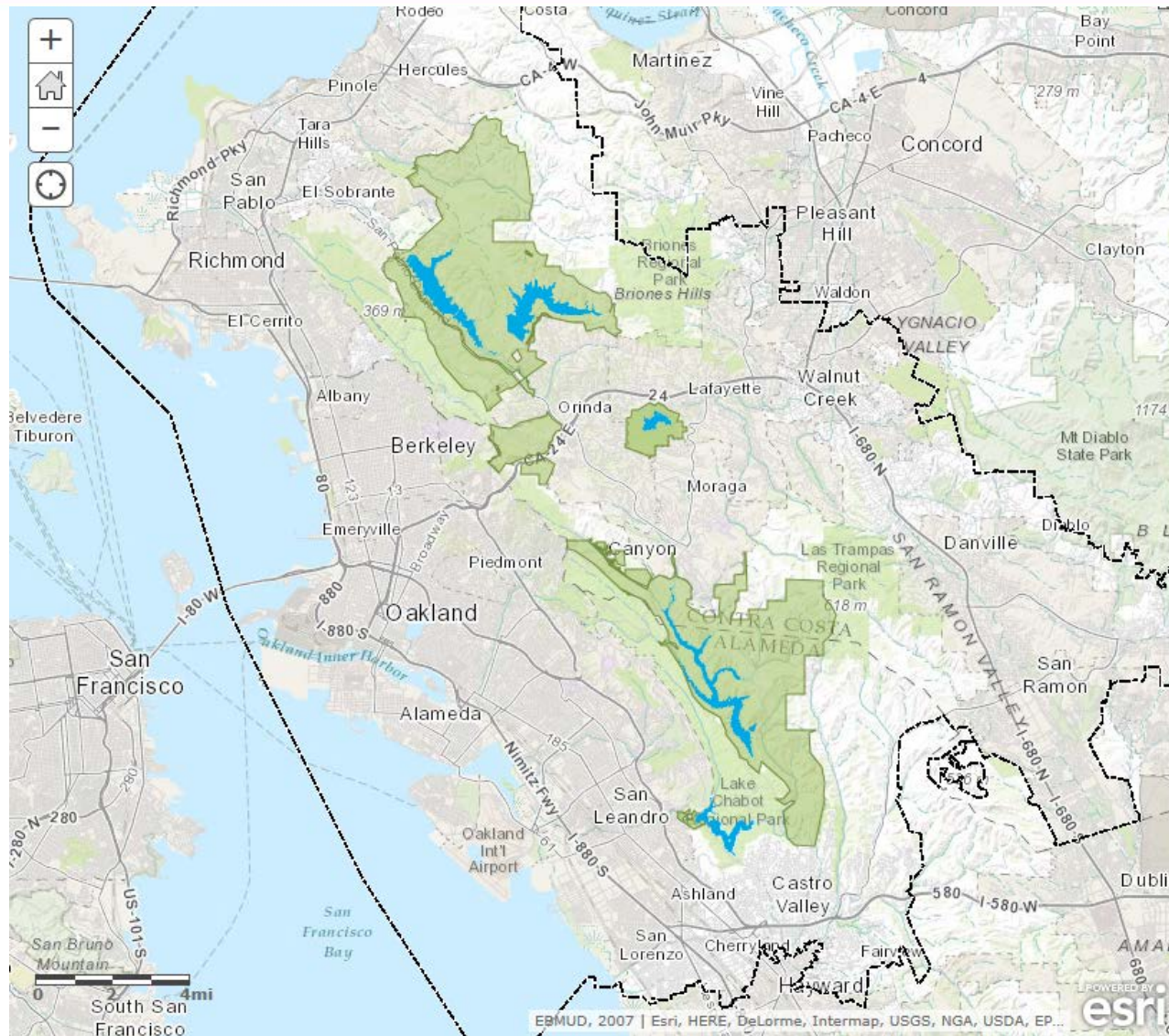


# **East Bay Watershed Master Plan Update**

EBMUD Board Planning Committee

June 9, 2015

# East Bay Watershed lands



# Background



- Adopted in 1995, minor revisions in 1998
- Purpose: Manage lands and reservoirs to protect water quality and biodiversity
- Tiered plans address grazing, fuel/fire management, and forestry
- Achieved success in water quality and species protection





# Summary of Contents



- Description of watershed resources
- Management direction for natural resources, community use, and assets
- Reservoir-specific direction (San Pablo, USL, etc.)
- Interjurisdictional coordination

# Accomplishments under the Master Plan



- Banning polluting, 2-stroke motors on San Pablo reservoir
- Implementing erosion control measures
- Coordination with Diablo Fire Safe Council and Hills Emergency Forum
- Decisions on special use requests such as foot races, endurance equestrian events, model boat and airplane use, campouts, etc.
- Developing an outreach program for youth participation in watershed restoration activities.
- Building the stage at Lafayette Reservoir

# Why update the Master Plan?

- It's 20 years old
- Numerous developments include climate change, quagga mussels, HCP, and the need for adaptive management
- Significant progress on many fronts, prescribed actions accomplished
- Information on land use, management practices, and species needs updating



# What are the policy issues?



- Policy 9.04 on watershed management and use, allows only those uses that can be “adequately monitored and managed by the District”
- Modifications to EBWMP only after public notification and hearing
- Requests for new community uses on watershed lands: biking, dogs, driving range, wildlife recuperation center, camping, drones
- Compatibility of water quality/biodiversity goals with proposed new uses.

# Other public lands agencies consulted



- Marin Municipal WD
- San Francisco PUC
- Contra Costa WD
- Mid-Peninsula Open Space
- East Bay Regional Parks





# Timeline



- Prepare revisions to EBWMP – June-July
- Schedule public meetings – summer
- Present draft revisions to Board for approval – fall?

