CITY OF ROSEVILLE CALIFORNIA
Environmental Utilities

# Roseville Water Utility

## CROSS-CONNECTION CONTROL PLAN

**Prepared in conformance to the State Water Resources Control Board Cross-Connection Control Policy Handbook effective July 1, 2024**

# Roseville Water System Information

As of June 2025

| | |
|---|---|
| Public Water System Name | City of Roseville, CA |
| Public Water System Number | CA3110008 |
| Water System Ownership type | Public – City of Roseville |
| Number of single-family residential service connections: | 50,694 |
| Number of multifamily residential services connections (duplex, apartments, etc.) | 423 |
| Number of commercial connections | 5,248 |
| Number of industrial service connections | 114 |
| Number of agricultural service connections | 0 |
| Number of commercial landscape irrigation connections | 1,976 |
| Total Number of Service Connections | 56,771 |

# City of Roseville Background Cross-Connection Control Information

As of June 2025

| | |
|---|---|
| Number of Fire Protection System Service Connections (Residential) | 15,110 |
| Number of Fire Protection System Services Connections (Non-Residential) | 877 |
| Number of Air Gaps used for backflow protection at the service connection (While the City has some Air Gaps internal to a premise, they are all located downstream of an RP.) | 0 |
| Number of Service Connections where internal protection is used in lieu of premises containment | 0 |
| Number of Recycled Water (RW) use sites (None use swivel-ells) | 318 |
| Number of Swivel-ells used for backflow protection at the service connection (applies to Recycled Water (RW) use sites) | 0 |
| Number of Sites requiring a water user supervisor (CCCPH Section 3.2.2 (f) – applies to any sites using recycled water, complex piping systems, or a user supervisor deemed necessary by the City of Roseville | 0*<br>*Will be reviewed with Hazard Assessments |

# Cross-Connection Control Program Plan Certification

**I certify that the information submitted in this plan is accurate and the City of Roseville will comply with the Cross-Connection Control Policy Handbook (effective Date July 1, 2024)**

**City of Roseville Water Utility:**

| | |
|---|---|
| Name: George Hanson | Title: Water Utility Manager |
| Signature: | Date: 6/26/25 |

| | |
|---|---|
| Name: Robert Strebel | Title: Water Distribution Superintendent |
| Signature: | Date: 6/26/25 |

**City of Roseville Cross-Connection Control Program Coordinator:**

| | |
|---|---|
| Name: Jamie Po'oi | Title: Water Quality Supervisor |
| Signature: | Date: 6/26/25 |

**Document Revision Log:**

| Date Revised | Summary of Changes | Approved by (Name & Title) |
|---|---|---|
| 6/26/25 | Cross-Connection Control Plan Completed and Issued | Jamie Po'oi, CCCPC |
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## *Cross Connection Control Policy Handbook Required Plan Elements*

The State Water Resources Control Board, through the Cross Connection Control Policy Handbook (CCCPH), has identified a minimum of ten program elements for Public Water System Cross-Connection Control. This Cross-Connection Control Plan describes the City of Roseville's procedures and policies that ensure compliance with the ten program elements:

1. **Operating rules or ordinances** (CCCPH section 3.1.3(a)(1))
2. **Cross-Connection Control Program Coordinator** (CCCPH section 3.1.3(a)(2))
3. **Hazard Assessments** (CCCPH Article 2)
4. **Backflow Prevention** (CCCPH Article 3)
5. **Certified Backflow Prevention Assembly Testers and Certified Cross-Connection Control Specialists** (CCCPH Article 4)
6. **Backflow Prevention Assembly Testing** (CCCPH section 3.3.3)
7. **Recordkeeping** (CCCPH section 3.5.1)
8. **Backflow Incident Response, Reporting and Notification** (CCCPH Article 5)
9. **Public Outreach and Education** (CCCPH section 3.1.3(a)(9))
10. **Local Entity Coordination** (CCCPH section 3.1.3(a)(10)

**Credits:**

The City of Roseville referenced multiple sources to create this Plan, including the State Water Resources Control Board's Cross-Connection Control Policy Handbook, companion staff report, and suggested plan formats. The plan was based on City practices and procedures, Municipal Code, and Administrative Regulations. It also draws from Water Industry Training Specialists, Inc. Cross-Connection Control Sample Program & Plan, 2024.

# Table of Contents

# 1 General Provisions

## 1.1 Purpose and Scope

The City's Environmental Utilities Department, through its Water Utility Division, is committed to ensuring safe, reliable, and high-quality drinking water. The Water Utility's mission is to "…serve our community with high quality, reliable water for a sustainable future."

This Cross-Connection Control Plan (CCCP) provides guidance on the City of Roseville's (City's) expectations for cross-connection control and backflow prevention. The objectives of the City's Cross-Connection Control (CCC) program are:

A. To protect the public potable water supply of City of Roseville from the possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the water user's private water system(s) such contaminants or pollutants that could backflow into the public water system; and,

B. To promote the elimination or control of existing cross connections, actual or potential, between the water user's in-plant potable water system(s) and nonpotable water systems, plumbing fixtures, and industrial piping systems.

The CCCP complies with the State Water Resources Control Board's (SWRCB) Cross-Connection Control Policy Handbook (CCCPH), adopted December 19, 2023 and effective July 1, 2024.

The plan is a living document that will be updated regularly as regulations or conditions change. All interested parties are encouraged to submit comments and suggest clarifications to make the document as useful and current as possible. Address comments to the Water Distribution Superintendent in the Water Utility Division of Environmental Utilities (contact Information in **Appendix A**).

## 1.2 What is a Cross-Connection?

A *cross-connection* [1] is an interconnection between a potable water supply and a non-potable source via any actual or potential connection or structural arrangement between a Public Water System (PWS) and any source or distribution system containing liquid gas, or other substances not from an approved water supply. Bypass arrangements, jumper

[1] The definitions of cross-connection, backpressure and backsiphonage are from the Cross-Connection Control Policy Handbook, Section 2.1.

connections, removable sections, improperly installed swivel or change-over devices and other temporary or permanent devices through which, or because of which backflow can occur, are considered to be cross-connections.

*Backflow* is the undesired or unintended reversal of flow of water and/or other liquids, gases, or other substance into a PWS distribution system or approved water supply.

The presence of a cross-connection represents a location in a distribution system through which backflow of contaminants or pollutants can occur. Backflow occurs when a non-potable source is at a greater pressure than the potable water distribution system. Backflow can occur from either backsiphonage or backpressure. *Backsiphonage* occurs when a non-potable source enters the drinking water supply due to negative (i.e., sub-atmospheric) distribution system pressure. Backpressure occurs when the pressure from a non-potable source exceeds the pressure in the potable water distribution system.

Backsiphonage may be caused by a variety of circumstances, such as main breaks, flushing, pump failure, or emergency firefighting water demand. Backpressure may occur when heating, cooling, waste disposal, or industrial manufacturing systems are connected to potable supplies and the pressure in the external system exceeds the pressure in the distribution system. Both situations act to change the direction of water, which normally flows from the distribution system to the customer, so that non-potable substances from industrial, commercial, or residential premises flows back into the distribution system through a cross-connection.

Contamination from cross-connections can cause public health hazards, including poisoning or spread of disease. Cross-connections can also introduce pollutants with undesirable aesthetics such as unpleasant tastes and odors, which can reduce water user trust in public drinking water.

Chemical and biological contaminants have caused illness and deaths during known incidents of backflow. The public health risk from cross-connections is a function of factors including cross-connection and backflow occurrence, the type and quantity of contaminants, and the health effects resulting from exposure to those contaminants.[2]

## 1.3 Acronyms and Abbreviations

Listed below are acronyms and abbreviations used in this plan. Definitions of terms used in the plan can be found in **Appendix D**.

[2] Impact discussion from Cross Connection Control Policy Handbook Staff Report, December 14, 2023, p. 7.

| Acronym or Abbreviation | Meaning |
|---|---|
| AG | Air Gap Separation |
| ASSE | American Society of Sanitary Engineers |
| BPA | Backflow Prevention Assembly |
| BPAT | Backflow Prevention Assembly Tester |
| CCC | Cross-Connection Control |
| CCCP | Cross-Connection Control Plan |
| CCCPC | Cross-Connection Control Program Coordinator |
| CCCPH | Cross-Connection Control Policy Handbook |
| CCCS | Cross-Connection Control Specialist |
| City | City of Roseville, and actions carried out on behalf of the City by the Roseville Water Utility |
| DC | Double check valve backflow prevention assembly |
| DCDA/DCDA III | Double-check detector backflow prevention assembly (basic or type II) |
| OEM | Original Equipment Manufacture |
| PWS | Public Water System |
| RP | Reduced pressure principle backflow prevention assembly |
| RPDA | Reduced pressure principle detector backflow prevention assembly (types I & II) |
| State Water Board or SWRCB | State Water Resources Control Board |
| USCFCCCHR | University of Southern California Foundation for Cross-Connection Control and Hydraulic Research |

# 2 Cross-Connection Control Program Administration (Elements 1 & 2)

This section provides information related to the following CCCPH elements:

- ✓ **1. Operating Rules or Ordinances:** A PWS must have operating rules, ordinances, by-laws, resolution, or service contract or agreement to implement the CCC program.
- ✓ **2. Cross-Connection Control Program Coordinator:** A PWS must designate at least one individual involved in the development of and responsible for the reporting, tracking, and other administration duties of its CCC Program. The City of Roseville has more than 3,000 service connections, so the Cross-Connection Control Program Coordinator (CCCPC) must be a Cross-Connection Control Specialist (CCCS). The CCCPC, or the CCCS designee, must be able to be contacted within one hour.

## 2.1 Program Administration

The Roseville Water Utility, a division of Environmental Utilities, carries out the maintenance and operational functions of the City's PWS, including implementation and enforcement of cross-connection control and backflow prevention activities.

Through Roseville Municipal Code, Chapter 14.10 (**Appendix B**), the Environmental Utilities Director is charged with making determinations related to cross-connection control and backflow prevention. For daily operational decision-making, the Environmental Utilities Director has delegated authority to the Water Utility Manager & Water Utility Distribution Superintendent.

The Water Utility implements the Cross-Connection Control and Backflow Prevention Program through a dedicated full-time staff team housed in the Water Quality section of the Water Distribution division. The program, including this plan, is overseen by the CCCPC, who must be a certified CCCS. The following cross-connection related tasks are performed by or under the direction of the CCCPC by certified CCCSs or Backflow Prevention Assembly Testers (BPATs):

- Monitors regulatory changes and other program needs and make recommendations regarding changes to the CCC program.
- Performance of and/or reviews of CCC hazard assessments.
- Recommendations on the type of Backflow Prevention Assemblies (BPAs) to be installed.
- Recommends schedules for retrofitting BPAs.
- Conducts or assists with the enforcement of CCC non-compliance.
- Inspections of backflow preventers for proper application and installation.
- Reviews of backflow preventer inspection and test reports.
- Reviews of backflow testing quality control information.

- Provides recommendations and/or the granting of exceptions to mandatory premises containment (protection at the service connection).
- Direction of and cooperation with other Water Utility staff and local entities in the investigation of backflow incidents and other water quality problems.
- Ensures that the City CCCPC or designated CCCS can be contacted within one hour.
- Completion of backflow incident reports.
- Completion of CCC activity and program summary reports and any other deliverables required by the SWRCB.

The Water Utility may delegate other CCC program activities to personnel who are not Cross-Connection Control Specialists, including other technical and office support staff. These activities include:

- Administration or paperwork associated with service agreements.
- Mailing, collecting, and initial screening of hazard evaluation/water use questionnaires.
- Mailing of BPA testing and non-compliance notices.
- Receiving and screening of assembly testing reports.
- CCC program database administration and record keeping.
- Dissemination of public education and outreach material.
- Assisting with tasks and coordination with local entities.

The most current version of the CCCP is maintained on the City's website. The CCCPC reviews the CCCP each calendar year to ensure that it stays current. If the City makes a substantive revision to its CCCP, the CCCPC is responsible for working with the Water Utility Distribution Superintendent and Water Utility Manager to submit the revised CCCP to the State Water Board for review.

Contact Information for the CCCPC and related cross-connection control personnel is provided in **Appendix A**.

## 2.2 Regulatory Authority

Legal authority to enforce the City's Cross-Connection Control Program starts with State Code and the SWRCB CCCPH. Specific Roseville requirements are found in Municipal Code, Chapter 14.10[3].

The following sections of Roseville Municipal Code provide legal authority for the Water Utility to take corrective actions on issues related to installation, inspection, field testing, or

[3] As of the plan submission deadline, the City is reviewing changes to municipal code to further strengthen its enforcement authority. These changes will be presented to Roseville City Council for approval by December 2025. A draft of the proposed changes is provided in **Appendix B.** The draft language is included in this Plan. It is highlighted and called out where it appears. Note that these provisions are not enforceable until receipt of Council approval.

maintenance of BPAs. Violations may result in fines and/or penalties, including termination of water service.

| **CCCPH Expectation for the ability to:** | **Roseville Municipal Code Section(s). These are abridged notes. For full language, please review Municipal Code. (Proposed Municipal Code changes are highlighted in yellow. See footnote 3.)** |
|---|---|
| **3.1.3 (a) (1) (A)** – Deny or discontinue water service to a water user | **14.10.030 (A) –** Newly installed BPAs must receive passing field tests for the City to provide continuous water service**.**<br>**14.10.030 (C) (2) –** Service may be refused or disconnected and/or the customer may be required to install the highest form of backflow protection if permanent safe accessibility is not provided by the customer, or the customer does not furnish information or provide access for hazard assessments.<br>**14.10.030 (E)** – If a water user or property owner fails to install or upgrade a required BPA as specified in Code within 30 days following written notification from the City, the City may temporarily shut off potable water service.<br>**14.10.060 (H)** – The City may terminate water service if the water user fails to have a BPA inspected and tested within the specified time period.<br>**14.10.110 (E)** – If the customer has not taken action to remedy a backflow issue after 30 days and this failure to act constitutes an immediate threat to the health, safety, or well-being of the public or environment, the director may take any and all measures required to abate the violation. |
| **3.1.3 (a) (2) (B)** – Install, inspect, field test, and/or maintain a BPA at a water user's premises | **14.10.030 (C) (1) –** The City or City's authorized agents shall have right of access to the customer's premises for any purpose related to ensuring backflow prevention and Cross-Connection Control.<br>**14.10.030 (D)** – The City may inspect water user premises to determine if the premises may require a backflow prevention assembly.<br>**14.10.050 (A-C)** – BPAs must comply with City improvement standards and meet specified standards.<br>**14.10.060 (A-H)** – No BPA shall be modified or moved without City approval. Any change requires a |

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|---|---|
| | new inspection and testing report. BPAs must be inspected and tested at least once annually by a Backflow Prevention Assembly Tester (BPAT). Inspection fees are the water user's responsibility. Any change in ownership, new connection, backflow incident etc., will trigger a new hazard assessment.<br>**14.10.070 (A-C)** – Freeze protection is the owner's responsibility.<br>**14.10.080 (A-B)** – The water user shall make necessary repairs, replacement, etc., for a BPA that does not pass inspection.<br>**14.10.080 (C)** – The water user is responsible to pay reinspection fees for as many times as necessary until the BPA complies with City standards.<br>**14.10.100 (A-C)** – Inspection, repair or replacement of a BPA must be performed by a licensed contractor or by City personnel. The cost for materials and labor shall be paid by the water user.<br>**14.10.110 (E) (1-3)** – It is unlawful to refuse to allow the City or its agents to enter upon the premises for the purpose of abating a violation. The costs shall be borne by the responsible party. The City assumes no risk associated with taking action to abate a violation. |
| **3.1.3 (a) (1) (C)** – Otherwise address in a timely manner a failure to comply with the cross-connection control program | **14.10.030 (E) –** the water user must install or upgrade a BPA within 30 days following written notification from the City.<br>**14.10.080 (B) –** BPAs shall be reinspected by a BPAT within 30 days.<br>**14.10.110 (A-B, D-E) –** Failure to maintain a BPA is a violation. If the BPA is not adequately maintained or has been bypassed or rendered ineffective, the director may terminate water service. Normally, the director provides a 25-day notice. However, the director may terminate water service immediately if there is a threat to public health and safety. Any user that violates Municipal Code or the CCCP is guilty of a separate offense for each day that the user commits, continues or causes a violation and shall be punished accordingly. The City is authorized to take any and all measure required to abate a violation after 30 days. |

Beyond Roseville Municipal Code, this CCCP is implemented according to the most current federal, state and city rules and regulations. Some of the most pertinent regulations are listed below:[4]

- Federal:
  - Safe Drinking Water Act (1974, amended 1986 and 1996)
  - Safe Drinking Water Act Amendments of 1986
- State:
  - California Health and Safety Code, HSC § 116275 (h); § 116375 subd. (c); § 116407; § 116555.5; § 116875; 1116555 subd. (a)(2); § 13521.2
  - SWRCB Cross-Connection Control Policy Handbook, adopted December 2023 and effective July 2024
  - California Plumbing Code – Part 5 of Title 24 (In City Municipal Code 16.04.100, the City of Roseville has adopted the California Building Code, which includes the Plumbing Code referenced here)
- Local:
  - Roseville Municipal Code, Chapter 14.10 and Chapter 16.04.100
  - Roseville Administrative Regulation 6.09
  - City of Roseville Design and Construction Standards

**Appendix B** of this plan provides Roseville Municipal Code. **Appendix C** provides Roseville Administrative Regulation 6.09.

The CCCPH and its associated Staff Report should be viewed as companion documents to the CCCP. Staff working in the Cross-Connection Control program must be trained on and have access to the City's CCCP and State CCCPH. The City also references *M14 Backflow Prevention and Cross-Connection Control Recommended Practices*, published by the American Water Works Association and the *Manual of Cross Connection Control*, published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research.

## 2.3 Overview of City and Water User Responsibilities

Cross-Connection Control requires the community and Water Utility to work together to keep the water system safe for all users. While details are provided throughout this plan, the following sections highlight the responsibilities of the City (as water supplier) and customer (as water user).

City Responsibility (Water Utility)

The Water Utility has primary responsibility for preventing unauthorized substances or water from unapproved sources from entering the PWS. It:

[4] Appendix G of the CCCPH lists many pertinent state and federal regulations related to cross-connection control.

