

# FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

November 5-6, 2014  
Cape Canaveral, Florida

## Water Efficiency

Hosted by:



# WATER EFFICIENCY

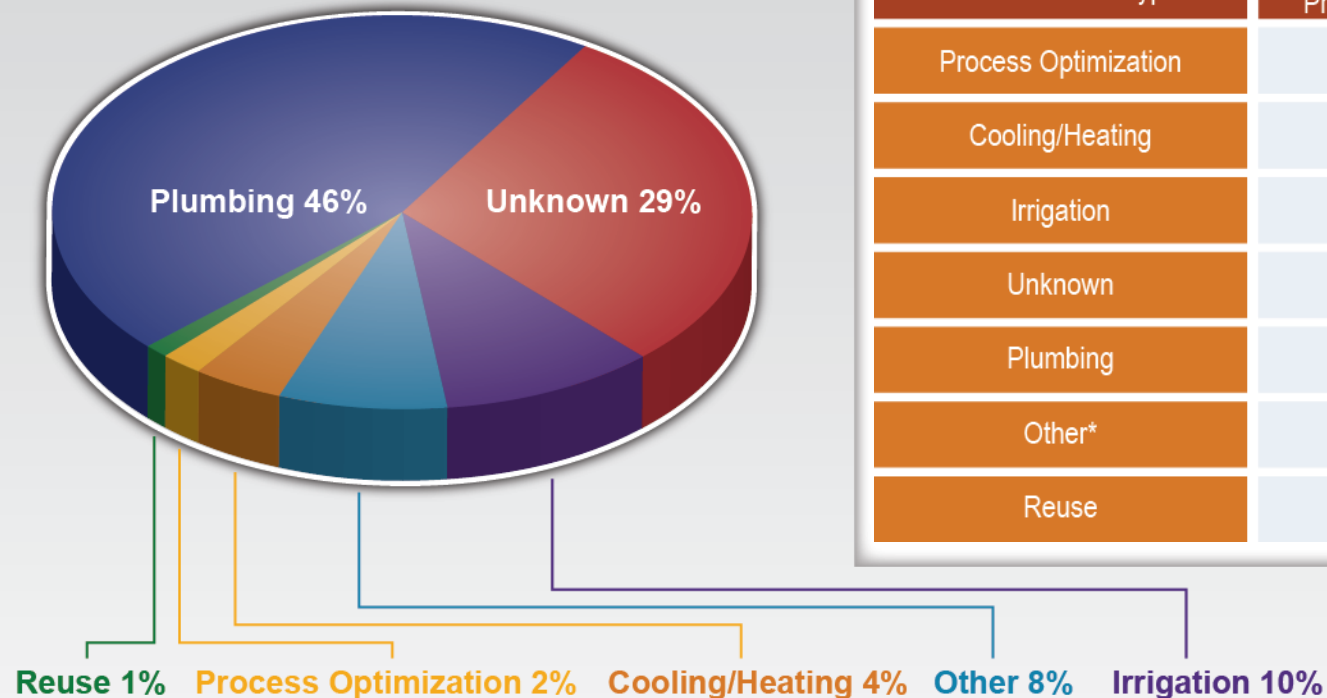
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# Topics

- Performance contracting analysis
- Water industry terms
- Federal reduction goals
- Water balance
- Water efficiency opportunities
- Improvement ideas – open discussion
- Industry updates
- Questions

