

# Three-Year Water and Wastewater Utility Service Rate Adjustments Public Hearing



Utilities Rate Advisory Commission

January 25, 2012

# Presentation Overview

- Capital and Regulatory Program Overview
- Finance Plan
- Economic Impacts
- Community Engagement Summary
- Next Steps

# Capital and Regulatory Program Overview

# Water 3-Year CIP Summary

**TOTAL \$235 million**

6 Well Rehab (Best Practice)  
**\$9 million**

2 Miles of Transmission Main Rehab (Best Practice)  
**\$6.6 million**

9 Miles of Distribution Main Rehab (Best Practice)  
**\$9 million**

Water Treatment Plant Rehabilitation Projects  
**\$152 million**

Mandated Water Meter Retrofit Program  
**\$57 million**

# Wastewater 3-Year CIP Summary

**TOTAL \$25.5 million**

Sump/Treatment Facility Rehab (Best Practice)  
**\$3.6 million**

1 Mile of Combined System Rehab (Best Practice)  
**\$2.4 million**

Separated System Permit/Litigation Compliance  
**\$4.5 million**

Combined System Permit compliance  
**\$15 million**

# 3-Year Water Meter Program Funding

<b>FY12/13</b>	<b>FY13/14</b>	<b>FY14/15</b>	<b>3-Year Total</b>
\$13,900,000	\$19,000,000	\$24,100,000	<b>\$57,000,000</b>

# Wastewater Regulatory Program Overview

## Combined System

Project	Cost
7 <sup>th</sup> St., K to P	\$2,500,000
Curtis Park Storage	\$12,000,000
L St., 7 <sup>th</sup> to 9 <sup>th</sup>	\$600,000
<b>Total</b>	<b>\$15,100,000</b>

## Separated System SSMP and CSPA Litigation

Program	12/13	13/14	14/15	Total
O&M	\$3,000,000	\$5,000,000	\$5,500,000	<b>\$13,500,000</b>
CIP	\$1,000,000	\$1,000,000	\$2,500,000	<b>\$4,500,000</b>

# O & M Regulatory Activities

- Accelerated System Cleaning
- Accelerated System Assessment
- Fats Oils and Grease Control Program



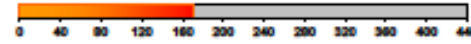


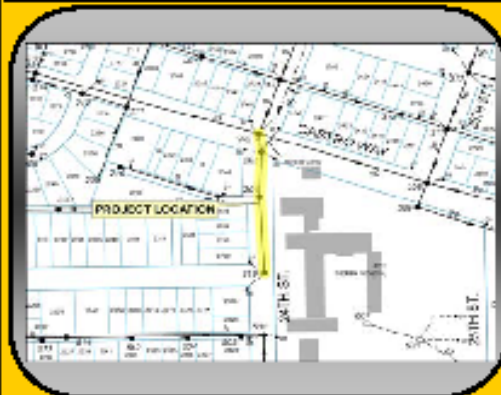
FY12/13

**SEWER PIPE CIP INFORMATION SHEET**  
**PROJECT:** 24th Street from 3rd Ave to Castro Way  
**DISTRICT #:** 5  
**SEWER FUND:** 414

Pipe Replacement

**1. ASSET PROFILE & LOCATION**

Asset Rank	23
Defect Score (D)	85
Minor    Moderate    Critical    Super Critical 	
Vulnerability Score (V)	162
Excellent    Good    Fair    Poor    Failed 	
Criticality Score (C)	170
Excellent    Good    Fair    Poor    Failed 	
Total CIP Score (0.5*D)+(0.3*V)+(0.2*C) =	125.1
Normalized CIP Score [(Total CIP Score)/998]*100 =	12.54
Est. Project Cost (2011):	\$334,172
Est. CIP Sewer Budget	
Project Funding Source	

**2. PROJECT DETAILS****PROJECT DESCRIPTION:**

Remove and replace approximately 470 feet of existing 8-inch combined system main.

**PROJECT OBJECTIVE:**

The project objective is to ensure the reliability of the sewer system and avoid impacts to the environment and public health.

**EXISTING SITUATION:**

Heavy grease and roots at joints.

**RELATED ISSUES:**

SSO reported and cleaned.

**IMPACTS:**

Regulatory, Environmental, Public Health

**3. BUSINESS CASE****CONSEQUENCE OF FAILURE**

Reliable, high quality customer serv.	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	
Regulations and Environmental Impact	<input checked="" type="checkbox"/> yes	<input type="checkbox"/> no	
Health & Safety of Public/Employees	<input checked="" type="checkbox"/> high	<input type="checkbox"/> med	<input type="checkbox"/> low
Economic Impact	<input type="checkbox"/> high	<input type="checkbox"/> med	<input checked="" type="checkbox"/> low
Restoration of Service	<input checked="" type="checkbox"/> <4hrs	<input type="checkbox"/> 4>12hrs	<input type="checkbox"/> >12hrs
Location/critical facility impact	<input type="checkbox"/> high	<input type="checkbox"/> med	<input checked="" type="checkbox"/> low

**LIKELIHOOD OF FAILURE**

Within the next	<input type="checkbox"/> year	<input type="checkbox"/> 5-yrs	<input checked="" type="checkbox"/> 10-yrs
-----------------	-------------------------------	--------------------------------	--

**LEVEL OF SERVICE ANALYSIS**

SSO - wet weather	<input type="checkbox"/> zero	<input checked="" type="checkbox"/> one	<input type="checkbox"/> >one
SSO - dry weather	<input checked="" type="checkbox"/> zero	<input type="checkbox"/> one	<input type="checkbox"/> >one
Emergency Resp. bus. hours	<input checked="" type="checkbox"/> 30 min. or less	<input type="checkbox"/> 30 min.	
Emergency Resp. after hours	<input checked="" type="checkbox"/> 30 min. or less	<input type="checkbox"/> 60 min.	

**PROJECT BENEFIT**

Improves reliability of sewer system and avoid impacts to environment and public health.

**NON CRITICAL INFORMATION ONLY****MISCELLANEOUS**

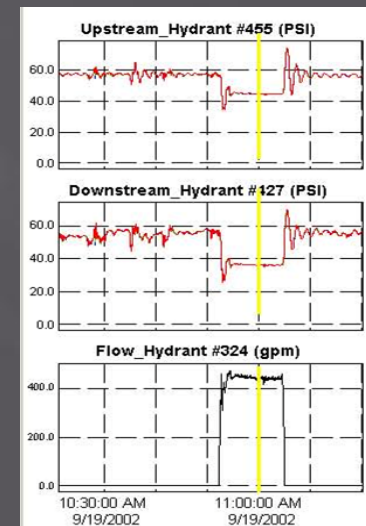
# Asset Management Program Overview

- Asset material and age identification
- Develop defect coding system (NASSCO) for sewer and drainage pipelines
- Ranking and prioritizing short and long-term CIP projects
- CIP Programming Guide
- Procured \$23+ million in grants
- Software application integration (GIS, CMMS, Granite XP, FOIS)
- Sewer System Management Plan (SSMP)
- 5 and 30-year CIP programs for drainage, sewer and water
- Water distribution main C value testing
- Water distribution main cleaning pilot project (in design)
- Backyard water main replacement program effectiveness review
- Water Master Plan

