# This presentation premiered at WaterSmart Innovations

watersmartinnovations.com





watersmart 2021

#### The Future of Commercial Water Audits Using AMI and Leak Alerts to Get Savings!

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WATER MANAGEMENT

- How are CII Audits Changing?
- The Power of AMI Data!
- CII Case Studies
- Resources
- Wrap-Up



How are Cll Audits Changing?



#### Water Use

In the U.S., water use by the commercial, industrial, and institutional (CII) sector accounts for up to 30% of water revenue.

#### Untapped Savings

Few CII water efficiency programs exist and not many have AMI data yet, leaving a lot of room for improvement.





Increase in frequency

Increase in severity

Increase in length





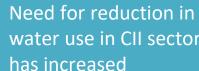


Access to Advanced Metering Infrastructure



Access to real time metering technology Technology more readily available

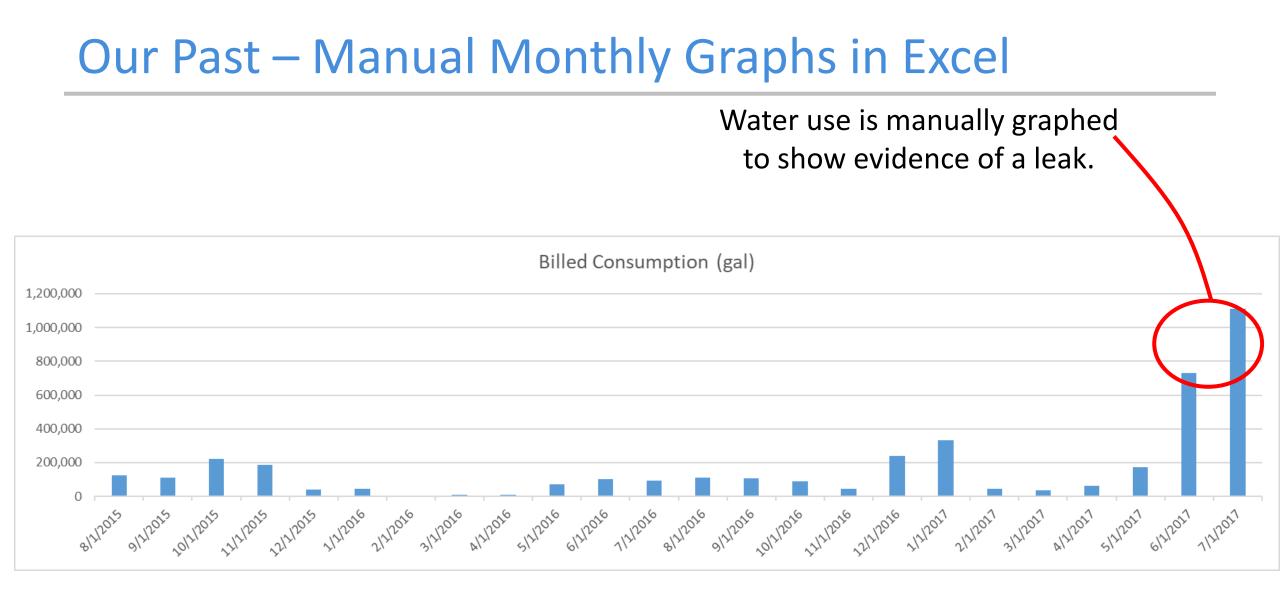
**Sustainability** 



water use in CII sector has increased Need for lowering carbon

footprint in CII sector has increased

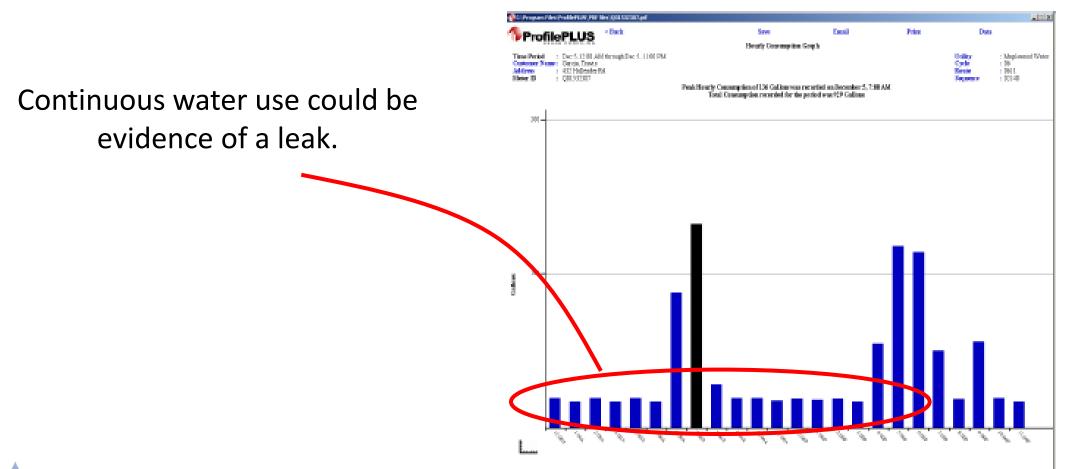






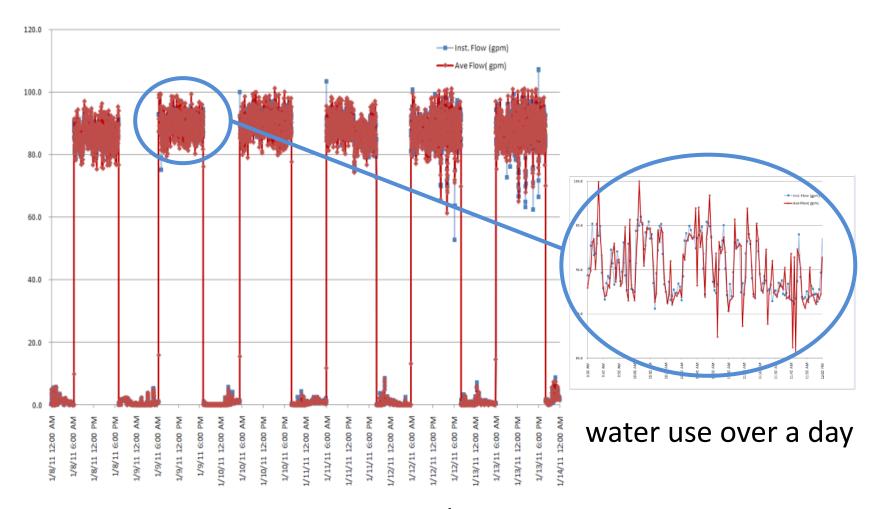
# Our Future – Daily Automatic Alerts via AMI Portals

#### USE FOR DETERMINING CUSTOMER LEAKS Leaks are likely to exist if water usage never goes to zero.





#### Our Future – Real Time Flow Meter Data



water use over a week