# Questions?



# **Bay Area Regional Reliability & Regional Desalination Project Update**

Planning Committee  
June 9, 2015



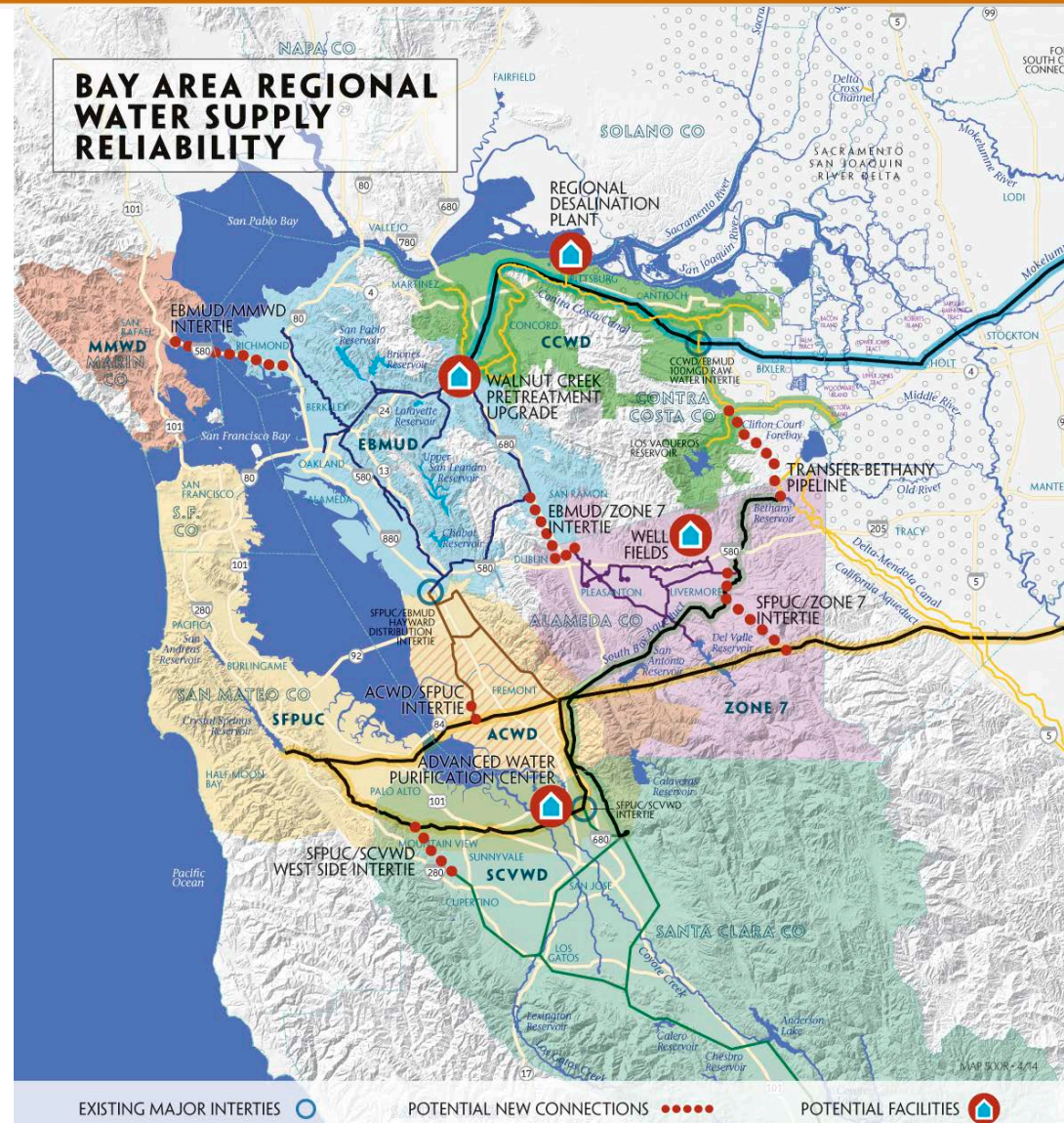
- Bay Area Regional Reliability
  - Background
  - BARR Plan Development
  - Grant Funding Opportunity
  
- Regional Desalination
  - Site-Specific Modeling Analyses
  - Scope of Environmental Work
  - Next Steps



# Bay Area Regional Reliability (BARR): Background



- Regional partnership opportunities, regional benefits
- 8 partner agencies include CCWD, EBMUD, SCVWD, SFPUC, Zone 7, ACWD, MMWD, and BAWSCA
- Elements
  - Use available capacity in existing facilities
  - Potential interties between water districts
  - Upgraded water treatment facilities
  - Potential regional projects (regional desalination)
- Principles adopted by EBMUD Board on May 26, 2014



# BARR Plan Development



- Agency contributions = \$50,000 each
  - BARR Plan MOA to be considered by EBMUD Board on June 23, 2015
- BARR Plan components
  - Consider both near- and long-term joint projects that contribute to a regional approach toward water supply reliability
  - Projects are anticipated to include reoperation of existing facilities, expanded treatment, new interconnections, regional desalination, and cooperative water supply opportunities
  - EBMUD to lead BARR Plan preparation effort
    - Cost = \$600,000 (\$400,000 agency contribution + \$200,000 funding)