# Accountability Plan (*Conceptual*)

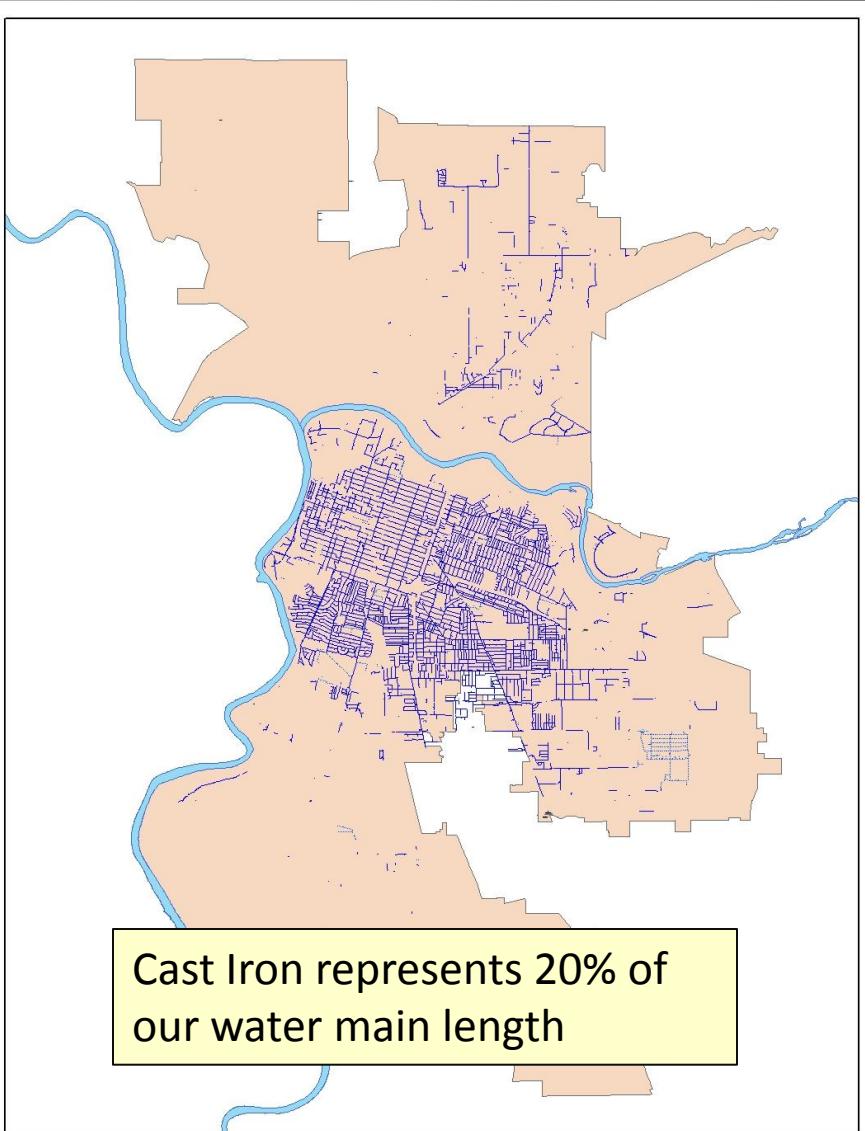
- Report to a stakeholder entity (URAC)
- The URAC “Report Card”
  - Communication with the community regarding how funds would be used
  - Using the funds in a manner appropriate to their original intent
  - Using funds in a way that is compatible with the Department’s overall CIP Programming Guide, the Department’s Asset Management Program and proposed CIP budget.
- DOU accountability would include:
  - Adoption of an annual one-year and five-year CIP Program by council and the URAC.
  - Semi-annual and annual progress report URAC and Council
  - Possible development of a report card mailer

# HYDRAULIC CAPACITY TESTING OF CAST IRON WATER MAINS URAC JANUARY 25, 2012





# How Much Cast Iron Pipe?



## *Miles By Year*

<= 1910	97 Miles
1911 - 1920	33 Miles
1921 - 1930	66 Miles
1931 - 1940	56 Miles
1941 - 1950	78 Miles
>1950	16 Miles
Total	346 Miles

Oldest recorded pipe is 1881

Estimated Replacement  
Cost

= \$350 Million

# What's the Problem?

- ▣ Reduced Carrying Capacity
  - Function of smoothness
- ▣ Water Quality
  - Slime growths
- ▣ Structural Integrity
  - Corrosion
    - ▣ Pulls iron out of the pipe
- ▣ Increased Operation Cost
  - Chlorine demand
  - Electrical costs



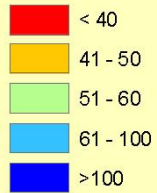




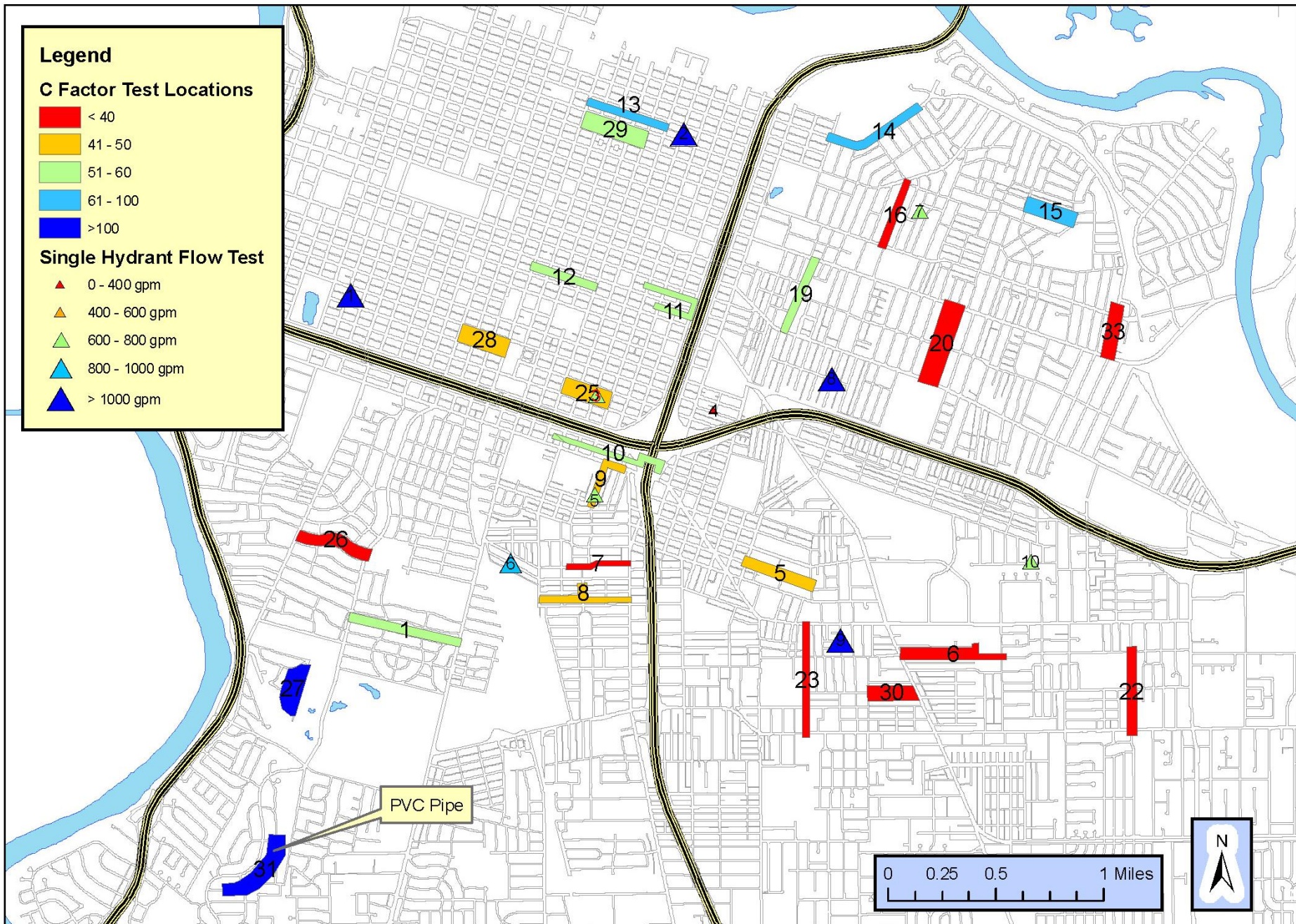
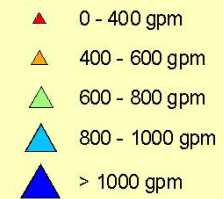
# Cast Iron Flow Test Locations and C Factor Test Results

