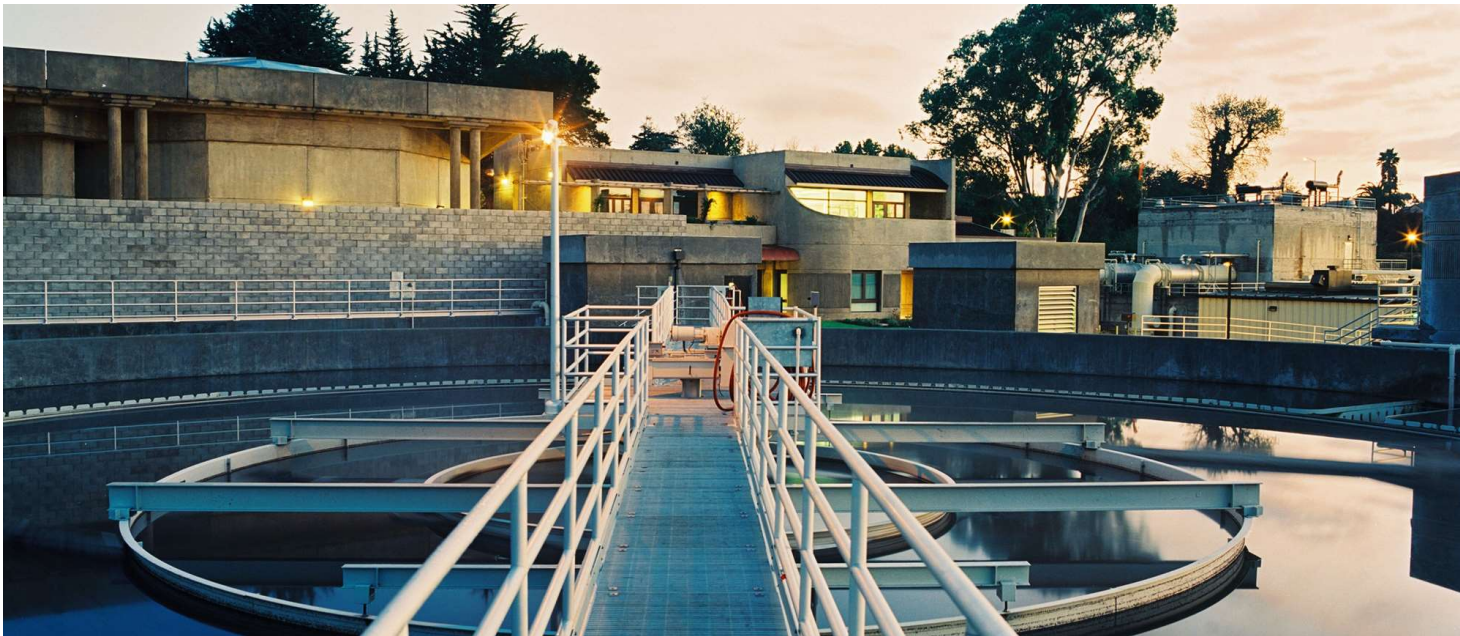


Journey from Industrial Pretreatment to Enhanced Source Control

July 27, 2021



Acknowledgments



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Debbie Burris

Agenda

- Background
- The shift to Enhanced Source Control
- Source water monitoring
- Next steps

Background

The Water Challenge

Groundwater is the **only source** of water for Soquel Creek Water District

Our Groundwater basin is

- **Shared** with other municipal and private well pumpers
- **Critically overdrafted** as identified by the State of California with a mandate to be sustainable by 2040
- **Contaminated** with seawater intrusion along the coast

Critically Overdrafted Groundwater Basins – January 2016
— North Central and South Central Regions



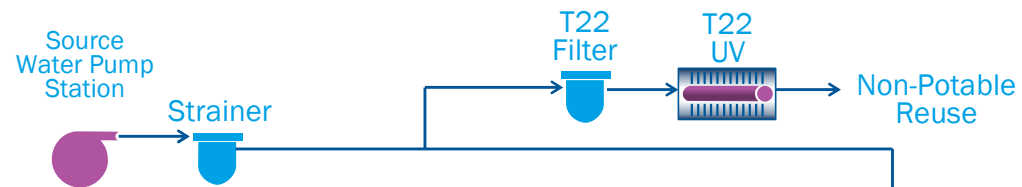
Identified by State of CA in 2014
as Critically Overdrafted

