

State Legislation: Commercial BMPs and Legislative Requirements

Speakers: Maddaus Water Management Inc.



Lisa Maddaus, P.E.



Michelle Maddaus, P.E.



Annikki Chamberlain



AGENDA

01 Introductions

02 State Legislation Requirements Overview

03 Panel Presentations

04 Q&A – Group Discussion

05 Wrap Up

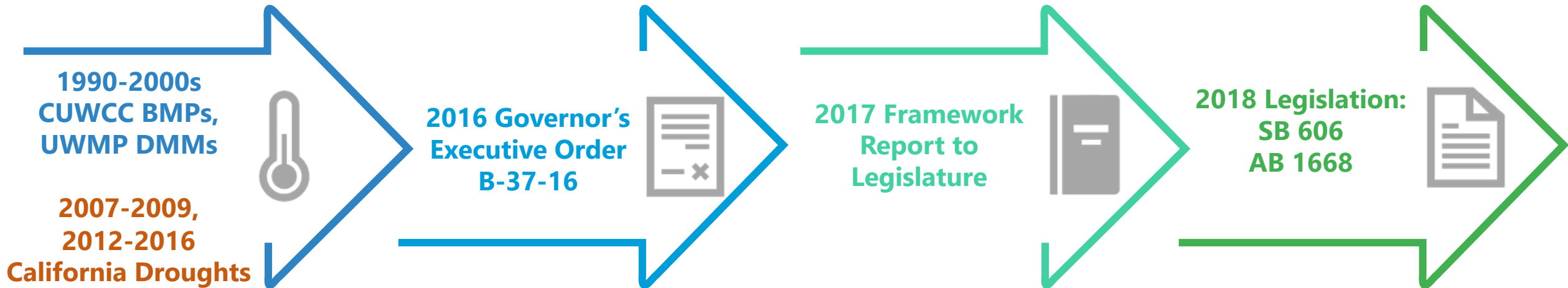


2018 Legislative Requirements

- New and expanded authorities to advance state's goals to mitigate for and adapt to climate change
- 2018 legislation for “Making Water Conservation a California Way of Life” includes updates to CWC §10609, which requires standards for:
 - Indoor residential use
 - Outdoor residential use
 - Outdoor CII use with dedicated irrigation meters
 - Water losses
- **Performance measures for CII water use and appropriate variances**
 - Actions to be taken by urban retail water suppliers to increase efficiency of CII water users



History



Four Key Requirements for CII

Prior to recommending performance measures for CII water use, DWR is required to solicit broad public participation from stakeholders and other interested parties related to the following considerations (CWC §10609.10(b) AB):

- ✓ CII water use classification system
- ✓ Minimum size thresholds for converting mixed CII meters to dedicated irrigation meters
- ✓ Technologies that could be used in lieu of requiring dedicated irrigation meters
- ✓ Best management practices including water audits and water management plans for CII customers above a certain size, volume of use, or other threshold



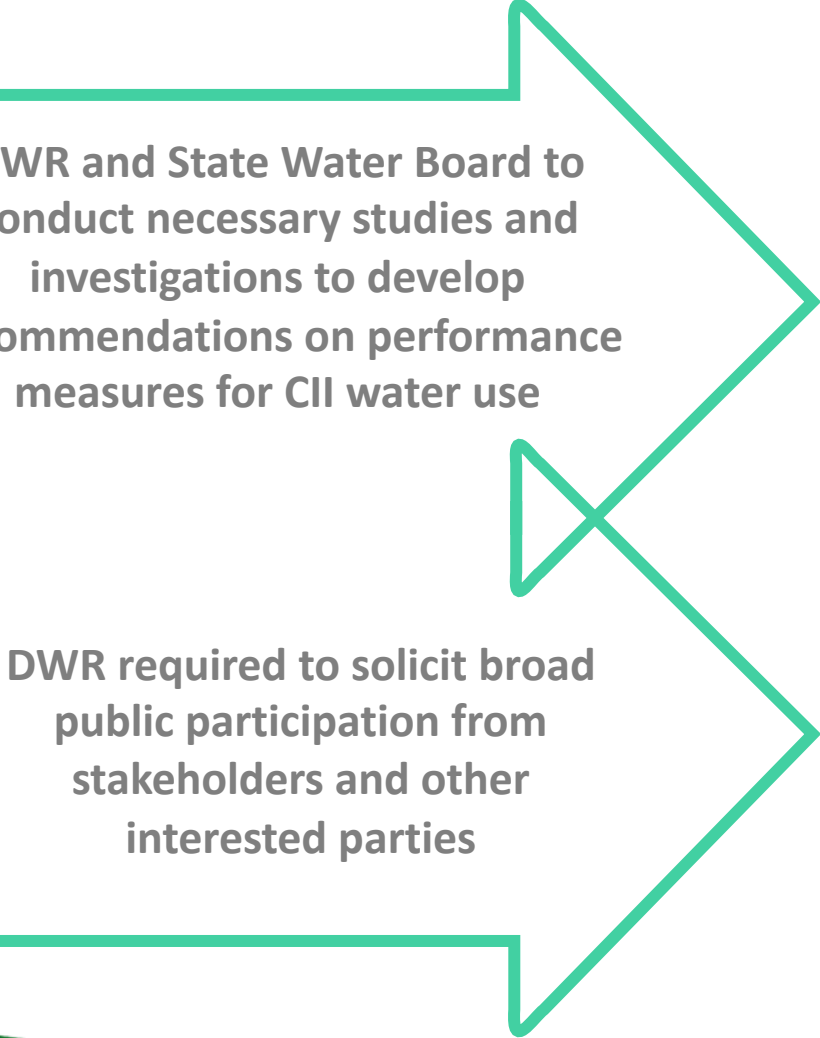
Four Key Requirements for CII (cont.)