## Legend

### C Factor Test Locations

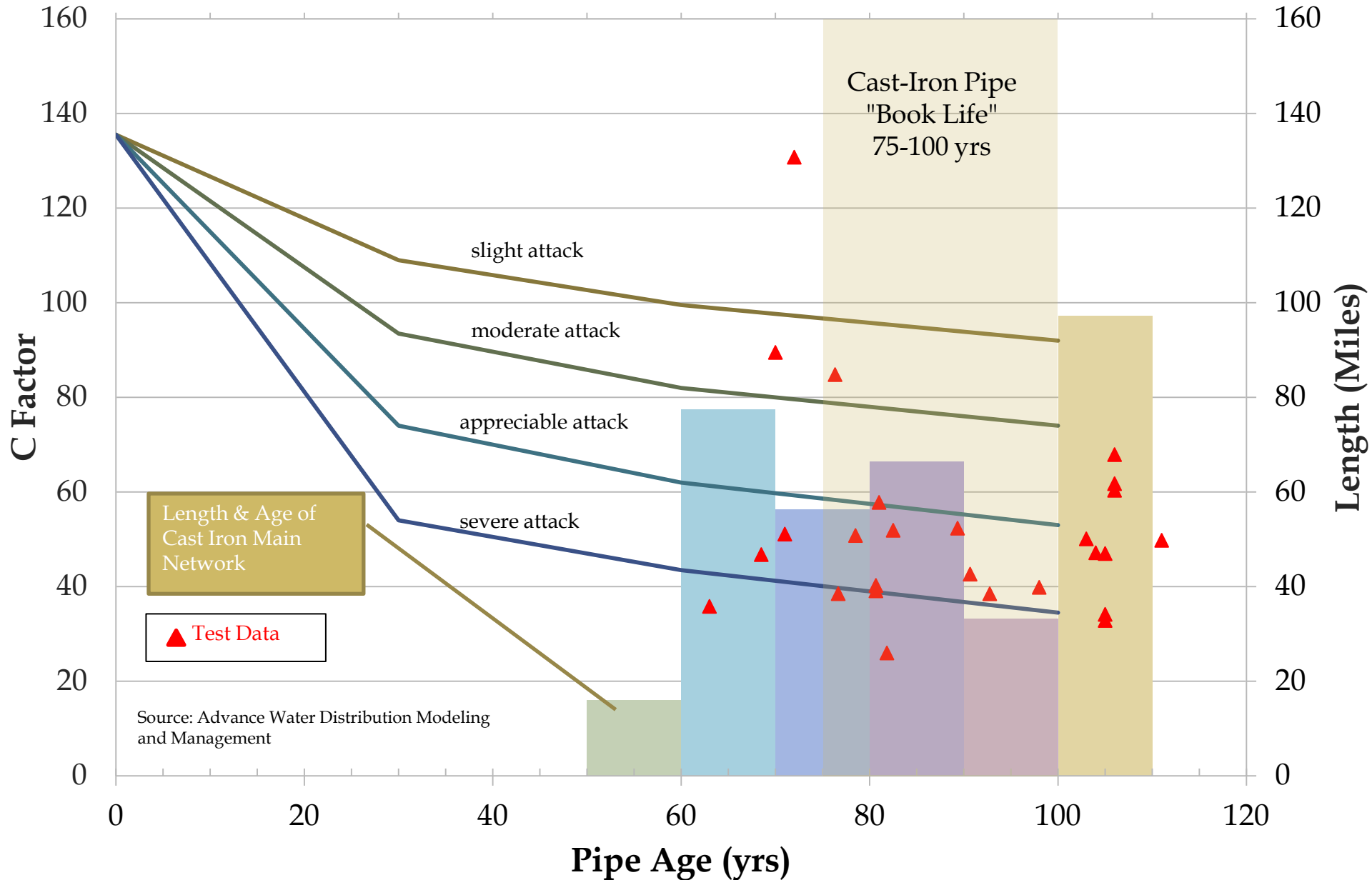


### Single Hydrant Flow Test





# Pipe Roughness with Time



# Take Aways

- ▣ A Significant % of Our Cast Iron Main Are Beyond Industry Standard Lifespan
- ▣ Carrying Capacity Reduced by 60%
  - Reduced system pressures during peak day demands
  - Meeting fire flow requirements

# Following Steps

- ▣ Hydraulic Modeling (pending)
  - Estimate flow at all hydrants
  - Prioritization pipeline replacement/rehab
  
