# Regulations for Onsite Treatment and Reuse of Nonpotable Water

## Public Hearing pursuant to the Administrative Procedure Act

CALIFORNIA
Water Boards

Division of Drinking Water | May 8, 2025

# Presenters

**Randy Barnard, P.E.**
Supervising WRCE, Technical Operations Section

**Sherly Rosilela, P.E.**
Senior WRCE, Technical Operations Section

# Agenda

1:00 pm Welcome & Purpose of Public Hearing
1:05 pm SWRCB DDW Staff Presentation
1:35 pm 10-minute Break
1:45 pm Public Comments

**Public hearing will be adjourned when all commenters have read their comments into the record**

# How to Comment

- **Please sign-in at the entrance.**

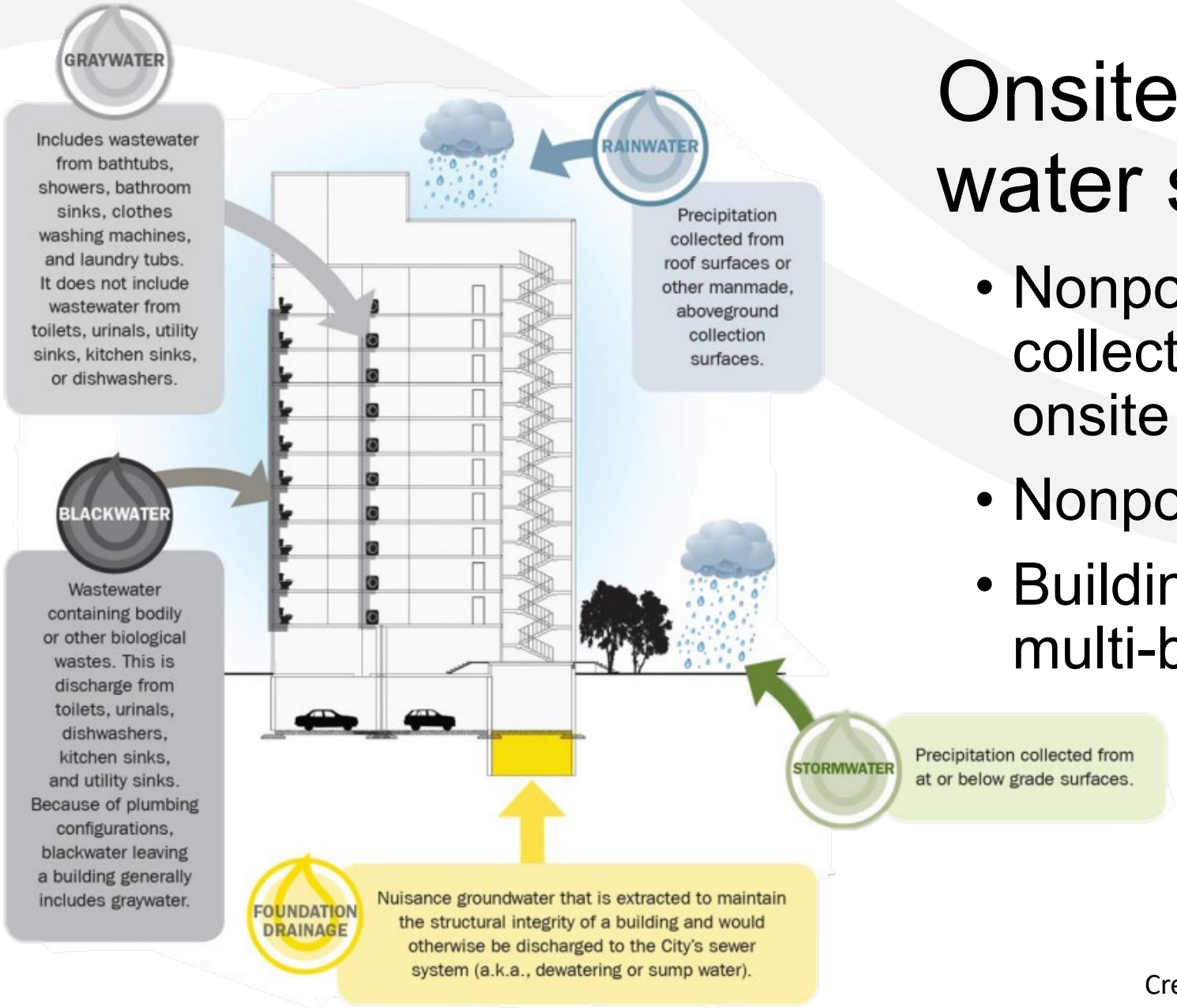
  Provide your name, affiliation, and your email or mailing address, where you would like to receive follow-up information regarding this rulemaking

