

The Handbook

Presented by
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State Water Resources Control Board

Cross-Connection Control Policy Handbook

Standards and Principles for California's
Public Water Systems

Adopted: Month Day, Year
Effective: Month Day, Year

California Environmental Protection Agency

California Safe Drinking Water Act

- Assembly Bill 1671
- Assembly Bill 1180

Objective

- Establish standards that prevent backflow of liquids, gases, or other substances into public water systems (PWS) distribution systems
- Build awareness within regulated community about the importance of backflow protection and cross connection control
- Implementation of robust cross connection control programs by PWS
- Replace CCCR Title 17 cross connection regulations

Applicability

- Public Water Systems as defined by Health and Safety Code, section 116275 (h)
- Compliance with the Handbook is mandatory for all PWS

Failure to comply

- May result in issuance of compliance, enforcement, or other corrective actions against the PWS

Adoption

- Two public hearings will take place prior to adoption
- First hearing occurred April 14, 2021
- Second hearing TBD

Policy Overview

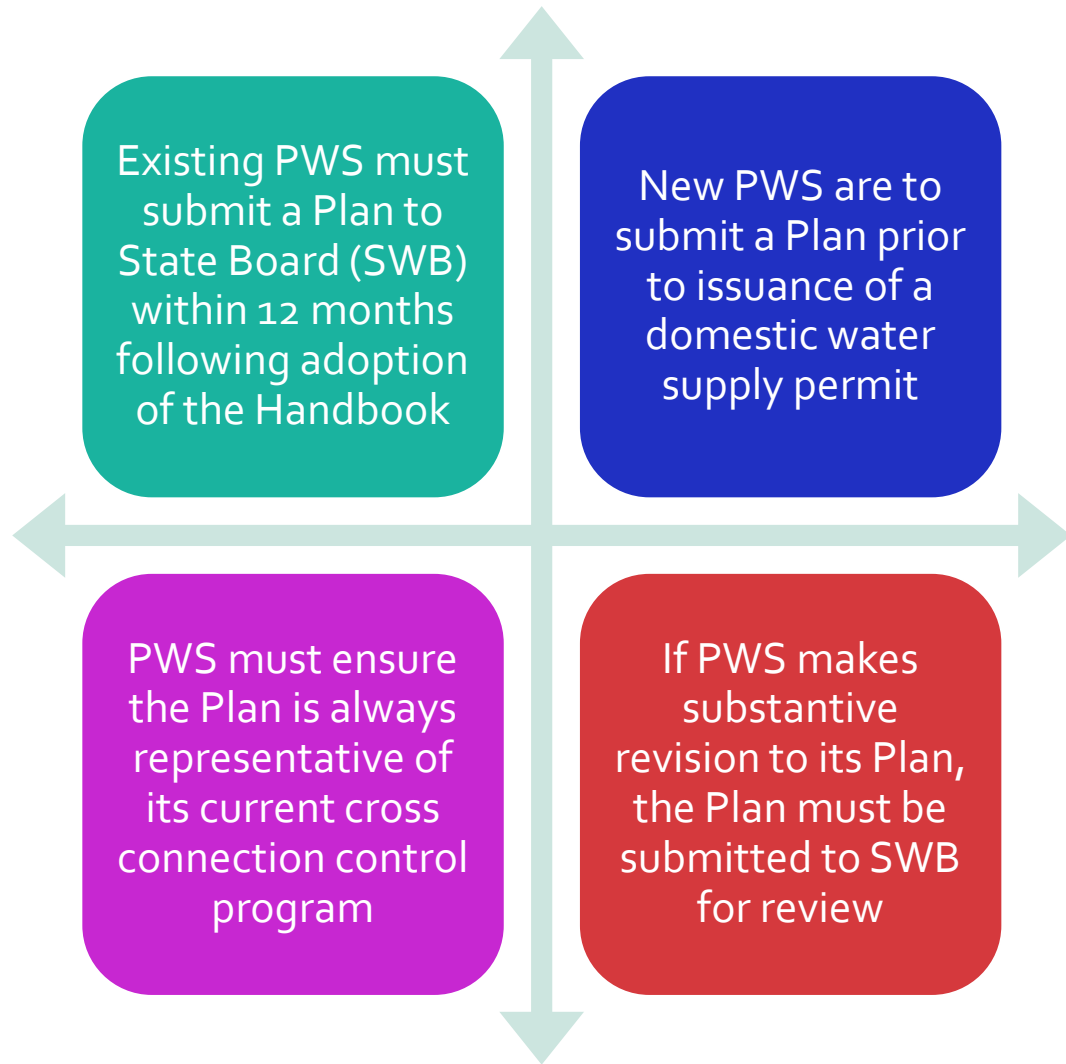
Minimum requirements

- Operating rules or ordinance
- Cross-Connection Control Program Coordinator
- Hazard assessments
- Backflow prevention
- Certified Backflow Prevention Assembly Testers & Cross Connection Control Specialists
- Backflow Preventer testing
- Recordkeeping
- Backflow incident response, reporting and notification
- Public outreach and education
- Local entity coordination