# BARR: Grant Funding Opportunity



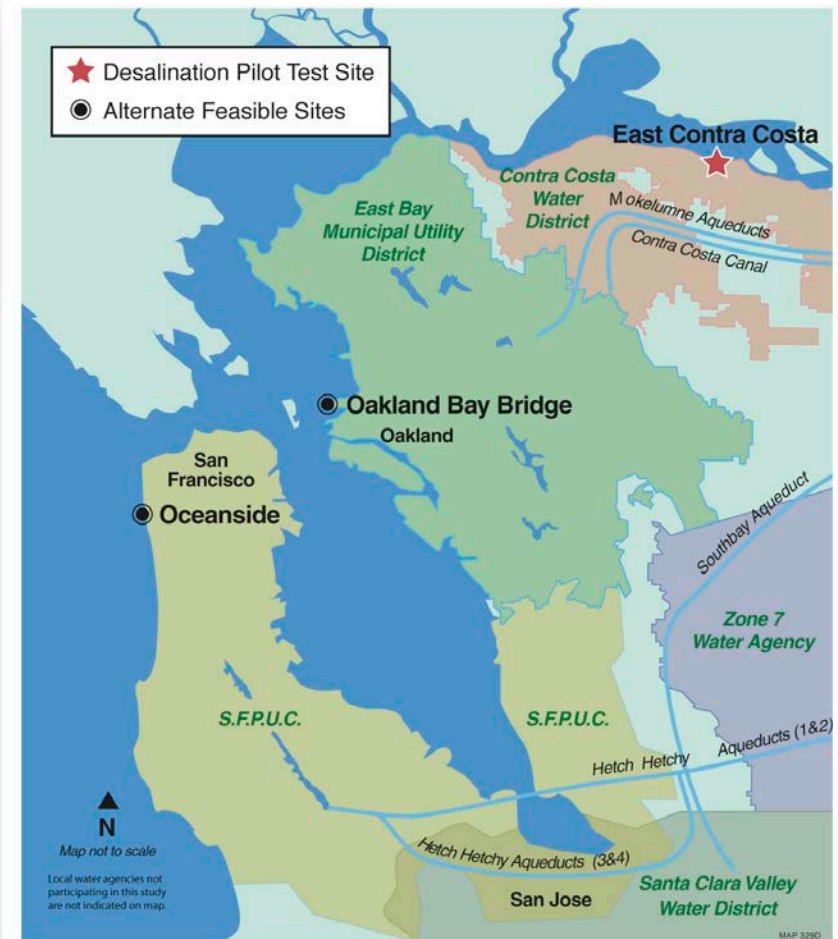
- Bureau of Reclamation funding
  - WaterSmart Grant Program:
    - Available for Drought Contingency Plan preparation
    - Maximum award \$200,000
    - Applications due June 26, 2015
  - Approach:
    - EBMUD to submit an application on behalf of BARR Partners
    - EBMUD to serve as grant administrator if awarded funding
    - Resolution authorizing grant application to be considered by EBMUD Board on June 23, 2015



# Regional Desalination Project (RDP) Background



- Pre-Feasibility Study
  - 2003 - 2005
  - Analyzed over 22 sites
  - Selected 3 sites for further study
- Feasibility Study
  - 2005 - 2007
  - Project is feasible
- Pilot Study
  - 2008 - 2009
  - Total Cost - \$2M (\$1M funded by DWR)
  - Project is feasible
- Site-specific Modeling Analyses
  - 2009-2013



Bay Area Regional  
Desalination Study  
A Joint Effort by:





# RDP Site-Specific Modeling Analyses



Work performed in 2009-2013

- What are the potential environmental impacts?
  - Delta impacts: *Relatively minor*
  - Impacts to fisheries: *Potential*
  - Brine discharge effects: *Not if blended w/wastewater discharge*
  - Greenhouse gas emissions: *Can be mitigated (\$10-\$50/AF)*
- Can EBMUD deliver the water to partner agencies ?
  - Yes: *90%-95% of the time*
- What are the full costs to each agency
  - *Delivered water costs are \$1000-\$1500 per acre-feet*

# RDP Scope to Move Ahead



- Environmental Impact Report Preparation
  - CCWD to serve as EIR Lead agency
- Fisheries Studies
  - CCWD Staff will perform modeling
- Water Rights Permitting
  - Must consider the possibility of Curtailment
  - Include City of Antioch as Partner (Antioch has a Pre-1914 Water Right)
- Preliminary Design
  - 30% level of design needed for EIR & Permitting
- Cost
  - \$6.35M



# Regional Desalination Current Status



- Evaluate RDP as a part of BARR Plan
- Identify possible funding sources to advance RDP (federal, state, private)







# **Faria Pressure Zone Improvements Project - Update**

**Planning Committee**

**June 9, 2015**

# Faria Pressure Zone Improvements Project - Update



- Project Overview and Need
- Development History
- Proposed Facilities
- Environmental Considerations
- Estimated Cost
- Next Steps