- **Please keep your electronic devices on silent.**
- **Please fill out a comment card if you plan on providing oral comments today.**

  We will call your name and invite you to the podium to provide comments into the record during the public comment portion

# Staff Presentation Overview

- Onsite treated nonpotable water system
- Statutory mandate
- Purpose of the regulations
- Selected regulatory elements
- Rulemaking schedule, effective date, & beyond




# Onsite treated nonpotable water systems (OTNWS)

- Nonpotable water sources are collected, treated, and used onsite
- Nonpotable uses
- Building scale projects (single or multi-building)

Credit: San Francisco PUC – Onsite Water Reuse program schematic

# “OTNWS” is not new

- The California Plumbing Code (Title 24, Part 5)
  - Chapter 15 – Alternate Water Sources for Nonpotable Applications
    - 1506.0 Onsite treated nonpotable gray water systems
  - Chapter 16 – Nonpotable Rainwater
- Implementation of CPC by local jurisdictions generally through issuance of construction (“building”) permits

# Statutory mandate & deadlines

- Water Code section 13558 requires that the State Board, in consultation with CA Building Standards Commission and the Department of Housing and Community Development (HCD), adopt regulations for **risk-based water quality standards** for the onsite treatment and reuse of nonpotable water for nonpotable end uses in **multifamily residential, commercial, and mixed-use buildings** by **December 1, 2022**
- **Within 12 months** of State Board adopting regulations, HCD, in consultation with the State Board, must adopt corresponding building standards (CCR Title 24) to support State Water Board regulations

# Minimum regulations scope

1) Risk-based log reduction targets for the removal of pathogens for nonpotable water sources and nonpotable end uses
2) Water quality monitoring requirements
3) Reporting requirements for the water quality monitoring results
4) Notification and public information requirements
5) Cross-connection controls

# Exempted by statute

- **Untreated graywater systems** that are used exclusively for **subsurface irrigation** that are regulated by Chapter 15 of the California Plumbing Code
- **Untreated rainwater systems** that are used exclusively for **surface, subsurface, or drip irrigation** that are regulated by Chapter 16 of the California Plumbing Code

# Implementation by local jurisdiction

- **Statutes grant implementation authority** to the local jurisdictions (City, County, City and County)
  - Consistent with current approach for permitting alternate water source systems
- Local jurisdictions **have the choice** to establish a program for permitting OTNWS
  - Must adopt local program through local ordinance.
  - May need to consult with existing water and sewer providers.
  - Statutory requirements for establishing local programs in CWC 13558(b)

# State Water Board limited role

- State Water Board is **prohibited** from administering a local jurisdiction's program
- State Water Board receives onsite reuse programs' annual report from local jurisdictions

# Purpose of the regulations

- Establish criteria for treatment of nonpotable waters for nonpotable reuse that is protective of public health
- Address primarily building scale installations in urban setting that are
  - Served by existing water and sewer infrastructure
  - Subject to local jurisdiction oversight
- Fill the regulatory gap on statewide criteria for treatment and reuse of alternate water sources

# Selected regulatory elements

- Definition of OTNWS
- Types of untreated alternate water sources
- Types of uses
- Risk based pathogen log reduction targets
- Treatment trains
- Opportunistic pathogen control

# Definition of OTNWS

- Collects and treats source waters onsite
- Distributes the treated water for use onsite for nonpotable purposes
- Connects to the community sewer system as its only means for discharge of waste

# Untreated alternate water sources

- **Onsite wastewater** = comingled blackwater and graywater
- **Graywater** = defined in Health and Safety Code 17922.12
- **Stormwater** = precipitation runoff that flows over land or impervious surfaces (e.g. streets and parking lots), including runoff from roofs with public access
- **Roof runoff** = precipitation runoff that is collected directly from roofs not subject to public access