Pure Water Soquel Overview

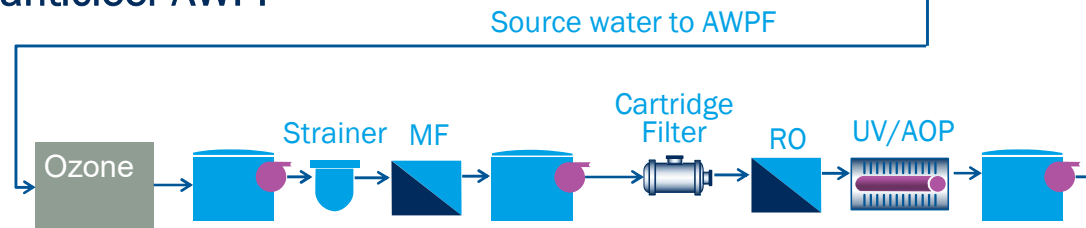


Treatment facilities

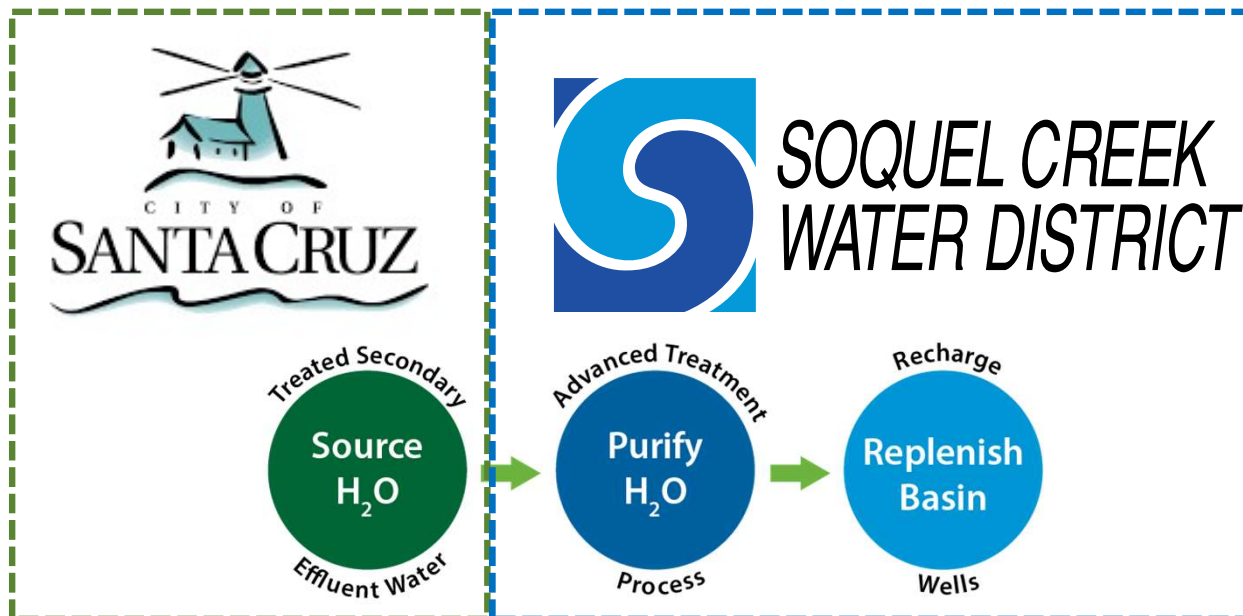
Santa Cruz WWTF



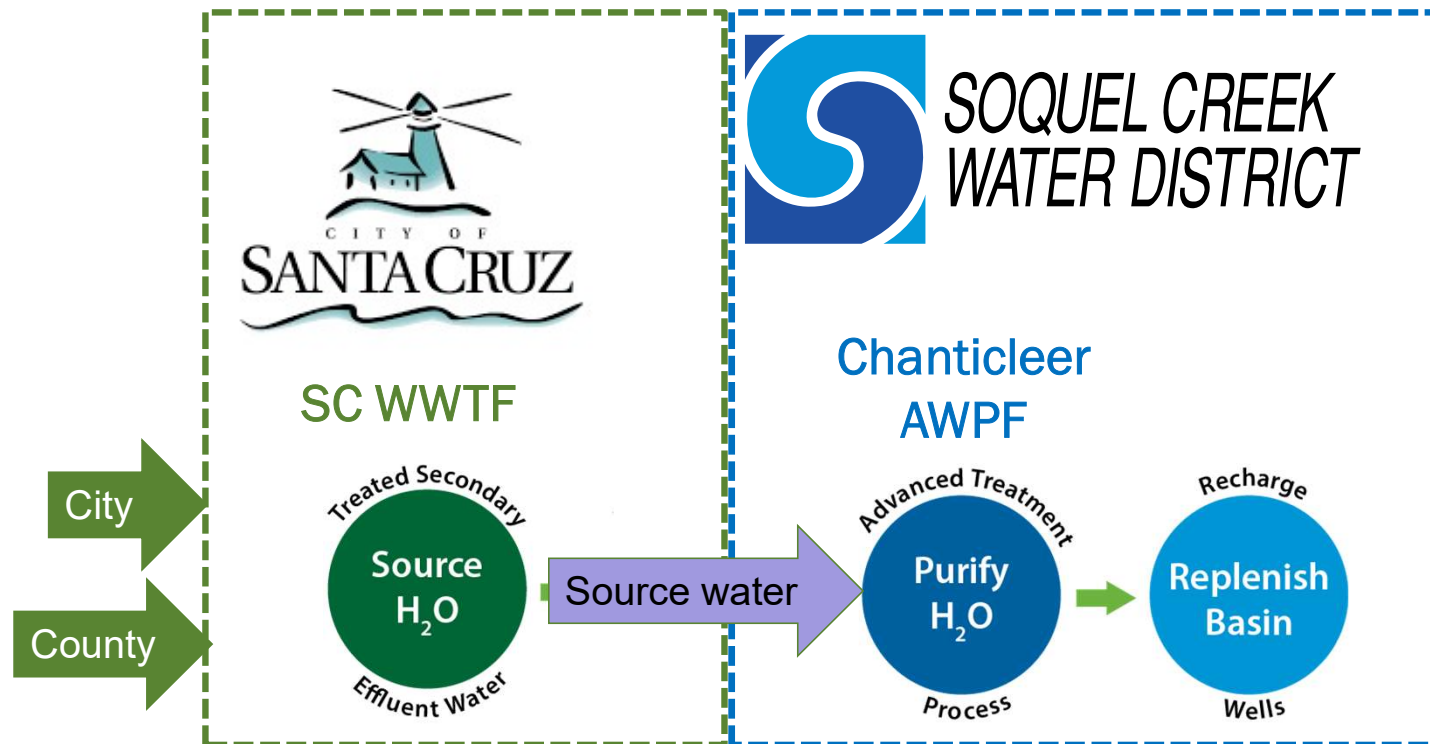
Chanticleer AWPf



Partnership



Partnership

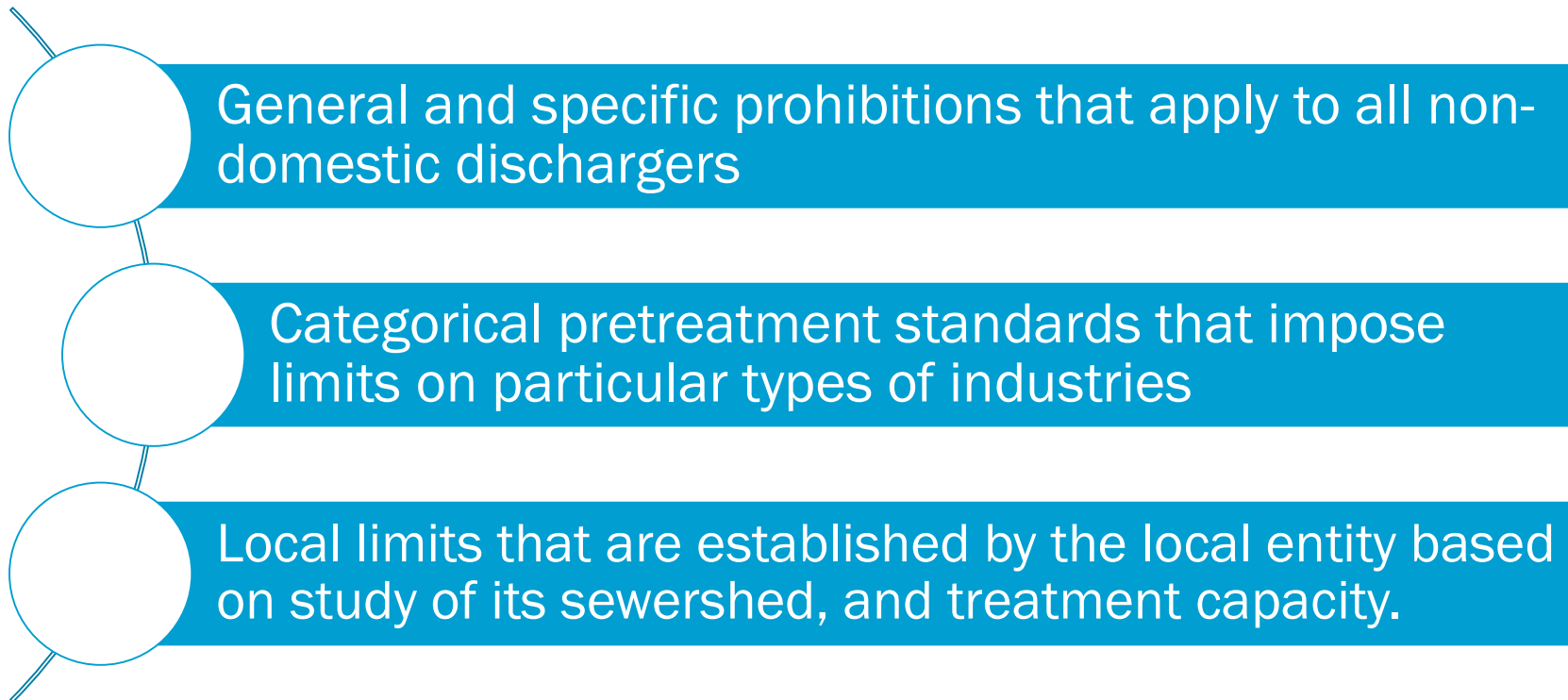


Current Industrial Waste Discharge/Pretreatment Program