# Performance Contracting Data Analysis

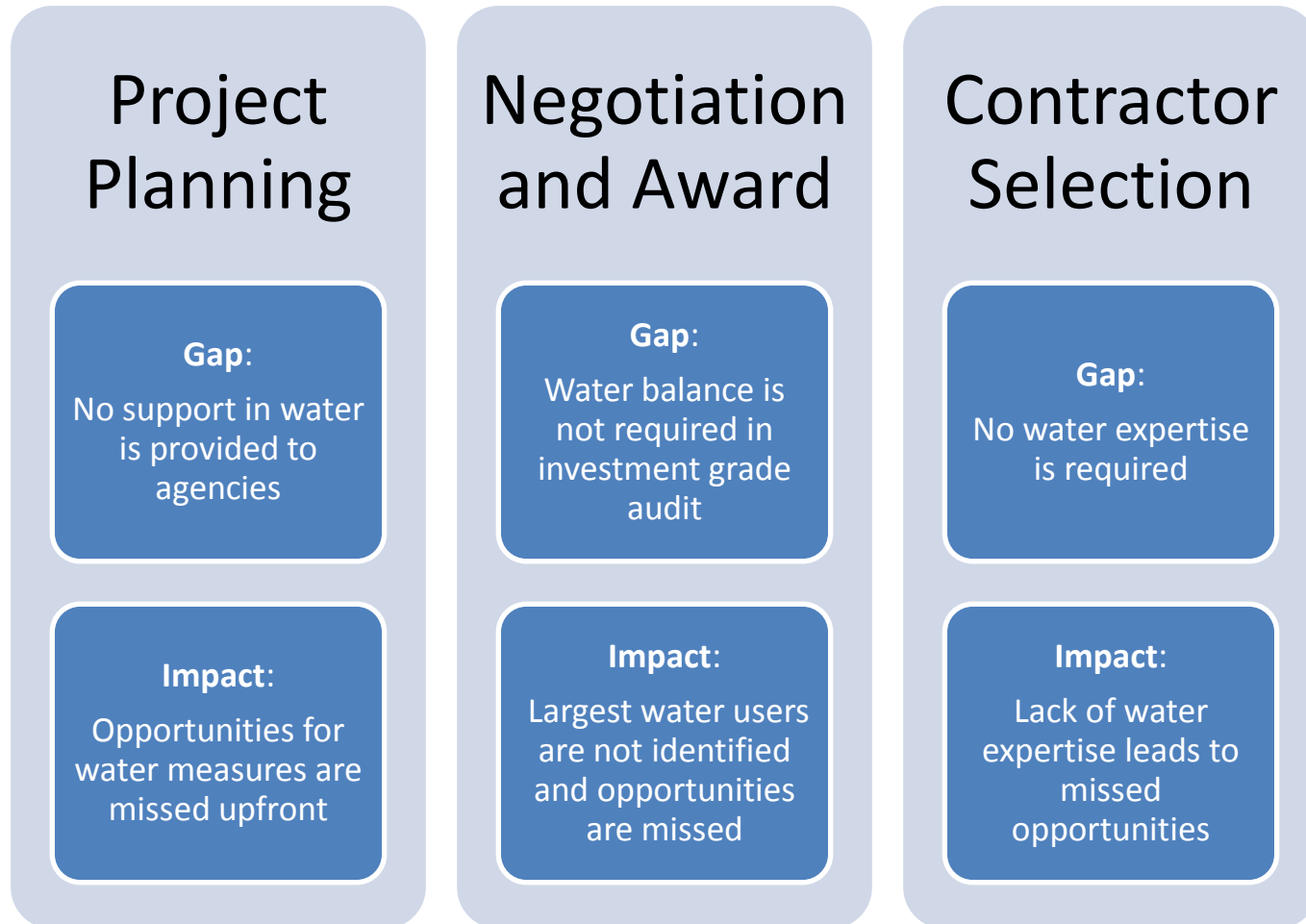
## Water Measure Type Breakout



Water Measure Type	Count of Projects	Avg. of Simple Payback
Process Optimization	5	2.7
Cooling/Heating	9	4.5
Irrigation	19	10
Unknown	57	11.1
Plumbing	90	13.7
Other*	15	16.1
Reuse	2	22.5

\*Other includes leak repair, meters, kitchen, and sewer system upgrades

# Performance Contracting Gap Analysis

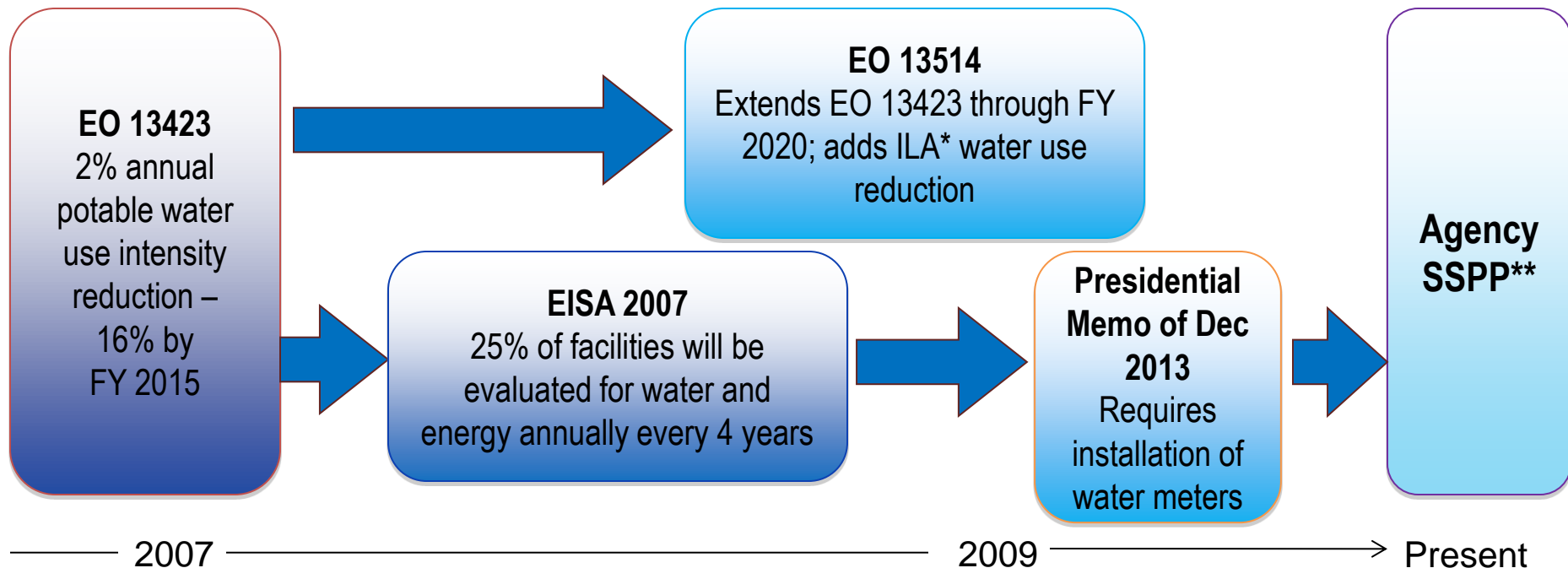


# Water Industry Term Clarifications

- Potable water
- ILA – industrial, landscaping, and agricultural
- Consumptive water
- Alternate/alternative water
- Effluent water
- Grey water