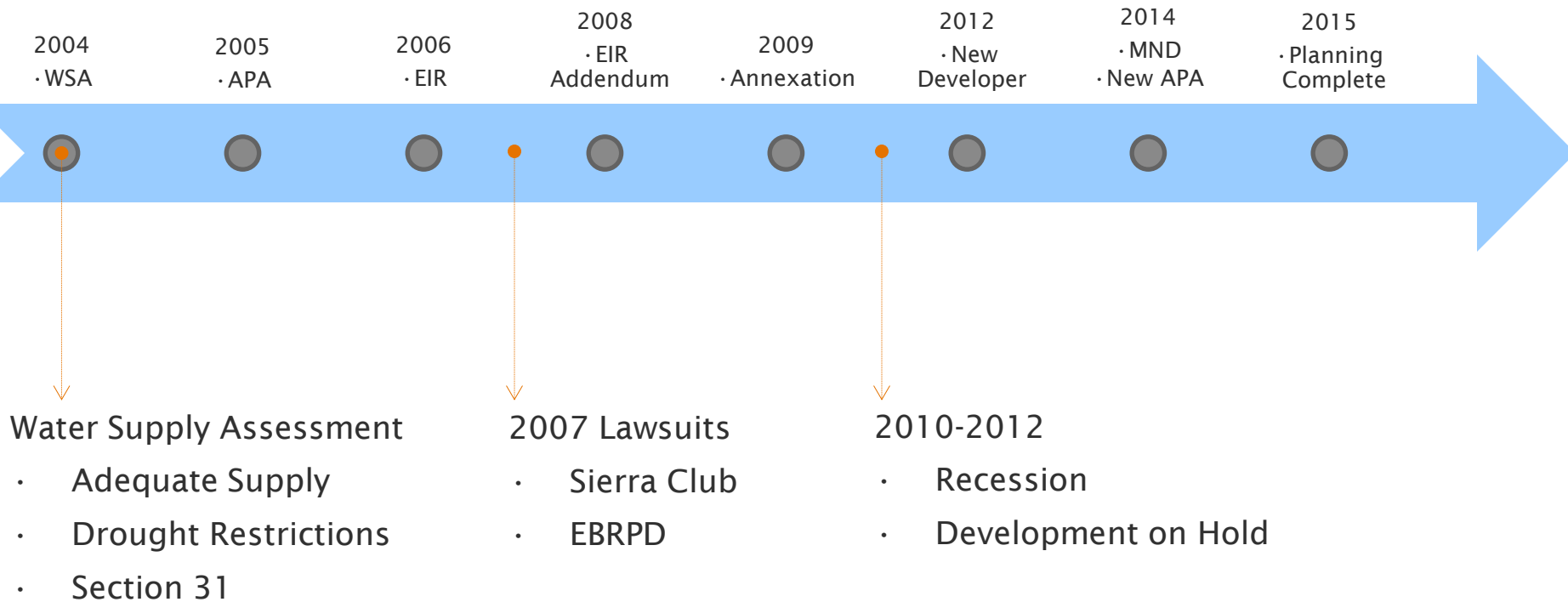


# Project Overview and Need



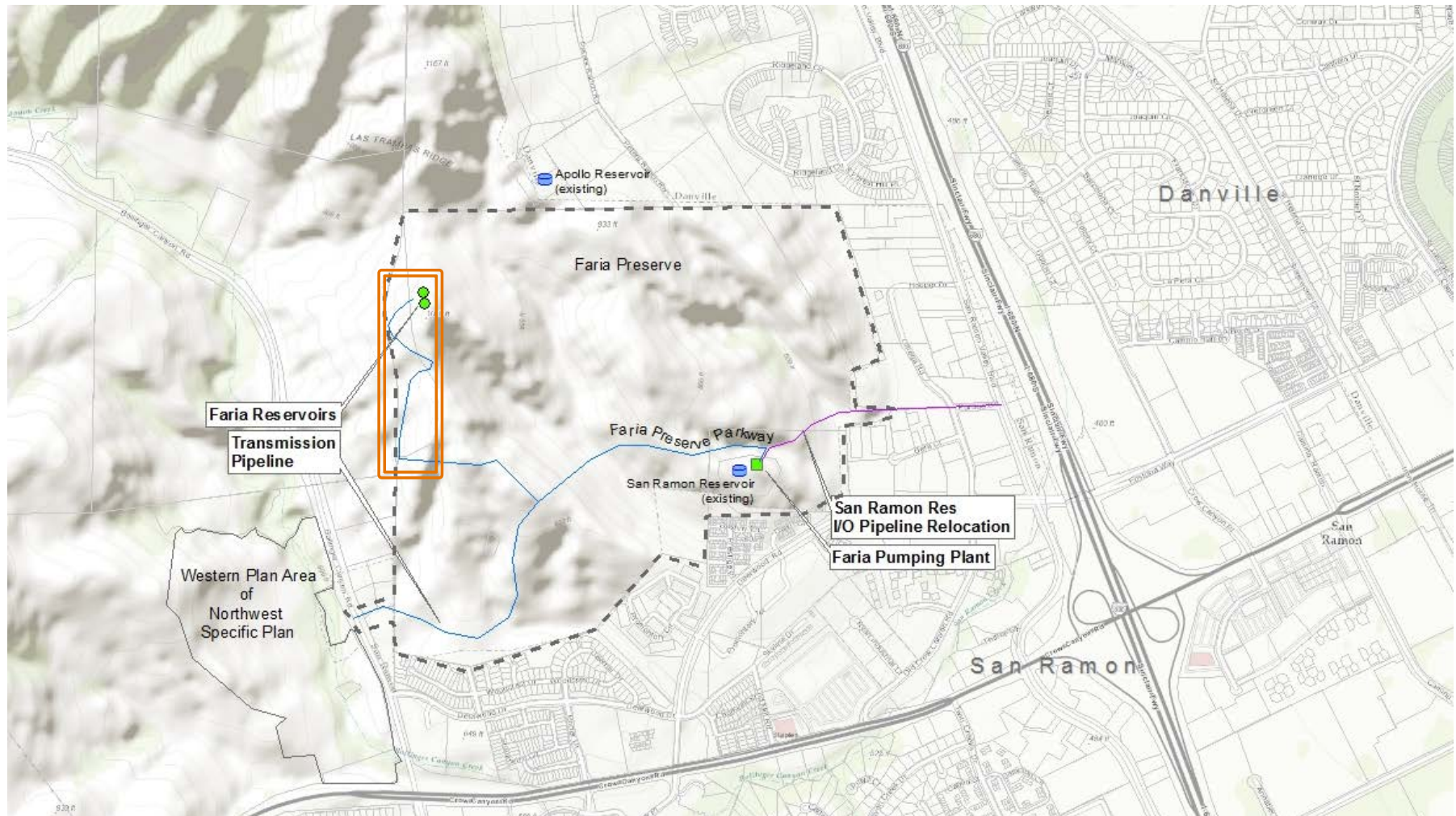


# Development History



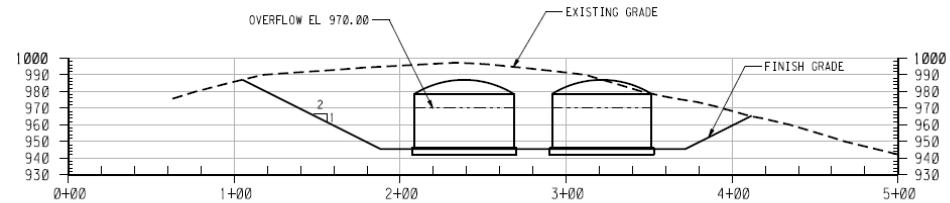
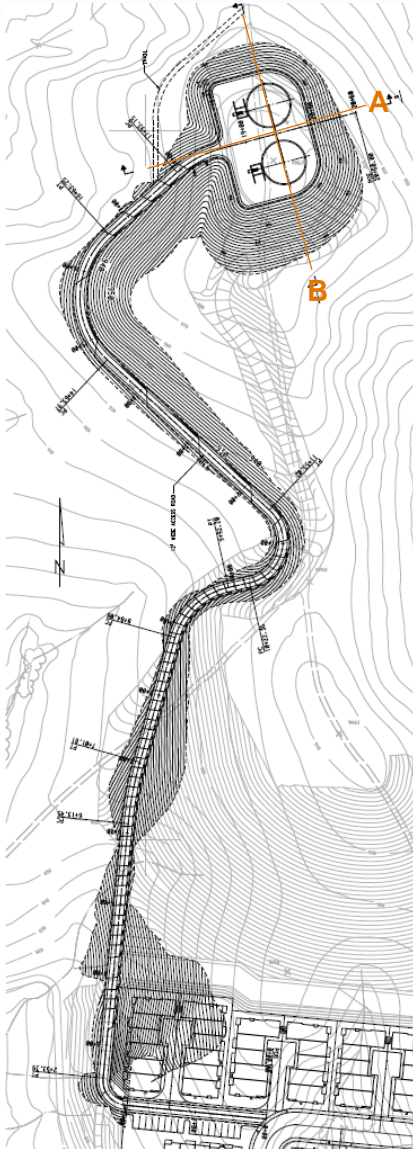