- The City administers an industrial pretreatment program (IPP) in conformance with the USEPA pretreatment regulations set forth in the CFR, Section 40, Part 403 (40 CFR 403)
- Purposes: prevent adverse impacts on the wastewater treatment facility's mission, personnel or receiving waters, and prevent hazardous conditions that may damage facilities or endanger workers the public, and the environment.

Standards

Three types
of standards:



Objectives of City's Sewer System Ordinance and Industrial Waste Discharge Program

Prevent introduction of pollutants that can pass through, be incompatible or interfere with the operation of the WWTF

Protect the WWTF, the collection system, and City ops / maintenance staff.

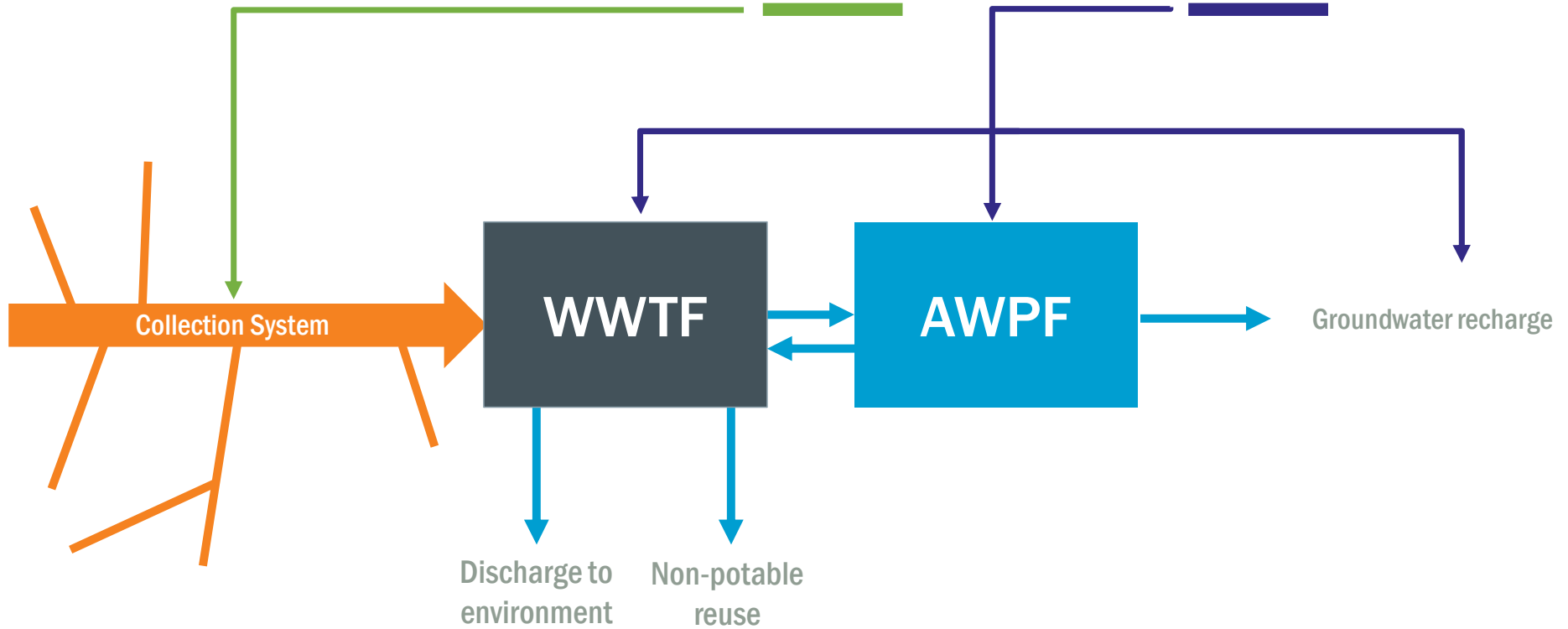
Improve opportunities to recycle or reclaim wastewater and sludge.