# Federal Water Efficiency Legislation

## Reduce Federal Water Use

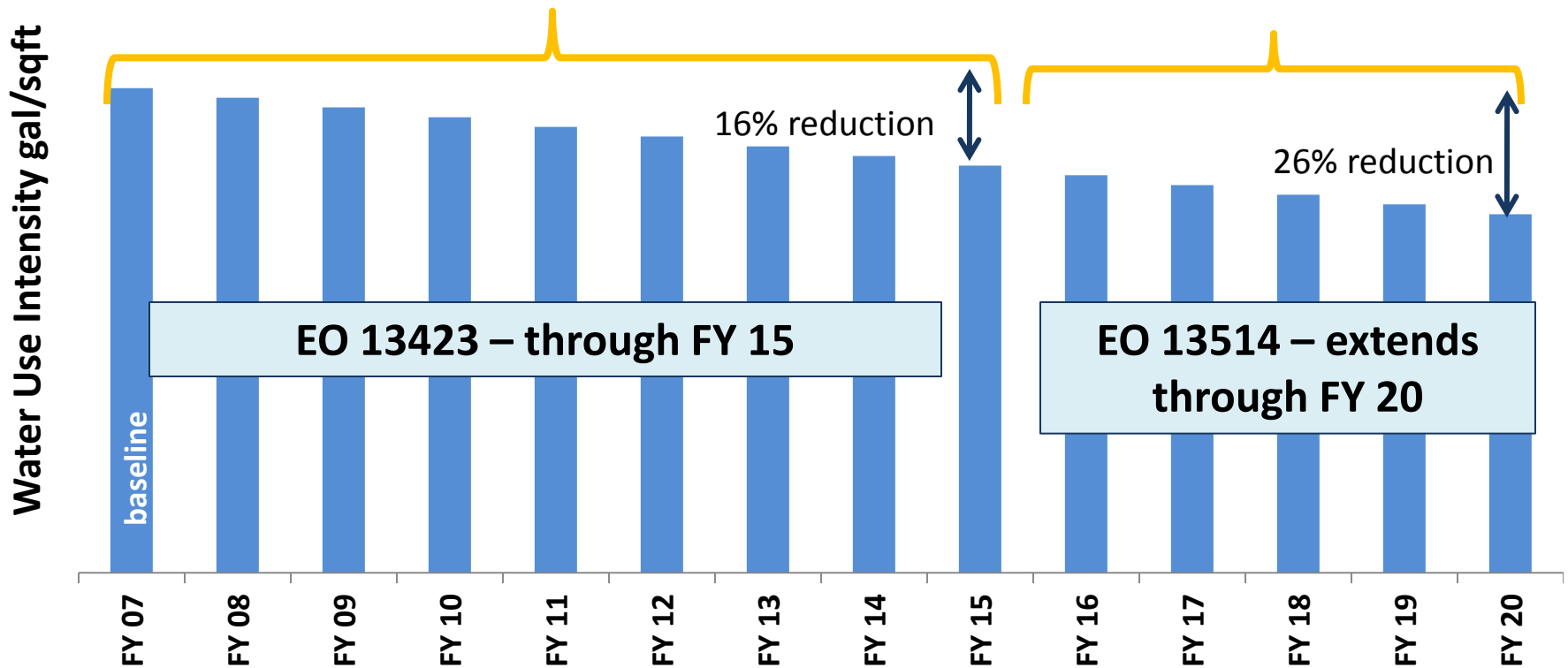


\*Industrial, landscaping and agricultural

\*\*Strategic Sustainability Performance Plan

# Potable Water Reduction

Potable Water Use *Intensity* Reduction -- gallons/sqft  
2% per year from FY 2007 through FY 2020