#### **Consider the Branding**

Replacing "Audit" with New Terms

> Inspection Survey Consultation Assessment Evaluation Checkup Walk through

#### Innovative Marketing Approaches

Classes Webinars Social Media Community Groups Online Data Portal





# The Power of AMI Data!



## AMI Power: Identifies Customer Water Use Trends

#### Water Budget Graphs

Customers can use portal water budget graphs to show variance from typical use. Real-Time Data Tracking

Staff/conservation auditors use real-time data to track time of day watering and seasonal fluctuations, find meter issues or identify leaks.

#### Analyze Water Trends

Utility staff analyze water trends and align with infrastructure (e.g., changes in use due to working at home during COVID-19).



#### **AMI Power: End Use Validation**



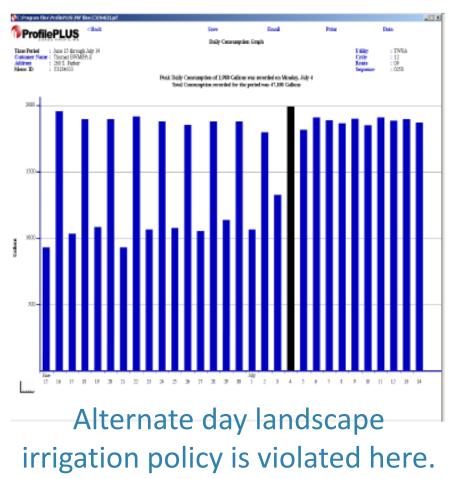
Hourly/daily use can validate equipment change-out at individual customer site

Tracks daily use to show customer trends before and after conservation measures are implemented Data analysis shows detailed customer category water use

# AMI Power: Drought Enforcement Tool

- Tracks water use by day and hour.
- Compares use to water ordinance compliance.
- Can set alarms for non-compliance with agency water use rules.
- Assists in enforcement of fees (drought fines) with customers.