DWR's recommendations shall be consistent with the October 21, 2013, report to the legislature by the CII Task Force titled *Water Use Best Management Practices*, including the technical and financial feasibility recommendations provided in that report, and shall support the economic productivity of CII sectors (CWC §10609.10(c) A).

Reference: California Primer on Conservation Way of Life. (2018). <https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Water-Use-And-Efficiency/Make-Water-Conservation-A-California-Way-of-Life/Files/PDFs/Final-WCL-Primer.pdf>



Current Status: Investigative Phase



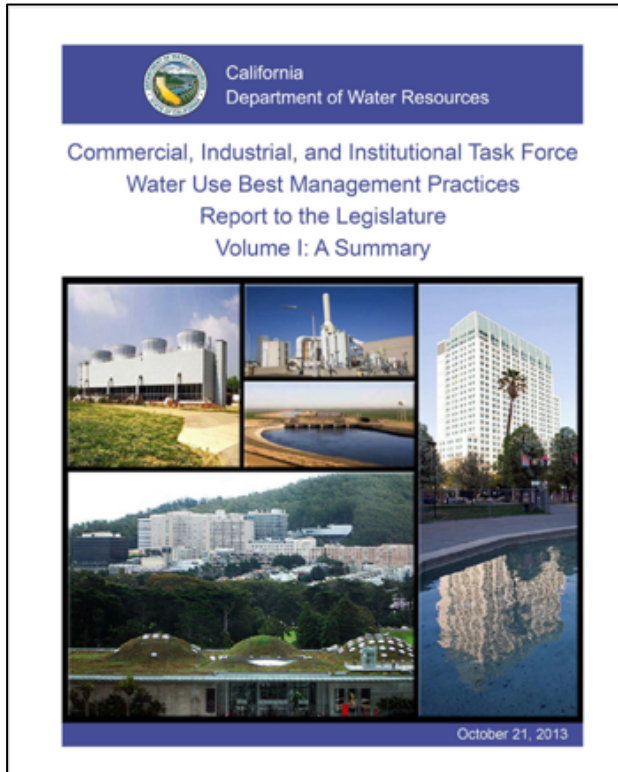
DWR and State Water Board to conduct necessary studies and investigations to develop recommendations on performance measures for CII water use

DWR required to solicit broad public participation from stakeholders and other interested parties

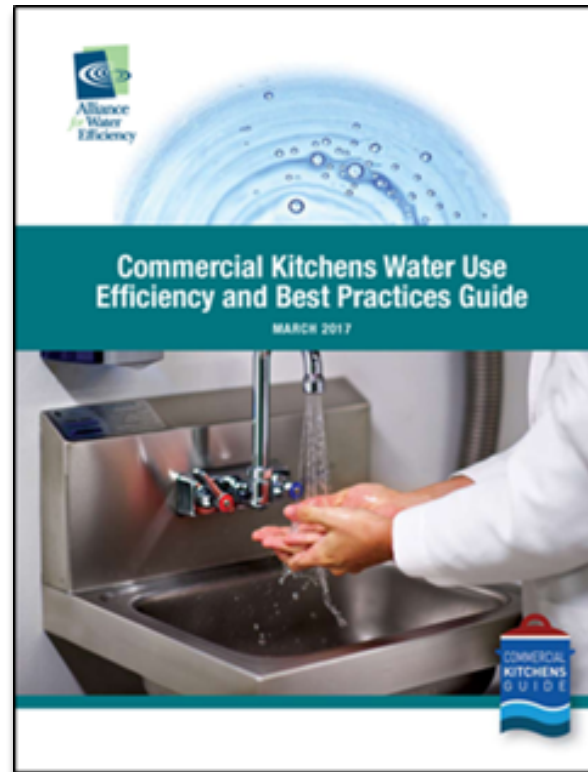
Prior to recommending performance measures for CII water use, stakeholder input on best management practices including water audits and water management plans for CII customers above a certain size, volume of use, or other threshold.