# Industrial, Landscaping, and Agricultural Water Reduction

*Volumetric* Reduction -- gallons  
2% per year from FY 2010 through FY 2020



# Exemptions

## Exemptions covered in Section 18 of Executive Order

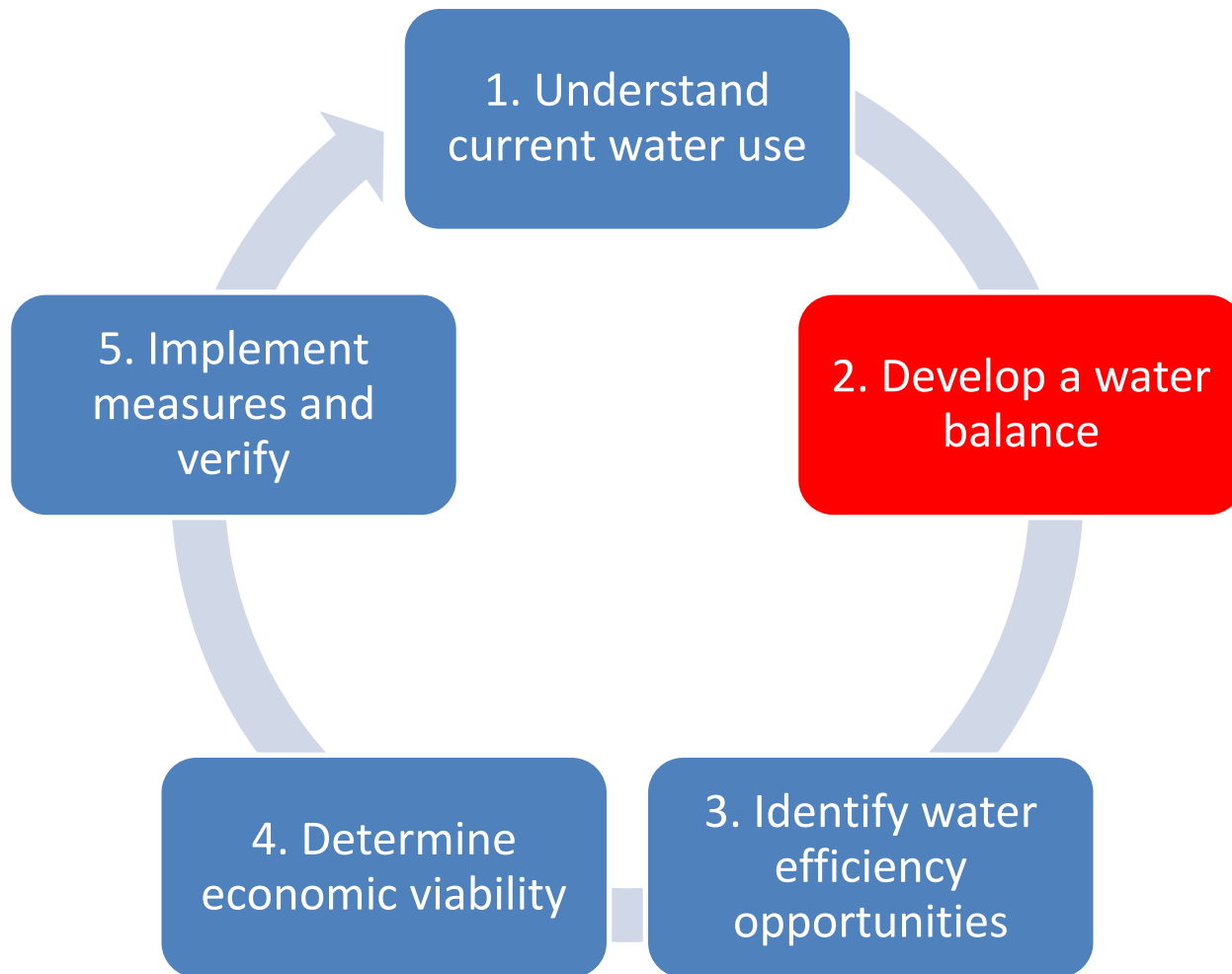
Exemptions granted to:

- National intelligence
- National security
- Law enforcement
- Emergency response