The shift to enhanced source control

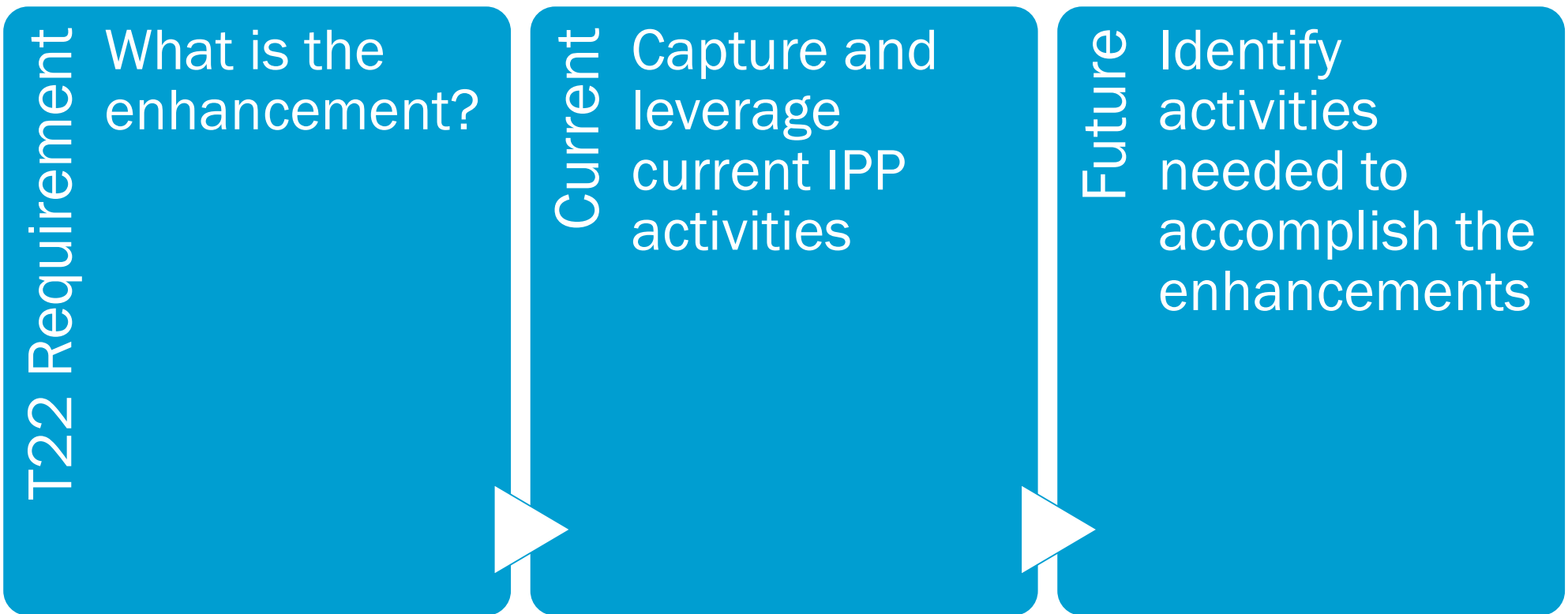
Integrating enhanced source control



Because what happens here... matters here



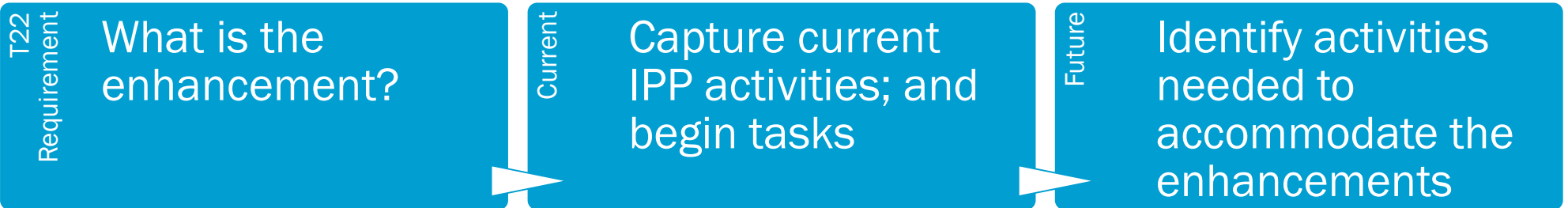
The framework to integrate enhanced source control



Enhanced Source Control Program for Groundwater Replenishment Reuse Project

1. Assesses fate of DDW/RWQCB-specified chemicals and contaminants through treatment system
2. Monitors and investigates DDW/RWQCB-specified chemicals and contaminants
3. Manages an outreach program to minimize discharges of chemicals and contaminants at the source
4. Keeps an inventory of chemicals and contaminants that may be discharged into the sewer system