**PWS Cross
Connection
Control
Program**

Cross Connection Control Specialist

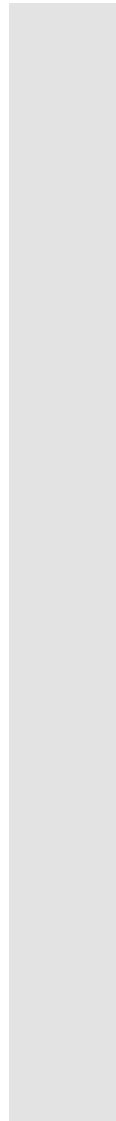
- Programs must be developed in consultation with a cross-connection control specialist, if
 - PWS has 1,000 or more service connections, or
 - Required by State Water Board (SWB)
- PWS must have at least one cross-connection control specialist as a permanent or contracted employee, and the specialist must be able to provide consultation within one hour of being contacted, if:
 - PWS has 3,000 or more service connections, or
 - PWS has less than 3,000 service connection and is directed by SWB



Cross Connection Control Plan



Cross Connection Control Plan Components

- Description PWS program
 - Initial and ongoing hazard assessments
 - Backflow assembly testing
 - Corrective actions
 - Public outreach and education program
- 



Backflow Protection

- Backflow assembly must protect against the highest degree of hazard onsite
- High hazard connections must have an air gap (AG) or reduced pressure principal assembly (RP) installed
- Swivel-ell assembly may be used when substituting interrupted tertiary recycled water use sites with potable water

Swivel-ell Conditions

- Must be approved by the SWB
- Use and operation of swivel-ell must be included in PWS Cross Connection Control Plan
- At least every 12 months, inspections of swivel-ell are performed and documented
- Potable water RP assembly is tested and functioning properly:
 - Prior to each switchover to potable water use, and
 - At least every 12 weeks that the use site is being supplemented with potable water

Swivel-ell Conditions (continued)