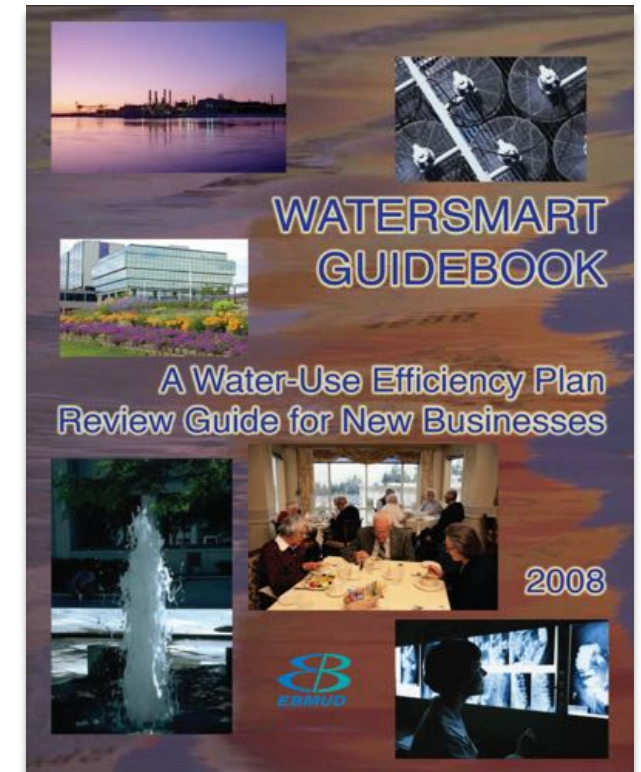
CII BMP Resources



[Commercial, Industrial, and Institutional Task Force Best Management Practices Report to the Legislature Volume I](#)



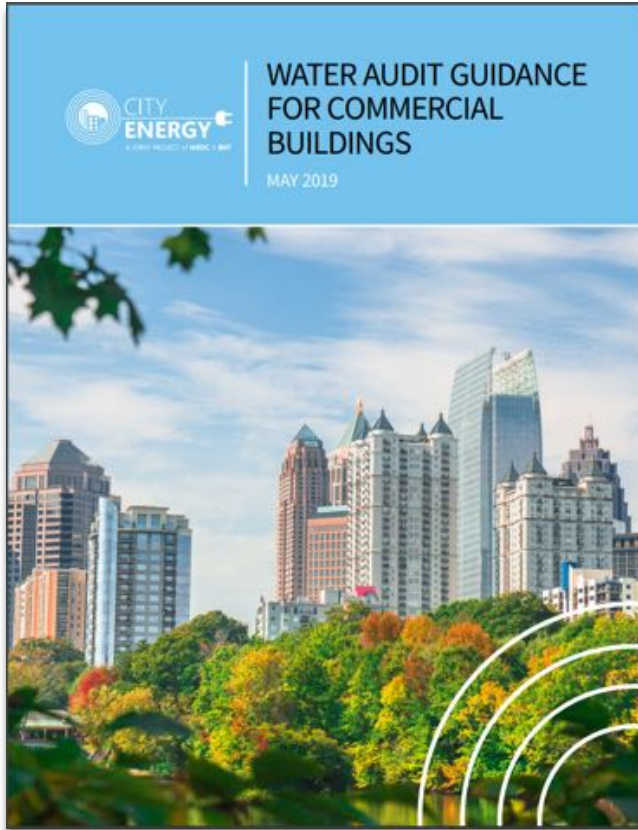
[Commercial Kitchens Water Use Efficiency and Best Practices Guide](#)



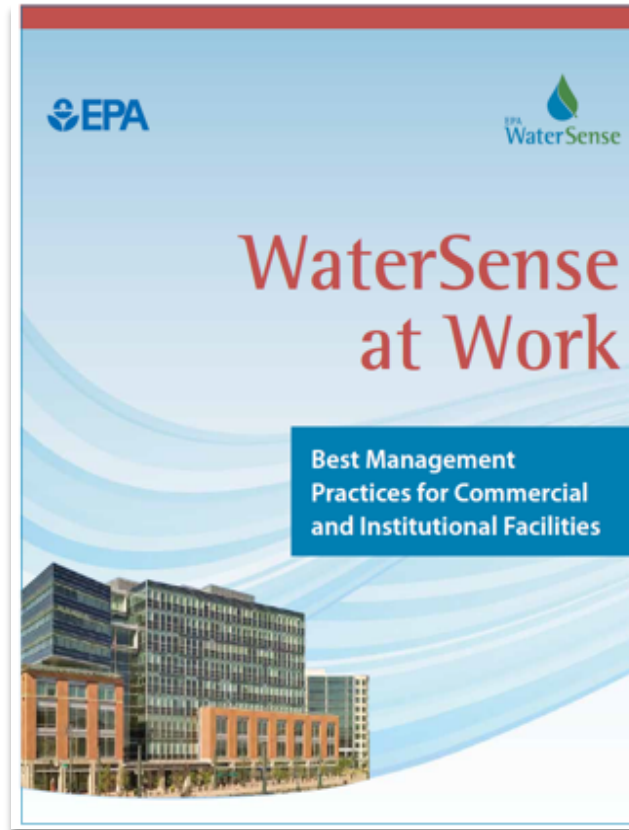
[EBMUD WaterSmart Guidebook](#)