Enhancement 1

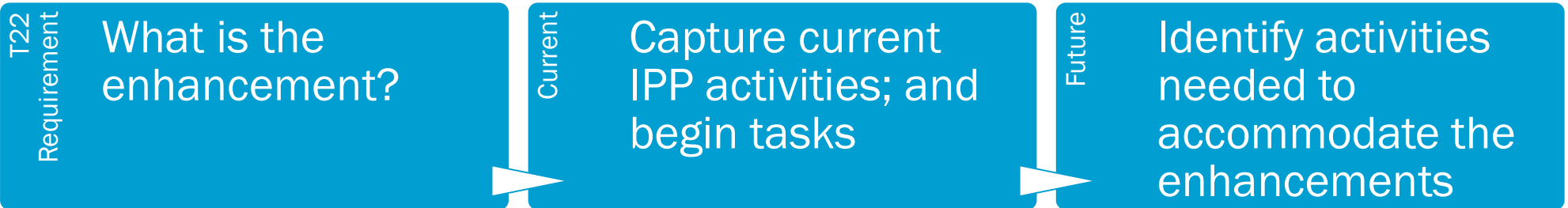


Assess fate of DDW / RWQCB-specified chemicals and contaminants through Pure Water Soquel treatment system

- Current IPP may not capture all DDW/RWQCB constituents of interest
- Identified constituents based on NLs, MCLs, RW Policy, and of importance to DDW/RWQCB
- Estimate anticipated removal rates of these parameters in the advanced treatment

City and Program will continue these activities and will monitor for process performance.

Enhancement 2

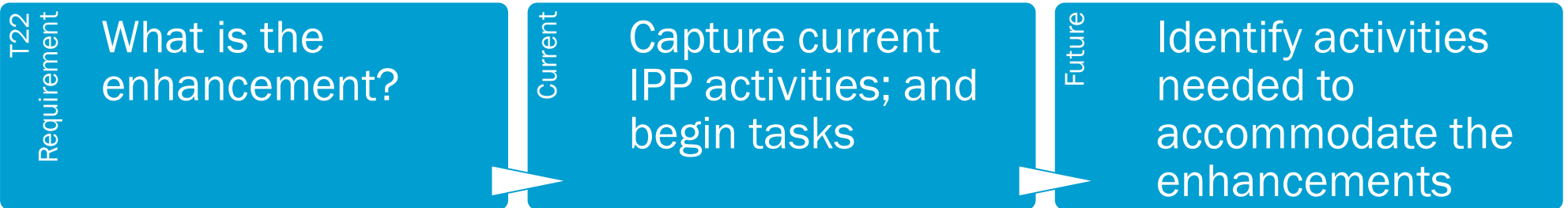


Monitors and investigates DDW/RWQCB-specified chemicals and contaminants

- Identified the parameters of interest to DDW/RWQCB and industries that may be discharging them.
- Developed sampling plan to detect contaminants in parallel with local limits study
- Sampling began in Q3 2020; will be completed in 2021

Update local limits and individual permit limits if needed based on 2020 sampling. Continue monitoring at identified industries as needed.

Enhancement 3



Manages an outreach program to minimize discharges of chemicals and contaminants at the source

Both City and County have existing outreach programs that will be leveraged for the monitoring and enhanced source control program.

The City and County, in coordination with the Program, will continue these activities, such as outreach to educate public and industries regarding this water as a source.

Calendar

Community Water Plan Learning Center

Events & Workshops

Facility Tours

Speakers Bureau

Water Academy

Water Education Trailer

Home > Community Outreach > Outreach

Outreach

Calendar

Community Water Plan Learning Center

Explore "Our Path to a Reliable Water Supply." and gain a deeper understanding of the groundwater basin.

Events & Workshops

Throughout the year, staff and board members from Soquel Creek Water District attend community events.

Facility Tours

Soquel Creek Water District offers tours to small groups and classes year-round to give our students and community residents an opportunity to learn more about the District

Speakers Bureau

We are available to speak to small and large groups.

