost, gravity fed with in-line treatment
- Recycled Water
- Supplemental Supply
  - -High cost for purchase, pumping and conventional treatment

Drought Surcharge Bill Impacts—Stage 2—Single Family Residential

Impact of Water Charges and Drought Surcharges on Water Bill									Impact of Surcharge	
	Single Family Residential Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
25th Percentile	4	$29.07	$32.06	$2.99	10.3%	$34.33	$2.27	7.1%	$0.92	$1.00
50th Percentile	7	$37.80	$41.60	$3.80	10.1%	$44.56	$2.96	7.1%	$1.61	$1.75
75th Percentile	12	$55.80	$63.45	$7.65	13.7%	$67.91	$4.46	7.0%	$3.16	$3.40
95th Percentile	30	$132.08	$161.57	$29.49	22.3%	$172.97	$11.40	7.1%	$10.00	$10.74
Average Single Family Residential Use	10	$48.60	$54.71	$6.11	12.6%	$58.57	$3.86	7.1%	$2.54	$2.74

Drought Surcharge Bill Impacts—Stage 3—Single Family Residential

Impact of Water Charges and Drought Surcharges on Water Bill									Impact of Surcharge	
	Single Family Residential Use (Ccf)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
25th Percentile	4	$29.07	$33.50	$4.43	15.2%	$35.85	$2.35	7.0%	$2.36	$2.52
50th Percentile	7	$37.80	$44.12	$6.32	16.7%	$47.22	$3.10	7.0%	$4.13	$4.41
75th Percentile	12	$55.80	$68.37	$12.57	22.5%	$73.22	$4.85	7.1%	$8.08	$8.71
95th Percentile	30	$132.08	$177.23	$45.15	34.2%	$190.06	$12.83	7.2%	$25.66	$27.83
Average Single Family Residential Use	10	$48.60	$58.67	$10.07	20.7%	$62.82	$4.15	7.1%	$6.50	$6.99

Drought Surcharge Bill Impacts—Stage 4—Single Family Residential

Impact of Water Charges and Drought Surcharges on Water Bill									Impact of Surcharge	
	Single Family Residential Use (CCF)	FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
25th Percentile	4	$29.07	$34.06	$4.99	17.2%	$36.49	$2.43	7.1%	$2.92	$3.16
50th Percentile	7	$37.80	$45.10	$7.30	19.3%	$48.34	$3.24	7.2%	$5.11	$5.53
75th Percentile	12	$55.80	$70.35	$14.55	26.1%	$75.39	$5.04	7.2%	$10.06	$10.88
95th Percentile	30	$132.08	$183.79	$51.71	39.2%	$196.99	$13.20	7.2%	$32.22	$34.76
Average Single Family Residential Use	10	$48.60	$60.25	$11.65	24.0%	$64.57	$4.32	7.2%	$8.08	$8.74

Drought Surcharge and Excessive Use SFR Bill Impacts—Stage 4

Impact of Water Charges, Drought Surcharges, and Excessive Use Penalty on Water Bill for a Single Family Residential Use of 60 Ccf/month Who Does Not Cut Back Use							Impact of Surcharge & Penalty	
FY15 Bill	FY16 Bill	Increase from FY15	Change	FY17 Bill	Increase from FY16	Change	FY16	FY17
$264.68	$413.66	$148.98	56.3%	$441.19	$27.53	6.7%	$101.29	$106.76