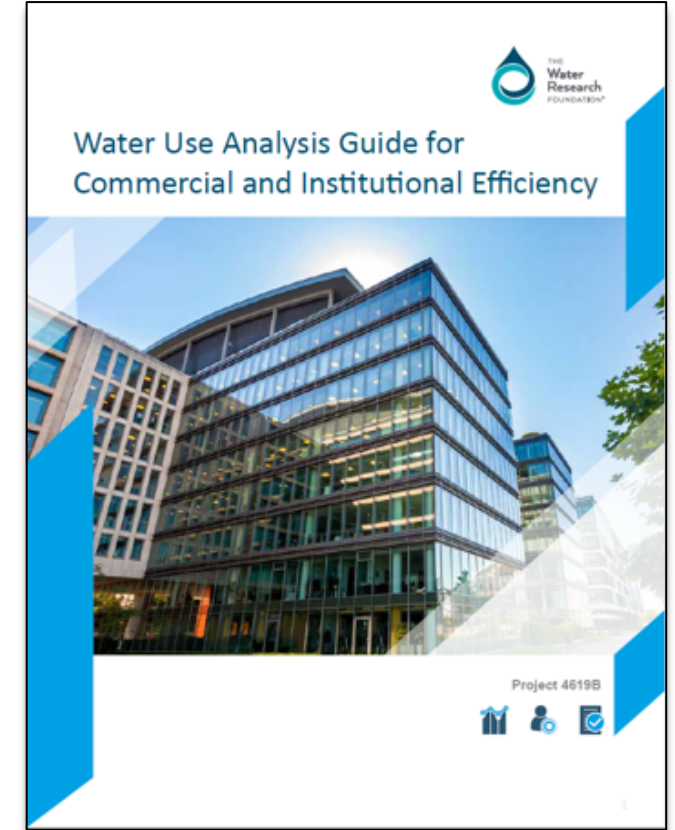
CII BMP Resources (cont.)



[City Energy Water Audit Guidance for Commercial Buildings](#)



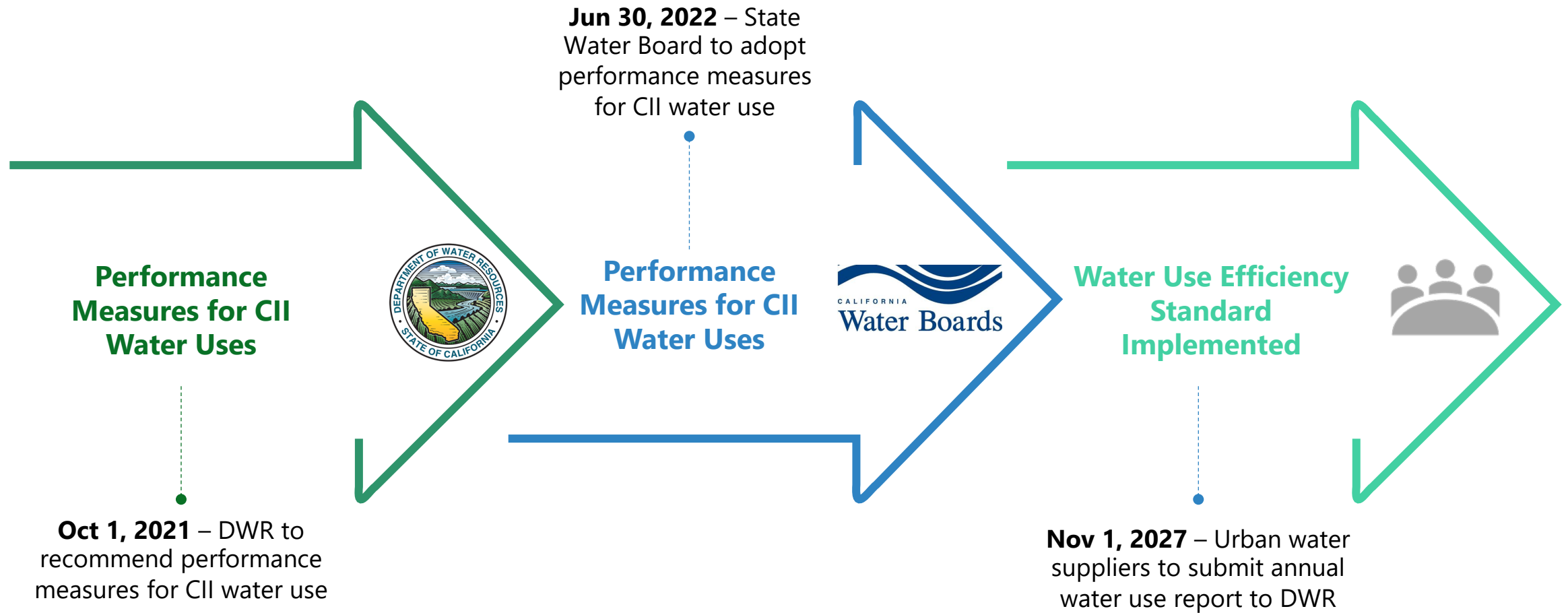
[U.S. EPA WaterSense at Work](#)