# Proposed Facilities

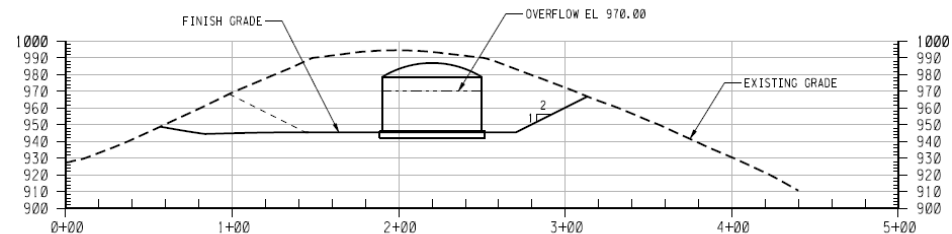


# Proposed Facilities - Storage

## Twin 0.5-MG Faria Reservoirs



SECTION A  
1"=50'



SECTION B  
1"=50'

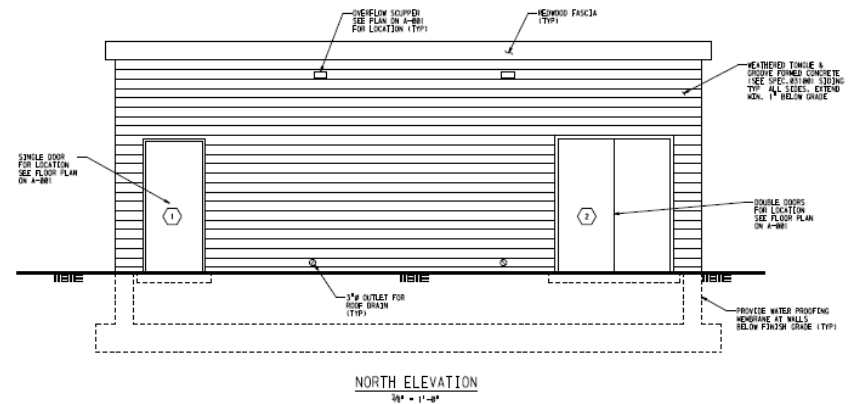
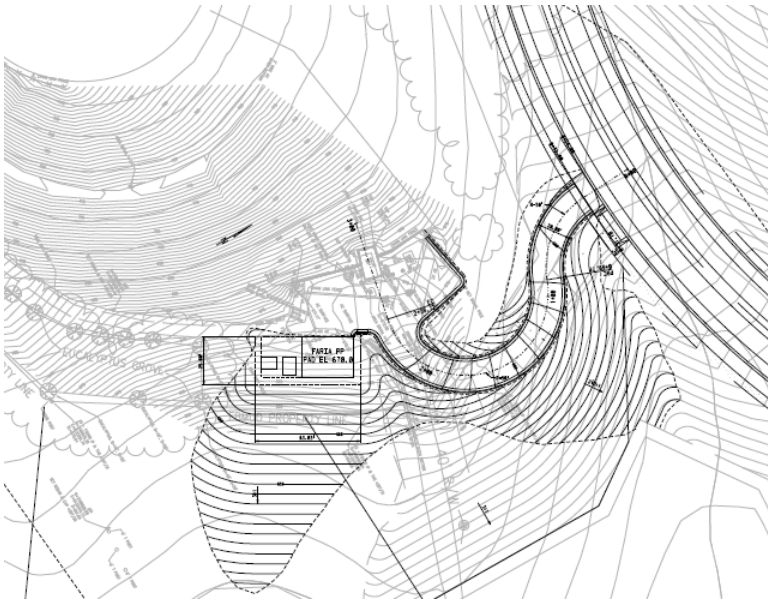