- Ensures potability of water from treatment through the distribution system up to the point of connection to the water user's service line. This responsibility includes protecting the distribution system from potential contamination or pollution by the water user.
- Develops, implements, and maintains a cross-connection control and backflow prevention program that includes all the elements required by the CCCPH. The CCCPC is responsible to annually review and update any changes, as needed, to the CCCP.
- Maintains procedures and protocols to ensure that the CCCPC or a designated CCCS can be contacted within one hour.
- Maintains records on hazard assessments, location and type of each BPA, records related to the BPA, results of all BPA field testing, inspections, and repairs for at least three calendar years, certification records for all BPATs, authorized user supervisors, descriptions and follow-up actions on all backflow incidents, and public outreach and reports to regulatory entities and local entities as warranted or required.
- Conducts hazard assessments for all points of connection to the distribution system and updates the assessments as conditions change.
- Ensures that water users maintain and annually test their BPAs to verify proper operation. The City does this through managing contracts with vendors, assigning inspection schedules, and ensuring that all records related to the inspections are maintained in the City's Asset Management and Work Order System.
- Authorizes qualified BPATs and CCCSs.
- Conducts ongoing reviews with BPAT providers to ensure compliance with CCCP expectations. Sets regular coordination meetings to introduce new forms and procedures, discuss new regulations, and address questions from testers.
- In the event of a backflow incident, immediately shuts off water service to any property that has been identified as posing a high risk of hazard to public health and safety. Coordinates with City Development Services, Fire Department, City Attorney, EU Public Information Officer, and other City entities as appropriate.
- Notifies SWRCB and Placer County Health and Human Services Environmental Health Specialist of any known or suspected incident of backflow within 24 hours of the determination.
- Provides ongoing public outreach and educational materials to water users and the community.

<u>Water User Responsibility</u>

Water users are responsible for preventing contaminants and/or pollutants entering the PWS through their service connection.

As such, water users are responsible for:

- Responding to City requests for information regarding premise usage, piping complexity and other factors which could indicate a need for backflow prevention.
- Providing unimpeded access to their premises and any necessary information to support inspection of cross-connection potential and related hazard assessments.
- Obtaining all necessary permits from the City of Roseville before starting work on any plumbing modification.
- Exercising caution not to create cross-connections when modifying plumbing systems.
- Notifying the Water Utility immediately of any possible hazards, pollutants, or contaminants that might have entered Roseville's distribution system from the water user's internal system.
- Using only authorized BPATs for testing or repair and licensed plumbers for installation and replacement of backflow prevention assemblies.
- Paying all expenses incurred for the proper installation, operation, testing, maintenance, and relocation of approved BPAs.
- Installing, repairing/replacing, and testing backflow prevention assemblies upon notification of the need to do so, by the date specified in the notification.
- Maintaining accurate records of tests, inspections, and repairs made to BPAs, and providing the Water Utility with copies of these records; the records must be on forms approved by the Water Utility.
- Protecting BPAs and associated above ground piping from the potential of freeze damage as defined in Municipal Code 14.10.070.
- Buildings using recycled water or treating on-site auxiliary water sources for reuse on site may be required to have a User Supervisor on-site. Other industrial water users, may, at the discretion of the Water Utility, also be required to designate a User Supervisor if their premises have multiple piping systems that convey different types of fluids, some of which may be hazardous, and where changes in the piping system are frequently made. The User Supervisor is responsible for preventing cross-connections during the installation, operation, and maintenance of the water user's pipelines and equipment.

# 3 Hazard Assessments (Element 3)

This section provides information related to the following CCCPH element:

- ✓ **3. Hazard Assessments and Required Protection:** A PWS must survey its service area and conduct hazard assessments per CCCPH Chapter 3, Article 2 that identifies actual or potential cross-connection hazards, degree of hazard, and any backflow protection needed.

## 3.1 Initial Cross-Connection Hazard Assessments

As prescribed in CCCPH section 3.2.1, all assessments for each point of connection must consider the following:

1. The existence of cross-connections;
2. The type and use of materials handled and present, or likely to be, on the user premises;
3. The degree of piping system complexity and accessibility;
4. Access to auxiliary water supplies, pumping systems, or pressure systems;
5. Distribution system conditions that increase the likelihood of a backflow event (e.g., hydraulic gradient differences impacted by main breaks and high water-demand situation, multiple service connections that may result in flow-through conditions, etc.);
6. User premises accessibility;
7. Any previous backflow incidents on the user premises;
8. The requirements and information provided in the CCCPH; and
9. If the premises is protected with an existing backflow preventer, whether that preventer provides protection that meets the standards in the CCCPH.

Hazard Assessments are conducted by City Water Quality personnel under supervision of the CCCPC. Each hazard assessment must identify the degree of hazard to the City's distribution system as either a high hazard cross-connection, a low hazard cross-connection, or having no hazard. A listing of premises that the City considers to be high hazard and for which The City requires backflow protection (and the associated protection type) is found in CCCP **Section 4.1, Backflow Preventer Requirements**. This list is correlated with and extends beyond the CCCPH listing of high hazard cross-connection premises in CCCPH Appendix D.

The procedures for evaluating backflow prevention requirements for new and existing water users are as follows:

**New Residential & Non-Residential Services and Tenant Improvements**

For **new construction, new service connections, or tenant improvements**, permits with information regarding proposed water usage are reviewed by the City's CCCS as part of the plan review process and according to timetables determined in the City's permitting process. Proper selection and installation of a backflow prevention assembly, as determined by the City's CCCPC, shall be a condition of allowing a new water service connection.

Upon completion of the assessment, the CCCPC will determine what hazards are posed by the proposed plumbing system and whether there is a need for installation at the meter of either a double-check valve assembly (DC), reduced-pressure principle backflow assembly

(RP) or an Air Gap (AG). These requirements must be implemented before a permit is approved and water service to the premises is initiated.

Before water service is provided, the City's CCCS inspects the initial installation. During installation and prior to covering trenches, the CCCS shall visually inspect the connection and entire length of pipeline from the meter or service connection to the downstream side of the approved BPA before City acceptance.

The meter is installed and locked off until the applicant/contractor/water user schedules a test date and time with the CCCS and BPAT. The CCCS will then turn on water for observation of the initial testing. If the test is completed and passes, water is left on. If the test fails, water is turned off and locked until a retest is scheduled and the BPA passes inspection.

For **temporary service (temporary fire hydrant connections used for construction projects)** and **emergency services connections,** applications for temporary connections are reviewed by the City's certified CCCS within 14 days of notification of the request. City staff will install and test the meter connections to ensure that backflow protection provided is commensurate with onsite hazards.

**New residential and non-residential water users** moving into existing buildings must submit to a hazard assessment performed by the City's certified CCCS. Locked off services, or empty residences or buildings that have sat in this configuration through the inspection date of record shall have the premises reassessed by the CCCS and the assembly retested prior to obtaining service.

The CCCS assessment will be completed:

- **New Residential Service:** within 30-days of notification of the new service to the CCCPC.
- **New Non-Residential or Multi-Family Residential Service:** within 14-days of notification of the new service to the CCCPC.

Upon completion of the assessment, the CCCPC will determine what hazards are posed by the proposed plumbing system and whether there is a need for installation at the meter of either a DC, RP or AG.

As an alternative to the above requirement for a survey by the City's certified CCCS, the water user will be required to install an approved AG or RP for premises containment, as determined by the City, as a condition of service.

**<u>Existing Residential and Non-Residential Service:</u>**

For all existing services, water users must submit to a hazard assessment performed by the City's CCCS. Water users will be required to submit information via a water use

questionnaire about premise use within 60 days of notification from the CCCPC that a Hazard Assessment is required. Additional research may be performed, including a review of building records, permit applications, GIS tools, and onsite surveys.

The CCCS assessment will be completed:

- **Existing Residential or Non-Residential incomplete/non-responses or for responses that indicate special plumbing[5] or that indicate hazardous water use on the premises**: City staff will schedule and complete an assessment within 60 days of the request for information deadline.
- **Existing Residential Service:** within six months of the request for information deadline.
- **Existing Non-Residential or Multi-Family Residential Service:** within 60-days of the request for information deadline.
- Review of **non-testable backflow preventers used for internal protection under Water Utility ownership or administration** for installation and maintenance that complies with the CA Plumbing Code. City staff will schedule and complete an assessment within 60 days of the request for information deadline.

Upon completion of the assessment, the CCCPC will determine what hazards are posed by the premises plumbing system and whether there is a need for installation at the meter of either a DC, RP, or AG. All expenses of the installation shall be the water user's responsibility.

In the case of non-testable backflow preventers under Water Utility ownership or administration, all connections have RP protection for premises containment. To comply with CCCPH section 3.1.4 (b)(5) & (c) (5), the CCCPC will assign a detailed review of any internal non-testable backflow preventer for each premises when the hazard assessment is scheduled. The reviewing CCCS will note any issues related to CA Plumbing Code. These will be documented in work orders. The CCCPC will forward these findings to the Water Distribution Superintendent or Water Treatment Plant Chief Operator for corrective action. After the initial assessment, the CCCPC will assign periodic reviews of non-testable backflow preventers by means of utility preventative maintenance work orders.

As an alternative to the above requirement for a survey by the City's certified CCCS, the water user will be required to install an approved AG or RP for premises containment, as determined by the City, as a condition of service.

For all services, should the water user fail to supply the required information for a hazard assessment or fail to submit a completed water use questionnaire, the Water Utility may complete the assessment using a certified CCCS employed by the City or contracted by the

[5] **"Special Plumbing"** includes: a) lawn irrigation systems; b) solar heating systems; c) pools, hot tubs, rain barrels or landscape water features connected to the water system; d) an auxiliary source of supply, e.g., a well or creek; e) Piping for livestock watering, hobby farming, etc.; and f) residential fire sprinkler system.

City, or take other actions consistent with this plan and Municipal Code and bill the water user for the associated costs.

## 3.2 Cross-Connection Hazard Survey Schedule for Initial Hazard Assessments

The City has always concentrated its backflow prevention efforts on premises that have potential for high hazard cross-connections. To focus available internal staffing resources on oversight and management of cross-connection control and backflow prevention, including meeting CCCPH standards for ensuring initial and subsequent Hazard Assessments for all points of connection to the water system, the City plans to outsource annual inspections for non-City owned backflows by July 1, 2026.

In the interval from plan submission to the program restructure, City staff will continue conducting annual backflow inspections and ensure that all premises with the potential to fall into a high hazard category have current Hazard Assessments completed. In addition, the City will maintain its schedule for initial assessments on all new construction, new residential connections, and new non-residential connections as defined in the CCCP. The program restructure date then becomes the effective launch date for completing initial hazard assessments on all remaining existing premises.

The following table defines the schedule for completing initial hazard assessments, assuming a program restructure launch no later than July 1, 2026:

| Initial Assessment Task | Schedule | Est # of BPAs/Estimated # to be completed per year |
|---|---|---|
| Ongoing assessment of all new residential and non-residential connections | Within 14-days of application for water service. | (new – estimated 1400 per year) |
| Hazard assessment for commercial properties<br>• Assessment of all existing premises with the potential to be a high health hazard as defined in Appendix D of the CCCPH.<br>• Identification and assessment of premises with hazards in addition to those defined in Appendix D of the CCCPH. See an extended list in Section 4.1 of this plan.<br>• All remaining commercial properties estimated to have low or no hazard | By December 31, 2027 | c. 200-300 per month from 7/1/26-12/31/27 |

| Initial Assessment Task | Schedule | Est # of BPAs/Estimated # to be completed per year |
|---|---|---|
| Review of non-testable backflow preventers used for internal protection that are under COR Water Utility ownership or administration to ensure that they are installed and maintained according to the CA Plumbing Code. Note: all facilities have RP premises containment. | By December 31, 2036 | 3 per year |
| Residential connections that need to be reviewed for possible auxiliary water connections. | By July 1, 2027 | c. 20 total |
| All other residential connections. | By December 31, 2040. | c. 3,500 per year |
| Fire Protection (Sprinkler) Connections BPA assessment and installation to ensure that there is no less than DC protection for the distribution system as required by the CCCPH. | By July 1, 2034 | 1,600 per year |

## 3.3 Subsequent Hazard Assessments

A City CCCS will perform subsequent hazard assessments under one or several of the following criteria, as prescribed by the CCCPH in section 3.2.1 (e):

1. If a user premises changes account holder, excluding single-family residences.
2. If a user premises is newly or re-connected to the PWS.
3. If evidence exists of changes in the activities or materials on a user's premises.
4. If backflow from a user's premises occurs.
5. If the State Water Board requests a hazard assessment of a user's premises.
6. If the City concludes an existing hazard assessment may no longer accurately represent the degree of hazard.
7. Periodically, as identified in the table below.

For subsequent cross-connection hazard surveys, the CCCPC will require water users to submit to a hazard assessment performed by the CCCS within two months of notification by the CCCPC. The City's procedures for reassessment will follow the same protocols as described in **CCCP Section 3.1**. The CCCPC will inform the water user that the City's survey of the premises (whether by the City's CCCS or by a water use questionnaire completed by the water user) is for the sole purpose of establishing the City's minimum requirements for

the protection of the public water system, and that the required backflow protection will be commensurate with the CCCPC's findings on the degree of hazard.

Upon completion of the assessment, the CCCPC will determine what hazards are posed by the premises plumbing system and whether there is a need for installation at the meter of either a DC, RP, or AG. All expenses of the installation shall be the water user's responsibility.

The CCCPC will also inform the water user and any regulatory agencies making an inquiry that the City's Hazard Assessment, requirements for installation of backflow prevention assemblies, or other actions by the City's personnel or agent, do not constitute an approval of the water user's plumbing system or an assurance to the water user or any regulatory agency of the absence of cross-connections.

For all services, should the water user fail to supply the required information for a hazard assessment or fail to submit a completed water use questionnaire, the Water Utility may complete the assessment using a certified CCCS employed by the City or contracted by the City, or take other actions consistent with this plan and Municipal Code and bill the water user for the associated costs.

**Hazard re-assessment frequency is shown in the table below:**

| Type of Service | Re-Evaluation Frequency |
|---|---|
| Any services with reduced-pressure principle backflow assembly (RP) or Air Gap (AG) installed for premises containment if evidence exists of changes in the activities or materials on a user's premises or if backflow from a user's premises occurs. | Within 5 business days. |
| Any services with reduced-pressure principle backflow assembly (RP) or Air Gap (AG) installed for premises containment if the premises changes account holder, but evidence exists that there is no substantial change in the premises use or activity and the backflow assembly has a current inspection and confirmation of proper working order. | Every 10 years. |
| Non-Residential services with double-check valve assembly (DC) installed for premises containment. | Every 3 years and upon change in use or ownership. |
| Residential services with special plumbing where the City relies upon compliance with California Plumbing Code (CPC). | Every 4-5 years. (Questionnaire) |

| | |
|---|---|
| Residential services with DC installed for premises containment. | Every 4-5 years. (Questionnaire) |
| Residential services with no special plumbing or water use on the premises. | Every 10 years and upon change in use or plumbing system (Questionnaire) |

## 3.4 Designating a User Supervisor

The City and/or State Water Board may, at their discretion, require a water user to designate a User Supervisor when the user premises has a multi-piping system that conveys various types of fluids and where changes in the piping system are frequently made. The User Supervisor will be responsible for the avoidance of cross-connections during the installation, operation, and maintenance of the water user's pipelines and equipment.

As of the date of CCCP submission, the City has not designated a user supervisor within its service area. However, it will include consideration of the need for this function as hazard assessments are completed.

The User Supervisor represents the owner, tenant, or property manager as a liaison to the Water Utility. This individual must have the authority to carry out any of the Water Utility's requirements for protection of the water distribution system. It is recommended that the Site Supervisor be an employee who is permanently stationed at the use site. At a minimum, they must make frequent visits to the site.

The User Supervisor must hold and maintain a CCCS certification from a certifying entity approved under the CCCPH, be trained on the potential hazards, fluids used, potential concerns, and required backflow protection for the premises, and provide and maintain current contact information on file with the Water Utility.

User Supervisors:

a. Are responsible for the operation, maintenance, and prevention of potential cross-connections to the potable water system.
b. Must be present at all hazard assessments and cross-connection control surveys.
c. Must inform the Water Utility of any changes in premises piping.
d. Must inform the Water Utility of any cross-connection incidents.
e. Are expected to know the provisions contained in the CCCPCH.
f. Are expected to know the concepts of backflow and cross-connection prevention and emergency response procedures.
g. Are responsible for training personnel at the site on the proper protection of the potable water system.

# 4 Backflow Prevention Requirements (Element 4)

This section provides information related to the following CCCPH element:

- ✓ **4. Backflow Protection:** A PWS must ensure that actual and potential cross-connections are eliminated when possible or controlled by the installation of approved BPAs or AGs consistent with the requirements of CCCPH Article 3.

To ensure public health and safety, actual and potential cross- connections within the City of Roseville's water distribution system must be eliminated when possible or controlled by the installation of approved BPAs or AG's consistent with the requirements specified in Article 3 of the CCCPH.

## 4.1 Backflow Preventer Requirements

The Water user is solely responsible for compliance with all applicable regulations and for prevention of contamination of the plumbing system from sources within their premises. Any action taken by the City to survey plumbing, inspect or test backflow prevention assemblies, or to require premises containment (installation of DC or RP on service) is solely for the purposes of reducing the risk of contamination of the City's distribution system.

Any action taken by the City relative to backflow prevention shall not be construed by the water user as guidance on the safety or reliability of the water user's plumbing system. The City does not provide advice to the water user on the design and installation of plumbing.

Through regular hazard assessments, the CCCPC ensures that backflow protection required is no less protective than that which is commensurate with the degree of hazard at a user premises.

Unless otherwise specified, all high hazard cross-connections of the type described in this section of the CCCP shall be isolated with AGs or RPs. The City of Roseville does not approve the use of swivel-ell protection in place of an AG for premises containment.

For most installations, the City of Roseville standard is for RP protection to be installed. For most Fire Sprinkler installations, the City of Roseville standard is for Double Check Valve Backflow Preventer Assembly (DCDA) or Reduced Pressure Principle Detector Backflow Preventer Assembly (RPDA) protection to be installed.