# Types of allowed uses

- **Indoor uses:**
  - Toilet flushing, urinal flushing, drain trap priming
  - Clothes washing
- **Outdoor uses:**
  - Ornamental plant & landscape irrigation
  - Dust suppression
  - Decorative fountain
  - Car washing

# Risk-based pathogen log reduction targets

- Required in the regulations to reduce concentration of pathogens in the source waters to acceptable levels for reuse
- Derived using quantitative microbial risk assessment (QMRA), which is a risk assessment approach for estimating human health risk from exposure to pathogens

# Risk-based pathogen log reduction targets (cont'd.)

| Untreated Alternate Water Source | Use Type | Enteric Virus | Giardia | Cryptosporidium |
|---|---|---|---|---|
| Onsite wastewater | Indoor use | 8.0 | 6.5 | 5.5 |
| Onsite wastewater | Outdoor use | 7.5 | 5.5 | 5.0 |
| Graywater | Indoor use | 7.0 | 5.5 | 4.5 |
| Graywater | Outdoor use | 6.5 | 4.5 | 4.0 |
| Stormwater | Indoor use | 6.0 | 4.5 | 3.5 |
| Stormwater | Outdoor use | 5.5 | 3.5 | 3.0 |
| Roof runoff | Indoor use | - | 1.5 | - |
| Roof runoff | Outdoor use | - | 1.0 | - |

# DDW approach on LRTs

- Starting point: LRTs published in 2017 WE&RF report
- State Board established an expert panel to re-evaluate 2017 LRTs and if necessary, recommend an update for California regulations
  - The Panel recommended a new set of LRTs using recent California wastewater data
  - Published in Risk-based treatment targets for onsite non-potable water systems using new pathogen data | Journal of Water and Health | IWA Publishing

# Treatment trains

- Pathogen control treatment trains
  - Pre-set trains with prescribed operational limits to achieve LRTs
  - Combination of MBR, membrane filtration, UV disinfection, chlorination
- Alternative treatment trains
  - Address all other treatment trains (processes or limits) not covered by the pathogen control treatment trains
  - Demonstrate at least equal degree of public health protection
- All treatment trains require continuous process verification monitoring to confirm that pathogen LRTs are always met

# Opportunistic pathogen control

- Controlling bacterial regrowth in the storage and distribution systems (e.g. *Legionella*)
  - Control temperature in storage and distribution systems
  - Maintain disinfectant residual at farthest end-use fixtures
- Ongoing monitoring required
  - Continuous monitoring of temperature in storage tanks
  - Weekly monitoring of disinfectant residual

# Anticipated rulemaking schedule

**CA Notice Register**

Mar 21, 2025

**APA Public Hearing**

May 8, 2025

**Public Comment Period**

Mar 21 – May 9, 2025

**State Board Adoption Goal**

Dec 31, 2025

**Rulemaking deadline**

Mar 21, 2026

Public comments are due on **FRIDAY, MAY 9TH AT NOON.**

# Effective date of regulations

- Once rulemaking package is complete, State Board will submit to Office of Administrative Law (OAL)
  - OAL review of rulemaking package = 30 calendar days
- State Board regulations will be effective once approved by OAL & filed with the Secretary of State
- Local jurisdiction can adopt a local ordinance that includes State Board's standards upon the regulations' effective date

# Beyond State Board rulemaking

- **Within 12 months** of State Board adoption, the Department of Housing and Community Development, in consultation with the State Board, must adopt corresponding building standards (CCR Title 24) to support State Board regulations
- Potential building standards adoption with the 2027 triennial code adoption cycle

# Thank you!

# Public comments will start at 1:45 pm

- If you have a comment card, please provide it to designated State Board staff
- We will call your name to provide your comments

# Public Comments

- Clearly state:
  - Your full name
  - Entity/organization you are representing, if applicable
  - If you will be providing written comments
- Please keep comments to **3 minutes**

# Submit your written comments by **Friday May 9, 2025, at noon.**

- By email to: commentletters@waterboards.ca.gov
- By fax transmission to: (916) 341-5620.
- By mail to: Clerk to the Board, Courtney Tyler, State Water Resources Control Board, P.O. Box 100, Sacramento, CA 95812-2000
- Hand-delivered to: Clerk to the Board, Courtney Tyler, State Water Resources Control Board, 1001 I Street, 24th Floor, Sacramento, CA 95814.