- ▣ Structural Integrity of Pipe
  - Cutout coupons “appear” sound
  
- ▣ Pilot Project - Mechanical Cleaning and Lining



CITY OF SACRAMENTO  
DEPARTMENT  
OF UTILITIES

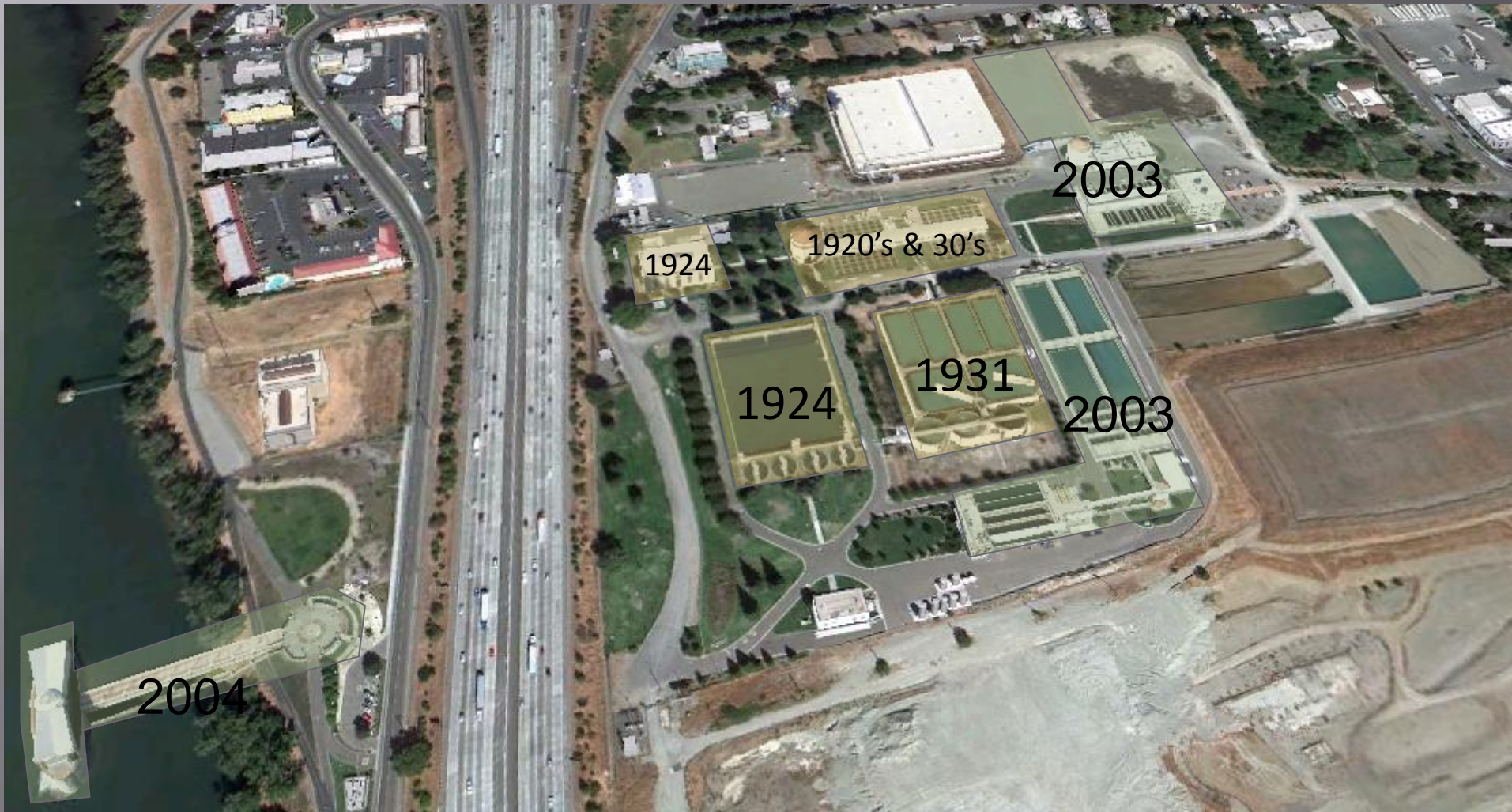
# Water Treatment Plant Rehabilitation Projects

URAC January 25, 2012





# Sacramento River WTP



# WTP Program Development

- ▣ Capacity Optimization, Remaining Life, and Reliability Improvement Study
  - Hired Carollo Engineers in 2007
  - Study completed in 2009 and included
    - ▣ Plant Performance Testing
    - ▣ Critical and Known Issues
    - ▣ Condition Assessment
    - ▣ Capacity and Demand
    - ▣ Project Development – Prioritized Projects
    - ▣ Capital Improvement Plan

# SRWTP & FWTP Proposed CIPs

**Table ES-10 Project Sequence with Hodge Limitation of 77 or 100 mgd  
SRWTP and EAFWTP Capacity Optimization, Remaining Life, and Reliability Improvement Study  
City of Sacramento Department of Utilities**

SRWTP							EAFWTP								
On-Line Year	Project Name	Project #	Type	Cost \$K (2008\$)	Unit Process Capacity Gain (mgd)	Plant Capacity Gain (mgd)	Plant Capacity Limited By	On-Line Year	Project Name	Project #	Cost \$K (2008\$)	Type	Unit Process Capacity Gain (mgd)	Plant Capacity Gain (mgd)	Plant Capacity Limited By
2008	Level transmitter	S004	RR	\$21		93	Chem Feed	2008	Level transmitter	F001	\$19	RR		96	HSPS
2008	Reduce pre-chlorine dose	S022	C	\$0	22	115	Chem Feed	2008	Reduce pre-chlorine dose	F028	\$0	C	30	96	HSPS
2009	Evaporators	S001	C	\$481	45	130	Intake	2009	HSPS rehab impeller pump 1	F002	\$50	C	8	104	HSPS
2009	Cl <sub>2</sub> application point at FIC	S005	RR	\$47				2009	HSPS rehab impeller pump 3	F011	\$50	C	8	112	HSPS
2009	Intake air release valves	S002	C	\$6	30	135	Filters	2009	Install fluoride system	F019	\$363	RR			
2009	Backwash flowmeter old filters	S006	RR	\$86				2009	Evaporators	F010	\$336	C	85	112	HSPS
2009	Headhouse repairs	S008	RR	\$99											
2010	Coagulation bldg roof	S019	RR	\$67				2010	Admin & Filter Gallery roof	F025	\$211	RR			
								2010	HSPS rehab impeller pump 5	F024	\$50	C	8	120	HSPS
2011	New filters 9-16 to filters 1-8	S009	C	\$31,563	10	141	HSPS	2010	HSPS rehab impeller pump 7	F029	\$50	C	8	128	HSPS
2011	Decommission/demo Basin 2	S012	RR	\$6,985				2010	Solids Handling	F021	\$24,045	RR			
2011	New floccled basin	S013	C	\$48,535											
2011	Decommission old filters	S015	C	\$72	5	141	HSPS								
2011	Grit basin chain	S025	RR	\$97											
2011	Replace HSPS	S010	C	\$33,009	19	150	Filters <sup>1</sup>								
2014	Grit basin chain	S026	RR	\$97											
2018	Grit basin chain	S027	RR	\$97											
2020	5 MG reservoir	S007	RR	\$798				2021	Replace filter media filters 9-16	F016	\$1,095	RR			
2021	Grit basin chain	S028	RR	\$97				2021	Rehab filters 1-8	F017	\$19,040	RR			
								2021	Rehab Train 1/2	F018	\$9,477	RR			
								2021	Filter gallery corroded conduit	F020	\$227	RR			
								2021	Install handrails	F027	\$183	RR			
2023	Solids Handling	S033		\$21,070				2023	Replace grit basin sluice gates	F022	\$395	RR			
2024	Grit basin chain	S029	RR	\$97				2023	Replace grit basin MCC 40 T	F023	\$22	RR			

Abbreviations:  
C = Capacity  
RR = Repair/Replacement

Notes:  
1. Limited by Filter Loading Rate  
2. Projects suitable for Bond funding are shaded.