All BPAs must be:

- Of a type approved under City of Roseville Construction Standards;
- Purchased and installed by the water user (at the Water user's expense) immediately downstream of the water meter in accordance with the City's standards described in CCCP **section 4.2, Approved Backflow Preventers and Installation**;

- Maintained, tested, and inspected in accordance with City standards as described in CCCP **section 6.2, Inspection and Testing of Backflow Preventers**:

Except for testing purposes, the Water Utility will not turn on water at the meter for new connections until the water user complies with the above requirements.

Failure to comply with the City's installation and maintenance requirements are a violation of the Municipal Code and may be subject to corrective action.

The following tables provide examples of those facilities and activities requiring backflow protection with the minimum level indicated. Items marked with ❦ are listed in CCCPH Appendix D. The Water Utility has listed additional premises types to add clarity.

Determinations regarding the type of backflow preventer to be installed are based on a CCCS inspection of the premises. This is a non-exclusive list and any facility or activity not shown may be required to install backflow prevention devices as determined by the CCCPC.

| **Premises requiring AG protection:** | |
|---|---|
| **Use** | **Description** |
| **Auxiliary Water Supply** | |
| Premises with an auxiliary water supply *If* interconnected with the City water distribution system. ❦ | Premises that are also receiving water from a well, reuse, or any source other than the public water supply. |
| **Portable Vessel** | |
| Tank Trucks | |
| Portable Spray or Cleaning Equipment which can be connected to the City's water system. (Depending on configuration, can be considered for an RP.) | |
| **Restricted** | |
| Radioactive Materials or Substances processing or storage | |
| **Utility** | |
| Drinking Water Storage tank overflow ❦ | If connected to a sump or storm drain |
| Recycled Water | If interconnected to piping system that contains water received from the City water distribution system. ❦ Includes tank filling and make-up water connections.<br><br>Any other use must comply with California Code of Regulations Title 22, Section 60313 through 60316. ❦ |

| | |
|---|---|
| Wastewater Treatment Facilities | Any wastewater treatment process, handling, or pumping equipment that is interconnected to a piping system connected to the water system. ❦<br><br>If not interconnected, RP protection may be considered. |

| **Premises requiring RP protection:** | |
|---|---|
| **Use** | **Description** |
| **Agriculture** | |
| Any Agricultural Premises ❦ | |
| Commercial Greenhouses | Participates in growing crops, plants, and/or produce for sale. |
| Commercial Nurseries | Participates in growing crops, plants, and/or produce for sale. |
| **Auxiliary Water Supply** | |
| Residential & non-residential premises with an Auxiliary Water supply if *not* interconnected to the City water distribution system ❦ | Premises that are also receiving water from a well, reuse, or any source other than the public water supply. |
| Premises with private water distribution mains ❦ | |
| Wells | |
| **Chemical or Biological Handling** | |
| Laboratories ❦ | Includes, but not limited to, teaching institutions, biological and analytical facilities. See also Healthcare. |
| Biotech facilities ❦ | |
| Hazardous (or potentially hazardous) Treatment Processes with Pumping Equipment | |
| **Commercial/General** | |
| Any commercial building | |
| Any premise with:<br>a. Carbonators (soft drink dispenser)<br>b. Complex plumbing<br>c. More than one connection to the distribution system<br>d. Plumbing subject to frequent changes | |

| | |
|---|---|
| e. Plumbing with a repeat history of cross-connections being established or reestablished<br>f. Mechanical equipment using chemicals with a potable water makeup line connected to the mechanical equipment<br>g. Non-potable water reuse systems utilizing pumps<br>h. Sewage pumps or ejectors | |
| Any non-residential or non-single family residential with an ornamental fountain | |
| Any commercial structure in which the specific business activity cannot be ascertained or is subject to change without a building permit | |
| Business park with a single meter serving multiple businesses ❦ | |
| Multi-family residential units | Four stories in height and typically more than two units. |
| Multi-storied building with over 40 feet (four stories) in height from service connection or that uses booster pumps or elevated storage tank to distribute water on site | |
| Premises with more than one connection to the City's water system. ❦ | Includes two or more interconnected services provided by one or more water suppliers to a single owner and/or operator complex. All connections must receive at least the same level of protection excluding fire protection when connected to the PWS distribution system (e.g. if one connection requires an RP then all connections must have RPs installed) |
| Premises with Solar Heating | Solar collection systems that contain any hazardous materials and have a direct connection to the City water system.<br><br>A solar system that is once through – such as domestic hot water systems – do not require protection |
| Agricultural Premises ❦ | Any premise that participates in growing crops, plants, and/or produce for sale. |

| | |
|---|---|
| | Includes commercial greenhouses/ nurseries |
| Airports ❦ | |
| Automotive | Includes paint & body work & repair and service facilities |
| Bars | |
| Beverage Processing or Bottling Plant | |
| Breweries/Distilleries | |
| Car Wash Facilities ❦ | Includes drive through and self-service with a wand |
| Commercial Kitchens or Food Preparation Facilities | Facilities that engage in largescale food processing for wide distribution |
| Dairy Processing Plants | |
| Dry Cleaning Facilities ❦ | |
| Fire Stations ❦ | |
| Florists | |
| Gas/Fueling Stations ❦ | |
| Graywater Systems ❦ | As defined in CA Water Code Section 14876, that are interconnected to a piping system that is connected to the City's water distribution system. Note that graywater systems are prohibited in Roseville (Municipal Code 14.12.020.C) |
| Grocery Stores | |
| Hotels/motels ❦ | |
| Industrial or Commercial Laundry Facilities ❦ | Includes laundromats |
| Marine port facilities ❦ | |
| Massage Therapy Clinics and Spas | |
| Mobile home park, RV park, or campgrounds with RV hookups | |
| Photo or Printing Services | Includes film processing facilities and commercial printers (newspapers, magazines). |
| Pet Groomers ❦ | |
| Pet Stores | |
| Personal Grooming Salons -- Hair and/or Nails | |
| Railroad Maintenance Facilities ❦ | |
| Restaurants | |
| Schools, Colleges and Universities | |
| Solid Waste Disposal Facilities ❦ | |
| Winery/Vineyard | |

| **Irrigation** | |
|---|---|
| Irrigation systems with capabilities for injecting fertilizers, or hazardous chemicals | |
| Irrigation Systems only single use meter | |
| Recycled Water | This includes premises where recycled water is used with no interconnection to the City water system.<br><br>Residences using recycled water for landscape irrigation as part of an approved dual plumbed use area established pursuant to CCR Title 22, sections 60313 through 60316 shall use, at a minimum, a DC ❦<br><br>The CCCPH has provisions for requesting alternative backflow protection plan that includes an annual inspection of both the recycled water and potable water systems and an annual cross-connection test of the recycled water and potable water systems pursuant to subsection 60316(a) in lieu of any BPA. ❦ *Roseville standard for recycled water installations is RP protection, with an annual inspection, and a shutdown test at intervals no less than three years.* |
| **Manufacturing/Industrial Processing** | |
| Aircraft and automotive manufacturers | |
| Chemical Plants ❦ | Any premises where the manufacturing, storing, compounding, or processing of chemicals occurs. Where chemicals are used as additives in the processing of products. |
| Electronics manufacturing ❦ | Computer/Electronic Components Plant |
| Dyeing/Ink Plant | Facilities that use dye vats in which toxic chemicals and dyes are used. Facilities with shrinking, bluing and dying machines directly connected to recirculating systems. |
| Fuel Storage or Dispensing Facilities | |
| Ice Manufacturing Plants | |

| | |
|---|---|
| Metal Manufacturing/plating ❦, Cleaning, Processing or Fabricating Plants | Facilities that deal with hazardous chemicals, industrial fluids, metals in solutions, cyanic, cleaning equipment, tans, vessels, reservoirs, and other hazardous substances that could contaminate the water supply. |
| Oil/Gas Production, Storage or Transmission Premises | Any petroleum processing or storage plant. |
| Paper and Paper Products Manufacturing Plants | |
| Plastic Manufacturing, Extruding and Injection Molding | |
| Pulp and Paper Mills | |
| Rubber Manufacturing | |
| Sand and Gravel Plants | |
| Solid Waste Disposal Facilities ❦ | |
| **Medical❦/Dental/Mortuary** | |
| Dental treatment/Surgery | All dental offices with water connected equipment ❦ |
| Kidney Dialysis Facilities ❦ | |
| Hospitals/Trauma Centers | Includes facilities with unprotected connections to laboratory equipment which may be chemically or bacteriologically contaminated, such as, steam sterilizers, autoclaves, specimen tanks, and pipette washers. |
| Medical Building and Clinics | Includes facilities with unprotected connections to laboratory equipment which may be chemically or bacteriologically contaminated, such as, steam sterilizers, autoclaves, specimen tanks, and pipette washers.<br><br>**Does not include:** Businesses that do not have medical equipment tied directly into the premise plumbing permanently or temporarily. |
| Mortuary Facilities | Includes autopsy facilities, Morgues/Mortuaries ❦, and Cemeteries ❦ |
| Nursing Homes | A facility that provides residential accommodations with healthcare. Includes convalescent facilities. |
| Sanitariums | |

| | |
|---|---|
| Veterinarian Facilities ❦, Kennels, Animal Boarding | |
| **Recreation** | |
| Indoor Fitness facilities with a Spa or Pool | |
| Golf Courses | |
| Public or Commercial Swimming Pool | Any location containing a swimming pool or hot tub for public use. |
| Water Parks | |
| **Restricted** | |
| Hazard Assessment Access Denied or Restricted ❦ | Any structure that requires a security clearance to access |
| Incarceration facilities (e.g. prisons) ❦ | |
| Military bases | |
| Radioactive material storage, processing plants or nuclear reactors ❦ | |
| **Utility** | |
| Wastewater:<br>1) Sewage handling facilities and 2) Wastewater lift stations and pumping stations. | These may be considered for RP protection, if not interconnected with the Water Distribution system ❦ |

## Required protection for premises with Fire Sprinkler Systems – Double Check Valve Backflow Preventer Assembly (DCDA) or Reduced Pressure Principle Detector Backflow Preventer Assembly (RPDA):

Retrofitting existing fire sprinkler systems shall require water users to provide the Water Utility, Fire Department, and Development Services with an updated hydraulic analysis to certify proper system operation with the additional pressure loss. The Development Services Department, in addition to the Fire Department shall review and approve all applications for construction or retrofit of fire sprinkler systems. DC protection is standard, with the exceptions noted below.

| **Commercial Fire Sprinkler Systems** | **Residential Fire Sprinkler Systems** |
|---|---|
| a. *Systems using only City water supply* ***–DC*** | a. *Multi-family Systems using only City water supply through a combination service connection (domestic and fire)* ***– DC*** |
| b. *Systems using City water supply and that also contain chemical additives, on site water storage, auxiliary water supplies or fire booster pumps* ***– RP*** | b. *Systems using City water supply through a combination service connection (domestic and fire) and that also contain chemical additives, on site water storage, auxiliary water supplies or fire booster pumps* ***– RP*** |
| c. *Existing systems with a single detector check will not require retrofit provided the check valves are tested in accordance with NFPA 25 requirements and do not require* | |

| | |
|---|---|
| *repair or replacement. If the existing single detector check does not meet NFPA 25 requirements and/or requires repair or replacement, then a **DC** shall be installed.*<br>***d.*** *Multi-family residential (anything above a duplex) or residential tall buildings (over four stories) are considered high hazard **– Fire Department to review protection.*** | *c. Systems that are constructed to current building standards using potable water piping in a complete flow through design (no dead ends) to prevent stagnant water and using only City water supply may be protected with a single spring-loaded check at the internal point of connection. This provision does not apply to parcels with more than one service connection.* |

## 4.2 Approved Backflow Preventers and Installation

The CCCPC will ensure that approved BPAs protect the public water system from contamination. All backflow preventers relied upon by the City to protect the public water system shall meet the definition of "approved backflow preventer" as contained in the CCCPH and be an approved type, make, model and size as specified in the City of Roseville Construction Standards. Under the CCCPH[6], the term "Approved Backflow Prevention Assembly" means an assembly that has been manufactured in full conformance with the standards established by at least one of the following:

1) Standards found in Chapter 10 of the Manual of Cross-Connection Control, Tenth Edition, published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USCFCCCHR); or
2) Certification requirements for BPAs in the Standards of ASSE International current as of 2022 that include ASSE 1015-2021 for the DC, ASSE 1048-2021for the DCDA & DCDA-II, ASSE 1013-2021 for the RP, and ASSE 1047-2021 for the RPDA & RPDA-II and must have the 1YT mark.

Final approval shall be evidenced by a "Certificate of Approval" for the USCFCCCHR and ASSE Specifications, issued by an approved testing laboratory.

Testing laboratories other than the laboratories listed above will be added to an approved list as they are qualified by the SWRCB. Backflow preventers that may be subjected to backpressure or backsiphonage that have been fully tested and have been granted a Certificate of Approval by an approved testing laboratory and are listed on the laboratory's current list of approved backflow prevention assemblies, may be used without further testing or qualification.

[6] CCCPH, Article 3, Backflow Prevention Assemblies, 3.3.1, p. 23.

Air Gap installation requirements:

1) The receiving water container must be located on the water user's premises at the water user's service connection unless an alternate location has been approved by the CCCPC;
2) All piping between the water user's service connection and the discharge location of the receiving water container must be above finished grade and be accessible for visual inspection unless an alternative piping configuration is approved by the CCCPC;
3) The CCCPC must ensure that the AG specified in CCCPH 3.3.1 (a) and CCCPH Appendix B has been installed; and
4) Any new air gap installation at a user service connection must be reviewed and approved by the State Water Board prior to installation.

Backflow preventer installation requirements:

1) BPA's must be installed in:
   a) accordance with the installation standards outlined in the most recently published edition of the CCCPH, or USCFCCCHR Manual of Cross-Connection Control, unless the manufacturer's requirements are more stringent;
   b) the orientation for which they are approved;
   c) a manner and location that facilitates their proper operation, maintenance, and accessibility for field testing or inspection;
   d) compliance with applicable safety regulations;
   e) a manner that will protect them from weather-related conditions such as flooding and freezing; and
   f) as close to the point of connection to the City's water supply as practical.
2) In no case shall a cut, tee, or tap be made between the water user's point of connection to the City's water distribution system and the BPA.
3) Installation of a BPA greater than 12 inches away from the water meter must be approved in advance by the CCCPC. The service line between the water meter and the backflow prevention assembly shall be sleeved or capped by concrete to prevent future interconnections. DC and RP assemblies shall be installed with a minimum side clearance of twelve inches, except that a minimum side clearance of twenty-four inches must be provided on the side of the assembly that contains the test cocks. The CCCPC may approve alternate clearances providing that there is adequate clearance for field testing and maintenance.
4) No post-manufacture modifications to BPAs shall be accepted.
5) All backflow prevention assembly installations shall be inspected by the CCCPC or CCCS prior to backfill, to ensure compliance with these requirements.
6) Installations shall conform to standard construction drawings and specifications of the City of Roseville.

Fire Protection Systems

In accordance with the CCCPH, the City will ensure that all fire protection systems in its service area are protected with a minimum of DC protection, as specified in CCCPH section 4.1, no later than July 1, 2034.

Temporary meter and construction connection requirements

RP assemblies attached to temporary meter ("combo-packs") or construction connections to City hydrants, blow-offs, or other City infrastructure shall be installed by a City Backflow Prevention Assembly General Tester upon submittal of the appropriate request form and accompanying deposit to the City.

The water user shall access water through a City-installed gate valve located downstream of an RP. Under no circumstances shall the water user operate hydrant, blow-off, or other City infrastructure. The cost of installation, inspection, and repairs will be charged to the water user. Attempts to move a temporary BPA without notifying the City may result in a fine and/or termination of connection to the City's water system.

The location of the installed temporary connection shall be determined by the City in its sole discretion following review of the request form. The City will inspect and certify the BPA prior to use and annually thereafter until completion of the project. If the water user requests to relocate the BPA within a year from testing, the BPA must be reinspected upon relocation and the inspection cost will be charged to the water user.

## 4.3 Retrofitting of existing BPAs

All presently installed backflow prevention assemblies which do not meet the requirements of this section but were approved assemblies at the time of installation and which have been properly maintained, shall, except for the field testing and maintenance requirements, be excluded from the requirements of these rules so long as the CCCPC is assured that they will satisfactorily protect the Water Utility's system. Whenever the existing device is moved from the present location or requires more than annual testing or when the CCCPC finds that the maintenance constitutes a hazard to health, the unit shall be replaced by an approved backflow prevention assembly meeting the City's requirements.

DCs installed to mitigate a health hazard shall be replaced with an approved RP or AG at the discretion of, and within the period specified by the City. Improper installations such as those found to be:

- an installation in a confined space;
- an installation with unapproved modifications; and
- an installation in an unapproved configuration or orientation

will be retrofitted with an approved method of backflow prevention installed in accordance with the City's installation requirements. These retrofits or remedies will be done at the expense of the water user when repair of the assembly is required to pass a functional test.

Notwithstanding anything contained within this plan, installations that create a risk to public health will require retrofit.

## 4.4 Schedule for Installation of Backflow Preventers

The following table shows the schedule for installation of BPAs when they are required (based on the hazard assessment).

| **Type of Service** | **Schedule** |
|---|---|
| New connections with cross-connection hazards | Before water service is initiated |
| Existing connections with CCCPH Appendix D-type hazards as augmented by the City (see CCCP section 4.1, **Backflow Preventer Requirements, Section 4.1**) | Within 90 days after notification |
| Existing fire protection systems using chemicals or supplied by unapproved auxiliary water source | Within 90 days after notification |
| Existing fire protection systems not using chemicals and supplied by the City's water | Within 1 year after notification and no later than July 1, 2034 |

The City may consider granting an extension of time for installation of a BPA for an existing connection if requested by the water user. Under Municipal Code 14.10.110(B), the City "shall notify the customer at least 30 days prior to the proposed determination of service; provided, however, that if the threat to the potable water supply is so immediate that a delay in terminating water service may threaten the public health and safety, the [EU] director may terminate service without prior written notice."

To comply with Municipal Code 14.10.030(E), the City will include in its written notice a reminder that the City must be notified regarding the water user's plan to comply no later than 30 days from the required installation date and that if the customer does not comply by the required installation date, the city may temporarily shut off potable water service "...until the customer has installed or upgraded, and tested, an approved assembly to the satisfaction of the [EU] director or designee."