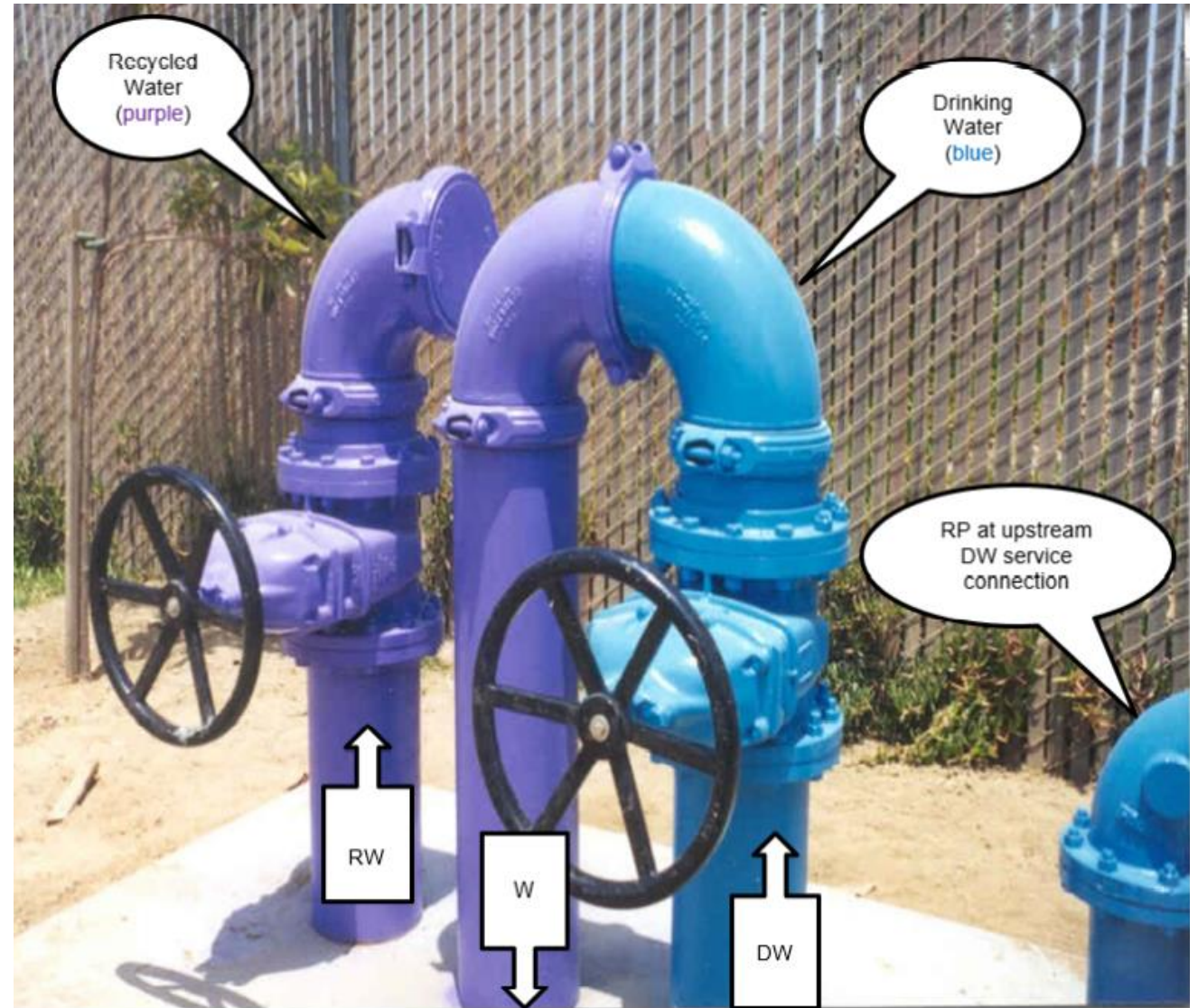
- There is a legally joint and binding agreement between PWS and the recycled water supplier that includes:
 - Notification of SWB within 24 hours of all switchovers to or from potable water
 - Representative from the PWS must be present to supervise each switchover
 - If requested by SWB, submittal of reports within 7 days of each switchover describing compliance with the requirements and potable and recycled water usage information