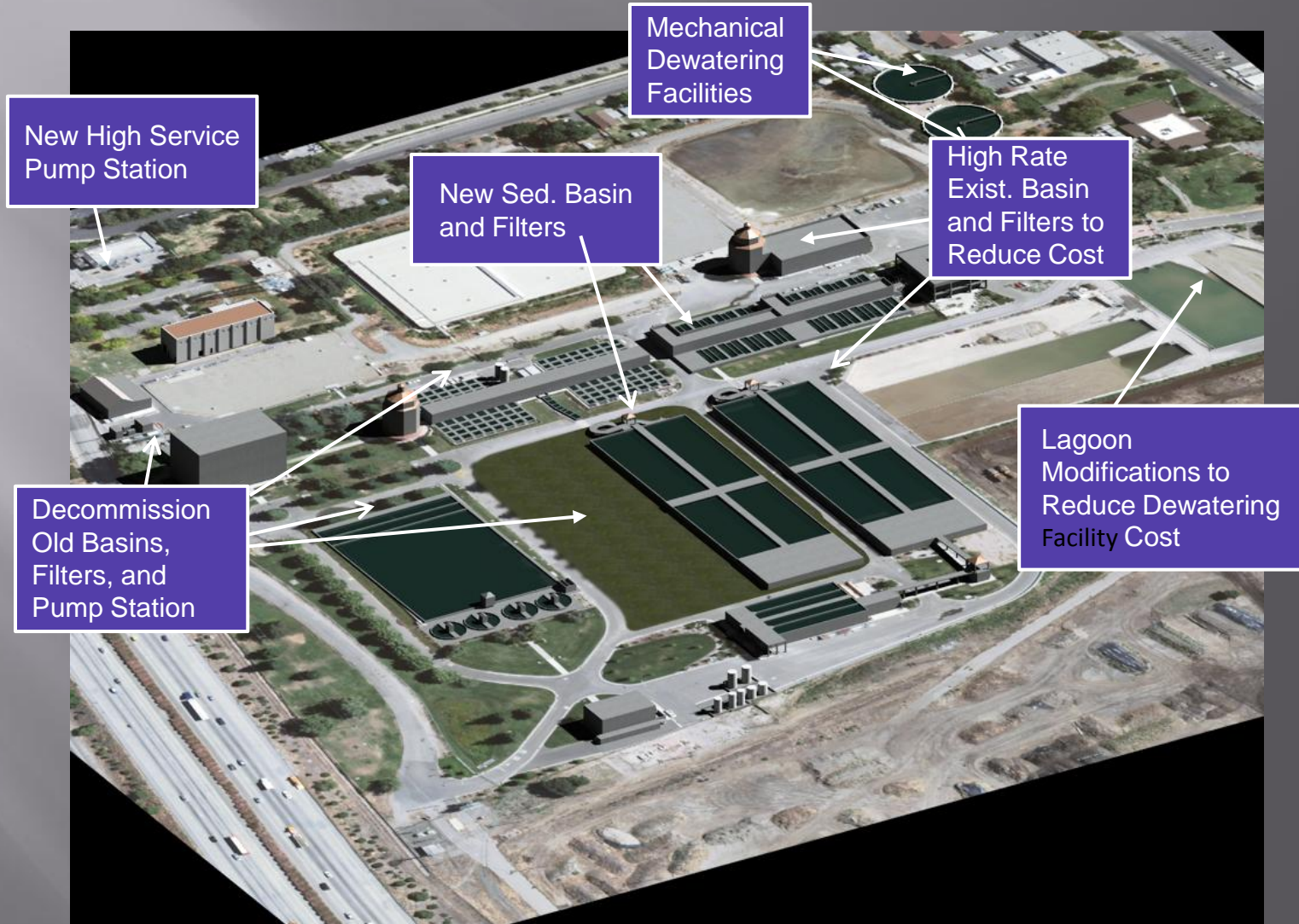


# High Lift Pump Station





# SRWTP Improvements



# Finance Plan

# Finance Section Outline

- Rate Proposal
- Finance Strategy
- Operational Assumptions
- 3-Year Increase – Allocation of Resources
- Projected Debt Issuance and Debt Service
- “Current Path” Program
- Treasurer’s Comments

# Rate Proposal

	July 1, 2012	July 1, 2013	July 1, 2014
Water	10%	10%	10%
Wastewater	16%	15%	14%

Projected first year impact for average residential single family customer:

	<u>Daily</u> increase starting July 1, 2012	<u>Monthly</u> increase starting July 1, 2012
Water	11 cents	\$3.44
Wastewater	8 cents	\$2.36

# Finance Strategy

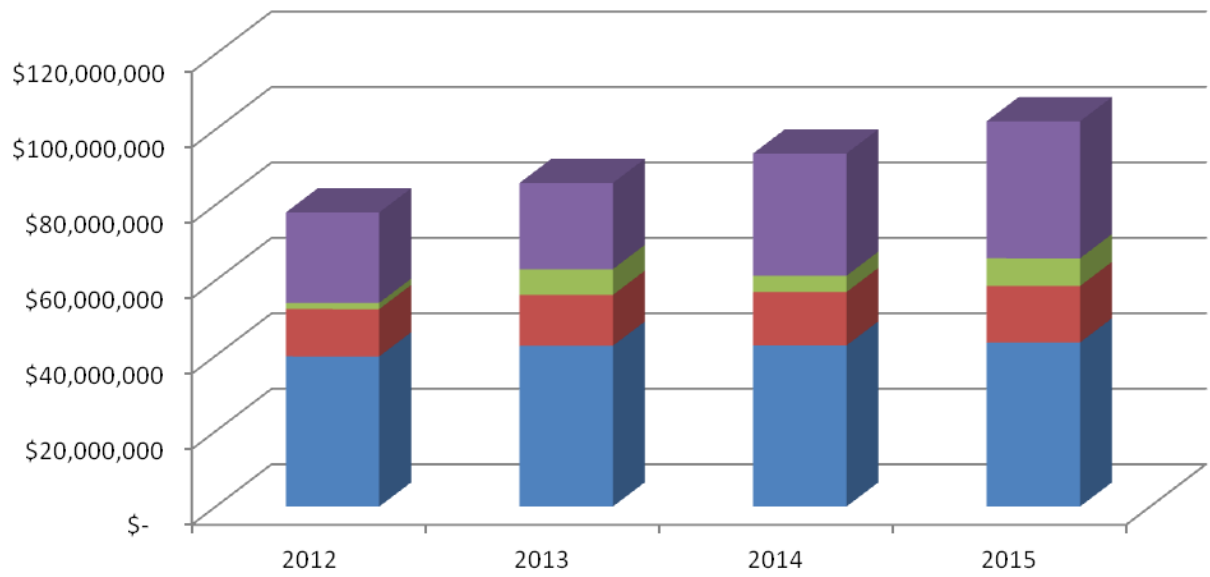
- ▶ Meets critical, near-term regulatory and capital needs, including the Water Treatment Plant rehabilitation and the meter transition program
- ▶ Utilizes debt financing and defers debt service payments for 30 months (capitalized interest)
- ▶ Maximizes use of existing resources to the fullest extent in order to mitigate rate increases (reappropriates existing capital program and refunding)
- ▶ Establishes a sustainable program that meets bond requirements (reserves)