[Water Use Analysis Guide for Commercial and Institutional Efficiency](#)



Next Steps



Speakers: Panel Guests



Cathie Paré
Water Resources
Specialist
City of Santa Barbara



Melissa Pudvan-Bland
Program Manager –
Engineering & Utilities
Cambria Community
Services District



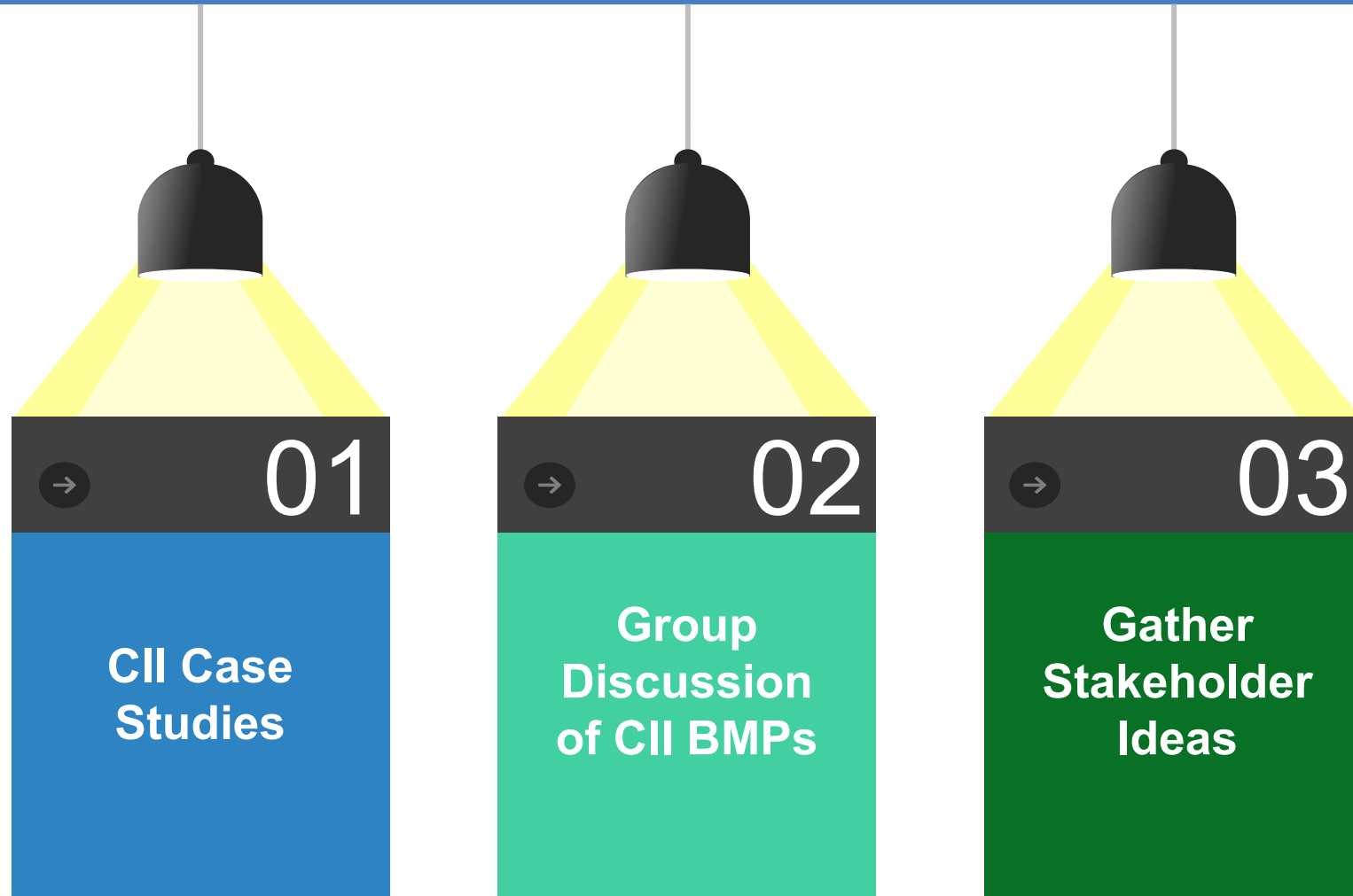
Terrence McCarthy
Manager of Water
Resources Policy
Los Angeles Department
of Water and Power



Charles Bohlig
Supervisor of Water
Conservation
East Bay Municipal
Utility District



Workshop Panel Outcomes





PUBLIC WORKS DEPARTMENT

WATER RESOURCES DIVISION - WATER CONSERVATION

CII INCENTIVE PROGRAM

Struggles, Successes and Surprises!