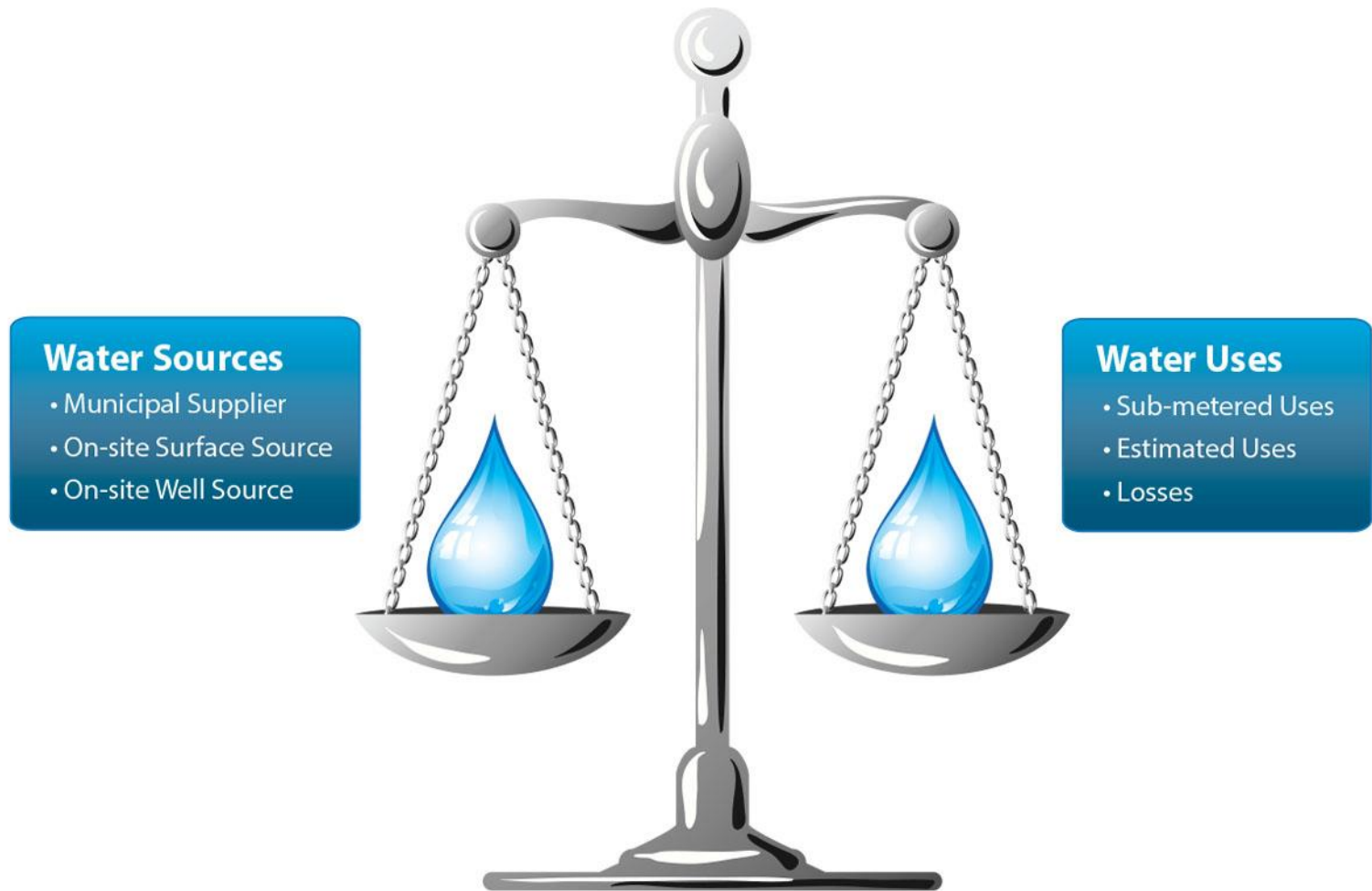


**For all other activities, federal agencies must submit formal request for exemptions to the Chair of the Council On Environmental Quality (CEQ)**

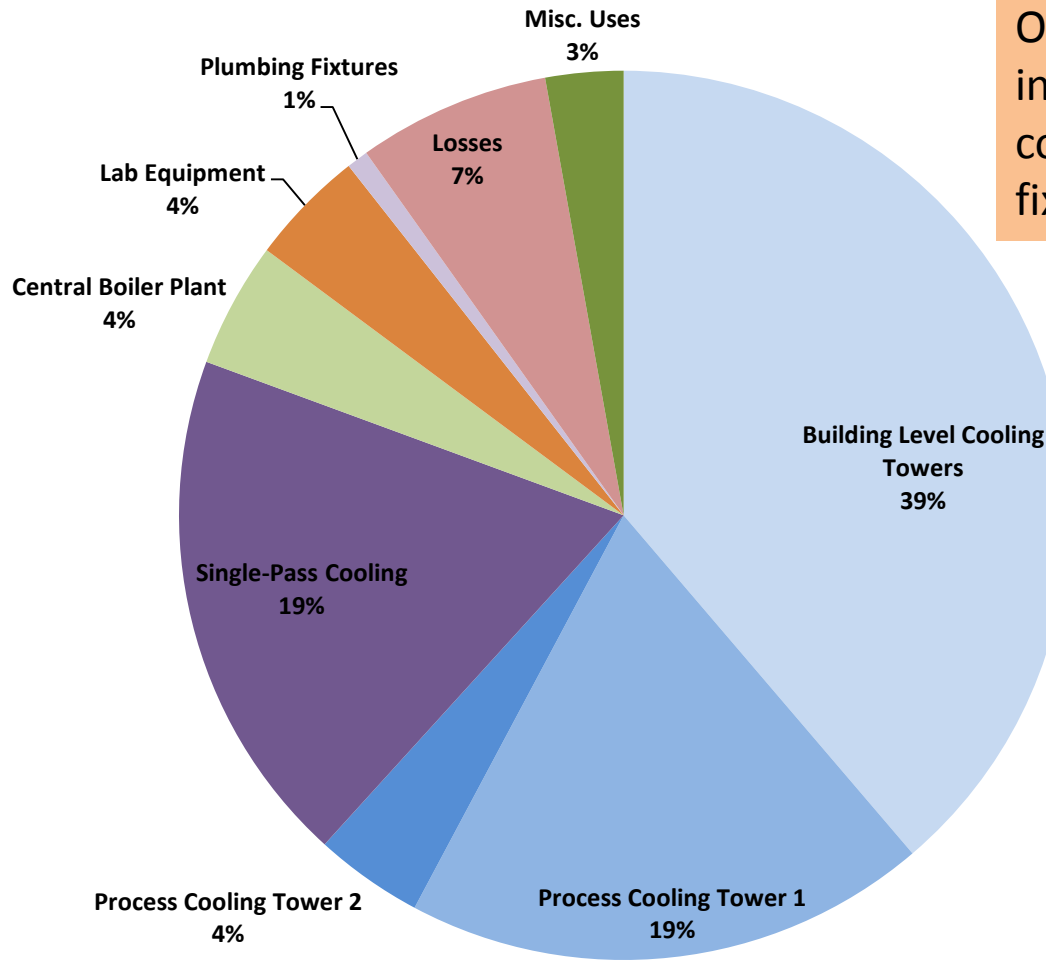
# Comprehensive Water Assessment Process