Water Academy

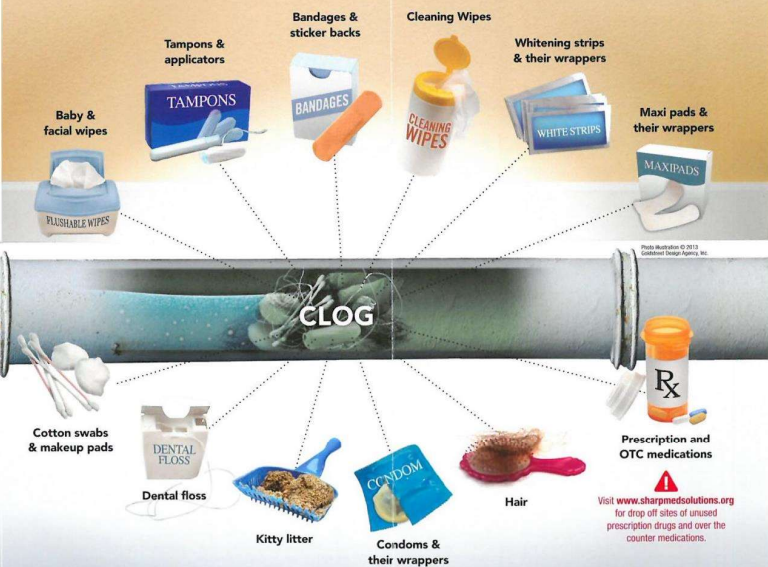
The District provides free water education programs that are available to students and teachers from preschool through college and community groups within our service area.

Outreach

An overflowing toilet can ruin your home in an instant!

Just a small amount of household waste flushed down the toilet (or dumped down the drain or garbage disposal) can clog pipes and cause nasty messes in your home, and expensive sewer backups in our City.

AVOID CLOGS BY KEEPING THIS STUFF OUT OF YOUR TOILET!



Did you know?

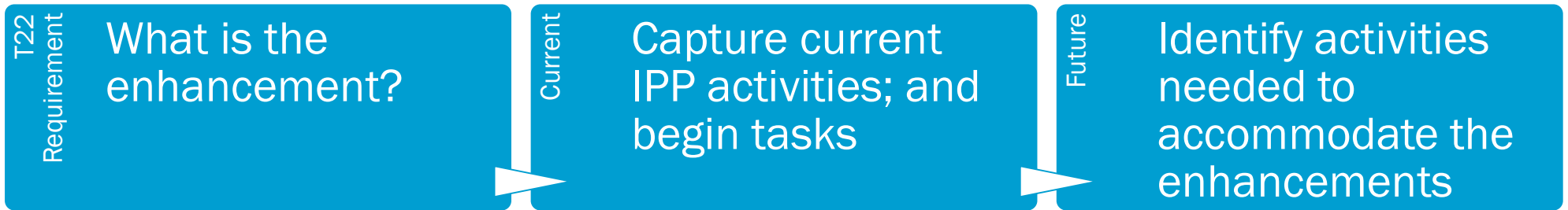
"Flushable Wipes" are the biggest problem for sewer backups in our community. That's right, even if the package says "flushable", they should NEVER be flushed. They belong in the trash.

Flush ONLY toilet paper. Put trash in the trash can.



Brown and Caldwell

Enhancement 4



Keeps an inventory of chemicals and contaminants that may be discharged into the sewer system

Both City and County maintain an inventory of chemicals and contaminants, which will be expanded to include Program-identified chemicals and contaminants.

The City and County, in coordination with the Program, will continue these activities.

Source water monitoring

Source water monitoring

REVIEWING EXISTING DATA

- Program sampled final effluent for 12 months to inform AWWPF design envelope
- Other sources: DMRs, CCLEAN, previous studies on CECs, etc.

GETTING NEW DATA

- The City and Santa Cruz CSD began planning for a local limits study in 2020.
- The Program joined the effort in early 2020

What's new about this sampling?

More sampling of analytes targeting newer constituents that may differ from traditional IPP samples

Basis of sampling matrix

Which analytes are of interest to potable reuse?

- MCLs
- sMCLs
- NLs
- ALs
- And w/o regulatory targets



Which were observed during the sampling campaign or other data?

Which of these are of industrial origin?