Swivel-ell Assembly Design & Construction Criteria

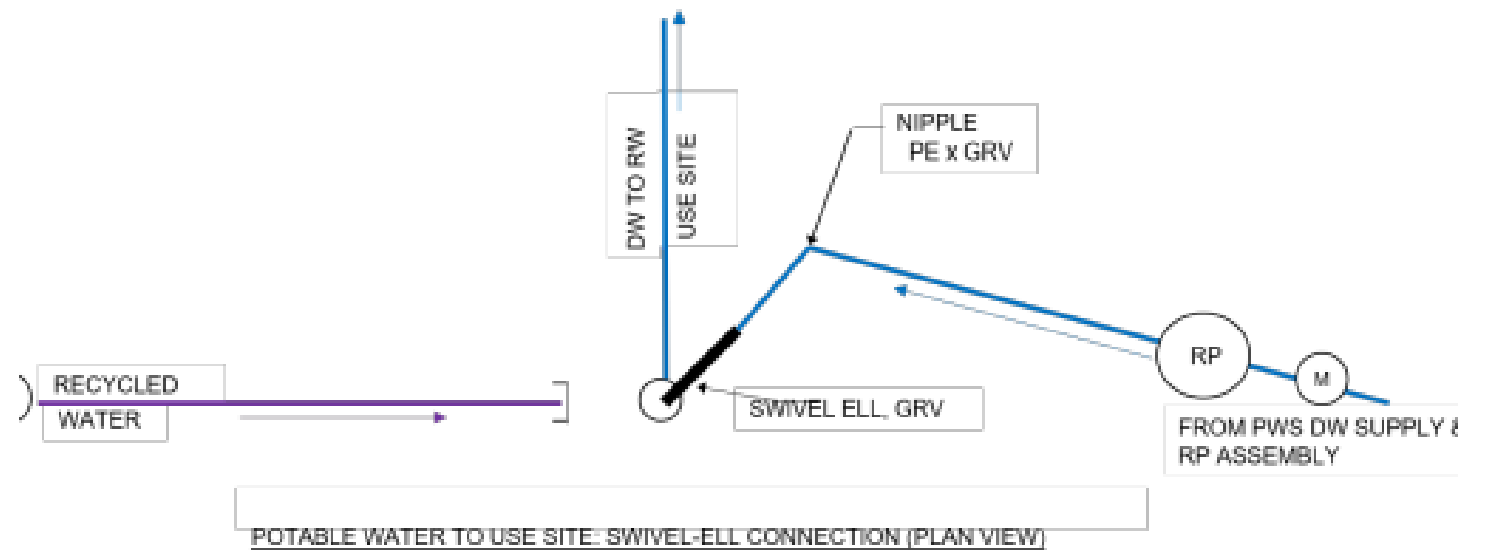
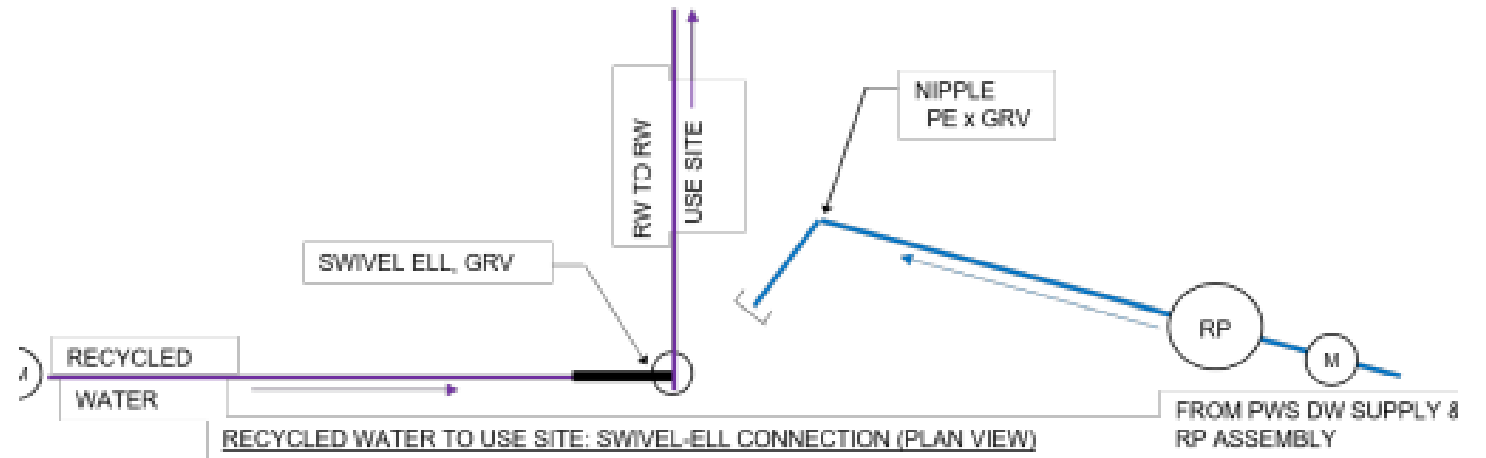
- SWB must approve design and construction plans
- Drinking water and recycled water supplies cannot be directly connected
- Drinking water supply line and recycled water supply line must be offset
- Recycled Water supply line used with the swivel-ell must be the only recycled water supply to the use site
- Swivel-ell assembly must be located as close as practical to the water service RP assembly and water service connection

Swivel-ell Assembly

- Must be above ground
- Be color-coded
- Include signage
- Ensure security to prevent interconnections, vandalism, and unauthorized use
- Provided with meters on both recycled water service and potable water service connections



Swivel-ell Assembly Schematic Examples



1

Testers must be certified by an organization recognized by the SWB

2

Assemblies must be tested at least annually

3

Air-gap separations must be visibly inspected at least annually

4

Failed assemblies are to be repaired or replaced within 30 days

Field Testing & Repair of Backflow Prevention Assemblies

Backflow Tester & Cross Connection Control Specialists Certification

Certifying organizations will need to apply for SWB recognition showing compliance with Handbook conditions

Backflow assembly tester certification

Written & hands-on exam

Recertification: written & hands-on exam every 3 years

Cross connection control specialist certification

Written exam

Recertification: written exam every 3 years



Handbook Proceedings



Opening of first public comment period – February 26, 2021



First public hearing – April 27, 2021



Cal-Nevada AWWA Backflow Programs Committee and
Dublin San Ramon Services District provided comments



Due to the volume of comments received by the SWB, the
revised draft may not be available until mid-2022



Any Questions?

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