CLI Incentive Details

- Began in 2013
- Up to \$15,000 available for approved projects
- Site visit and subsequent efficiency analysis based on the details of fixtures and flows from onsite survey
- Summary report presented to management
- Project application approval and funding

CII Program Summary

Many methods used to invite participation; phone calls were the most successful. **Struggle** was getting to the right contact.

- 47 sites have been inspected to date
- 2 properties received CII project funding: Santa Barbara City College and Mesa Laundromat
- 17 school campuses were audited and accepted aerators and showerheads (*free*)
- Multiple sites self-funded efficiency retrofits or were required to meet efficiency standards during remodels
- Increased CII participation in our Landscape Rebate Program

Success Stories – Santa Barbara City College

SBCC is a campus with a focus on sustainability. Their facilities team was excited and onboard with the audit. **Success** is supportive management and a team commitment.

Incentive funds provided for 3 projects:

- Culinary Program added motion sensing faucets, spray-wash stations and aerators to hand wash sinks. They also added water efficiency to the curriculum.
- Science buildings updated all manual goose neck faucets to foot pedal and timed closure as well as changed all aerators.
- Athletic facility completed a major showerhead and aerator replacement program. Unexpected cost was tamper-proof showerheads.

Average savings since 2015 is 38%.

Mesa Laundromat – Water Hero 2020!

- Replaced 17 washers (35-lb., 30-lb. and 18-lb.)
- Estimated annual savings is 9%
- Actual water savings first year was 13%
- 384 hcf/year -> 287,232 gallons/year
- Ongoing water savings to date is 9% as estimated!



Mission Linen

- One of our first audits – seemed really interested
- Lots of opportunity to receive incentive funding
- Didn't go forward with recommendations...
or so we thought



SURPRISE! Later, while assisting to find a pesky leak, we found they had replaced the 100-year-old boiler, replaced the old non-functioning rinse water capture and reuse system, and had eliminated the water softeners treating all water prior to wash cycles.

They may have not been able to work our recommendations into the current budget, but the visit motivated Mission Linen to move forward with the retrofits.

S-S-S Take Aways

Struggle to reach the person to say yes.
Yes = opportunity.

Success is not always measured by completed projects.
Maintenance staff learns simple toilet adjustments.
Landscape Rebate participation boosted!

Surprise – timelines and budgets for business don't meet our program goals. Management has our data to influence future plans, and they use it.



Cathie Paré
CPare@SantaBarbaraCA.gov
(805) 564-5593



CII Programs

PAST TO PRESENT

Melissa Bland,
Program Manager
Utilities & Engineering

CCSD Quick Facts:

- 4,034 Connections
- 6,032 Population
- Tourist destination with high part-time occupancy
- Long-standing water supply issues
- Small staff (Engineering department = 3 people)





CII Programs Past

2003: Installation of high-efficiency pre-rinse spray valves at restaurants

2004: Funded replacement regenerative water softeners with non-regenerative types

2013: Funded high-efficiency washer replacements

2013-2015: Offered no-cost water audits with high-efficiency fixture giveaways (showerheads, aerators)

CII Programs Present

Currently limited to **water audits** upon request or upon change of use

Future programs may include:

- **AMI** and increased water use monitoring
- Increased **outreach**
- Water efficiency upgrade **incentives**