#### USE IN WATER CONSERVATION PROGRAMS – EVEN/ODD DAY OUTDOOR WATERING VIOLATION





CII Case Studies



#### **Case Studies Using AMI Data**







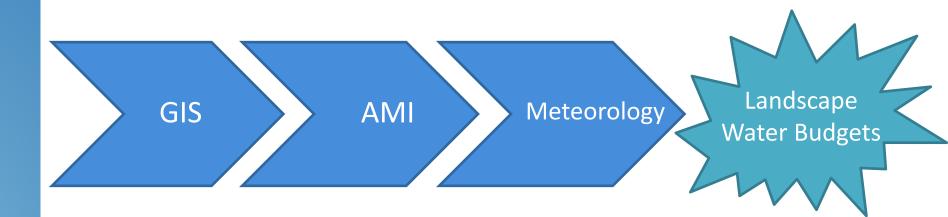


Fort Collins, CO CII Landscape Water Budgets Sacramento, CA Leak & Drought Notifications Santa Rosa, CA Drought Communication with Customers Beverly Hills, CA Leaking Site Identification Case Study: Fort Collins, CO



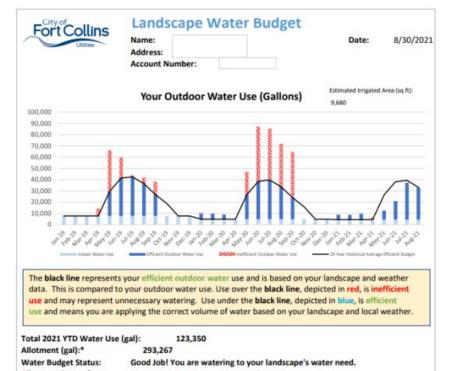
# Demographics

- 35,000 customers (3,000 commercial)
- Serves 45 MGD in the summer months
- Installation of meters between 2011-2014
- Water meter data read hourly
- Started Landscape Water Budgets in 2018



# Landscape Water Budget Program Using AMI & GIS

- 40 MG savings per year
- 80+ commercial-scale customers
- Monthly budget reports during irrigation season
- Supports programs (e.g., landscape conversions, irrigation equipment rebates) using data and clear targets



Allotment Status:\* Your use is below the annual water allotment.
\*Pleaes note, only taps installed after March 1984 have water allotments. Allotment and landscape water need are not always aligned. Landscape
water need is calculated based on your landscaped area and weather. Your allotment is dependent on the Water Supply Requirment that was met at
the time of development. If you exceed your allotment you will receive Excess Water Use surcharges in addition to what you normally pay for
water. The current surcharge is \$10.39 per 1,000 gallons over the allotment. If you have concerns about exceeding your allotment while meeting

#### Have more questions about your water use?

your landscape's water needs please email AM

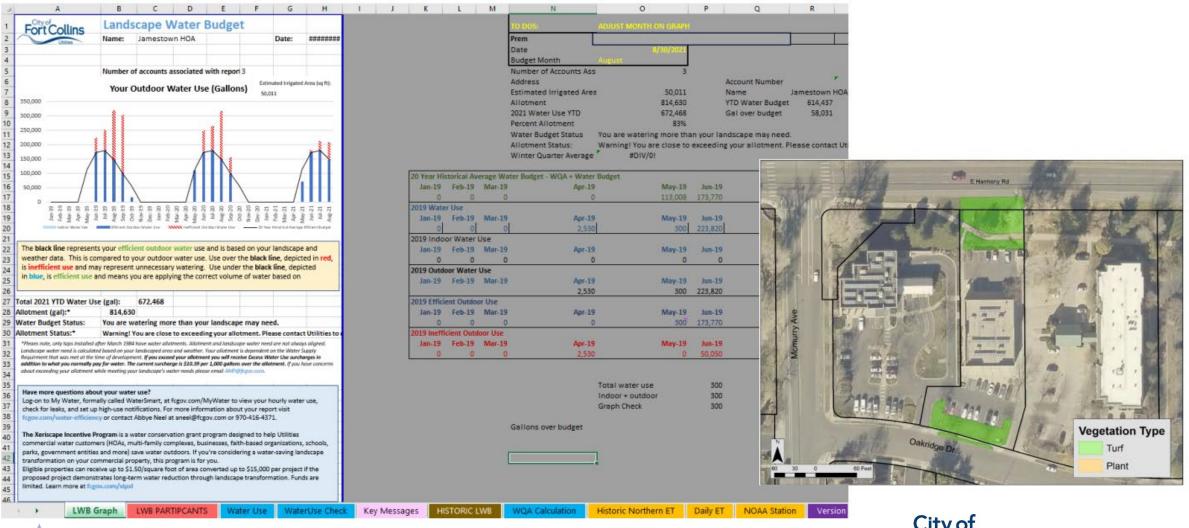
Log-on to My Water, formally called WaterSmart, at fcgov.com/MyWater to view your hourly water use, check for leaks, and set up high-use notifications. For more information about your report visit fcgov.com/water-efficiency or contact Abbye Neel at aneel@fcgov.com or 970-416-4371.