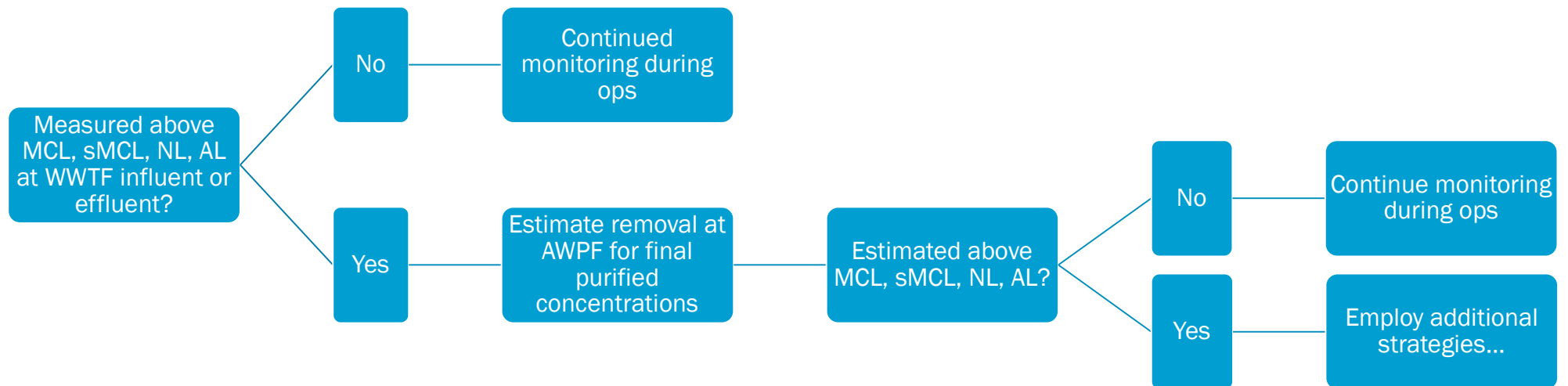


Which industries might possibly discharge these constituents?



Final sampling list

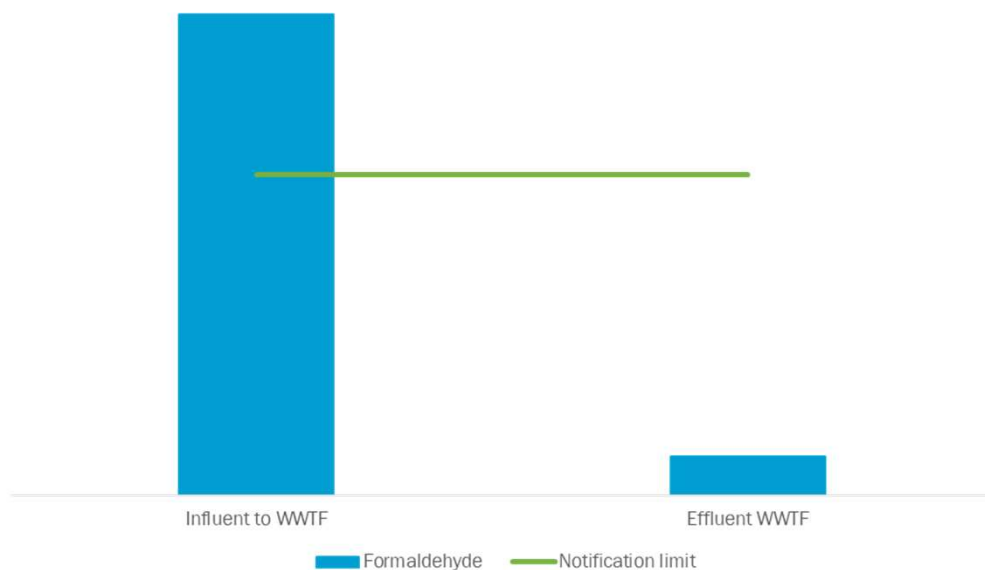
Data evaluation



Employ additional strategies

- Where is it coming from?
- Increased outreach and education
- Increased monitoring
- Individual permit limits or local limits, as appropriate

Formaldehyde: maximum concentrations observed to date during Local Limits study



- Measured above DW NL at influent to WWTF
- ✓ Measured below DW NL at effluent – which will serve as source water to AWPf

Next steps

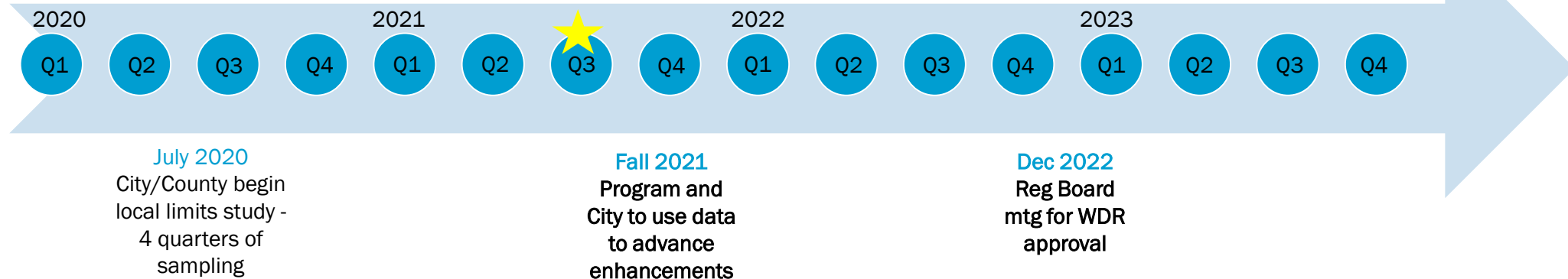
Next steps

Dec 2020
City, County &
Program plan
sampling

Summer 2021
City, County and
Program to review
data

Fall 2022
Describe Enhanced
Source Control
Program in Final
Engineering Report

2023
PWS in
operation





Thank you.
Questions?