# Proposed Facilities



# Proposed Facilities - Pumping

## 1.6-MGD Faria Pumping Plant (at San Ramon Reservoir Site)





# Environmental Considerations



## City's Environmental Documentation Considered:

- Air Quality
- Biological Resources
- Geology and Soils

# Staff Findings



## Staff Findings:

- Adequately Addressed District Facilities
- Incorporate Mitigation Measures



# Estimated Cost



Wiedemann Reservoirs, San Ramon

Planning (complete)	\$ 0.2M
Design	\$ 0.8M
Construction	
Faria Tanks	\$ 2.0M
<u>Faria PP</u>	<u>\$ 1.5M</u>
Total	\$ 4.5M

# Next Steps



- Board Adoption of Findings and Project Approval
- Enter into Detailed Design APA – June 2015
- Design – FY16
- Enter into Construction Agreement
- Construction – FY17-18



# Water Conservation Services for Master-Metered Customers:

- ✓ *Multi-family Residential*
  - ✓ *Senior Housing*
  - ✓ *Commercial*
  - ✓ *Institutional*

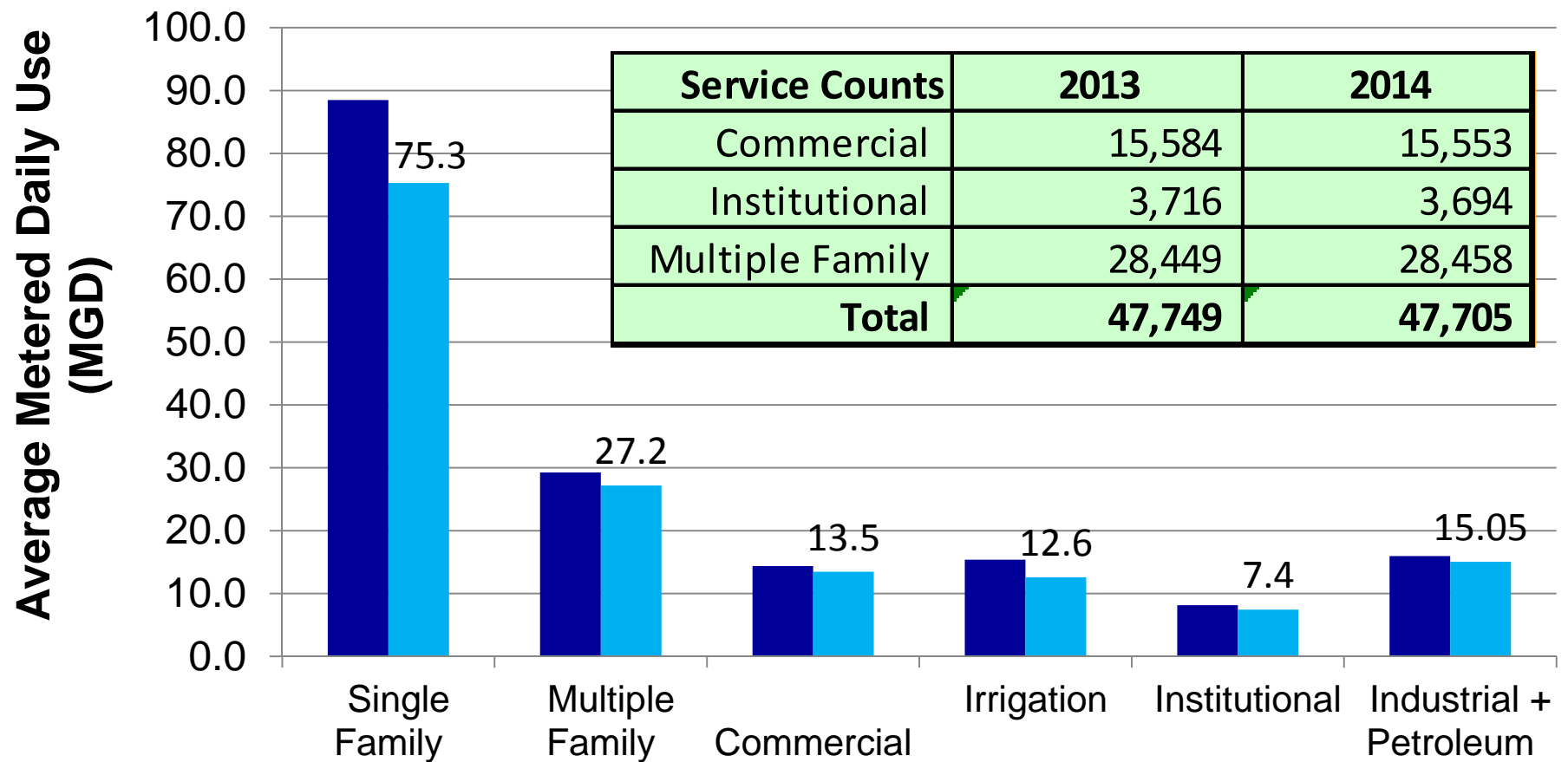
Planning Committee

June 9, 2015

# Master-Metered Customer Statistics



■ CY2013 Avg    ■ CY2014 Avg



# Education and Outreach: Master-Metered Customers



- 💧 Partnering with community based organizations
- 💧 Services for low-income, senior housing (e.g. Rising Sun, PG&E Express Efficiency)
- 💧 Services for property managers and homeowner associations
- 💧 Key contacts with city & county staff (e.g. housing authorities, public works, parks, etc.)