# Production & Maintenance (Operating) – Cost Driver Assumptions

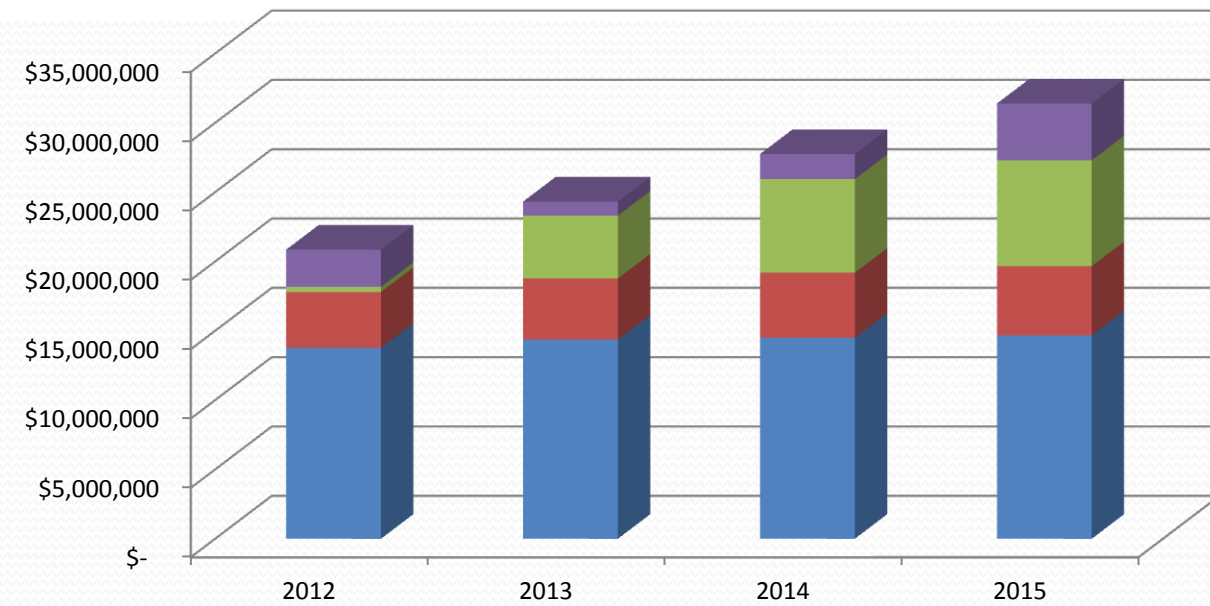
Cost Driver	FY13	FY14	FY15	Note
Water Labor	4.2%	0%	0%	No labor increases modeled for open contracts in the future (FY2012/13 is the last year of closed contracts)
Wastewater Labor	2.4%	0%	0%	
Utilities (Electricity)	5%	5%	5%	Based on historical trends
Fuel	11%	11%	11%	Based on historical trends
Chemicals	6%	6%	6%	Based on historical trends
CPI	2%	2.5%	3%	Based on historical trends

Results in less than 2% average annual rate increase  
for production and maintenance cost category

# Expenses by Category



**WATER**



**WASTEWATER**

- Capital (Debt & Cash)
- Regulatory/Other
- Non-discretionary Fixed Costs
- Production & Maintenance

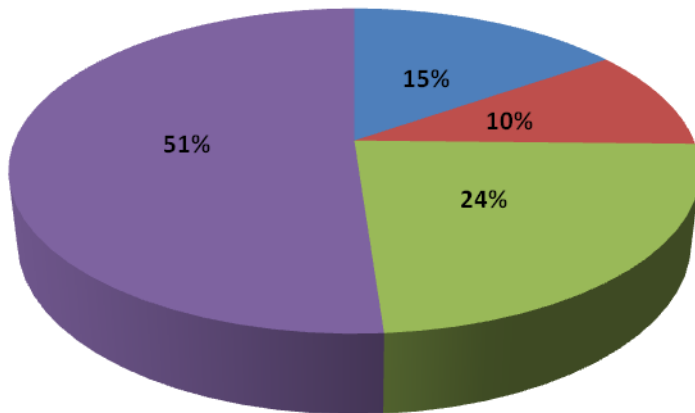
# 3-Year Increase – Allocation of Resources

Cost Category	Proportional Share 3-Year Increase From FY11/12	Average Annual Distribution of Rate Increase
<b>Water</b>		
Production and Maintenance	15%	1.5%
Non-discretionary Fixed Costs	10%	1.0%
Capital/Regulatory/Reserves	75%	7.5%
	<b>100%</b>	<b>10%</b>
<b>Wastewater</b>		
Production and Maintenance	9%	1.3%
Non-discretionary Fixed Costs	9%	1.4%
Capital/Regulatory/Reserves	82%	12.3%
	<b>100%</b>	<b>15%</b>

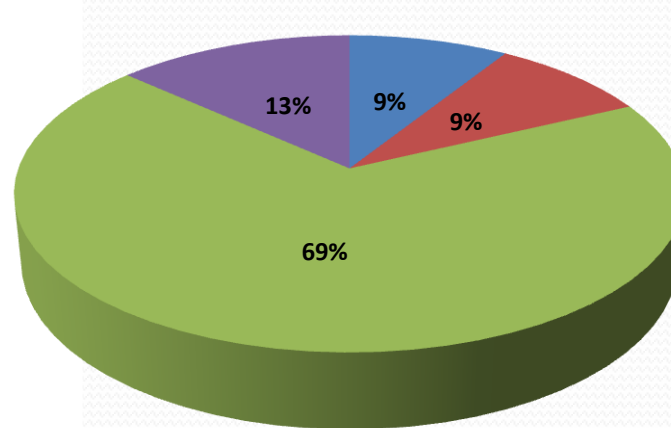


# Proportional Share of Cost Increase 3-Year Increase (Percentages)

**Water Fund**



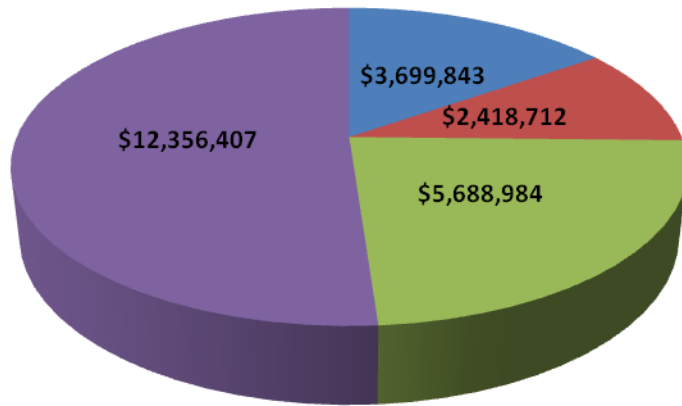
**Wastewater Fund**



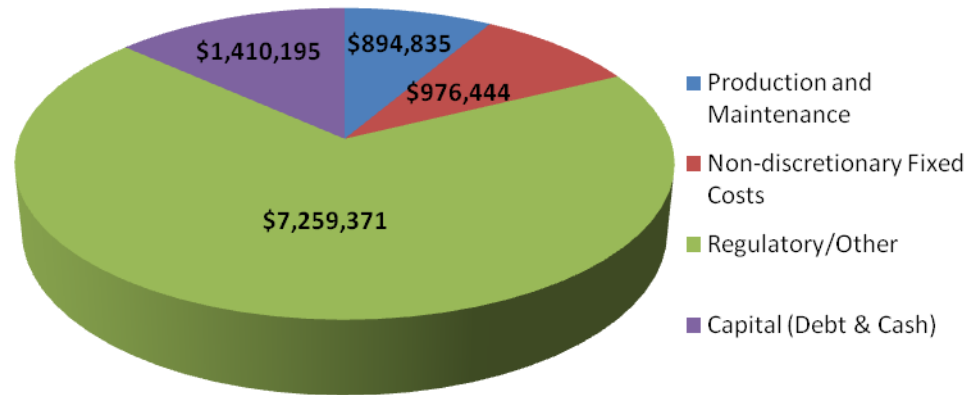
- Production and Maintenance
- Non-discretionary Fixed Costs
- Regulatory/Other