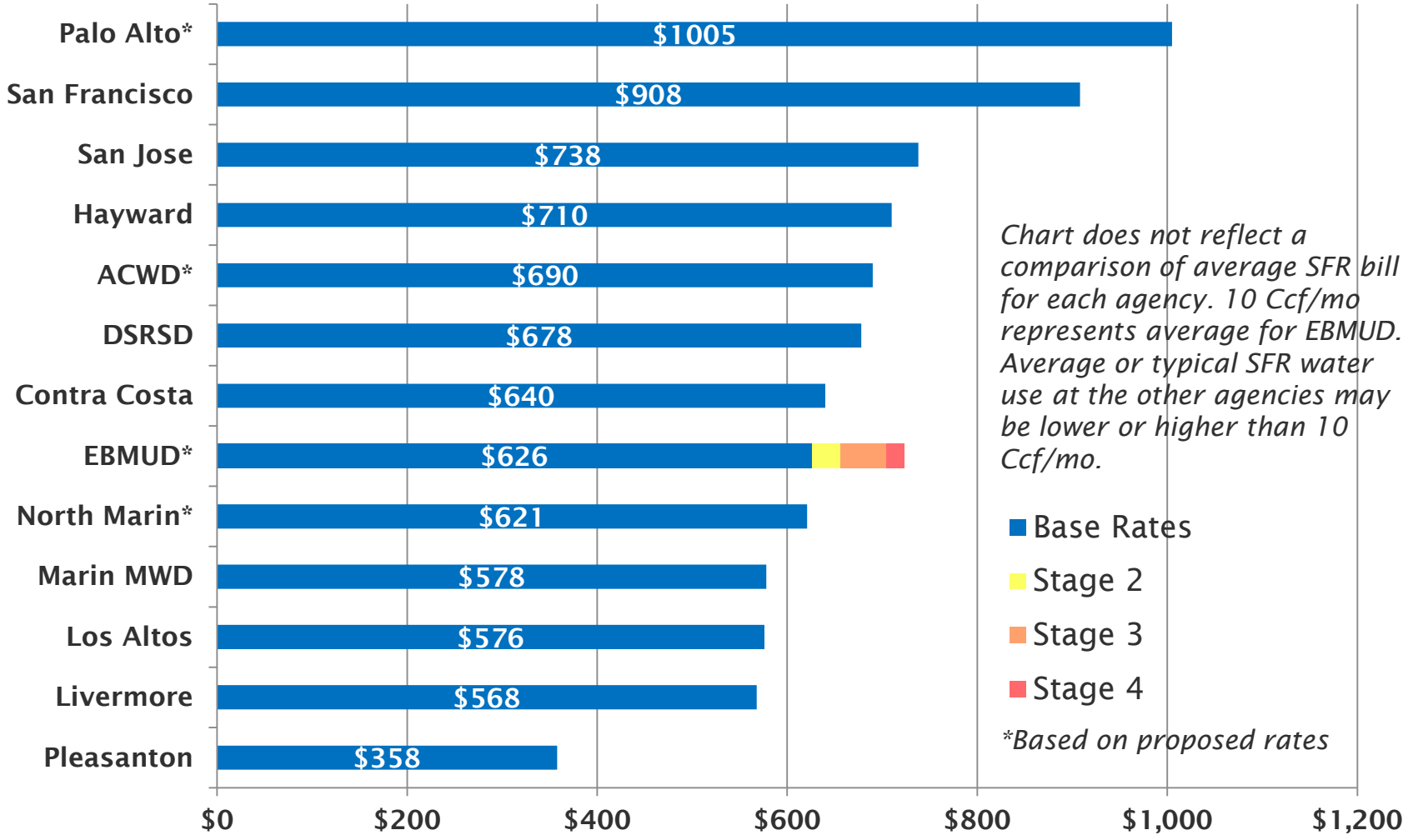
In Stage 4, use over 45 CCF/month penalized as Excessive Use at $2/CCF.

Agency Comparison Consideration

- Average use varies by agency
  - District average is 10 CCF/month
  - Others may be higher or lower depending on:
    - Housing density,
    - Climate variation, and
    - Demographics
- Some agencies have instituted drought rates
- Schedule for rate changes vary