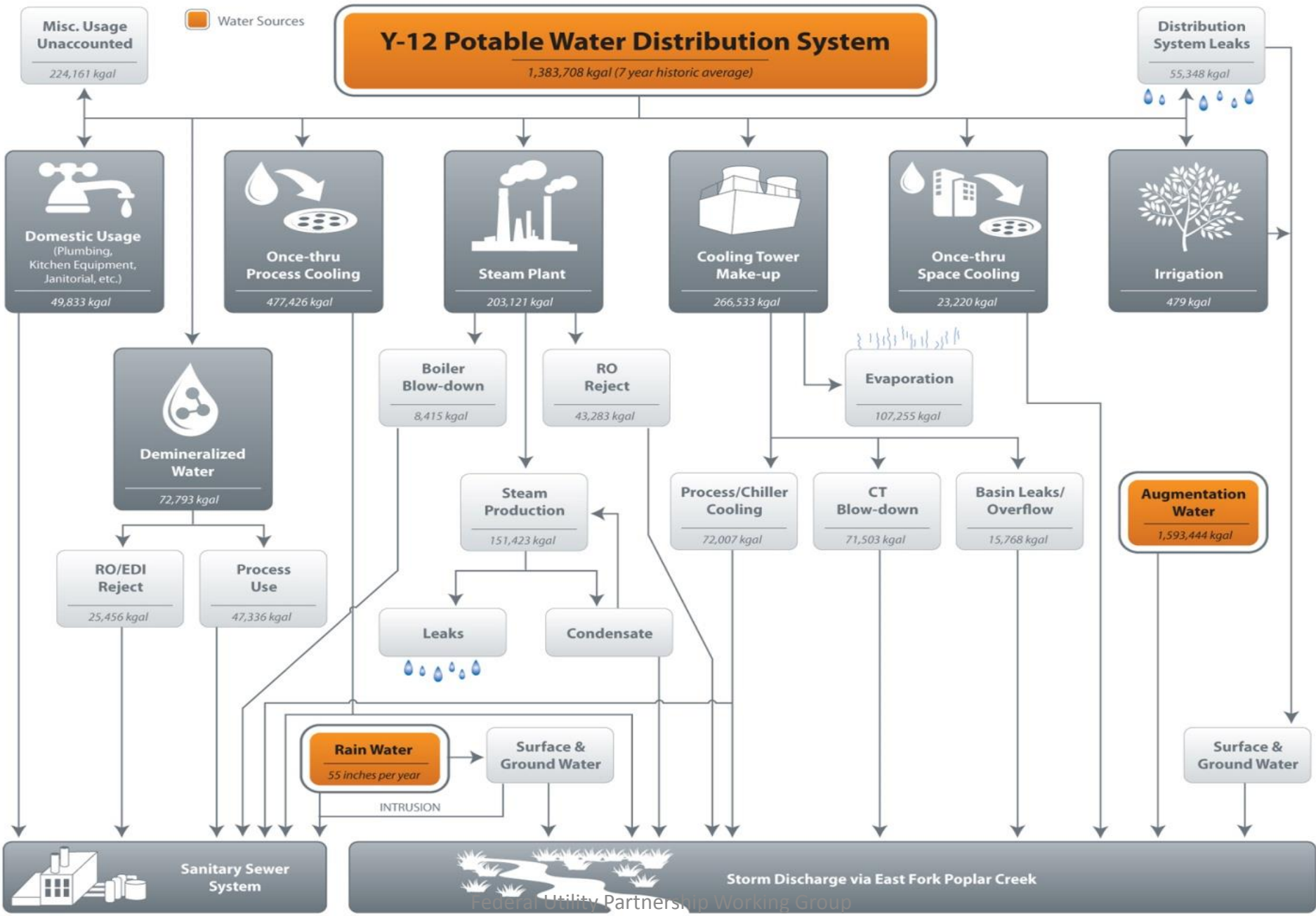
# Water Balance



# Water Balance Example

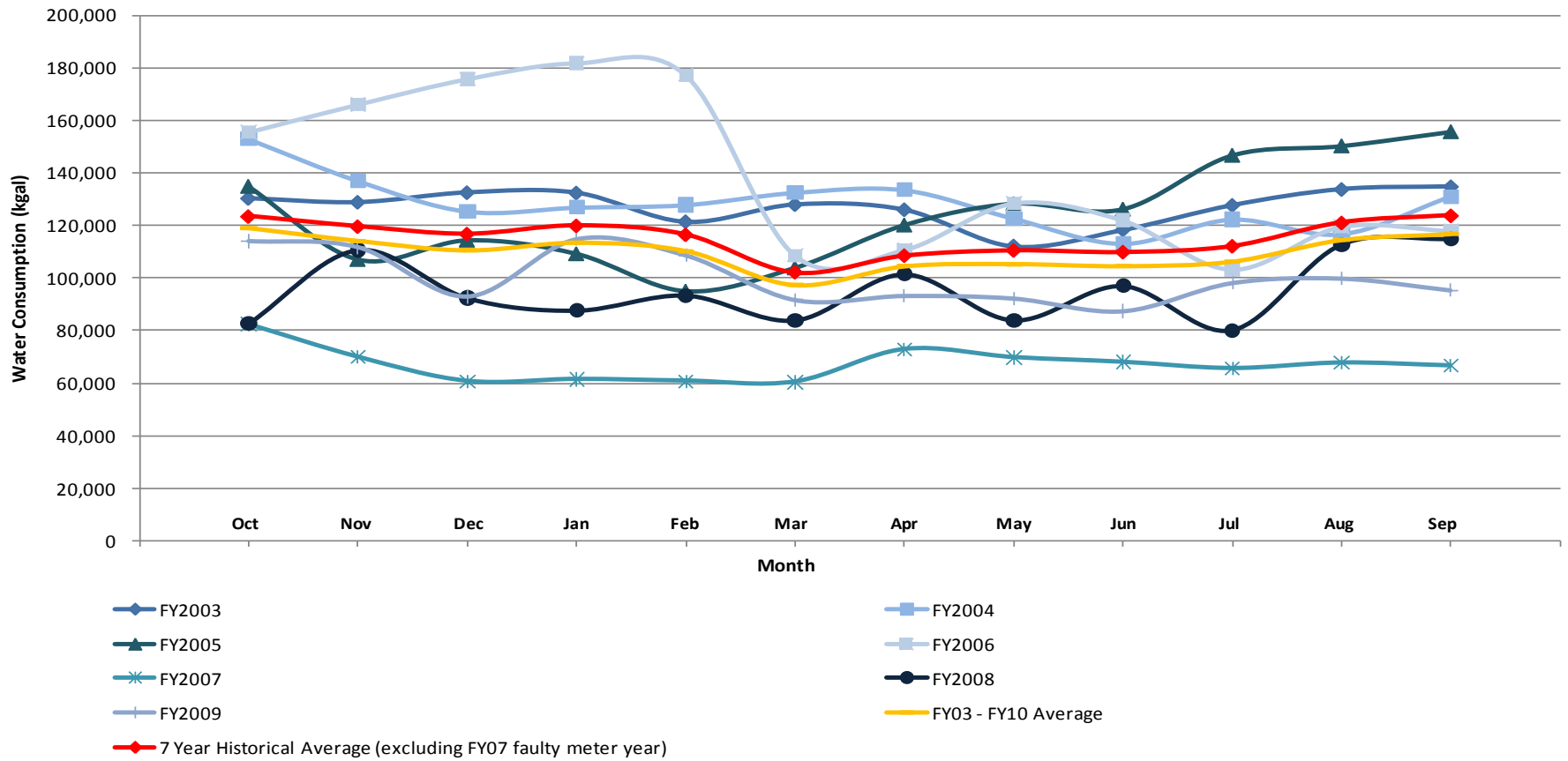


Only water measures installed