# Proportional Share of Cost Increase 3-Year Increase (Dollars)

### Water Fund

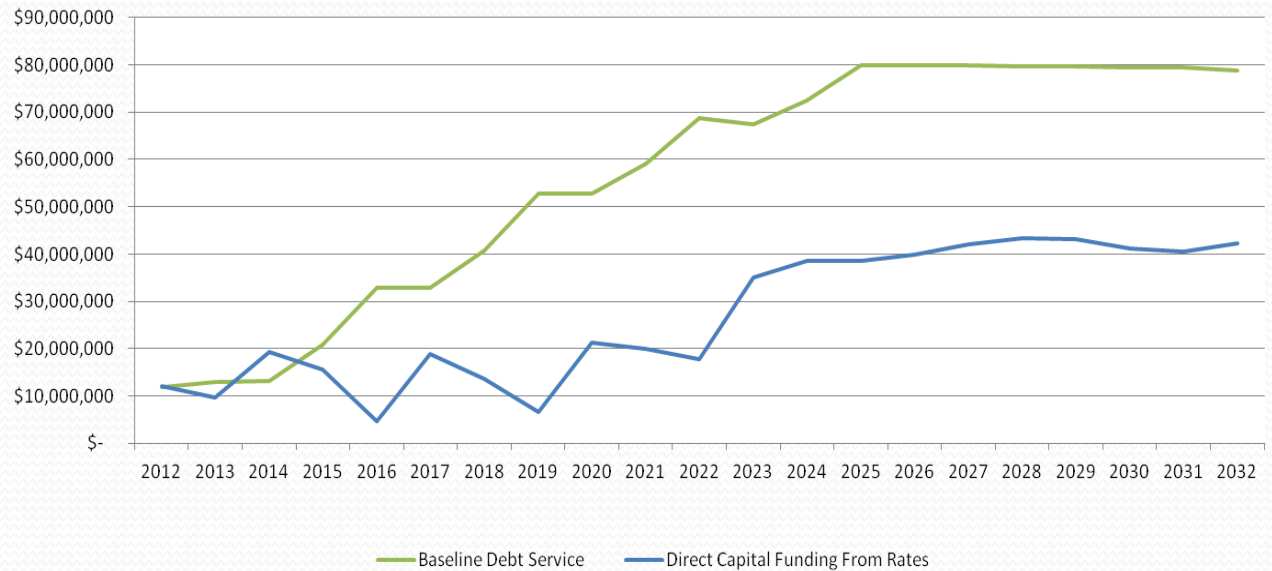
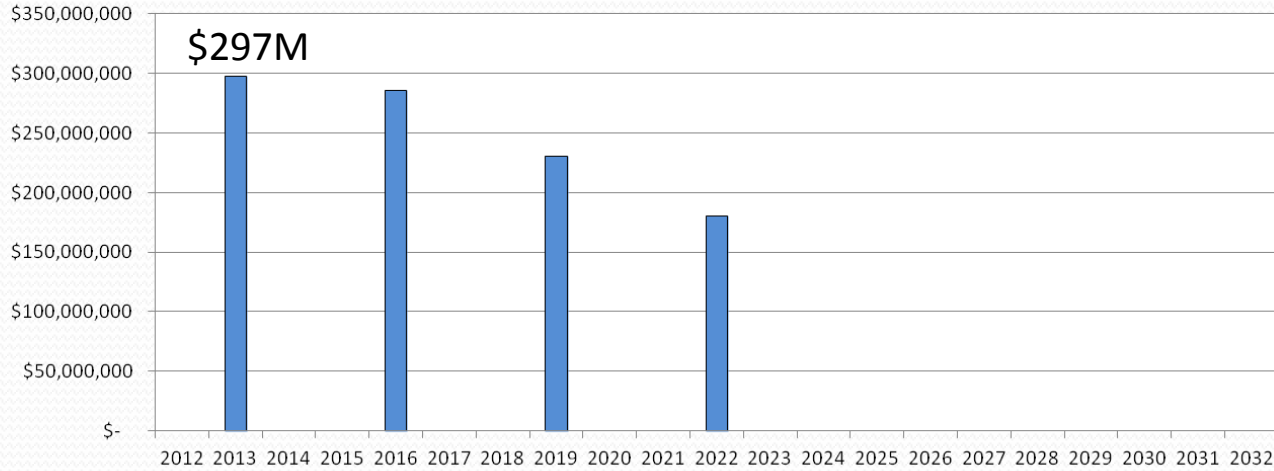