# 5 Required Certifications (Element 5)

This section provides information related to the following CCCPH element:

- ✓ **5. Certified backflow prevention assembly testers and cross-connection control specialists:** The PWS must ensure all backflow prevention assembly testers and cross-connection control specialists are certified per CCCPH Article 4.

Certified BPATs identify and test all backflow prevention assemblies at the water user's service connection. The City allocates this effort to 1) City staff who annually review and test all City-owned BPAs and AGs; and 2) Vendors, contracted through an approved public process, who are assigned to conduct annual inspections for non-City owned BPAs at the schedule determined by the CCCPC. Certified BPATs perform the following activities:

- Backflow preventer inspection for proper installation; and
- Backflow assembly testing.

The Water Utility employs CCCSs to manage all Hazard Assessments, Reassessments, and BPA Re-inspections and respond to any potential backflow incident. Certified CCCSs perform the following activities:

- Cross-Connection hazard assessments and reassessments
- BPA re-inspection;
- Backflow incident response and evaluation.

## 5.1 General Requirements of Certified Personnel

All BPATs, whether City employed or City contracted, must:

1. Notify (via telephone) the CCCPC or designee within twenty-four hours if a backflow incident or cross-connection is observed during field testing. The City immediately investigates and discontinues service to the user premises if a backflow incident is confirmed, and water service shall not be restored to that user premises until the City receives a passing BPA field test from a certified BPAT and the assembly is protecting the water system.
2. Upload results of inspections into the City's Asset Management and Work Order system. In addition to test results, information that is documented includes the name of the BPAT, the BPAT's certificate number, date tested, test kit used to perform the test, and the backflow prevention assembly serial number. Failure to provide this information may subject the water user to having service discontinued and BPAT access rescinded.
3. If a BPAT finds an assembly that has been modified or incorrectly installed, they must immediately report the situation to the CCCPC or designee and not test the assembly. All assemblies must be as approved on the City of Roseville Design and Construction standards. Any modification of an assembly – such as relocation of valves, bypass arrangements, and jumper connections, whether temporary or permanent – invalidates the approval and is not permitted. Likewise, an assembly that has been installed in an orientation for which it was not designed or approved is not permitted.
4. If a BPAT finds a cross-connection hazard that is unprotected, that is, with no backflow prevention assembly or the wrong type of assembly, the tester must inform the water user of the hazard and potential health risk associated with it. The tester must report the situation to the CCCPC or designee immediately (by

telephone if the hazard has no protection at all). An assembly that is wrong type for the hazard should not be tested.

5. BPATs must report the removal or replacement of a backflow prevention assembly via the City's Asset Management and Work Order System. The Asset Management System tracks the history of decommissioned and new assemblies to the connection point.
6. Only a licensed plumbing company that is working with or employs a certified BPAT may repair, remove, replace or relocate a backflow prevention assembly. The BPAT will be required to submit a backflow assembly test report to the City upon completion of the repair so that a reinspection may be conducted.
7. Documentation of certifications, certification status and test kit accuracy verification and calibration information are maintained in the City's Asset Management and Work Order System. The system conducts verification checks to confirm that the BPAT certification and test kits are valid. BPATs are unable to submit forms until all required elements are complete. System notifications are generated for failed tests.
8. The City requires BPATs to submit current copies of their certification status and test kit verification of accuracy when:
    a) Accepted as a BPAT in the City's system; and
    b) At the time of certification renewal

    The BPAT certification information is checked against information provided by the American Water Works Association California-Nevada Section Credential Lookup database[7].
9. The City requires minimum inspection report content, which can be found in **Appendix F.**

## 5.2 Qualifications

BPATs and CCCSs who are approved to provide services within the City's water service area must furnish and regularly update the following information:

- Evidence of current BPAT or CCCS certification, as recognized in the CCCPH, in good standing;
- Make, model and serial number of *Approved* testing equipment (BPAT only);
- Evidence of test equipment verification of accuracy and/or calibration within the past 12 months (BPAT only);
- For non-city vendors: evidence showing possession of a license to operate a business in the City of Roseville. Repair vendors must have evidence showing possession of a California State License Board contractor's license and a BPAT certification.
- Each individual or vendor under contract with the City shall maintain general liability insurance in full force and effect, at his or her expense, for all cross-

[7] As of the date of plan development, CA-NV AWWA is the only recognized body under the CCCPH for BPAT certifications.

connections control and backflow device testing activities. Such insurance shall follow the City's standard guidelines for coverages related to construction services, include coverage for general liability, automobile liability, and workers compensation

- All individuals conducting backflow assembly testing or repairs must be certified and current as a Backflow Prevention Assembly Tester, as defined under the CCCPH prior to applying.
- No individual or vendor may work on equipment connected to Roseville's water distribution system if they have been removed from another agency's list or reprimanded by an agency, or water utility related to backflow prevention assembly testing, installation, and repair or reporting.
- The CCCPC may suspend or revoke approval of an individual or vendor from approved status if the individual or vendor fails or refuses to comply with the City's CCCP or engages in dishonest business practices within the City's service area, fails to maintain a valid BPAT or CCCS certification, or installs, repairs or tests backflow assemblies in a negligent manner. Failure to abide by any of these requirements may be grounds for exclusion for a time to be determined by the CCCPC.

The City may consider BPATs, CCCS, or repair vendors to have approved status to perform services in Roseville's water service area if they have current evidence of qualification that has been issued by another public water system with more than 1,000 connections having similar quality assurance requirements.

## 5.3 Code of Conduct

All individuals or vendors must conform to the following BPAT/ CCCS **Code of Conduct**:

The City of Roseville's Code of Conduct requires BPATs and CCCSs to act honestly, competently, and with integrity and to use their knowledge and skill for the enhancement of public health and the protection of Roseville's water system.

1. Be truthful and accurate in what they say, do and write.
2. Adhere to all rules, laws and regulations applicable to the profession.
3. Not misrepresent nor permit misrepresentation of their qualifications.
4. Not conduct themselves in a manner that subverts or attempts to subvert the laws and regulations applicable to the profession.
5. Not misuse the certificate, logo, and marks of the City of Roseville as they are property of the City.
6. Uphold and follow all policies and procedures required by the City of Roseville to remain in good standing.
7. Report any past or pending personal litigation or disciplinary action within the scope of the BPAT/ CCCS certification and resulting resolution to the CCCPC.

8. Not participate in any interest, activity, or influence which may be perceived to influence a decision purely for personal gain and not in the interest of public health and environmental safety.

Failure to adhere to the Code of Conduct is grounds for suspension or revocation of the City's BPAT/ CCCS approval.

## 5.4 Denial, Suspension or Revocation of BPAT/CCCS Approval

The City may deny, suspend, or revoke BPAT/CCCS approval upon any of the following grounds:

1. A BPAT is no longer in possession of a current and valid certificate as a Backflow Prevention Assembly Tester issued by a certification entity that qualifies under CCCPH Article 4.
2. A BPAT is no longer in possession of a current and valid test kit calibration certificate.
3. A CCCS is no longer in possession of a current and valid certificate as a Cross-Connection Control Specialist issued by a certification entity that qualifies under CCCPH Article 4 and CCCPH Appendix E.
4. The City determines that a material misrepresentation was included or omitted by the BPAT/CCCS/Vendor on the initial or renewal application for approved City of Roseville BPAT/CCCS/Vendor Status.
5. The City determines that the BPAT, in the performance of a test or repair required by the City, commits an act that may pose a threat to public health and safety.
6. A BPAT fails to submit backflow assembly test report forms within five (5) days of performing a backflow assembly test and within 24 hours if a backflow incident or an unprotected cross-connection is observed at the BPA or prior to the user premises during field testing.
7. A BPAT repeatedly submits incomplete or incorrect test reports.
8. A BPAT fails to report an assembly that has been modified or incorrectly installed.
9. The CCCPC determines that the BPAT's backflow assembly test report included a material misrepresentation or omitted key facts.
10. A BPAT/CCCS performs a backflow prevention assembly repair with parts other than Original Equipment Manufacturer (OEM) parts.
11. A BPAT performs a backflow assembly test using testing procedures other than those approved by the City.
12. A BPAT fails to ensure that all backflow prevention assemblies at the water user's service connection are identified and tested.
13. A BPAT/CCCS fails to report a cross-connection hazard that is unprotected, that is, with no backflow prevention assembly or the wrong type of assembly.
14. A BPAT fails to report the removal or replacement of a backflow prevention assembly on a Backflow Prevention Assembly Test Report.

15. A BPAT/CCCS vendor fails to maintain the required business/contractor's licenses and/or required insurance.
16. A BPAT performs a repair upon a backflow prevention assembly which the City has required to be replaced.
17. A BPAT/CCCS has complaints from multiple consumers.
18. If the City identifies fraud or gross negligence on the part of a BPAT/CCCS in the performance of their duties.
19. If a BPAT/CCCS is removed from another water agency's list of approved BPAT/CCCS.

## 5.5 BPAT/CCCS Appeals

Written notice of a denial, suspension or revocation of City BPAT/CCCS approval shall be served to the BPAT/CCCS by mail, in person, or however mutually agreed upon by the parties, with a description of the violation and supporting facts.

- The CCCPC makes a recommendation on denial, suspension, or revocation to the Water Distribution Supervisor and Water Utility Manager. The Water Utility Manager will make a determination based on the recommendations of the CCCPC.
- The Water Utility Manager's notice shall contain a statement of the time period of denial, suspension or revocation. The Water Utility may deny, suspend or revoke its BPAT/CCCS approval for a period between five (5) days and three (3) years, at the discretion of the Water Utility Manager.
- The notice shall contain a statement of the effective date of the denial, suspension or revocation. Suspension or revocation issued will be effective ten (10) calendar days from the date appearing on the written notice unless a timely appeal is filed.
- The notice shall contain a statement of the right to appeal the decision with the Environmental Utilities director. The appeal must be filed with the director within 30 days from the date of the notification letter.
- The decision of the Environmental Utilities director shall be final, with no further administrative right of appeal.

## 5.6 Quality Assurance

The City takes the following measures to ensure consistency and quality in its management of the cross-connection control and backflow prevention program. These steps are under the oversight of the CCCPC who will:

1. Ensure review within 30 days of receipt the backflow preventer inspection/test report forms submitted by pre-approved BPATs/CCCSs.
2. Works with City IT resources to ensure that the City's Asset Management and Work Order System conducts verification checks to confirm that certifications and test kits are valid.
3. Ensure that City personnel provide follow up on backflow assemblies and/or test reports that are deficient in any way.

4. Direct City personnel or BPAT vendors in conducting follow up tests on backflow assemblies tested by a BPAT (this is at the discretion of the CCCPC).
5. Require a BPAT to attend additional training, submit to re-examination or other demonstration of competency or any combination thereof, as may be deemed necessary.
6. Meet a BPAT at inspection sites without advance notice to review the BPAT's performance as it pertains to the CCCP. (The CCCPC does not need to make their presence known to the BPAT and may review the BPAT performance from a distance or using video recording.)
7. Notify the SWRCB of any suspected falsified report or malfeasance on the part of a BPAT.
8. Require a retest on BPAs which have questionable test results.
9. Require a retest if the BPAT finds a field condition where test report information has changed (e.g., the serial number, model number, location, or other information does not match information provided at the time of installation) and these changes are not on file in the City's Asset Management and Work Order System. These may indicate an unauthorized change implemented by the customer without advance approval. The BPAT should note the changes in the Inspection Report, not complete a test, and refer the issue to the CCCPC for further action.

City personnel are encouraged to report incidences of fraud or gross incompetence or negligence on the part of any BPAT, CCCS, or CCCPC to the Water Distribution Superintendent, Water Utility Manager, and/or Environmental Utilities Director. Upon review and verification of the reported information, these leaders will report to certifying entities as well as any other agencies or authorities as deemed appropriate.

# 6 Backflow Prevention Assembly Inspection, Testing, and Repairs (Element 6)

This section provides information related to the following CCCPH element:

- ✓ **5. Testing of Backflow Assemblies:** The PWS must develop and implement a procedure for ensuring all BPAs are field tested, inspected, and maintained and AGs are inspected and maintained in accordance with CCCPH Section 3.3.3.

## 6.1 Rights of Inspection

BPAT/CCCS personnel having proper identification as an authorized City of Roseville representative shall be permitted to enter the water user's building/premises at reasonable times for the purpose of inspecting for the presence or absence of cross-connections, or any backflow prevention device connected to the water system.

The City shall deny or discontinue water service, after reasonable notice to the occupants, to any building/premises for refusal or failure to comply with a request for access for a hazard assessment, BPA inspection, or repair.

## 6.2 Inspection and Testing of Backflow Preventers

All backflow preventers that the City relies upon for protection of the water system will be subject to inspection and, if applicable, testing. BPAs and AGs installed in the City's service area must be visually inspected and field tested no less than annually.

The due date and routing schedule are tracked in the City's Asset Management and Work Order System, which maintains an inventory of all points of connection, associated hazards, BPAs, and test history data. This system also generates reports, annual testing notification letters, and inspection results for communication with the water user, as applicable.

All inspection and testing of backflow assemblies are completed by a certified BPAT. Testing of BPAs and AGs are completed:

- At initial installation
- After any modifications to an AG or if a BPA is repaired, depressurized, or moved
- Immediately after a backflow incident occurs
- Annually after the initial installation
- As required by the CCCPC, if testing indicates repeated failures
- After loss of water flow/pressure to the facility
- After repair or maintenance to the water distribution system at or near the premises.

The City may require a backflow preventer to be inspected and/or tested more frequently than once a year when it protects against a high-health hazard or when it repeatedly fails annual tests or inspections.

Inspection and testing of backflow preventers will be as follows:

- The City's certified CCCS will inspect backflow preventers for proper application (i.e., to ensure that the preventer installed is commensurate with the assessed degree of hazard).
- For City-owned water treatment/storage facilities, the City's CCCS will conduct a cross-connection survey of the facilities annually to ensure internal protection is adequate. It will also schedule review, either at an annual inspection or during a hazard assessment, of any non-testable backflow preventers for compliance with California Plumbing Code.
- Either a certified CCCS or BPAT will perform inspections of backflow preventers for correct installation.
- A certified BPAT will test all assemblies relied upon by the City to protect the public water system.

- All re-inspections of repaired BPAs will be completed by a City CCCS or BPAT, with inspection costs charged to the water user.

No backflow prevention assembly required according to CCCPH and City standards may be used unless the assembly is in good repair. Assemblies which are found not to be in good repair shall be repaired and re-tested as required immediately upon discovery.

When assemblies are determined to be defective, the City will send the water user a fail notice with a compliance date and follow-up instructions. All issues shall be remedied by the water user within 30 calendar-days of the fail notice date, or service will be discontinued. If service is discontinued, the water user shall pay the required fees as specified in the City's "Schedule of User and Regulatory Fees."

If a backflow incident or cross-connection is observed during field testing, the City will immediately investigate according to the procedures identified in CCCP section **7.2 Backflow Incident Response Procedure**. If a backflow incident is confirmed, the City will discontinue service and water service will not be restored until the City receives confirmation of a passing BPA field test from a BPAT and the assembly is protecting the PWS.

## 6.3 Responsibility for Inspection and Testing and Notification Regarding Results

Under City Administrative Regulation 6.09 (**Appendix C**), the Environmental Utilities Department, through its Water Utility, is responsible for ensuring installation, inspection, testing, and repair of all City-owned backflow preventers and air gaps. Water Utility staff perform all related services. Costs associated with these services are charged to the City Department whose operation is served by the preventer.

Under Municipal Code Chapter 14.10 (**Appendix B**), the water user is responsible for installation, inspection, testing, and repair of backflow preventers that serve non-City owned premises. As support to customers and to ensure that annual inspections are completed on a timely basis by certified personnel, the City administers procurement, management, and scheduling of BPAT vendors. Costs associated with these services are the responsibility of the water user.

The BPAT vendors access a portal provided by the City to upload test reports into the City's Asset Management and Work Order System. In the event of a failed test, the City notifies water users regarding the results and follow-up actions. The City will provide information on passing results upon request.

All assemblies relied upon to protect the public water system shall be tested in accordance with approved test procedures as specified in CCCPH Articles 3 & 4 and CCCP section **6.2**

**Inspection and Testing of Backflow Preventers**. All tests must be documented on the form and format specified by the Water Utility and uploaded to the City's database portal within five (5) calendar days of the test date. Failing test results must be submitted within 24 hours of the test date.

The test procedures used are those specified in the most recent edition of the *Manual of Cross-Connection Control*, published by the USCFCCCHR, and approved by the State Water Board. There is no alternate test procedure allowed.

The City will notify the SWRCB when it suspects a test report is falsified, for their follow-up. Retesting may be required, at the City's discretion, on backflow assemblies which have questionable test results or on assemblies which have test report information which has changed (e.g., the serial number, model number, location, or other information does not match information provided at the time of installation) and no prior notice was given.

## 6.4 Repairs

The following standards apply to any repairs of backflow preventers within the City's service area:

- The City will prepare and send a failure notice to the water user within one business day of receipt of the failure notice. Contact information for the City will be provided in the notification letter. Copies of notices will be sent to the owner and occupants of the premises (if different from the customer).
- Any assembly that fails routine testing shall be repaired within thirty (30) days of the date on the notification letter.
- The water user must notify the City if repairs cannot be made within the specified period.
- Only Original Equipment Manufacturer (OEM) parts shall be used to repair backflow prevention assemblies. If OEM replacement parts are not available, then an approved backflow prevention assembly must be installed to replace the existing assembly.
- Only CSLB licensed contractors that are certified as BPATs by an entity approved by the CCCPH may perform repairs.
- The CCCPC shall determine the level of risk the failed assembly presents to the water supply and, if necessary, will recommend discontinuing water service.
- Repairs shall be made so that the BPA being repaired is returned to Original Manufacturer Specifications as indicated by the Manufacturer Flow Chart.
- Pursuant to section 116875 of California Health and Safety Code, any failed assembly supporting potable water that is not "lead free," that is not specifically exempted by section 116875, must be replaced with an approved "lead free" assembly rather than being repaired. The threshold for instituting a replacement will be any repair over $100, including labor charges.

## 6.5 Enforcement and Appeals

In the event of water user non-compliance with the requirements in Municipal Code Chapter 14.10 and this Plan, it may become necessary to discontinue water service through connection(s) to the parcel, or parcels under common control. The CCCCPC will determine instances when water shut-off is warranted and review potential actions with the Water Distribution Superintendent and Water Utility Manager.