# Water & Information Management: Master-Metered Customers



- 💧 Mailer to all MF residential customers
- 💧 Expanded distribution of home survey kits to landlords and tenants
- 💧 On-line Home Water Works calculator
- 💧 Website tips, videos, resources
- 💧 MF water use surveys

**EAST BAY MUNICIPAL UTILITY DISTRICT**

**waterSMART** Residential Conservation Rebates & Services

**Water Efficient Devices**

Free devices to help you save water. Ask about EBMUD rebates on new HET toilets, our commercial rebate programs, Irrigation upgrades, and Energy Star® clotheswashers.

**HIGH-EFFICIENCY SHOWERHEADS, 2.0 Gallons Per Minute**  
About 30% of a family's total indoor water consumption is used in the shower. Although taking shorter showers certainly helps reduce this vast water use, changing just one traditional showerhead for a high-efficiency showerhead – 2.0 gpm showerheads, can help save up to 7,300 gallons of water per year!

**HIGH-EFFICIENCY KITCHEN AERATORS, 1.5 Gallons Per Minute**  
Low-flow kitchen aerators (1.5 GPM) with swivel and stream/spray adjustment. Faucet use accounts for 15.7% of an average household's daily water consumption. Installing kitchen sinks saves water and energy, and lowers utility bills as well, since less hot water used means less water being heated every day.

**HIGH-EFFICIENCY BATHROOM AERATORS, 1.0 Gallons Per Minute**  
Low-flow faucet aerators (1.0 and 0.5 GPM) increase spray velocity, reduce splash and save water. Dual threaded to fit male and female threaded faucets. It offers greater water savings than conventional faucet aerators.

Save precious water easily by using water conserving faucets, aerators, showerheads, and hose nozzles. Devices are provided free of charge to customers. Devices can be picked up at:

EBMUD - Administration Building  
375 11th Street, Oakland, CA 94607  
8:00 a.m. to 4:30 p.m.  
(Service Center in First Floor Lobby)

**WaterSmart Calculator**

**How much water do you use?**

Click an area around the home to input data to learn how much water you use and how you can conserve water. Answer for yourself only and assume you are in your home for a 24-hour cycle.

Thank you for conserving.

**My Daily Usage**  
Roll over for results

**Percent Complete**

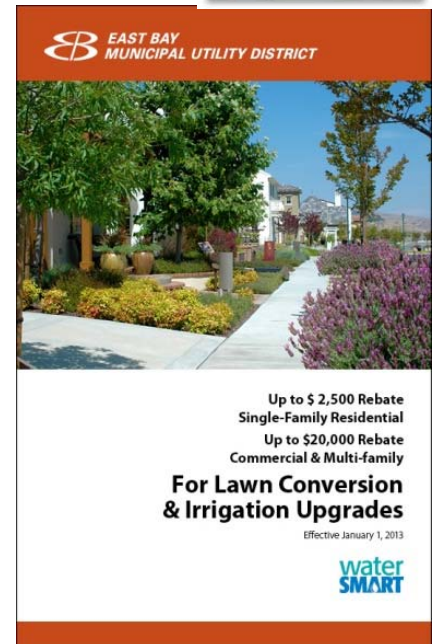
**Areas to Complete**  
Roll over for number of questions



# FY15-16 Conservation Incentives: Master-Metered Customers



- 💧 Expanded free device distribution w/HOAs, cities, community groups
- 💧 Multiple indoor/outdoor conservation rebates (\$50 - \$20,000)
- 💧 Multi-family residential/commercial submetering incentive program (\$150-\$250)
- 💧 “Pay as You Save” On-Bill Financing Pilot



# Free Device Distribution: Master-Metered Customers



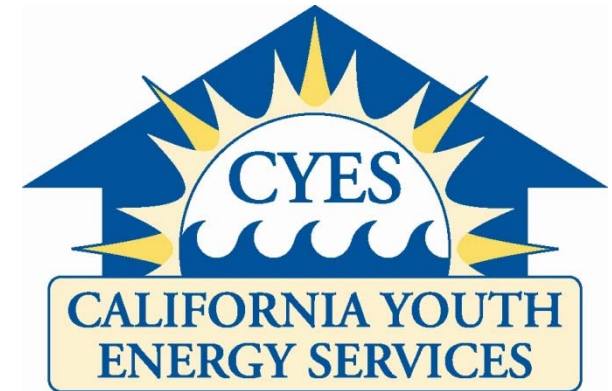
- 💧 Showerheads (2.0 gpm saves 20%)
- 💧 Shower diverter valves (saves up to 40%)
- 💧 Bathroom faucet aerators (0.5 gpm saves 30-60%)
- 💧 Kitchen faucet aerators (saves 20%)
- 💧 Hose shutoff nozzles (saves ~30%)
- 💧 Pre-rinse dishwashing spray valves (saves >30%)



# California Youth Energy Services (2002-2015)



- 💧 Partnership/sponsorship since 2002 (up to \$20,000/yr)
- 💧 Summer youth interns learn job and resource management skills
- 💧 Partnering with community based organizations
- 💧 Direct install of water & energy efficient devices for low-income, senior housing





# California Youth Energy Services (2002-2015)



CITY	No. of Programs	No. of Homes
Alameda	1	250
Albany	2	500
Berkeley	14	3,500
El Cerrito	2	500
Emeryville	8	2,000
LaMorinda	1	250
Oakland	11	2,750
Richmond	8	2,000
San Leandro	2	500
San Pablo	6	1,500
Walnut Creek	1	250
<b>Total</b>	<b>56</b>	<b>14,000</b>

1900 Addison Street, Suite 100, Berkeley, CA 94704  
Phone: 510.665.1501  
Fax: 510.665.1502  
www.risingsunenergy.org

**BUILDING HEALTHY COMMUNITIES THROUGH CLIMATE SOLUTIONS AND GREEN CAREER PATHWAYS**

## CALIFORNIA YOUTH ENERGY SERVICES

### RICHMOND - 2013 CYES SUMMARY

In 2013, Rising Sun Energy Center offered local residents no-cost energy efficiency and water conservation services by running the California Youth Energy Services (CYES) program in Richmond for its sixth year. CYES hires and trains local youth to provide no-cost in-home energy education and hardware installation to homeowners and renters through its Green House Call Service.