in performance contract were plumbing fixtures!



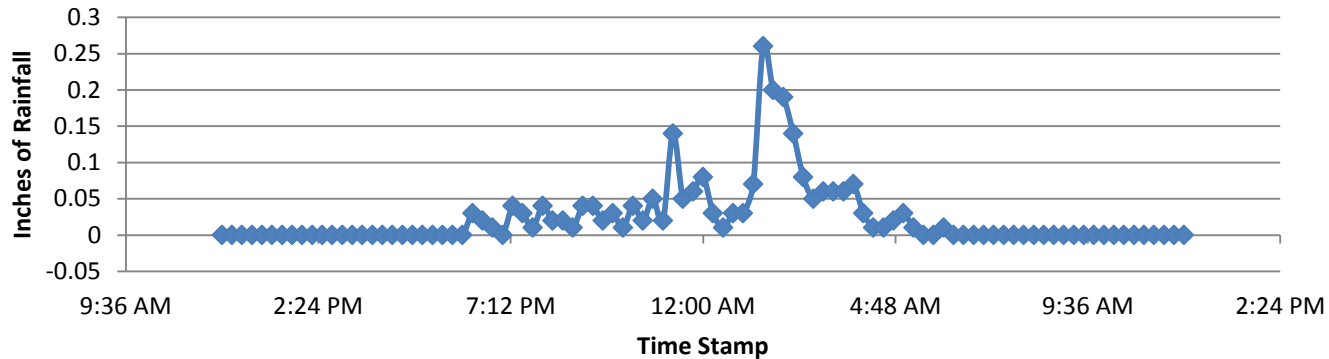
# Historical Data

Monthly Potable Water Consumption (kgal)