In the event water service is discontinued, the Roseville Fire Department and Placer County Registered Environmental Health Specialist located in the Health & Human Services Department will be notified.

Conditions that warrant discontinuance of service include, but are not limited to the following:

**A. Clear and immediate hazard:**

1. When the CCCPC identifies a water use that represents a clear and immediate hazard to the potable water supply that cannot be immediately abated.
2. Direct or indirect connection between the public water system and a sewer line.
3. Unprotected direct or indirect connection between the public water system and an auxiliary water system

For conditions 1. through 3., the City will take the following steps:

- Make a reasonable effort to advise water user of intent to terminate water service.
- Terminate water supply and lock the service valve. The water service will remain inactive until correction of the violation has been approved by the CCCPC.

**B. For issues which must be corrected, but in the CCCPC's determination do not present a clear and immediate hazard:**

4. Refusal to allow inspection of an air gap separation.
5. Refusal to install a required backflow prevention assembly.
6. Refusal to test a backflow prevention assembly.
7. Refusal to repair or replace a faulty backflow prevention assembly.
8. Refusal to upgrade a backflow prevention assembly to the necessary level of protection.
9. Any refusal to comply with the requirements set forth in the City's Cross-Connection Control Plan.

For conditions 4. through 9., the City will notify the water user in writing at least 25 calendar days prior to the proposed determination of service specifying the

corrective action needed and when it must be completed. If no action is taken within the allowed time periods, water service may be terminated.

**Repair.** When a water user fails to respond acknowledging receipt of the original fail letter (section 6.3**, Responsibility for Inspection and Testing and Notification Regarding Results**), and fails to respond to follow-up communications, including emails and phone calls, within the first two weeks after the notice is sent, the City will take the following actions:

1. City staff will hand deliver the original fail letter to the water user premises and complete a "notice of service" to document delivery of the fail notice. If the water user is not also the owner of the premises, an additional copy of the fail notice will be mailed to the owner.
2. If the water user still has not responded within 7 days of the correction deadline and the CCCPC has verified receipt of the letter in the prior week, the City will email the water user to inform them that failure to satisfactorily respond to the notice will result in water service shut-off.
3. If the owner and/or occupants have not responded satisfactorily to the City within 2 days of the compliance date, the CCCPC will implement 48-hour water service shut-off procedures. If the water user's service is discontinued due to non-compliance, the water user shall be subject to a backflow reinspection fee when the service is reconnected. Upon seeking renewed service from the City, the backflow prevention assembly being returned to service must be tested and associated fees for reinspection paid in accordance with the City's fee schedule.

In addition to the grounds for termination set forth in this section, the City may terminate potable water service to any premises if a required BPA or AG is removed by the water user, or if the CCCPC finds evidence that an installed BPA or AG has been bypassed or rendered ineffective.

If it is determined that water shut-off is not a viable option (for instance, in the need to maintain fire sprinkler capability) and the customer has failed to act within the required deadline, the CCCPC may recommend to the Water Distribution Supervisor and Water Utility Manager that the City take action to abate the problem up to and including repair or replacement of the assembly. The City may choose to have the necessary repairs, replacements, or installations completed by a contractor and pass the cost for such service plus an administrative penalty on to the water user. The water user will be notified in writing specifying the corrective actions being taken and date by which it must be done. If no action is taken by the Consumer, then work shall begin. If the water user fails to pay the cost and administrative penalty within 30 days of notification, the City may cause a lien to be placed against the property in accordance with Municipal Code.

**Appeals.**[8] In accordance with Municipal Code 14.10.110(C), a customer who has received a notice of termination of water services may appeal the decision in writing to the Environmental Utilities Director. The appeal must be received within 10 days From the date of the compliance order, in which case the termination of services will not occur until after the appeal is held. The appeals process shall not delay a water shut-off if the CCCPC has determined that the issues being addressed pose a clear and immediate hazard to the potable water supply.

Under Municipal Code 14.10.110(F) if a customer has been charged for actions taken by the city to abate a violation, the City will notify property owner of the costs associated with the abatement. The property owner and/or responsible party may file a written protest objecting to the amount of the abatement assessment within 10 calendar days after the City's issuance of the notice. The EU director shall conduct a hearing on the appeal within 30 calendar days from the date of receipt of the notice of the appeal. Appellant may appear at the hearing in person or may submit a written statement signed under penalty of perjury in lieu of a hearing. Following the hearing, the director shall make written findings of fact as to whether the abatement was proper. The director's decision shall be final.

## 6.6 Fees and Charges

Administration of this Program requires the collection of fees as appropriate that cover services performed that are not considered an appropriate charge under Water Rates. These fees will be reviewed annually and be published in the City's Schedule of User and Regulatory Fees or Fine and Bail Schedule. They include:

- BPA annual inspection fees (allocated monthly)
- BPA reinspection fees
- Repair fees
- Cross-Connection testing fees
- Construction Hydrant Program fees for installation and testing of BPAs and cost of water provided
- Fines and penalties
  - If the City must take action to make a repair or install a backflow;
  - If the City must hire a CCCS to complete a hazard assessment in the event of customer non-compliance;
  - For tampering with or moving a BPA without approval

Any water user that violates requirements related to backflow prevention and cross-connection control shall be guilty of a separate offense for each day during which any

[8] The Appeals provisions discussed in this and the next paragraph are currently draft changes to Municipal Code. Prior to implementing, City staff must check to ensure that this language has been adopted.

portion of which any such user and/or person commits, continues, permits, or causes a violation and shall be fined accordingly.[9]

# 7 Recordkeeping (Element 7)

This section provides information related to the following CCCPH element:

- ✓ **7. Recordkeeping.** The PWS must develop and implement a recordkeeping system in accordance with CCCPH Section 3.5.1

The following records are required to be maintained by the CCCPH and must be made available to the SWRCB upon request. The timeframes below meet CCCPH standards. As a general rule, the City's Asset Management and Work Order System will retain records for up to ten years, with longer retention, if needed, in the case of Hazard Assessments:

1. The two most recent hazard assessments for each user premise, conducted pursuant to CCCPH section 3.2.1 (Hazard Assessment);
2. For each BPA, the associated hazard or application, location, owner, type, manufacturer and model, size, installation date, and serial number;
3. For each AG installation the associated hazard or application and the location, owner, and as-built plans of the AG;
4. Results of all BPA field testing and AG and swivel-ell[10] inspections for the previous three calendar years, including the name, test date, repair date, and certification number of the backflow prevention assembly tester for each BPA field test and AG and swivel-ell;
5. Repairs made to, or replacement or relocation of, BPAs for the previous three calendar years;
6. The most current cross-connection test (e.g. shutdown test, dye test);
7. If a user supervisor is designated for a user premise, the current contact information for the user supervisor and water user, and any applicable training and qualifications as described by CCCPH section 3.2.2 (f);
8. Descriptions and follow-up actions related to all backflow incidents;
9. If any portion of the cross-connection control program is carried out under contract or agreement, a copy of the current contract or agreement;
10. The current Cross-Connection Control Plan as required in CCCPH section 3.1.4; and
11. Any public outreach or education materials issued as required in CCCPH section 3.1.3 (a) (9) for the previous three calendar years.

[9] Language is being strengthened in Municipal Code (14.10.110.D). City Staff must check to ensure the code changes have been approved before implementing.

[10] The City doesn't permit swivel-ell installations.

## 7.1 How records are maintained

The Water Utility maintains records documenting actions taken related to the cross-connection control program. It is the responsibility of the Cross-Connection Control Program Coordinator to ensure that files are kept current.

For operating purposes, the City's Enterprise Asset Management and Work Order System maintains information on all service connections, associated degree of hazard, and installed backflow preventers. Sample views from the Asset Management and Work Order System are shown in **Appendix E**.

The system is used to generate the annual inspection plan and annual inspection work orders. It also tracks results from testing, repairs/replacements, and re-inspections, if required. It also maintains a record of notification and violation letters along with email correspondence. These records form the basis of any enforcement action or legal defense by the City.

Original records, such as project submittals, correspondence, plans, etc., are kept on file, either directly with the City's CCCPC, or if in conjunction with a larger project, on file with the Development Services Department. These files are archived according to the City's Records Retention Schedule. Records are kept both in paper and electronic format.

Copies of records related to vendor contracts, the CCCP, and public outreach/education materials are maintained in the Water Distribution Division's electronic files for cross-connection control and backflow prevention.

## 7.2 Reports to be Prepared and Submitted to SWRCB

The CCCPC or a CCCS under their supervision will prepare the following reports required by CCCPH including:

1. Cross-connection control program activities report for the calendar year, to be sent to SWRCB when requested;
2. Cross-connection control program summary information, when required, or when there are significant policy changes; and
3. Backflow incident reports to SWRCB.

The CCCPC will prepare and sign all CCC-related reports required in conformance to CCCPH before submission to the SWRCB. At a minimum, a certified CCCS will prepare and sign any exceptions reports, which will be reviewed by the CCCPC.

# 8 Backflow Incident Response Procedure (Element 8)

This section provides information related to the following CCCPH element:

- ✓ **Backflow Incident Response:** The PWS must develop and implement procedures for investigating and responding to suspected or actual backflow incidents in accordance with CCCPH Section 3.5.2.

## 8.1 Backflow Incident Response Procedure

The City's backflow incident response procedure and report format is included in **Appendix H.** The CCCPC and will ensure that responsible employees are trained on the procedure on an annual basis. Incident response must include, but is not limited to:

1. Consideration of complaints or reports of changes in water quality as possible incidents of backflow;
2. Notification of affected service area population;
3. Notification and coordination with other agencies, such as SWRCB, and the local health jurisdiction;
4. Identification of the source of contamination including water quality sampling and pressure recording;
5. Isolation of the source of contamination and the affected area(s);
6. Cleaning, flushing, and other measures to mitigate and correct the problem;
7. Application of corrective actions to prevent future backflow occurrences; and
8. Documentation of the investigation, and any response and follow-up activities.

Common scenarios causing unintended backflow may include the following:

1. Main water supply pipe break;
2. Internal facility water pipe break;
3. Internal facility – unprotected cross-connection allowing contaminant to flow into potable water distribution system;
4. Report of illness due to water supply contamination;
5. Report of discolored water or other changes in water quality; and
6. An issue detected through water quality sampling and pressure recording.

The City's response to any of these occurrences includes an onsite inspection to determine the source of contamination and extent of the backflow event. Depending on the nature of the event, samples may be taken, the water line flushed, or the water turned off to contain the contamination. All actions taken related to the investigation and any response or follow-up activities will be recorded in the City's Asset Management and Work Order System.

## 8.2 Backflow Incident Notification

In the event of a cross-connection incident, which contaminates the City's water supply, or occurs within the premises of a consumer served by the City, the CCCPC, through the Water Distribution Superintendent and Water Utility Manager, shall notify the SWRCB and Placer County Registered Environmental Health Specialist located in the Health & Human Services Department of any known incident of backflow within 24 hours of the determination. Contact information is found in **Appendix A**.

If the incident occurs after hours, the Water Distribution Superintendent, CCCPC or designated CCCS will contact the SWRCB and Placer County Health and Human Services Department using their emergency after hours contact numbers.

If required by the SWRCB, the City will:

- Issue a Tier 1 public notification pursuant to CCR, Title 22, Section 64463.1.
- Prepare, by a date specified by the SWRCB, a written incident report describing the details and affected area of the backflow incident, the actions taken by the City in response to the backflow incident and follow up actions to prevent future backflow incidents. The written report shall contain, at a minimum, the information in the Backflow Incident Reporting Form (**Appendix H**).

## 8.3 Technical Resources

The City will use the most recently published edition of the manual, *M14 Backflow Prevention and Cross-Connection Control Recommended Practices*, published by the American Water Works Association as a supplement to the Backflow Incident Response Plan.

# 9 Public and Staff Education (Element 9)

This section provides information related to the following CCCPH element:

- ✓ **9. Public Outreach and Education:** The PWS must implement a CCC public outreach and education program element that includes educating staff, customers, and the community about backflow protection and CCC. The PWS may implement this requirement through a variety of methods.

The City maintains a robust utility public education and outreach program. Most information is prepared and disseminated through the Environmental Utilities Marketing and Communications office. Outreach and education activities include public meetings, bill inserts, social media, website, utility facility open houses, etc. The City's Utility Exploration Center is another avenue used to inform the public about utility concepts, including the importance of preventing cross connections. Periodic educational programs are presented in the Center’s exhibits, school programs, and events.

## 9.1 Water user/Community Education

Annually, at the start of each fiscal year, the CCCPC meets with the Public Information Officer (PIO) and UEC Interpretive Services Supervisor to plan Cross-Connection Control and Backflow Prevention outreach for the next two fiscal years. This enables the PIO to plan and budget for related outreach and education.

All water users will receive information on concepts related to cross-connection control and backflow prevention each year. Through these efforts, the City will build a foundation of awareness to encourage the community to be an ally in ensuring a safe water supply.

The PIO supports Water Utility staff in the development of educational brochures that are delivered along with the annual inspection communications to convey the importance of preventing cross connections and maintaining backflow prevention through regular testing.

Literature on the potential causes and hazards of cross-connection and backflow and how to avoid them are:

- Delivered to water users;
- Provided at City events;
- Given to homeowners who receive water-wise house-calls;
- Provided to new water users who activate a utility account; and
- Distributed to plumbers, repair vendors, and other interested in providing backflow prevention services in the utility service area.

City staff will produce the public education materials or may obtain information and literature from:

- American Water Works Association (AWWA)
- California/Nevada Section of American Water Works Association (CA/NV-AWWA);
- University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USC FCCCHR);
- Other national backflow prevention associations, such as the American Backflow Prevention Association (ABPA); and/or
- Other water utilities and water-related associations.

Educational literature and programming may include, but is not limited to, the following subjects:

- Cross-connection hazards in general;
- The water user's role and responsibility to prevent contamination to the public water system;
- Information on how backflow preventers work, and the different ways they are used to reduce hazards;

- Importance of annual inspection and/or testing of backflow preventers; Irrigation system hazards and corrective actions;
- Fire sprinkler cross-connection hazards;
- Thermal expansion in hot water systems when backflow preventers are installed for premises containment;
- Cross-connection hazards related to point of use treatment (i.e., household softeners, reverse osmosis units, etc.); and
- Cross-connection hazards related to auxiliary water supply (i.e., privately-owned wells, graywater, or other non-potable water use).

## 9.2 Staff Education

The CCCPC is responsible to ensure that all utility staff who may be called upon to support the Cross-Connection Control and Backflow Prevention program are trained on the CCCPH and CCCP. At minimum, the CCCPC must review this information annually with staff whose responsibility includes protecting health and safety through the cross-connection control program.

The Water Utility regularly rotates water distribution field staff through program sections to ensure that all are cross-trained in utility operations. This ensures that employees who work most directly with the delivery of water to customers are fully versed in backflow protection. In addition, the City maintains a core team within the Water Quality unit that maintain either BPAT or CCCS certifications.

# 10 Coordination with Local Entities

This section provides information related to the following CCCPH elements:

- ✓ **10. Local Entity Coordination:** A PWS must coordinate with applicable local entities that are involved in either CCC or public health protection to ensure hazard assessments can be performed, appropriate backflow protection is provided and seek assistance in the investigation of backflow incidents. Local entities may include but are not limited to plumbing, permitting, or health officials, law enforcement, fire departments, maintenance, and public and private entities.

Coordination with local entities is important when protecting the public water supply. The CCCPC works with a variety of city, local, and county entities as described in the table below. Contact information for key stakeholders is provided in **Appendix A**.

| Entity | Nature of Coordination |
|---|---|
| Roseville Fire Department | Support on corrections to non-standard fire protection backflows and/or water user non-compliance on fire protection backflows. Coordination in the event of a service shut-off. |
| Roseville Development Services | Source of information on potential premises use changes through new installations and water user permit applications, which may trigger a hazard assessment. Enforcement of City of Roseville Construction Standards. |
| Roseville Utility Billing | Source of information on premises change of ownership, which may trigger a hazard assessment. Source of information on changes to water user contact information. |
| Environmental Utilities Public Information Officer | Must be notified immediately in the event of any backflow incident to support community outreach and communication, as needed. |
| Placer County Health and Human Services | Placer County has a Registered Environmental Health Specialist located in the Health & Human Services Department. This person should be notified within 24 hours of any backflow incidents. Contact information is found in **Appendix A**. |
| Contracted Backflow Inspection Vendor | The City will outsource annual backflow inspections for all non-City owned BPAs by July 1, 2026. As of the date of plan submission, procurement for these services is underway. |

# Appendix A – Contact Information for Cross-Connection Control Personnel (Current as of 6/15/2025)

***The following individuals are responsible for day-to-day implementation of the Cross-Connection Control Program:***

| Title | Name | Contact Information |
|---|---|---|
| Cross-Connection Control Program Coordinator, Water Quality Supervisor<br><br>LEAD RESPONSIBILITY FOR RESPONDING TO A CROSS-CONNECTION INCIDENT | Jamie Po'oi<br><br>CCCS Certification # 02258 | Email: JPo'oi@roseville.ca.us<br>Mobile: (916) 542-5059 |
| Senior Water Distribution Worker | Patrick Whitcomb<br><br>CCCS Certification # 02783 | Email: PWhitcomb@roseville.ca.us<br>Mobile: (916) 542-5004 |
| *Use the current Water Utility Crew Contact list for Water Quality crew members assigned on rotation to the Cross-Connection Control Program.* | | |
| Office Assistant II | Kathleen Delaney | Email: KEDelaney@roseville.ca.us<br>Mobile: (916) 746-1705 |
| 24-Hour CCC Contact: In the event of an emergency, the on-call Water Distribution Lead will contact the Water Distribution Supervisor on duty.<br><br>If it is determined that the emergency constitutes a backflow incident, on-call staff will notify the CCCPC and Water Distribution Superintendent. | | On-call #: (916) 257-9610 |
| Backflow Inspection Vendor(s) Contract Liaison | To be implemented in 2026 | (TBD) |

***The following individuals have review and reporting authority for the Cross-Connection Control Program:***

| Title | Name | Contact Information |
|---|---|---|
| **Primary Oversight:** | | |
| Water Distribution Superintendent* | Robert Strebel | Email: RJStrebel@roseville.ca.us<br>Office: (916) 774-5753;<br>Mobile (209) 810-5920 |

| **Organizational Oversight:** | | |
|---|---|---|
| Environmental Utilities Director | Sean Bigley | Email: SBigley@roseville.ca.us<br>Office: (916) 774-5513 |
| Assistant Environmental Utilities Director | Devin Whittington | Email: DWhittington@roseville.ca.us<br>Office: (916) 774-5543 |
| Water Utility Manager** | George Hanson | Email: GHanson@roseville.ca.us<br>Office: (916) 746-1764 |
| **State Oversight** | | |
| State Water Resources Control Board – Division of Drinking Water District Office | Name: District 9 | Phone: (916) 449-5681<br><br>District Engineer:<br>Kooshiar Vaghefi<br>Water Resource Control Engineer<br>SWRCB-DDW-District 09 Sacramento<br>Phone Number: (916) 327-9848<br>Kooshiar.Vaghefi@Waterboards.ca.gov |

*Designated representative for reporting in the event of a cross-connection incident.
**Back-up representative for reporting in the event of a cross-connection incident.