S – S – S

Struggles

- Limited staffing
- Staff turnover
- Record keeping

Successes

- Culture of Conservation

Surprises

- COVID-19 created an opportunity to engage with CII



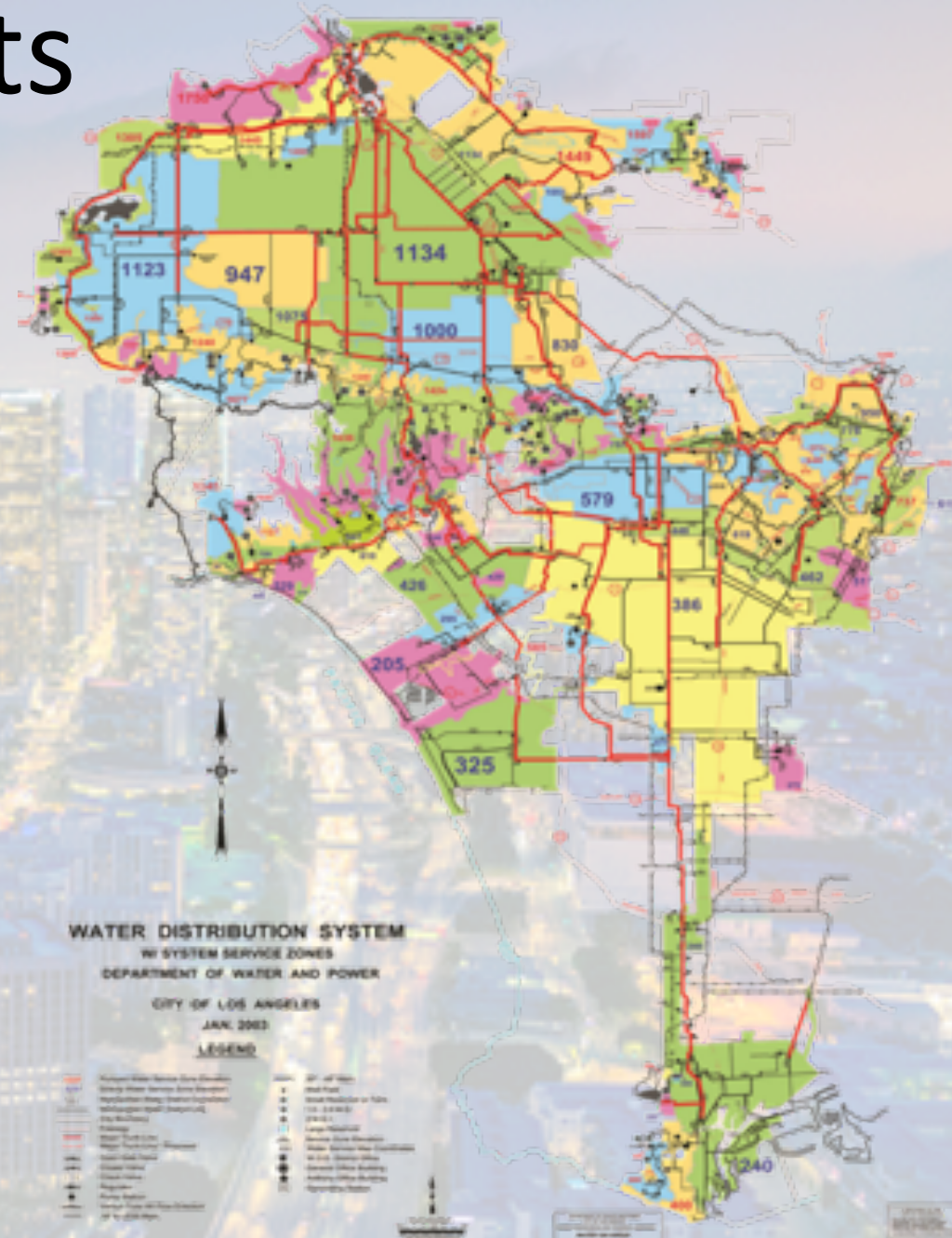
Los Angeles
Department of
Water & Power

CII Stories

*The Good, the Bad, and the
Unexpected*

Quick Stats

- CII Accounts: ~85,000
- Avg. Annual Demand: ~145,000 AF
- % Total Demands: ~32%
- Business Types: ~1,000



Successes

- Partnerships

- Broadens program reach
- Multiple benefits for customers and utilities

- Rebates/Incentives

- Quick ROI/benefits for businesses
- Menu of items provides easy choices and simplified admin
- Custom Projects



Struggles

- Funding

- Many projects require large investment
- Incentive caps limit favorable ROIs for innovative/major projects



- Change is Difficult

- Why fix what isn't broken?
- Difficult to find champions to lead the change/oversee
- More work perceived
- Less than expected savings
- Duties unclear