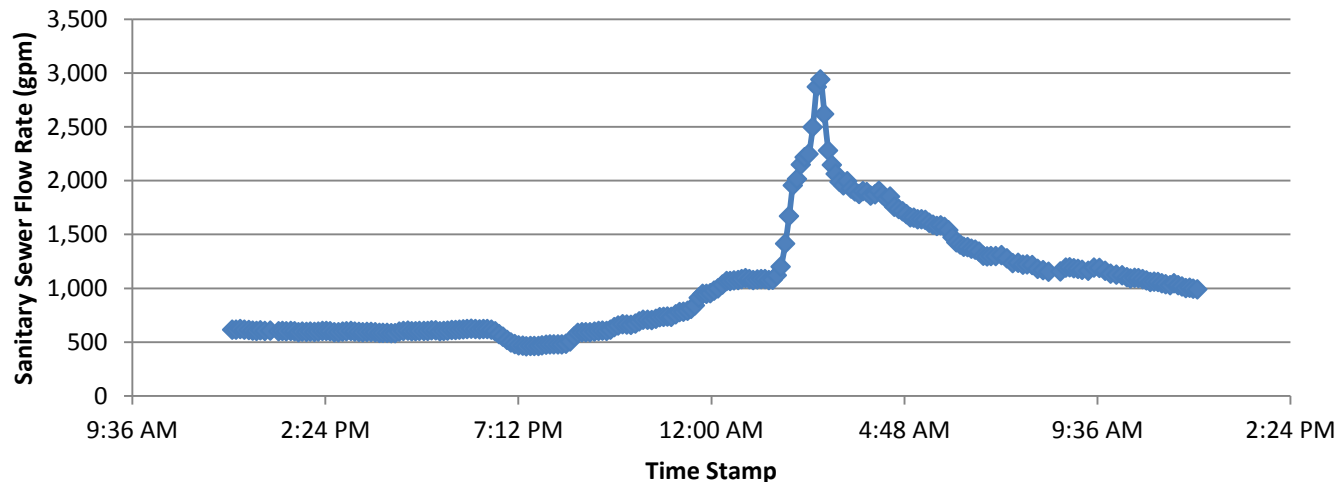


# Data Speaks To You

## Inches of Rainfall vs. Time



## Sanitary Sewer Flow Rates vs. Time



***Identified storm water intrusion which was doubling annual water and sewer costs***

# Places To Look for Water Efficiency

## **HVAC and Process Equipment**

- Pumps, compressors, condensing units
- Boilers
- Cooling towers

## **Irrigation Systems**

- Design
- Installation
- Management

## **Domestic Plumbing**

- Toilets
- Urinals
- Lavatory faucets
- Showerheads
- Kitchen faucets

## **Food Service**

- Dish machines
- Garbage disposals
- Tray conveyors
- Pre-rinse sprayers
- Convection steamers
- Ice machines

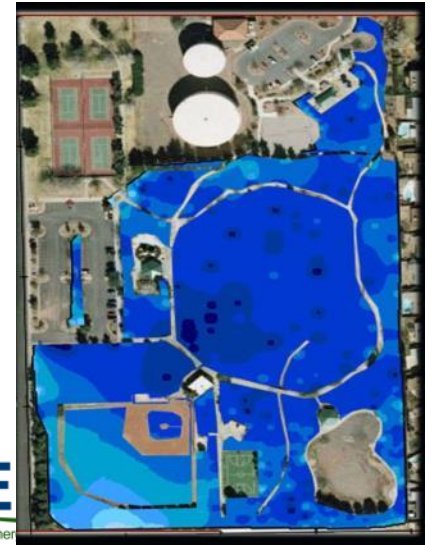
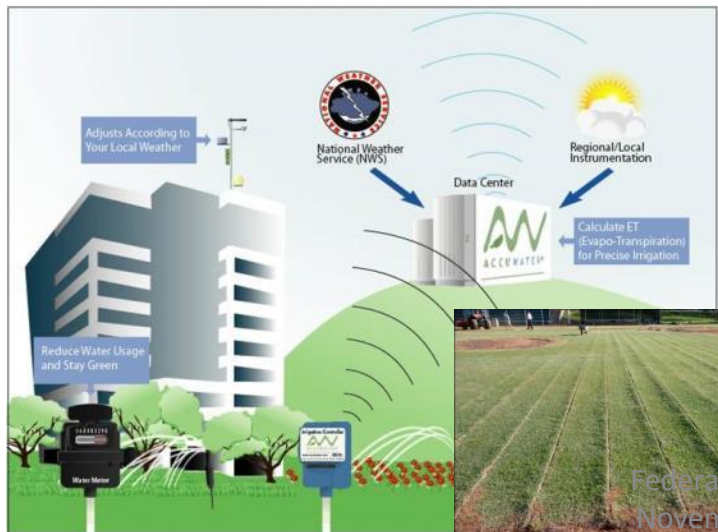
## **Process Equipment**

- Reverse osmosis
- Sterilizer vacuum pumps
- Sterilizer condensate tempering
- Warewashing

## **Laundry**

- High efficiency dryers
- Front load washers
- Ozone systems

# Water Efficiency Opportunities



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# Residential Rainwater System



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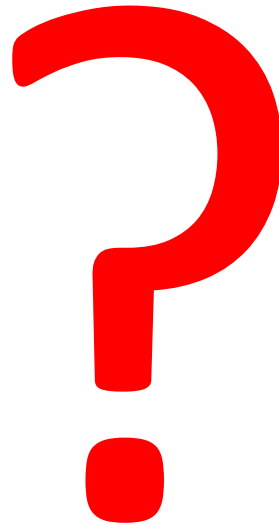
# Improvement Ideas – Open Discussion

- What are the biggest hurdles to incorporating innovative water projects in UESCs?
- How does an agency know if they are getting the water expertise they need?
- Can water efficiency be standardized in the contracting process?
- Is there a need for water efficiency training?

# Industry Updates

- AEE is evaluating a “Certified Water Efficiency Manager” (CWEM) program
  - Potential first training class at GlobalCon
    - March 2015

# Questions



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