### Wastewater Fund

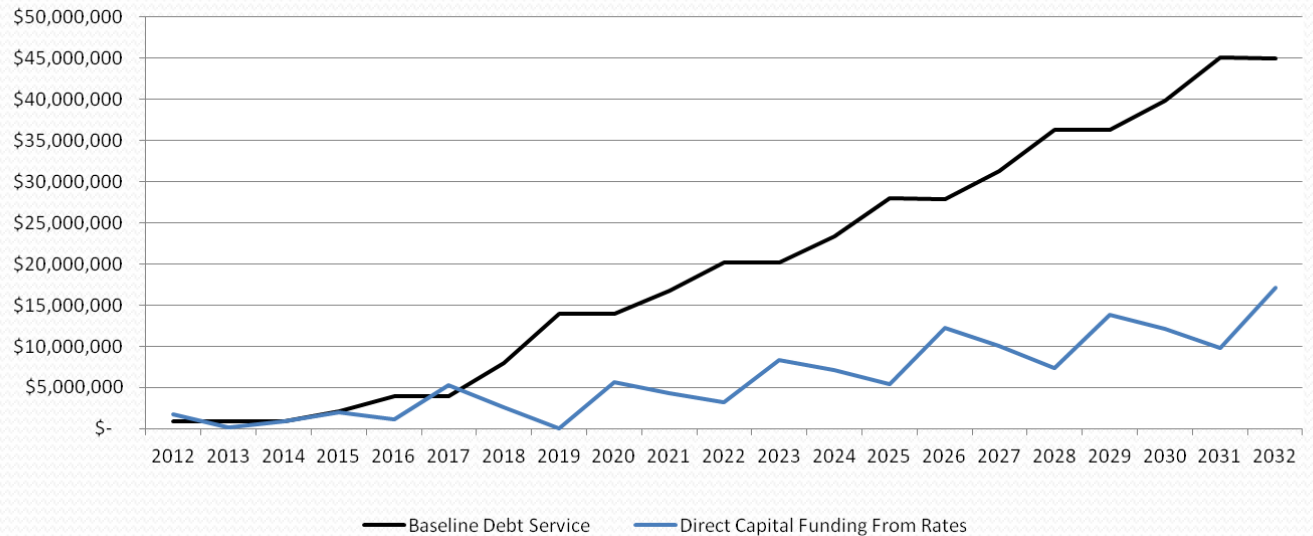
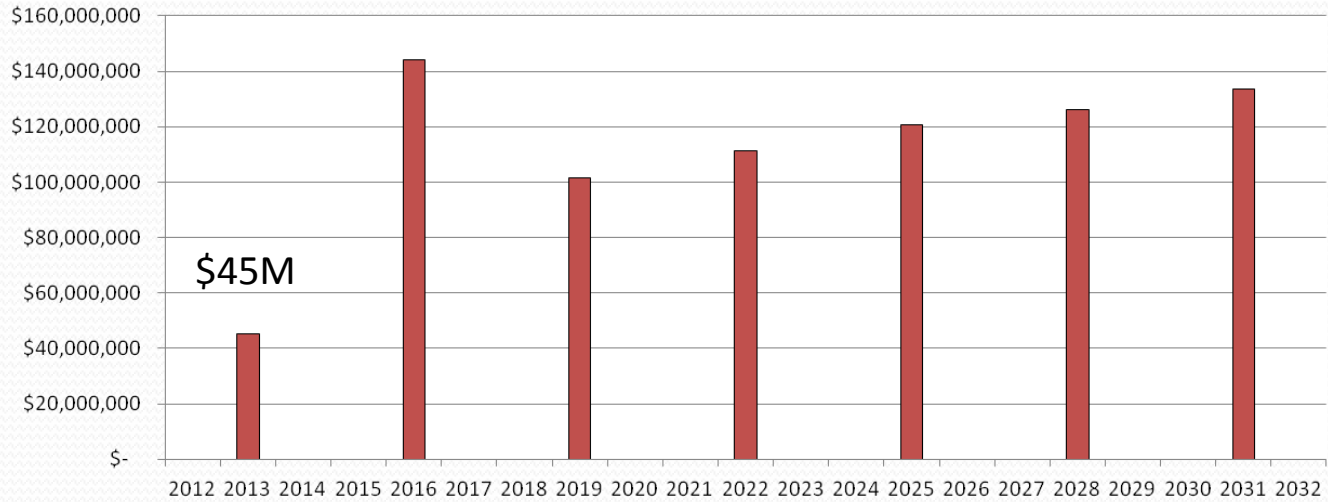


- Production and Maintenance
- Non-discretionary Fixed Costs
- Regulatory/Other
- Capital (Debt & Cash)

# WATER – Debt Issuance and Debt Service



# WASTEWATER – Debt Issuance and Debt Service



# “Current Path” scenario

WATER	Program	FY12/13	FY13/14	FY14/15
Current Path	<ul style="list-style-type: none"> <li>• Water Metering – increased load at backend</li> <li>• 400-year pipeline replacement</li> <li>• Reliance on General Fund for large unanticipated failures and/or bonding needs</li> <li>• Increased risk of infrastructure failure</li> <li>• Potential for large increases in out years</li> </ul>	8%	7%	6%
Proposed Program	<ul style="list-style-type: none"> <li>• Water Metering – more even project schedule</li> <li>• Treatment plant upgrade</li> <li>• Transition towards 100-year pipeline replacement</li> <li>• Funds adequate reserves</li> <li>• Ability to bond independently of General Fund</li> <li>• Reduced risk of infrastructure failure</li> <li>• Estimated obligation of 2% increase in FY16</li> </ul>	10%	10%	10%

# “Current Path” scenario

WASTEWATER	Program	FY12/13	FY13/14	FY14/15
Current Path	<ul style="list-style-type: none"> <li>• 650-year pipeline replacement</li> <li>• Does not existing or new regulatory requirements</li> <li>• Reliance on General Fund for large unanticipated failures and/or bonding needs</li> <li>• Increased risk of infrastructure failure</li> <li>• Potential for large increases in out years</li> </ul>	7%	0%	0%
Proposed Program	<ul style="list-style-type: none"> <li>• Transition towards 100-year pipeline replacement</li> <li>• Meets existing and new regulatory requirements</li> <li>• Funds adequate reserves</li> <li>• Ability to bond independently of General Fund</li> <li>• Reduced risk of infrastructure failure</li> <li>• Estimated obligation of 1% increase in FY16</li> </ul>	16%	15%	14%

Proposed Utility Service Rate Adjustments  
 Protest Summary as of January 23, 2012

<b>Total Notices Mailed</b>	<b>171,909</b>	
- No Specific Comment	74	<1%
- Increase is Excessive or Unjustified	18	<1%
- Causes a Financial Hardship	101	<1%
- Reduce level of service to offset cost	4	<1%
- Quality/Level of service does not warrant increase	12	<1%
<b>Total Written Protests Received</b>	<b>209</b>	<b>&lt;1%</b>

# Treasurer's Comments



# Economic Impacts

## Economic Impact: Five-Year Return on Investment

A \$469.6 million investment in the Infrastructure Investment Program by the Department over a five year period would create a substantial total economic impact in the Region. The total economic impact to the Region (to include direct, indirect, and induced effects) would:

- Produce \$857.6 million of economic Output.
- Create 6,446 new Employment full-time equivalent jobs.
- Result in \$321.6 million of new Labor Income.
- Yield \$568.2 million of new Value Added.
- Generate \$40.6 million in new Indirect Business Taxes.

## Economic Impact: Thirty-Year Return on Investment

An investment of \$1.9 billion by the Department in capital improvements over the next thirty years could likely yield an even greater total economic impact measuring:

- \$3.5 billion in total Output,
- 26,620 new Employment of full-time equivalent jobs,
- \$1.3 billion in new Labor Income,
- \$2.3 billion in new Value Added,
- and would generate \$167.8 million in new Indirect Business Taxes.

## Economic Impact: Consumers and Businesses

- Based on existing median family income in Sacramento, a typical unmetered residential customer pays less than 1% of his or her income for water and wastewater services
- Based on the average revenues or sales of statewide accommodation industry, a large hotel pays approximately 2.4% of its overall sales revenue for water and wastewater services
- Based on average sales earned by food and drinking establishments in California as well as Sacramento area, a large restaurant pays approximately half of 1% of its total sales revenue for water and wastewater services
- Based on average sales earned by similar small businesses in California and the Sacramento area, a typical small business (fewer than 20 employees) pays less than one-tenth of 1% of its total sales revenue for water and wastewater services

# Community Engagement Program

# Your Utilities. Your Voice.

- ▶ More than 1,100 surveys completed
- ▶ 26 presentations to Residents and Business Community Leaders
- ▶ 4 Workshops
- ▶ Tours of the Sacramento River Water Treatment Plant and Sump 2
- ▶ Mailed over 170,000 Rate Change Notifications to property owner and bill paying tenants
- ▶ New website
- ▶ Materials translated into Spanish, Russian and Hmong

# Next Steps

- Community Engagement Activities – Ongoing
  - (Rate workshops, presentations, video/website)
- Council Hearing – February, 2012
- Rates Effective – July 1, 2012



Questions?