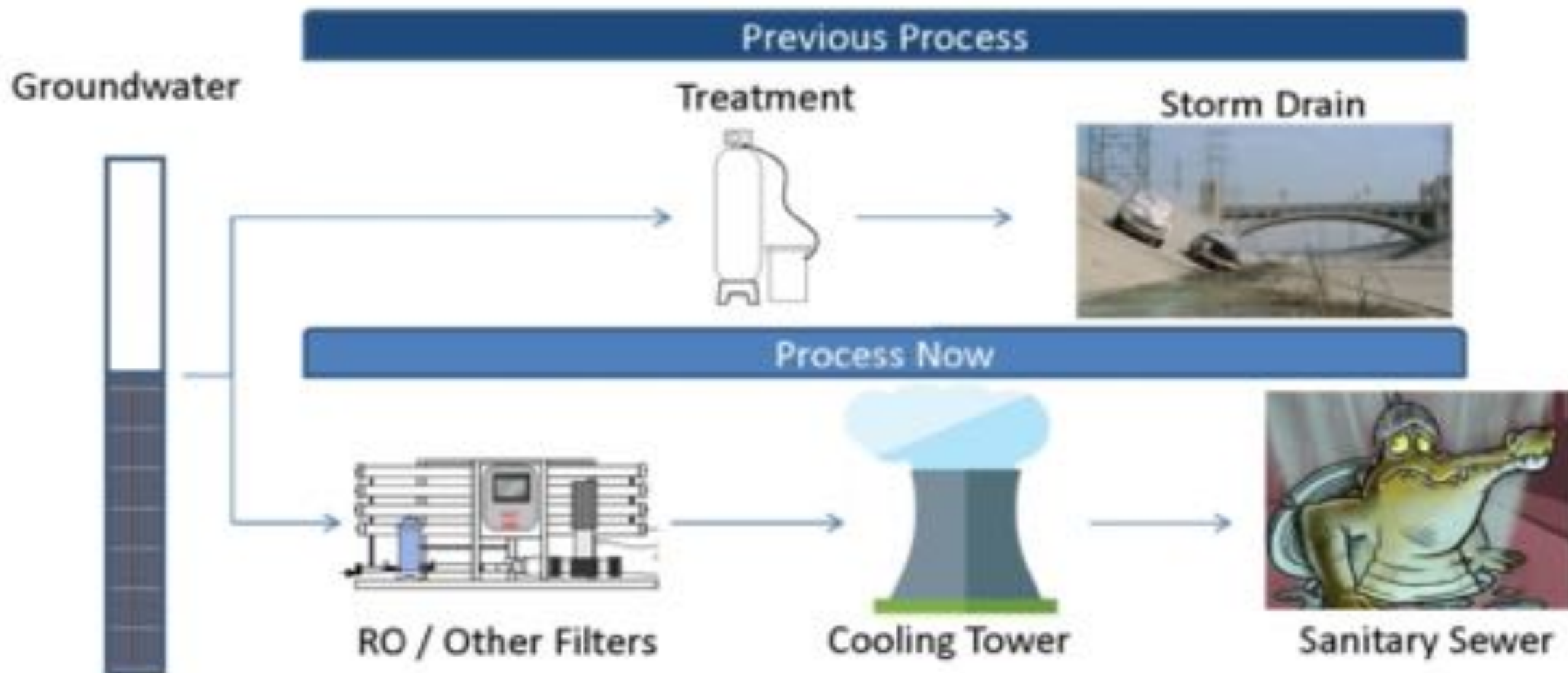
Surprises

- Innovative Solutions
 - Industry knows their business best
 - Opportunity spurs solutions
- Unintended Benefits
 - Multi-benefit solutions can come from one change
 - Requirements/monitoring can highlight unknown waste



THE UNEXPECTED

Case Study – Cedars Sinai Cooling Towers



CII Program

Struggles, Successes, and Surprises



CII Program Overview



- EBMUD has had a CII program since the mid-80s
- Over the years, CII customer base has transformed from industrial to commercial
- Approximately 20,000 CII customers
- Programs: ULFTs, waterless urinals, cooling towers, x-ray machines, dishwashers, ice machines, irrigation, pre-rinse spray valves, food steamers, and the list goes on...



Struggles

- Water is often the least of their concerns...unless there is a leak or water damage
- Is there a “Site Champion”

Expenses:

Accounting
Advertising
Answering Service
Assessments
Bad Debts from Sales or Services
Bank Charges
Car & Truck Expenses (not entered elsewhere)
Credit Card Fees
Commissions
Computer Expense
Computer Supplies
Delivery & Freight
Dues & Subscriptions
Equipment Supplies
Gifts
Home Office Expense- see attached
Insurance - Business
Insurance - Auto
Insurance - Health
Insurance - W/Comp
Interest
Internet Fees
Janitorial
Laundry & Cleaning
Legal & Professional
Meals & Entertainment
Miscellaneous



Success...Certifications?



- EBMUD has had a certification program since 2010
- Over 170 businesses certified during that period
- Analysis of water savings for participants



Analysis of Program



- Water use only

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

- Two methods
 - 12 months pre and post
 - and multi-year pre and post
- Excluded those with insufficient data, erratic water use pattern, and $\geq 25\%$ of baseline
- Focused on six BCC (business classification codes) for review

Water Smart Certified (WSC)



- WSC on average may reduce water use by 11% (81 gpd)
- When compared to a control group only 4% saving (17 gpd)
- When analyzing only WSC offices, the control group saved more than the WSC by 10% (48 gpd)

Water Smart Certified (WSC)



		WSC Change – Multi-year	
Business Classification Code Description	Count	GPD	%
Offices	34	-114	-11%
Schools	8	-263	-8%
Automobile Repair Services	10	-50	-26%
Food Service Establishments	12	-194	-15%
Retail Trade, Other	8	-47	-19%
Average		-100	-14%

Surprises

- The results are more erratic than anticipated...and sometimes it takes longer than anticipated to see the results



Thank you!



Charles Bohlig

Charles.bohlig@ebmud.com

510-287-0491

Thank You



Michelle Maddaus
925-831-0194
michelle@maddauswater.com



Lisa Maddaus
916-730-1456
lisa@maddauswater.com



Annikki Chamberlain
928-910-0149
annikki@maddauswater.com