***The following individuals are local entity contacts for various aspects of managing the Cross-Connection Control Program***

| **Title** | **Name** | **Contact Information** |
|---|---|---|
| Roseville Fire Department Call Dispatch # | | Dispatch: (916) 774-5123 |
| Roseville Development Services Construction Inspection Superintendent | Orville Chatterton | Email: OChatterton@roseville.ca.us<br>Phone: (916) 774-5576 |
| Environmental Utilities Public Information Officer | Maurice Chaney | Email: mchaney@roseville.ca.us<br>Office: (916) 774-5539 |
| City Attorney | Joseph Speaker | Email: JSpeaker@roseville.ca.us<br>Office: (916) 223-6866 |
| Placer County Registered Environmental Health Specialist | Jack Shafer, REHS | Email: jshafer@placer.ca.gov<br>Phone: (530) 745-2317; (530) 745-2300<br>Environmental Health \| Placer County, CA |

# Appendix B – Roseville Municipal Code Chapter 14.10

## 10.1Municipal Code as of the date of CCCP Submission:

**Chapter 14.10 BACKFLOW PREVENTION INPSECTION AND CROSS-CONNECTION CONTROL**

- **14.10.010 Purpose.**
- **14.10.020 Definitions.**
- **14.10.030 Backflow prevention assemblies required.**
- **14.10.040 Establishment and administration of backflow prevention inspection fund.**
- **14.10.050 Standards.**
- **14.10.060 Inspection.**
- **14.10.070 Freeze protection.**
- **14.10.080 Reinspection.**
- **14.10.090 Reserved.**
- **14.10.100 Backflow prevention assembly installation/repair/replacement.**
- **14.10.110 Enforcement.**
- **14.10.120 Chapter is severable.**

**14.10.010 Purpose.**

The city council finds and declares that the purpose of this chapter is as follows:

C. To protect the public potable water supply of City of Roseville from the possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the water user's private water system(s) such contaminants or pollutants that could backflow into the public water system; and,

D. To promote the elimination or control of existing cross connections, actual or potential, between the water user's in-plant potable water system(s) and nonpotable water systems, plumbing fixtures, and industrial piping systems.

(Ord. 2646 § 1, 1992.)

**14.10.020 Definitions.**

The following words are defined for purposes of this chapter as follows:

"Backflow prevention assembly" means an assembly or means designed to prevent the undesirable reversal of flow in a potable water distribution system as a result of a cross connection with a nonpotable supply or any matter that may alter the quality of the potable water.

"Backflow prevention assembly tester" means a person who is certified by the city to perform testing of backflow prevention assemblies owned by customers of the city and who has completed training and holds a current certification from the California-Nevada Section of the American Water Works Association. To maintain city certification, a backflow prevention assembly tester shall continually demonstrate competency in performing tests on backflow prevention devices to the director's or their designee's satisfaction.

"Backflow prevention inspection fund" means that special interest-bearing fund established pursuant to Section 14.10.040.

"Cross-connection" means an unprotected actual or potential connection or structural arrangement between the city's potable water system, including a piping system connected to the city's potable water system and located on the premises of a customer or available to the customer, and any source or distribution system containing liquid, gas, or other substances within a customer's premises and/or water system which is not from an approved potable water supply. Bypass arrangements, jumper connections, removable sections, swivel and changeover devices, or other devices through which backflow or back-siphonage could occur, shall be considered to be cross-connections.

"Department" means the department of environmental utilities.

"Director" means the director of the department.

"Reinspection fee" means the fee required to be paid upon a finding by an inspector that a backflow prevention assembly is defective or not in compliance with the standards set forth in this chapter and requires retest after repair or replacement.

(Ord. 2646 § 1, 1992; Ord. 6500 § 12, 2022)

**14.10.030 Backflow prevention assemblies required.**

A. No water service connection to any commercial premises shall be installed unless the water supply is protected as required by this chapter.

B. In the case of premises having an auxiliary water supply that is not or may not be of safe bacteriological or chemical quality and that is not acceptable to the director or designee as an additional source, the property owner shall protect the public water system against backflow from the premises by installing an approved backflow prevention assembly in the service line.

C. The city may inspect the premises of existing customers to determine if, in the opinion of the director or designee, such premises may require a backflow prevention assembly. In the case of premises having either: (1) internal cross connections that cannot be permanently

corrected and controlled; (2) intricate plumbing and piping arrangements where entry to all portions of the premises is not readily accessible for inspection purposes; or (3) a condition that in the opinion of the director or designee constitutes a hazard to health, the property owner shall protect the public water system against backflow from the premises by installing an approved backflow prevention assembly in the service line.

D. Failure of a customer or property owner to provide for the installation or the upgrading of a required backflow prevention assembly, as specified in subsections B and C of this section, within 30 days following written notification from the city, and for the preservation of the health and safety of the public water supply, the city may temporarily shut off potable water service to the premises and/or customer's system until the customer has installed or upgraded, and tested, an approved assembly to the satisfaction of the director or designee.

E. Any backflow prevention assembly installed or upgraded on a customer's premises shall be and remain the property of the water user.

(Ord. 2646 § 1, 1992; Ord. 6500 § 13, 2022)

**14.10.040 Establishment and administration of backflow prevention inspection fund.**

The finance director is hereby directed to establish a special interest-bearing fund entitled the backflow prevention inspection fund. All fees collected pursuant to this chapter shall be deposited in the backflow prevention inspection fund and expended solely to finance the program set forth in this chapter.

This fee is allowed under the California State Health and Safety Code, Division 104, Part 12, Article 2, Chapter 5, Section 116805 (d) that allows water utilities implementing the backflow prevention program to recover their costs to administer the program

(Ord. 2646 § 1, 1992; Ord. 6500 § 14, 2022)

**14.10.050 Standards**.

A. Backflow prevention assemblies may be installed either by the customer or by city personnel.

B. Backflow prevention assemblies type and installation shall be in compliance with city improvement standards.

C. Backflow prevention assemblies must be of a type approved by the University of Southern California Testing Laboratory and must comply with Title 17 of the California Code of Regulations. Where there is a conflict between the city improvement standards, University of Southern California Testing Laboratory approved list, and Title 17, the more restrictive shall apply.

(Ord. 2646 § 1, 1992)

**14.10.060 Inspection.**

A. After installation of a backflow prevention assembly, a backflow prevention assembly tester shall inspect and test the backflow prevention assembly.

B. Each backflow prevention assembly shall be inspected and tested at least once annually by a backflow prevention assembly tester.

C. Where city personnel are required to perform the test, an inspection fee shall be charged to the customer as established by Section 14.10.040.

D. If a backflow prevention assembly meets required standards established by this chapter, city will send the customer a notice of compliance.

E. The water user's system should be open for inspection at all reasonable times to authorized representatives of the City of Roseville water department to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exist.

F. The city may terminate the customer's potable water service if the customer fails to have a backflow prevention device inspected and tested within the time period required by the city pursuant to Section 14.10.030(D).

(Ord. 2646 § 1, 1992; Ord. 6500 § 15, 2022)

**14.10.070 Freeze protection.**

A. It is the responsibility of the property owner to install freeze protection. If the backflow assembly cannot be inspected due to the presence of freeze protection material, the freeze protection may be removed. The city shall not be responsible for reinstallation of freeze protection.

B. The relief port at the bottom of a reduced pressure backflow assembly must not be covered over by freeze protection. All test ports must be easily accessible along with the serial number and model number.

C. Freeze protection shall be maintained in a neat, aesthetically pleasing condition. Torn or dislodged freeze protection may be removed by city.

(Ord. 2646 § 1, 1992)

**14.10.080 Reinspection.**

A. If the backflow prevention assembly tester determines that the backflow prevention assembly does not meet the standards established by this chapter, the city will issue the customer a notice to correct. The customer shall make the necessary repairs or replacement within 30 days of issuance of the notice to correct.

B. The backflow prevention assembly shall be reinspected by a backflow prevention assembly tester within 30 days, at which time a reinspection fee shall be charged to the customer as established by resolution adopted by the city council, as amended from time to time.

C. Each time a reinspection is required, an additional reinspection fee will be charged to the customer, until such time that the city sends the customer a notice of compliance.

(Ord. 2646 § 1, 1992; Ord. 5800 § 35, 2017; Ord. 6500 § 16, 2022)

**14.10.090 Reserved**.

(Ord. 2646 § 1, 1992; Ord. 5800 § 36, 2017)

**14.10.100 Backflow prevention assembly installation/repair/replacement.**

A. Installation, repair or replacement of a backflow prevention assembly shall be performed by a licensed contractor or, with customer approval, by city personnel.
B. The cost to the city for materials and labor at the prevailing rate shall be paid by the owner or customer and if unpaid shall become a lien on the property and collectible as taxes.

(Ord. 2646 § 1, 1992)

**14.10.110 Enforcement.**

A. Failure to maintain a backflow prevention assembly as required by this chapter shall be a violation.

B. If the director or designee determines that a customer's failure to install, adequately maintain, or otherwise finds evidence that an installed backflow prevention assembly has been bypassed or rendered ineffective and constitutes a threat to the potable water supply, the director may order that water services to the noncomplying customer be discontinued. The director shall notify the customer at least 30 days prior to the proposed determination of service; provided, however, that if the threat to the potable water supply is so immediate that a delay in terminating water service may threaten the public health and safety, the director may terminate service without prior written notice.

C. A customer who has received a notice of termination of water services from the director may appeal the decision in writing to the environmental utilities director. The appeal must be received by the environmental utilities director prior to the proposed termination date, in which case the termination of services will not occur until after the appeal is heard.

(Ord. 2646 § 1, 1992; Ord. 6500 § 17, 2022)

**14.10.120 Chapter is severable.**

If any provision of this chapter or the application thereof to any person or circumstances held invalid, such invalidity shall not affect the other provisions of this chapter which can be given effect without the invalid provisions or its application, and to this end the provisions of this chapter are severable.

(Ord. 2646 § 1, 1992)

## 10.2 Draft Municipal Code Revisions

**CHAPTER 14.10**

**BACKFLOW PREVENTION INSPECTION AND CROSS-CONNECTION CONTROL**

**§ 14.10.010. Purpose.**

The city council finds and declares that the purpose of this chapter is as follows:

A. To protect the public potable water supply of City of Roseville from the possibility of contamination or pollution by isolating within the customer's internal distribution system(s) or the customer's private water system(s) such contaminants or pollutants that could backflow into the public water system; and,

B. To promote the elimination or control of existing cross connections, actual or potential, between the customer's in-plant potable water system(s) and nonpotable water systems, plumbing fixtures, and industrial piping systems.

~~B.~~C. To ensure that the city can enforce its Cross Connection Control Plan, as may be amended from time to time.

(Ord. 2646 § 1, 1992)

**§ 14.10.020. Definitions.**

The following words are defined for purposes of this chapter as follows:

"Backflow prevention assembly" means a~~n~~ mechanical assembly ~~or means~~ designed and constructed to prevent ~~the undesirable reversal of~~backflow, ~~flow in a potable water distribution~~

~~system as a result of a cross connection with a nonpotable supply or any matter that may alter the quality of the potable water~~such that while in-line it can be maintained and its ability to prevent backflow, as designed, can be field tested, inspected and evaluated.

"Backflow prevention assembly tester" means a person who is certified by the city to perform testing of backflow prevention assemblies owned by customers of the city and who has completed training and holds a current certification from the California-Nevada Section of the American Water Works Association. To maintain city certification, a backflow prevention assembly tester shall continually demonstrate competency in performing tests on backflow prevention devices to the director's or their designee's satisfaction.

"Backflow prevention inspection fund" means that special interest-bearing fund established pursuant to Section 14.10.040.

"Cross-connection" means ~~an unprotected~~any actual or potential connection or structural arrangement between the city's potable water system, including a piping system connected to the city's potable water system and located on the premises of a water user or available to the water user, and any source or distribution system containing liquid, gas, or other substances within a customer's premises and/or customer's water system which is not from an approved potable water supply. Bypass arrangements, jumper connections, removable sections, swivel and changeover devices, or other devices through which backflow or back-siphonage could occur, shall be considered to be cross-connections.

"Cross-Connection Control Plan" means the plan to provide guidance on the City of Roseville's expectations for cross-connection control and backflow prevention, as required by State law. The Cross-Connection Control Plan may be amended from time to time.

"Customer" means any water user, property owner with water infrastructure, or utility account holder and can be used interchangeably with water user.

"Department" means the department of environmental utilities.

"Director" means the director of the department.

"Hazard Assessment" means an evaluation of a user premises designed to evaluate the types and degrees of hazard at a customer's premises.

"Reinspection fee" means the fee required to be paid upon a finding by an inspector that a backflow prevention assembly is defective or not in compliance with the standards set forth in this chapter and requires retest after repair or replacement.

(Ord. 2646 § 1, 1992; Ord. 6500 § 12, 2022)

**§ 14.10.030. Backflow prevention assemblies required.**

A. No water service connection to any ~~commercial~~ premises shall be installed unless the water supply is protected as required by this chapter. Newly installed backflow prevention assemblies must receive passing field tests in accordance with the Cross-Connection Control Plan in order for the city to provide continuous water service.

B. In the case of premises having an auxiliary water supply that is not or may not be of safe bacteriological or chemical quality and that is not acceptable to the director or designee as an additional source, the property owner shall protect the public water system against backflow from the premises by installing an approved backflow prevention assembly in the service line.

C. Rights of Access.

1. The city or city's authorized agents shall have right of access to the customer's premises, at all reasonable hours for any purpose related to ensuring backflow prevention and cross-connection control including, but not limited to, hazard assessments, backflow incident response, backflow preventer inspections, and repairs.

2. Service may be refused or disconnected, and/or the customer may be required to install the highest form of backflow protection if a) permanent safe accessibility is not provided by the customer or b) the customer does not furnish information or access required for the City to complete a hazard assessment.

3. Upon termination of service, the city shall have the right of access to the meter box to discontinue water service.

~~C.~~D. The city may inspect the premises of new or existing customers to determine if, in the opinion of the director or designee, such premises may require a backflow prevention assembly. In the case of premises having either: (1) internal cross connections that cannot be permanently corrected and controlled; (2) intricate plumbing and piping arrangements where entry to all portions of the premises is not readily accessible for inspection purposes; or (3) a condition that in the opinion of the director or designee constitutes a hazard to health, the property owner shall protect the public water system against backflow from the premises by installing an approved backflow prevention assembly in the service line.

~~D.~~E. Failure of a customer or property owner to provide for the installation or the upgrading of a required backflow prevention assembly, as specified in subsections B and ~~C~~ D of this section, within 30 days following written notification from the city, and for the preservation of the health and safety of the public water supply, the city may temporarily shut off potable water service to the premises and/or customer's system until the customer has installed or upgraded, and tested, an approved assembly to the satisfaction of the director or designee.

~~E.~~F. Any backflow prevention assembly installed or upgraded on a customer's premises shall be and remain the property of the customer.

(Ord. 2646 § 1, 1992; Ord. 6500 § 13, 2022)

**§ 14.10.040. Establishment and administration of backflow prevention inspection fund.**

The finance director is hereby directed to establish a special interest-bearing fund entitled the backflow prevention inspection fund. The owner of single and multifamily residential property

served by the city shall be charged with and shall be personally responsible for inspection and service fees related to ensuring proper operation of backflow prevention assemblies connected to the water distribution system. The owner of non-residential property service by the city may assign responsibility for the backflow prevention bills incurred for water service to such property to the owner's tenants or lessees. All fees collected pursuant to this chapter shall be deposited in the backflow prevention inspection fund and expended solely to finance the program set forth in this chapter.

This fee is allowed under the California State Health and Safety Code, Division 104, Part 12, Article 2, Chapter 5, Section 116805 (d) that allows water utilities implementing the backflow prevention program to recover their costs to administer the program.

(Ord. 2646 § 1, 1992; Ord. 6500 § 14, 2022)

**§ 14.10.050. Standards.**

A. Backflow prevention assemblies may be installed either by the customer or by city personnel.

B. Backflow prevention assemblies type and installation shall be in compliance with city improvement standards.

C. Backflow prevention assemblies must be of a type approved by the University of Southern California ~~Testing Laboratory~~Foundation for Cross-Connection Control and Hydraulic Research and must comply with ~~Title 17 of the California Code of Regulations~~the State of California Cross-Connection Control Policy Handbook, as may be amended from time to time. Where there is a conflict between the city improvement standards, University of Southern California ~~Testing Laboratory~~Foundation for Cross-Connection Control and Hydraulic Research approved list, and ~~Title 17~~the Cross-Connection Control Policy Handbook, the more restrictive shall apply.

(Ord. 2646 § 1, 1992)

**§ 14.10.060. Inspection.**

A. No backflow prevention assembly shall be disconnected, moved, or modified without notification to and approval by the city. Any change to an existing backflow prevention assembly requires a new inspection and testing report to be submitted to the city.

~~A.~~B. After installation of a backflow prevention assembly, a backflow prevention assembly tester shall inspect and test the backflow prevention assembly.

~~B.~~C. Each backflow prevention assembly shall be inspected and tested at least once annually by a backflow prevention assembly tester.

~~C.~~D. Where city personnel or city-authorized personnel are required to perform an inspection or ~~the~~ test, an inspection fee shall be charged to the customer as established by Section 14.10.040.

~~D.~~E. If a backflow prevention assembly does not meet~~s~~ required standards established by this chapter, city will send the customer a notice of compliance.