The CYES program demonstrated success in the summer of 2013 in Richmond by:

- Providing employment and training to 9 youth, ages 15-22, in partnership with Richmond YouthWORKS Summer Youth Employment Program
- Providing 264 Richmond area households with energy-saving hardware and information, 83% of which were located in the City of Richmond

**INSTALLED MATERIALS:** Energy Specialists installed the following equipment in Richmond homes at no cost:

- 2,877 compact fluorescent lamps
- 23 CFL torchiere lamps
- 475 efficient-flow showerheads & aerators
- 188 powerstrips
- 52 retractable clotheslines
- 66.5 feet of water heater pipe insulation

**HOUSEHOLDS SERVED IN RICHMOND:**

- 58% were renters
- 87% were low-moderate income households
- 39% spoke a language other than English at home

**ENERGY AND WATER SAVINGS**

The installation of these measures resulted in an annual reduction of 72,900 kWh, 2230 therms, and 622 gallons of water per minute, thereby reducing 63.2 metric tons of carbon dioxide from entering the atmosphere. This is equivalent to one of the following CO<sub>2</sub> greenhouse gas emissions<sup>1</sup>:

- CO<sub>2</sub> emissions from 7,085 gallons of gasoline consumed
- CO<sub>2</sub> emissions from 147 barrels of oil consumed
- Carbon sequestered annually by 51.8 acres of U.S. forests

<sup>1</sup> Calculated using the U.S. Environmental Protection Agency's Greenhouse Gas Equivalencies Calculator

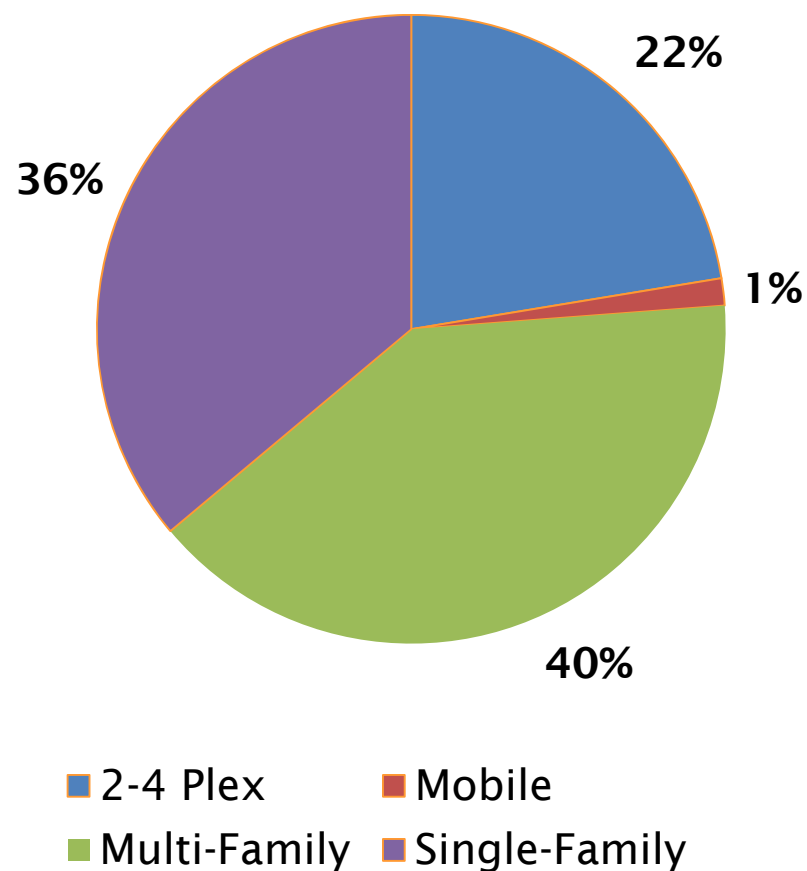
City of Richmond - Client Demographics			
Languages Spoken at Home Other than English		Ethnicity	
Spanish	76%	African American	42%
Arabic	4%	Hispanic/Latino	34%
Other	21%	Asian/Pacific Islander	12%
		Caucasian	6%
		Other	6%
Home Information		Additional Information	
Average Square Footage	1,215	Persons with Disabilities	30%
Average Household Size	3	Senior Citizens	32%

# PG&E Energy Savings Assistance Program:



- 💧 120,000 low-income households per year.
- 💧 Home energy audits + energy-saving measures.
- 💧 Free water-saving measures (faucet aerators, shower heads, thermostatic valves).
- 💧 In 2014, the ESA program served over 11,000 EBMUD customers.
- 💧 Installed over 36,000 water savings measures.

**2014 ESA Participants in EBMUD Territory**



# FY16 Conservation Activities: Master-Metered Customers



- 💧 Participate in summer and fall festivals
- 💧 Provide speakers to service area groups
- 💧 Provide device distribution capability for community groups
- 💧 CYES 2015 Program in Lamorinda
- 💧 PG&E ESA Program partnership
- 💧 PAYS On-bill Financing Pilot
- 💧 Launch spring/ summer ad campaign
- 💧 Activate Twitter use