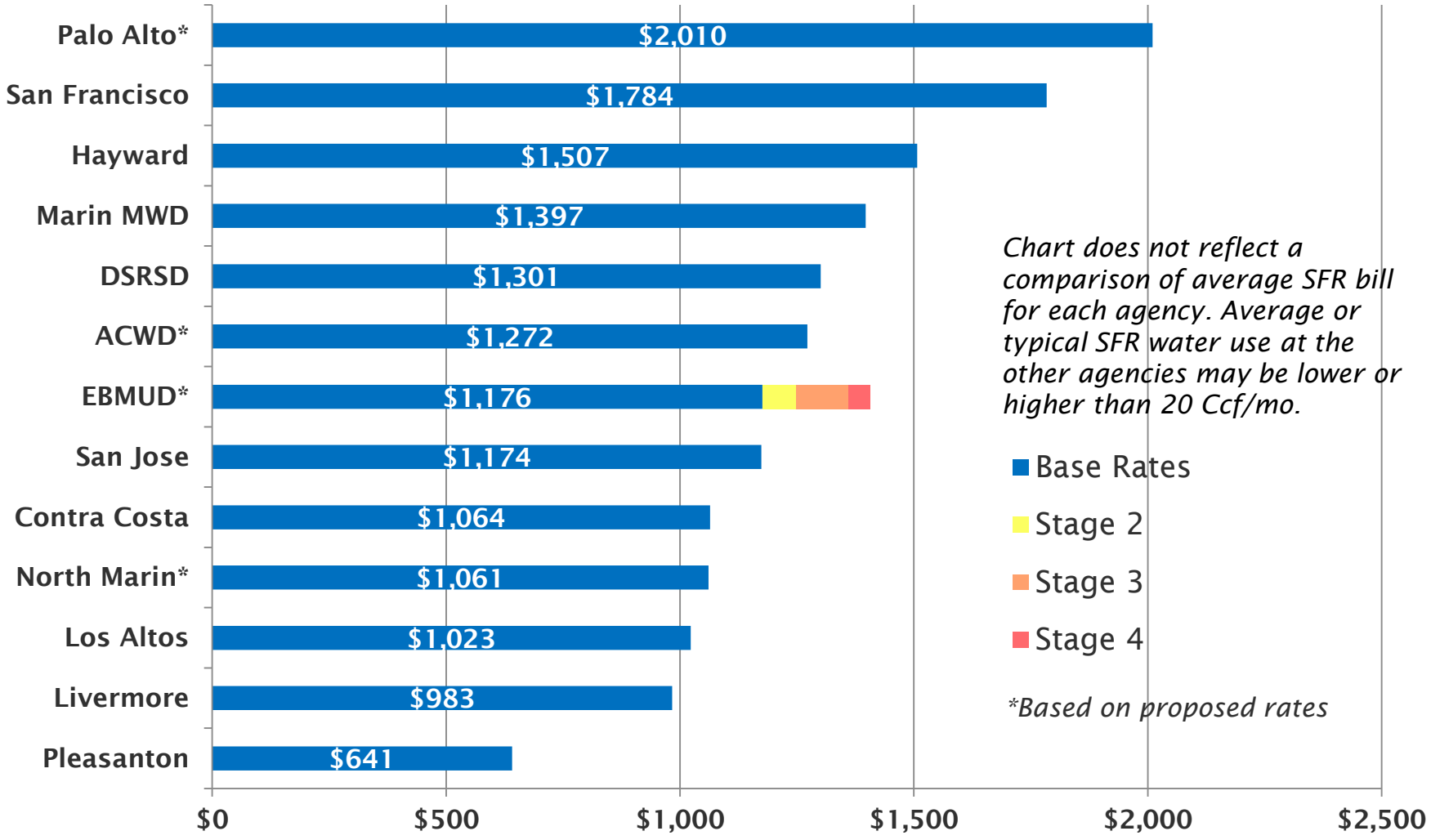
Water Bills Calculated for 10 CCF/Mo

Annual Charge for SFR – Effective 7/1/15



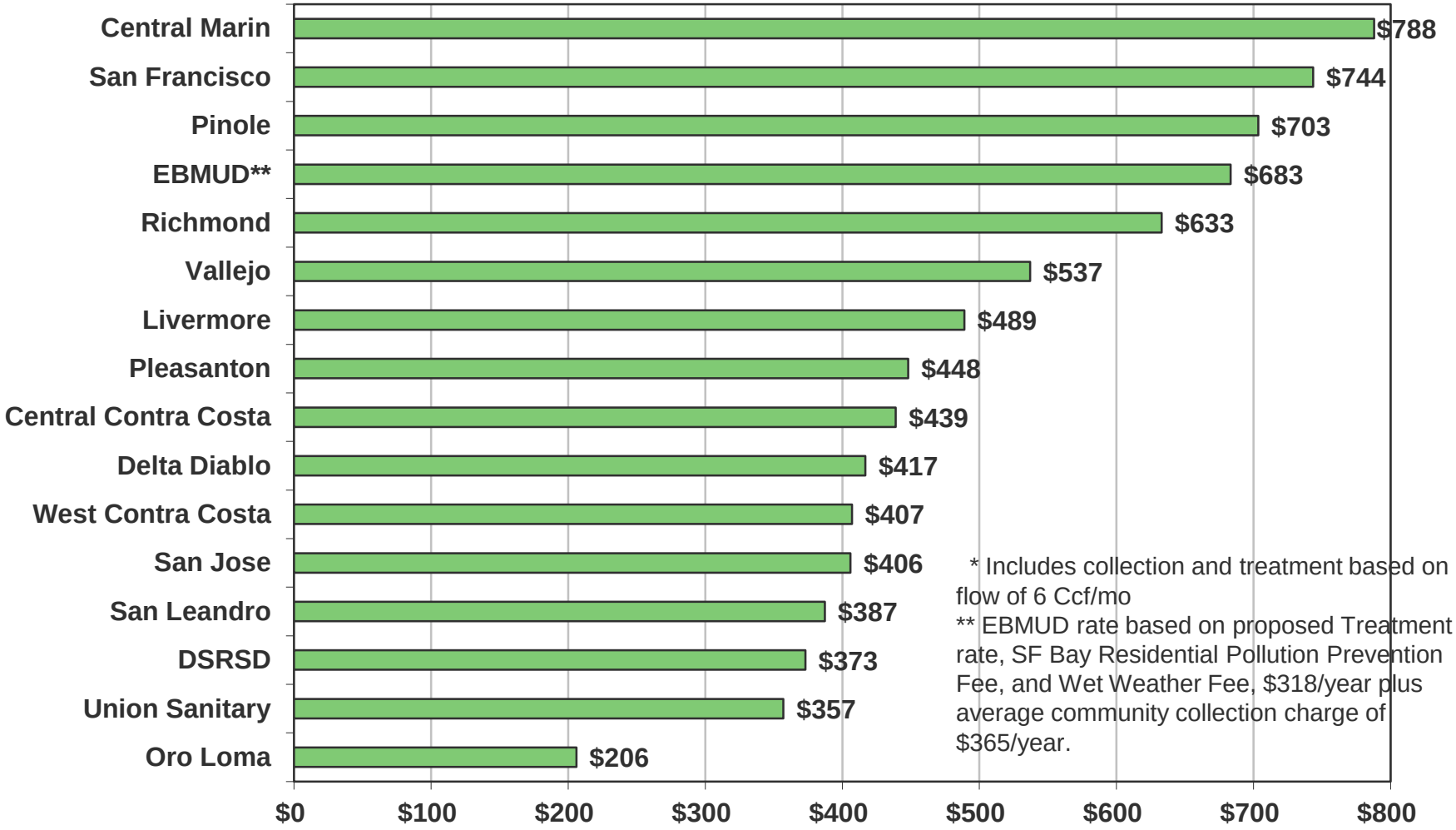
Water Bills Calculated for 20 CCF/Mo

Annual Charge for SFR – Effective 7/1/15



Wastewater Bills Calculated for 6 CCF/Mo Discharge

Annual Charge for SFR – Effective 7/1/15



* Includes collection and treatment based on flow of 6 Ccf/mo

** EBMUD rate based on proposed Treatment rate, SF Bay Residential Pollution Prevention Fee, and Wet Weather Fee, $318/year plus average community collection charge of $365/year.

Biennial Budget—FY16 & FY17

EBMUD

Budget Priorities

- Make sustained reinvestments in aging physical infrastructure
- Invest in critical information technology infrastructure
- Manage impacts of extended drought

Rates & Charges

- Increase rates in line with prior projections
- Implement staged system of drought rates

FY16 & FY17 Budget Schedule

Budget Workshop · Biennial Budget FY16 & FY17 · FY16 & FY17 Prop 218 rates and charges	March 24
Budget Workshop · If necessary	April 14
Mail Proposition 218 Notice	April 15 - April 24
Board Meeting · GM's Report on rates & charges	May 12
Board Meeting · Public hearing on rates and charges · Board consideration of budget and rates	June 9
FY16 Rates & Charges Effective	July 1

Board Discussion