The Xeriscape Incentive Program is a water conservation grant program designed to help Utilities commercial water customers (HOAs, multi-family complexes, businesses, faith-based organizations, schools, parks, government entities and more) save water outdoors. If you're considering a water-saving landscape transformation on your commercial property, this program is for you.

Eligible properties can receive up to \$1.50/square foot of area converted up to \$15,000 per project if the proposed project demonstrates long-term water reduction through landscape transformation. Funds are limited. Learn more at fcgov.com/xipxi



# Landscape Water Budget Program Using AMI & GIS





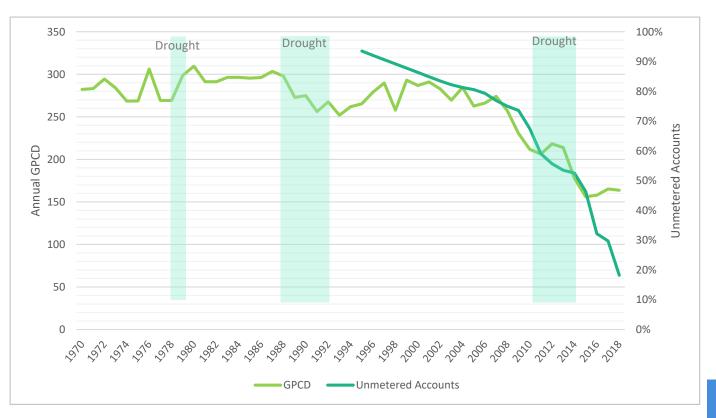


Case Study: City of Sacramento, CA

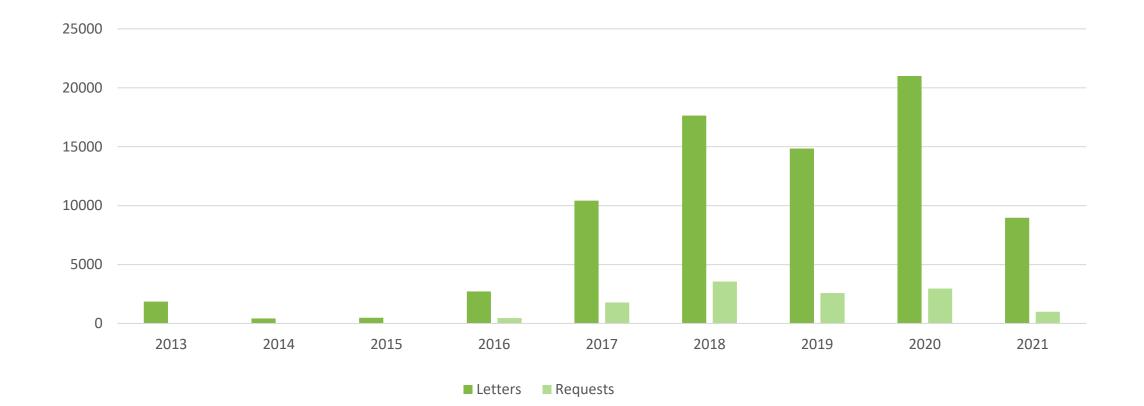


#### 2014–2017 CA Drought

- Activated Stage 2 of Water Shortage Plan
- Conversion of flat-rate accounts to metered accounts
- Installation of meters allows City to identify customers with high use and leaks



#### AMI Leak Letters 2013-2020



City of SACRAMENTO Department of Utilities



## **CII Leak Letters**

Total leak letters sent – CY 2020: 21,000+, CY 2021: 10,770 to-date

- Majority sent to single-family, duplexes, triplexes, fourplexes
- Some letters sent to CII accounts (breakdown below)

CII Accounts (non-irrigation, total accounts = 7,449) • Churches: 91

- Office Buildings: 467
- Commercial Warehouses: 256
- Cemeteries/Mortuaries: 4

CII Irrigation Accounts (some may serve residential properties, total accounts = 1,623)



Maddaus Water Management Inc.