F. Any change of ownership, premise use (excluding single family residences), new connection to the water system, change of activities or materials on a water user's premises, or backflow incident will trigger a new hazard assessment.

~~E.~~G. The customer's system should be open for inspection at all reasonable times to authorized representatives of the City of Roseville water ~~department~~ utility to determine whether cross connections or other structural or sanitary hazards, including violations of these regulations, exist.

~~F.~~H. The city may terminate the customer's potable water service if the customer fails to have a backflow prevention device inspected and tested within the time period required by the city pursuant to Section 14.10.030(D).

(Ord. 2646 § 1, 1992; Ord. 6500 § 15, 2022)

**§ 14.10.070. Freeze protection.**

A. It is the responsibility of the property owner to install freeze protection. If the backflow assembly cannot be inspected due to the presence of freeze protection material, the freeze protection may be removed. The city shall not be responsible for reinstallation of freeze protection.

B. The relief port at the bottom of a reduced pressure backflow assembly must not be covered over by freeze protection. All test ports must be easily accessible along with the serial number and model number.

C. Freeze protection shall be maintained in a neat, aesthetically pleasing condition. Torn or dislodged freeze protection may be removed by city.

(Ord. 2646 § 1, 1992)

**§ 14.10.080. Reinspection.**

A. If the backflow prevention assembly tester determines that the backflow prevention assembly does not meet the standards established by this chapter, the city will issue the customer a notice to correct. notice to correct. The customer shall make the necessary repairs or replacement within 30 days of issuance of the notice to correct.

B. The backflow prevention assembly shall be reinspected by a backflow prevention assembly tester within 30 days, at which time a reinspection fee shall be charged to the customer as established by resolution adopted by the city council, as amended from time to time.

C. Each time a reinspection is required, an additional reinspection fee will be charged to the customer, until such time that the city sends the customer a notice of compliance.

(Ord. 2646 § 1, 1992; Ord. 5800 § 35, 2017; Ord. 6500 § 16, 2022)

**§ 14.10.090. ~~(Reserved)~~User Supervisors**

A. The city may require a customer to designate an on-site supervisor ('user supervisor") when the customer's premises has a multi-piping system that conveys various types of fluids and where changes in the piping system are frequently made. The user supervisor will be responsible for the avoidance of cross-connections during the installation, operation and maintenance of the customer's pipelines and equipment.

B. The user supervisor must be certified as a cross-connection control specialist and be trained on the potential hazards, fluids used, potential concerns, and required backflow protection for the customer's premise.

C. The user supervisor must have the authority to carry out the city's requirements for protection of the water distribution system.

(Ord. 2646 § 1, 1992; Ord. 5800 § 36, 2017)

**§ 14.10.100. Backflow prevention assembly installation/repair/replacement.**

A. Installation, repair or replacement of a backflow prevention assembly shall be performed by a licensed contractor or, with customer approval, by city personnel.

B. The cost to the city for materials and labor at the prevailing rate shall be paid by the owner or customer and if unpaid shall become a lien on the property and collectible as taxes.

~~B.~~C. Any backflow prevention assembly installed or upgraded on a customer's premises shall be and remain the property of the customer.

(Ord. 2646 § 1, 1992)

**§ 14.10.110. Enforcement.**

A. Failure to maintain a backflow prevention assembly as required by this chapter and the Cross-Connection Control Plan shall be a violation.

B. If the director or designee determines that a customer's failure to install, adequately maintain, or otherwise finds evidence that an installed backflow prevention assembly has been bypassed or rendered ineffective and constitutes a threat to the potable water supply, the director may order that water services to the noncomplying customer be discontinued. The director shall notify the customer at least ~~30~~ 25 days prior to the proposed

determination of service; provided, however, that if the threat to the potable water supply is so immediate that a delay in terminating water service may threaten the public health and safety, the director may terminate service without prior written notice.

C. A customer who has received a notice of termination of water services from the director may appeal the decision in writing to the environmental utilities director. The appeal must be received by the environmental utilities director ~~prior to the proposed termination date~~within 10 calendar days from the date of the compliance order, in which case the termination of services will not occur until after the appeal is heard.

D. Any user and/or person that violates any provision of this chapter shall be guilty of a separate offense for each and every day during which any portion of which any such user and/or person commits, continues, permits, or causes a violation thereof, and shall be punished accordingly.

E. If after 30 days the customer has not installed a newly required backflow prevention assembly or has not repaired or replaced a defective backflow prevention assembly, and this failure to act constitutes an immediate threat to the health, safety or well-being of the public or environment, the director is authorized to require immediate abatement. If any such violation is not abated immediately as directed by the director, the city or the city's authorized agent is authorized to enter onto private property and to take any and all measures required to abate the violation.

1. It is unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the city or its contracting agents to enter upon the premises for the purpose of abating the violation.

2. The cost of any such abatement by city agents authorized herein shall be borne by the property owner and/or responsible party, which cost shall include administrative costs as well as the actual cost of abatement. These costs may be enforced as a personal obligation against the property owner and shall be invoiced to the property owner and/or responsible party. If the invoice is not paid within 60 days, the city shall have the authority to place a lien upon and against the property. Any relief under this section shall not prevent the city from seeking other and further relief authorized under this chapter.

3. Nothing contained in this chapter shall be deemed to impose any liability on the city, its officers, employees, nor to relieve the owner of any private property from their responsibility to maintain backflow prevention assemblies as required by the city. The city assumes no risk associated with taking action to abate the violation.

F. Within 60 calendar days after the city's abatement of the violation, the director, or designee, will notify the owner of the property of the cost of abatement. The property owner and/or responsible party may file a written protest objecting to the amount of the abatement assessment within 10 calendar days after the city's issuance of the notice. The director, as applicable, shall conduct a hearing on the appeal within 30 calendar days from the date of receipt of the notice of the appeal. Appellant may appear at the hearing in

person or may submit a written statement signed under penalty of perjury in lieu of a hearing. Following the hearing, the director shall make written findings of fact as to whether the abatement was proper. The director's decision shall be final.

~~C.~~G. Any decision of the director's hearing panel shall be final. Any person aggrieved by an order of the hearing panel may obtain review of the order in the superior court by filing with the court a petition for writ of mandate within 90 days pursuant to California Code of Civil Procedure Section 1094.6.

(Ord. 2646 § 1, 1992; Ord. 6500 § 17, 2022)

**§ 14.10.120. Chapter is severable.**

If any provision of this chapter or the application thereof to any person or circumstances held invalid, such invalidity shall not affect the other provisions of this chapter which can be given effect without the invalid provisions or its application, and to this end the provisions of this chapter are severable.

(Ord. 2646 § 1, 1992)

# Appendix C – City Administrative Regulation 6.09

**CITY OF ROSEVILLE, CALIFORNIA**

**ADMINISTRATIVE REGULATION**

APPROVED:

DOMINICK CASEY, CITY MANAGER

Number: A.R. 6.09

Date Effective: January 1, 1994

Date Revised: September 14, 2022

**SUBJECT: CITY OWNED BACKFLOW DEVICES**

**PURPOSE**

To provide an understanding as to responsibilities of installation and maintenance of City owned water backflow devices.

**POLICY**

The following shall be the policy for construction and maintenance of City owned backflow devices providing service to City property and facilities:

Construction costs incurred for backflow device installation on new City projects will be paid from the project budget. These costs include labor at top step plus benefits, related overhead, materials, supplies and services.

Upon completion of construction of the backflow device, the Environmental Utilities Department will assume full administrative responsibility for ensuring regular testing and maintenance, up to and including replacement. Any existing City facilities, where it is determined that a backflow device is needed, would also be the responsibility of the Environmental Utilities Department to ensure installation, testing and maintenance.

To ensure compliance with California Proposition 218, all costs relating to installation, testing, maintenance or replacement shall be charged to the City department whose operation is served by the backflow device.

# Appendix D – Definitions

Unless otherwise noted, the following definitions apply to the terms used in this manual and are from the Cross-Connection Control Policy Handbook Article 1, 3.1.1.

- **Air-gap separation** or **AG** means a physical vertical separation of at least two (2) times the effective opening, as defined in section 207.0 of the California Plumbing Code, as may be updated from time to time, between the free-flowing discharge end of a potable water supply pipeline and the flood level of an open or non-pressurized receiving vessel, and in no case less than one (1) inch.
- **Approved water supply** means a water source that has been approved by the State Water Board for domestic use in a public water system and designated as such in a domestic water supply permit issued pursuant to section 116525 of the CHSC.
- **Auxiliary water supply** means a source of water, other than an approved water supply, that is either used or equipped, or can be equipped, to be used as a water supply and is located on the premises of, or available to, a water user
- **Backflow** means an undesired or unintended reversal of flow of water and/or other liquids, gases, or other substances into a public water system's distribution system or approved water supply.
- **Backflow prevention assembly** or **BPA** means a mechanical assembly designed and constructed to prevent backflow, such that while in-line it can be maintained and its ability to prevent backflow, as designed, can be field tested, inspected and evaluated.
- **Backflow prevention assembly tester** or **BPAT** means a person who is certified as a backflow prevention assembly tester.
- **Community water system** means a public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system.
- **Contact hour** means not less than 50 minutes of a continuing education course.
- **Continuing education course** means a presentation or training that transmits information related to cross-connection control programs and backflow prevention and protection.
- **Cross-connection** means any actual or potential connection or structural arrangement between a public water system, including a piping system connected to the public water system and located on the premises of a water user or available to the water user, and any source or distribution system containing liquid, gas, or other substances not from an approved water supply.
- **Cross-connection control specialist** means a person who is certified as a cross-connection control specialist.
- **Cross-Connection Control Policy Handbook** or **CCCPH** means the most recent version of the Cross-Connection Control Policy Handbook adopted by the State Water Resources Control Board.[11]

[11] This definition is included for the purposes of plan documentation.

- **Distribution system** has the same meaning as defined in section 63750.50 of CCR, Title 22, Division 4, Chapter 2.
- **Double check detector backflow prevention assembly** or **DCDA** means a double check valve backflow prevention assembly that includes a bypass with a water meter and double check backflow prevention assembly, with the bypass's water meter accurately registering flow rates up to two gallons per minute and visually showing a registration for all rates of flow. This type of assembly may only be used to isolate low hazard cross-connections.
- **Double check detector backflow prevention assembly – type II** or **DCDA-II** means a double check valve backflow prevention assembly that includes a bypass around the second check, with the bypass having a single check valve and a water meter accurately registering flow rates up to two gallons per minute and visually showing a registration for all rates of flow. This type of assembly may only be used to isolate low hazard cross-connections.
- **Double check valve backflow prevention assembly** or **DC** means an assembly consisting of two independently-acting internally-loaded check valves, with tightly closing shut-off valves located at each end of the assembly (upstream and downstream of the two check valves) and fitted with test cocks that enable accurate field testing of the assembly. This type of assembly may only be used to isolate low hazard cross-connections.
- **Hazard Assessment** means an evaluation of a user premises designed to evaluate the types and degrees of hazard at a user's premises.
- **High hazard cross-connection** means a cross-connection that poses a threat to the potability or safety of the public water supply. Materials entering the public water supply through a high hazard cross-connection are contaminants or health hazards.
- **Low hazard cross-connection** means a cross-connection that has been found to not pose a threat to the potability or safety of the public water supply but may adversely affect the aesthetic quality of the potable water supply. Materials entering the public water supply through a low hazard cross-connection are pollutants or non-health hazards.
- **Premises containment** means protection of a public water system's distribution system from backflow from a user's premises through the installation of one or more air gaps or BPAs, installed as close as practical to the user's service connection, in a manner that isolates the water user's water supply from the public water system's distribution system.
- **Pressure vacuum breaker backsiphonage prevention assembly** or **PVB** means an assembly with an independently-acting internally-loaded check valve and an independently-acting loaded air inlet valve located on the discharge side of the check valve; with test cocks and tightly closing shutoff valves located at each end of the assembly that enable accurate field testing of the assembly. This type of assembly may only be used for protection from backsiphonage and is not to be used to protect from backpressure.
- **Public water system** or **PWS** means a system for the provision of water for human consumption through pipes or other constructed conveyance that has 15 or more

service connections or regularly serves at least 25 individuals daily at least 60 days out of the year. A public water system includes the following:

(1) Any collection, treatment, storage, and distribution facilities under control of the operator of the system that are used primarily in connection with the system.

(2) Any collection or pretreatment storage facilities not under the control of the operator that are used primarily in connection with the system.

(3) Any water system that treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption.[12]

- **Recycled Water** is a wastewater which as a result of treatment is suitable for uses other than potable use.
- **Reduced pressure principle backflow prevention assembly** or **RP** means an assembly with two independently acting internally-loaded check valves, with a hydraulically operating mechanically independent differential-pressure relief valve located between the check valves and below the upstream check valve. The assembly shall have shut-off valves located upstream and downstream of the two check-valves, and test cocks to enable accurate field testing of the assembly.
- **Reduced pressure principle detector backflow prevention assembly** or **RPDA** means a reduced pressure principle backflow prevention assembly that includes a bypass with a water meter and reduced pressure principle backflow prevention assembly, with the bypass's water meter accurately registering flow rates up to two gallons per minute and visually showing a registration for all rates of flow.
- **Reduced pressure principle detector backflow prevention assembly – type II** or **RPDA-II** means a reduced pressure principle backflow prevention assembly that includes a bypass around the second check, with the bypass having a single check valve and a water meter accurately registering flow rates up to two gallons per minute and visually showing a registration for all rates of flow.
- **Reinspection fee** means the fee required to be paid upon a finding by an inspector that a backflow prevention assembly is defective or not in compliance with the standards set forth in this plan and Roseville Municipal Code chapter 14.10 and requires retest after repair or replacement.
- **Special Plumbing[13]** includes: a) lawn irrigation systems; b) solar heating systems; c) pools, hot tubs, rain barrels or landscape water features connected to the water system; d) an auxiliary source of supply, e.g., a well or creek; e) Piping for livestock watering, hobby farming, etc.; and f) residential fire sprinkler system.
- **Spill-resistant pressure vacuum breaker backsiphonage prevention assembly** or **SVB** means an assembly with an independently-acting internally-loaded check valve and an independently-acting loaded air inlet valve located on the discharge side of the check valve; with shutoff valves at each end and a test cock and bleed/vent port, to enable accurate field testing of the assembly. This type of assembly may only be used for protection from backsiphonage and is not to be used to protect from backpressure.

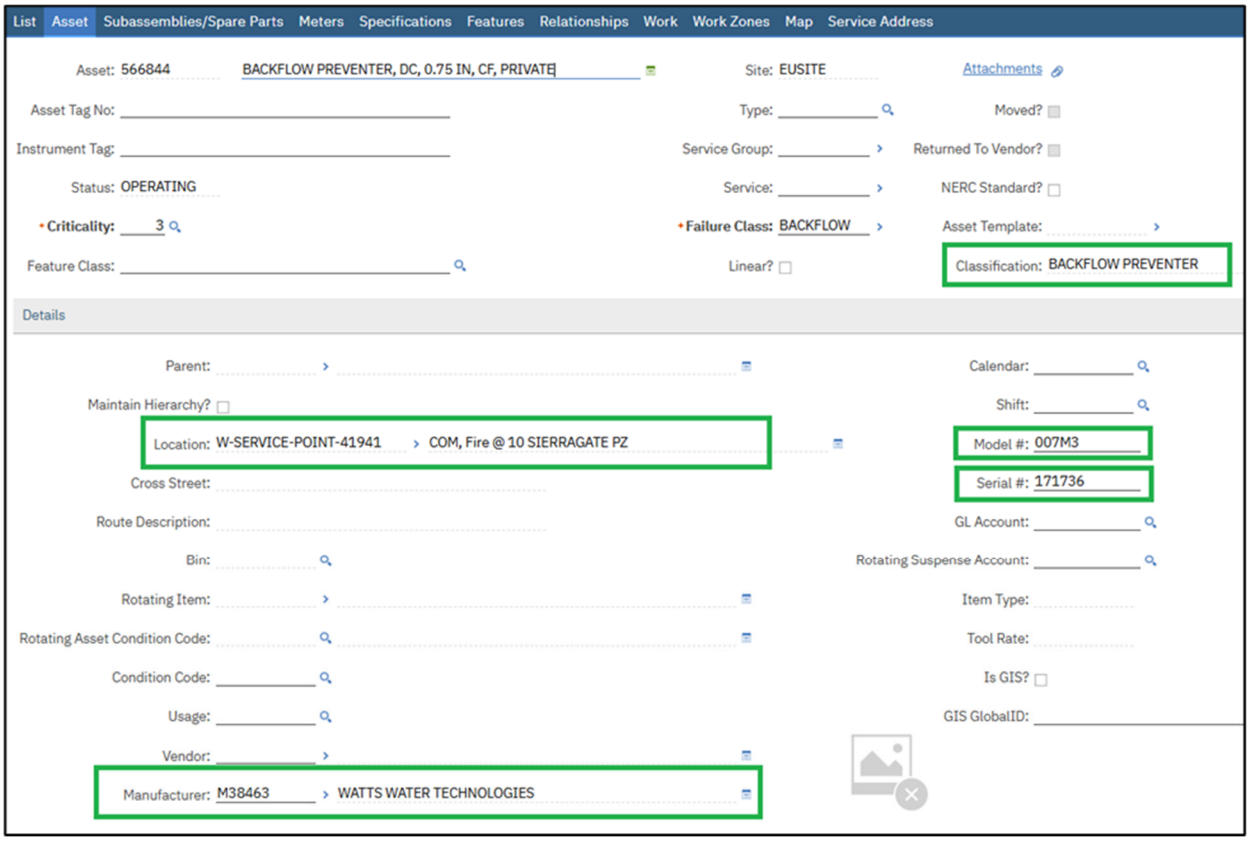
[12] Public water system definition from California Health and Safety Code 116275 (h).