• Parks: 101

- Irrigation: 100
- Medians: 25



Case Study: Santa Rosa Water, CA



# Targeting Continuous Use Customers Through AMI

- 4,400 CII accounts
- AMI installation began in Sept 2017 and fully deployed in January 2021
- Brand new Customer Portal just launched!



Mandatory 20 Percent Reduction in Water Use and Restrictions in Effect Read On...

COVID-19 Health Orders in Effect Read On...

H20 Bill Assistance

My Water Usage

**Delinquent Policy** 

Update Account Information

My Water Usage



# NEW water PORTAL

#### A NEW drought-busting tool customized just for you!

Do you know how much water you use, when you use it, and the best ways for you to save? Santa Rosa Water's brand NEW WaterSmart Portal is here to help you track and analyze your water use online. To register your account, all you need is your customer and account number and last billed amount.

Track Hourly, Daily, Weekly, and Monthly Water Use

Create Customized Notifications for High Usage



# Leak Letter Development, Thresholds and Benefits

#### **Billing Department Collaboration**

- 1. Billing pulls continuous use reports
- 2. Clears as many as they can
- 3. Sends letter to customer
- 4. Calls if over 100 gallons per hour
- 5. Forwards to WUE team after no response

#### **Benefits and Takeaways**

- 1. Inter-department collaboration
- 2. Increased audit participation



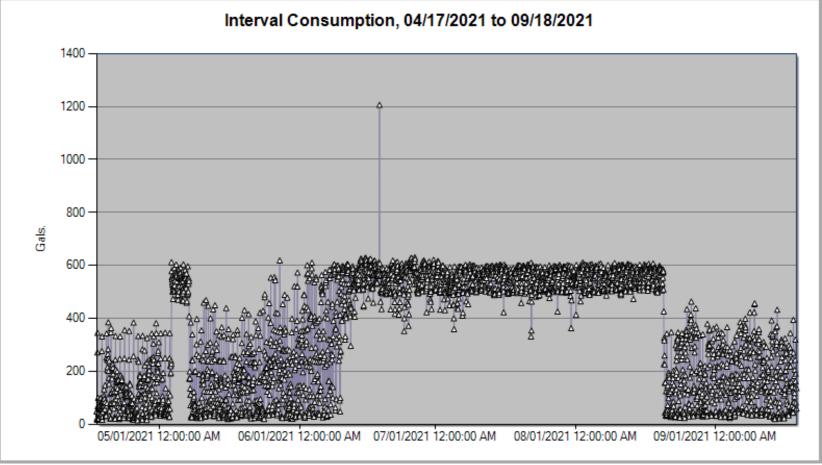
Meter Group	Consecutive Hours	Gallons Per Hour
Commercial	48	50
Industrial	72	100
Institutional	24	30

Case Study: City of Beverly Hills, CA



#### Office Building AMI Data – Cooling Tower

- 12,000 customers (4,000 commercial)
- Aclara meter data read on 1 hr intervals.
- Data uploaded every 4 hrs to AMI system.

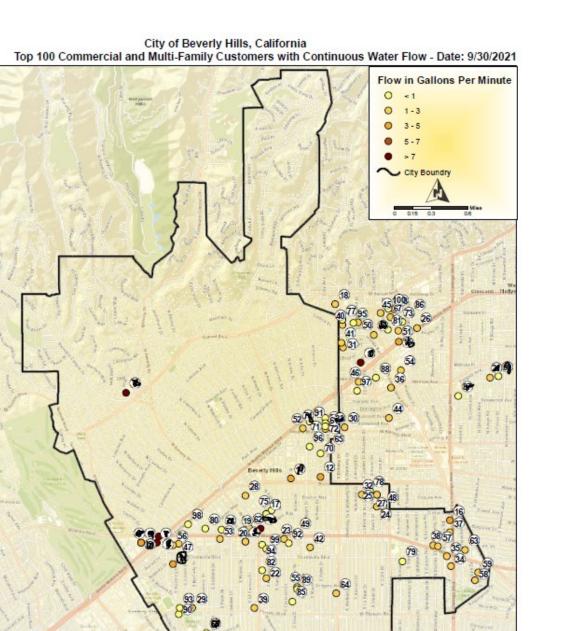


# Top 100 Water Flow List

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BH Saving in Style www.bhsaves.org

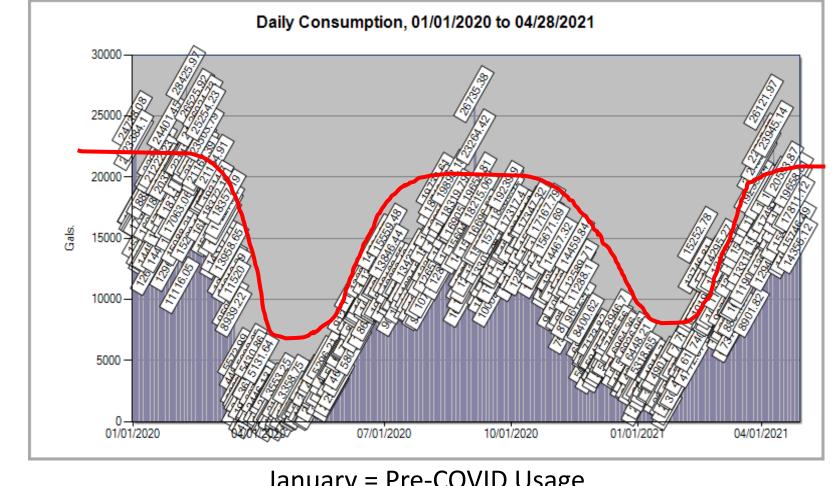




Analytic map by City of Beverly Hills Information Technology

### COVID-19 & Water Use

#### Hotels





January = Pre-COVID Usage

Saving in Style

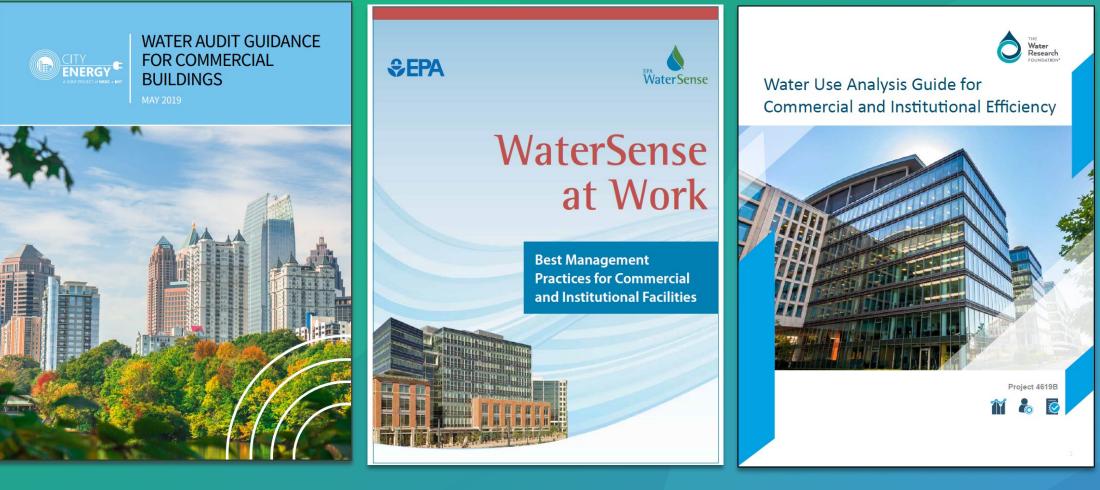
www.bhsaves.org

Dips = COVID Closed

# Resources



#### **CII Best Management Practice Resources**



<u>City Energy Water</u> <u>Audit Guidance for</u> <u>Commercial Buildings</u>

U.S. EPA WaterSense at Work Water Use Analysis Guide for Commercial and Institutional Efficiency

#### **CII Best Management Practice Resources**



California Department of Water Resources

Commercial, Industrial, and Institutional Task Force Water Use Best Management Practices Report to the Legislature Volume I: A Summary





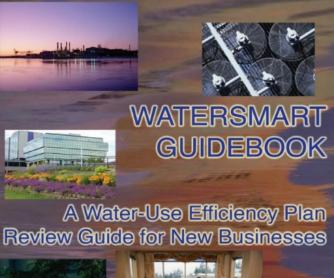
Commercial Kitchens Water Use Efficiency and Best Practices Guide

MARCH 2017





Commercial Kitchens Water Use Efficiency and Best Practices Guide





EBMUD WaterSmart Guidebook



AWWA AMI Portal Best Management Plan Guidebook national study and utility survey focused on customer portal experiences

> American Water Works Association



Thank You!



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