[13] Special Plumbing is defined in the CCCP

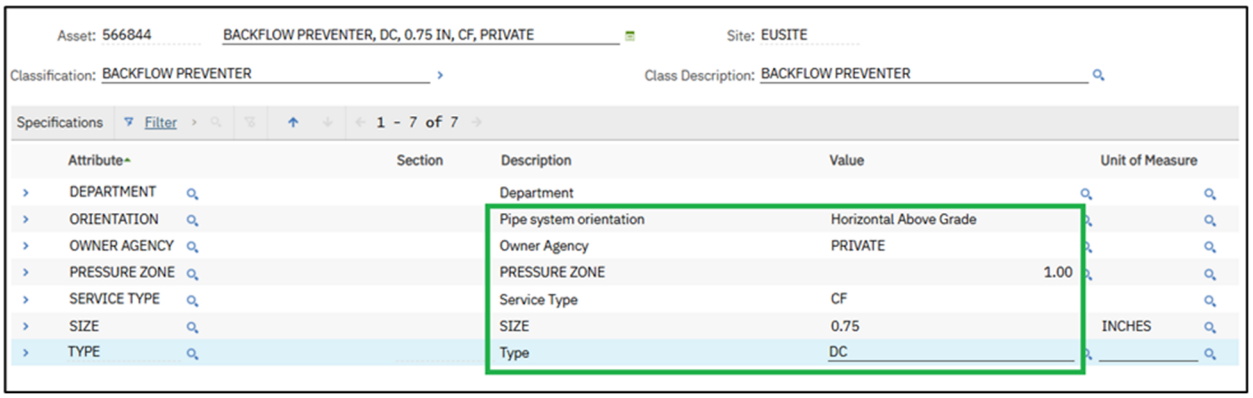
- **State Water Board** means the State Water Resources Control Board, or the local primacy agency having been delegated the authority to enforce the requirements of the CCCPH by the State Water Resources Control Board.
- **Swivel-Ell** means a reduced pressure principle backflow prevention assembly combined with a changeover piping configuration (swivel-ell connection) designed and constructed pursuant to the CCCPH.
- **User premises** means the property under the ownership or control of a water user and is served, or is readily capable of being served, with water via a service connection with a public water system.
- **User's service connection** means either the point where a water user's piping is connected to a water system or the point in a water system where the approved water supply can be protected from backflow using an air gap or backflow prevention assembly.
- **User Supervisor** means a person designated by a water user to oversee a water use site and responsible for the avoidance of cross-connections.
- **Water supplier** means a person who owns or operates a public water system.
- **Water user** means a person or entity who is authorized by the PWS to receive water.

# Appendix E – Sample Asset Management and Work Order System Screen Views

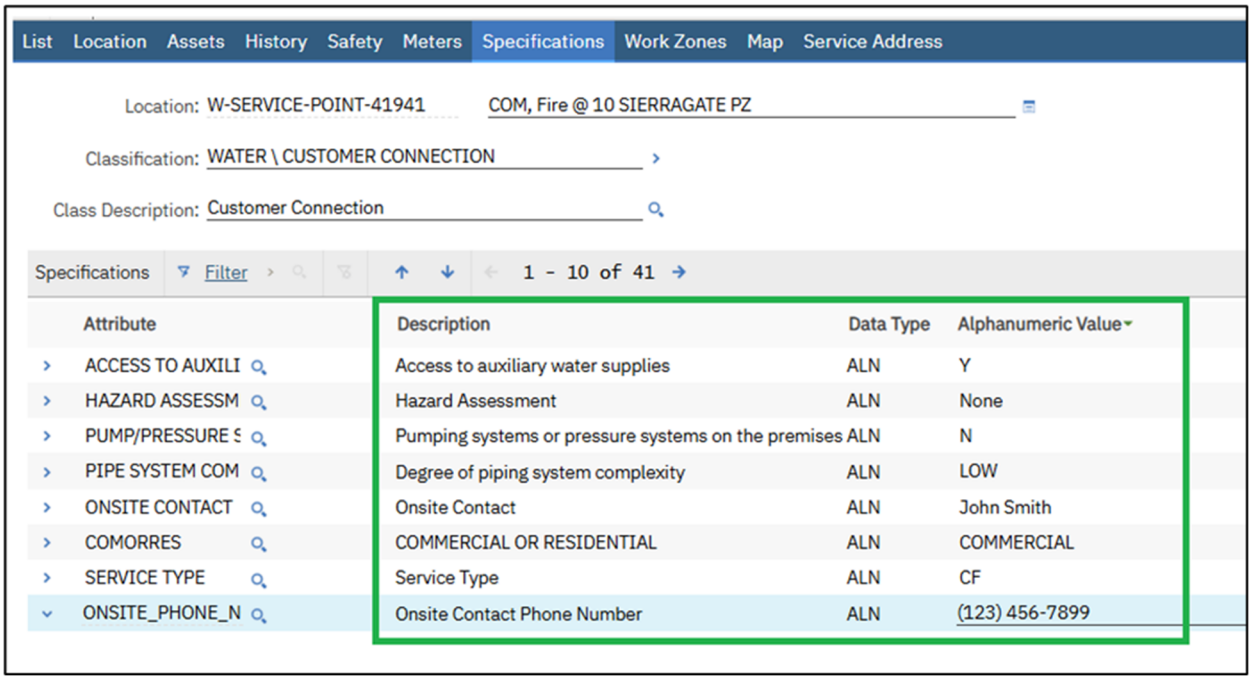
**Backflow preventers are stored as Assets:**



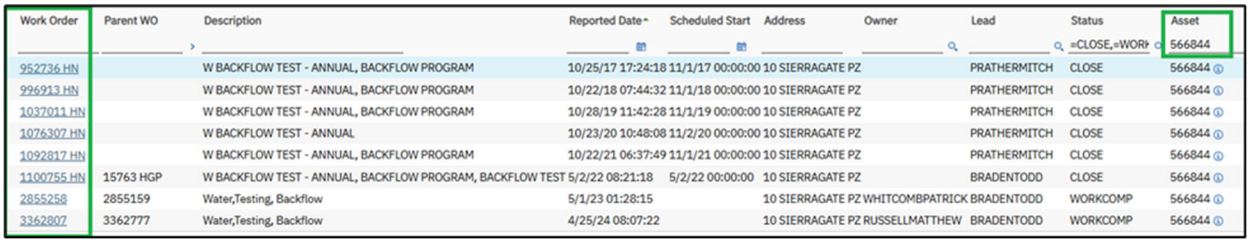

**On the Asset record, the Specifications Tab contains additional information related to that asset:**



**The Location record associated with the asset also contains specifications:**

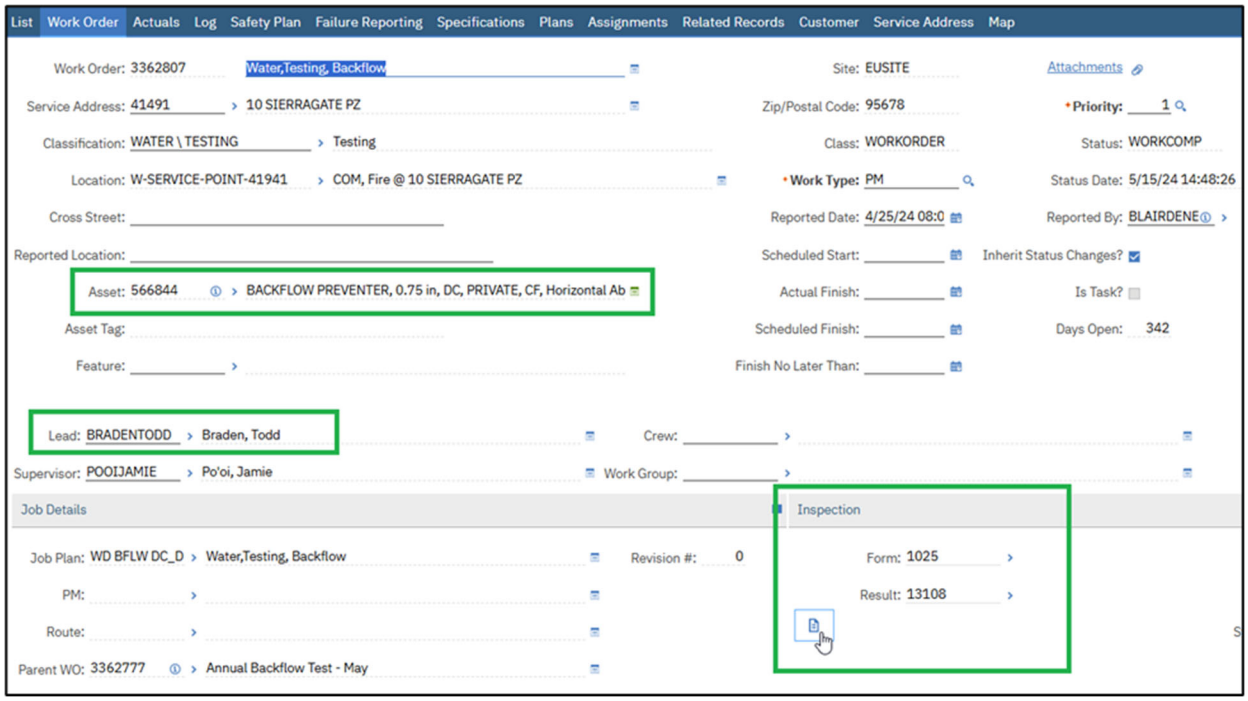



**The Work Order application can be searched by asset number to see the history of inspections and work related to an asset:**

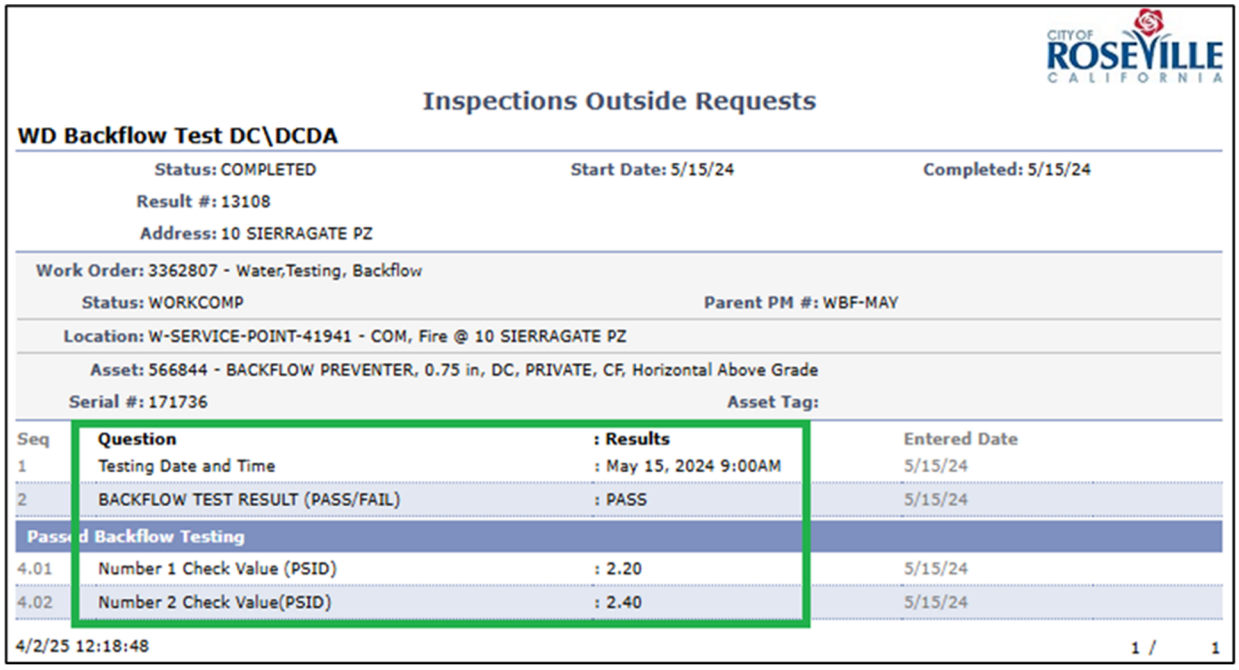


| Work Order | Parent WO | Description | Reported Date | Scheduled Start | Address | Owner | Lead | Status | Asset |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | =CLOSE,=WORK | 566844 |
| 952736 HN | | W BACKFLOW TEST - ANNUAL, BACKFLOW PROGRAM | 10/25/17 17:24:18 | 11/1/17 00:00:00 | 10 SIERRAGATE PZ | | PRATHERMITCH | CLOSE | 566844 |
| 996913 HN | | W BACKFLOW TEST - ANNUAL, BACKFLOW PROGRAM | 10/22/18 07:44:32 | 11/1/18 00:00:00 | 10 SIERRAGATE PZ | | PRATHERMITCH | CLOSE | 566844 |
| 1037011 HN | | W BACKFLOW TEST - ANNUAL, BACKFLOW PROGRAM | 10/28/19 11:42:28 | 11/1/19 00:00:00 | 10 SIERRAGATE PZ | | PRATHERMITCH | CLOSE | 566844 |
| 1076307 HN | | W BACKFLOW TEST - ANNUAL | 10/23/20 10:48:08 | 11/2/20 00:00:00 | 10 SIERRAGATE PZ | | PRATHERMITCH | CLOSE | 566844 |
| 1092817 HN | | W BACKFLOW TEST - ANNUAL, BACKFLOW PROGRAM | 10/22/21 06:37:49 | 11/1/21 00:00:00 | 10 SIERRAGATE PZ | | PRATHERMITCH | CLOSE | 566844 |
| 1100755 HN | 15763 HGP | W BACKFLOW TEST - ANNUAL, BACKFLOW PROGRAM, BACKFLOW TEST | 5/2/22 08:21:18 | 5/2/22 00:00:00 | 10 SIERRAGATE PZ | | BRADENTODD | CLOSE | 566844 |
| 2855258 | 2855159 | Water,Testing, Backflow | 5/1/23 01:28:15 | | 10 SIERRAGATE PZ | WHITCOMBPATRICK | BRADENTODD | WORKCOMP | 566844 |
| 3362807 | 3362777 | Water,Testing, Backflow | 4/25/24 08:07:22 | | 10 SIERRAGATE PZ | RUSSELLMATTHEW | BRADENTODD | WORKCOMP | 566844 |

**Opening a Work Order record, allows the user to see inspection results and details related to the work that was done:**




**The Inspection Form results are stored on the related Work Order:**



CITY OF ROSEVILLE CALIFORNIA

## Inspections Outside Requests

**WD Backflow Test DC\DCDA**

**Status:** COMPLETED **Start Date:** 5/15/24 **Completed:** 5/15/24

**Result #:** 13108

**Address:** 10 SIERRAGATE PZ

**Work Order:** 3362807 - Water,Testing, Backflow

**Status:** WORKCOMP **Parent PM #:** WBF-MAY

**Location:** W-SERVICE-POINT-41941 - COM, Fire @ 10 SIERRAGATE PZ

**Asset:** 566844 - BACKFLOW PREVENTER, 0.75 in, DC, PRIVATE, CF, Horizontal Above Grade

**Serial #:** 171736 **Asset Tag:**

| Seq | Question | : Results | Entered Date |
|---|---|---|---|
| 1 | Testing Date and Time | : May 15, 2024 9:00AM | 5/15/24 |
| 2 | BACKFLOW TEST RESULT (PASS/FAIL) | : PASS | 5/15/24 |
| **Pass d Backflow Testing** | | | |
| 4.01 | Number 1 Check Value (PSID) | : 2.20 | 5/15/24 |
| 4.02 | Number 2 Check Value(PSID) | : 2.40 | 5/15/24 |

4/2/25 12:18:48 1 / 1

# Appendix F – Inspection Field Form

This form is used as a hard-copy back-up to the Asset Management and Work Order System, which allows more robust tracking of location records, assets, attributes, and work orders.

| CITY OF ROSEVILLE CALIFORNIA Environmental Utilities | **Backflow Preventer Inspection Form (Combined)**<br>Water System: City of Roseville, CA<br>Water System Number: CA3110008 |
|---|---|

**Builder Owner/Tenant Name:** _____ **Phone:** _____
**Property Address:** _____ **Zip Code:** _____

**BPAT Name:** _____
**BPAT Certification #:** _____
**Test Kit Calibration Current:**
☐ Yes
☐ No
**Testing Date:** _____
**Testing Time:** _____

**DEVICES INSTALLED AS OF THIS DATE:**

| Device | Manufacturer | Size | Serial # or # of Devices | Location Installed |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Remarks: _____

_____

**FOR DC/DCDA INSPECTION:**

Backflow Test Result:
☐ Pass
☐ Fail

| If Fail: | If Pass: |
|---|---|
| Did Shut Off Valve 1 Work?<br>☐ Pass<br>☐ Fail | |
| No. 1 Check Valve: _____ | No. 1 Check Valve: _____ |
| Did Shut off Valve 2 Work?<br>☐ Pass<br>☐ Fail | |
| No. 2 Check Valve: _____ | No. 2 Check Valve: _____ |

Page | 1

| CITY OF ROSEVILLE CALIFORNIA Environmental Utilities | **Backflow Preventer Inspection Form (Combined)**<br>Water System: City of Roseville, CA<br>Water System Number: CA3110008 |
|---|---|

Enter Failed Remarks: _____

_____

_____

**FOR PVB\SVB INSPECTION:**

Backflow Test Result:
☐ Pass
☐ Fail

| **If Fail:** | **If Pass:** |
|---|---|
| Initial Air Inlet Did Not Open at Pressure Test:<br>☐ Yes<br>☐ No | Final Air Inlet Opened at Pressure Test:<br>☐ Yes<br>☐ No |
| Initial Check Valve 1 Held at Pressure Test?<br>☐ Yes<br>☐ No | Initial Check Valve 1 Held at Pressure Test?<br>☐ Yes<br>☐ No |

Enter Failed Remarks: _____

_____

_____

**For RP/RPDA Inspection:**

Backflow Test Result:
☐ Pass
☐ Fail

| **If Fail:** | **If Pass:** |
|---|---|
| Did Shut Off Valve 1 Work?<br>☐ Fail | Did Shut Off Valve 1 Work?<br>☐ Pass |

| | |
|---|---|
| CITY OF ROSEVILLE CALIFORNIA<br>Environmental Utilities | **Backflow Preventer Inspection Form (Combined)**<br>Water System: City of Roseville, CA<br>Water System Number: CA3110008 |

| | |
|---|---|
| Did Check Valve 1 Leak?<br>☐ Yes<br>☐ No | No. 1 Check Value Held at Pressure:<br>_____ |
| Check Valve 2 Closed Tight? | Check Valve 2 Closed Tight? |
| ☐ No | ☐ Yes |
| PRV Opened?<br>☐ No | PRV Opened?<br>☐ Yes |
| | PRV Opened at Pressure:<br>_____ |

Enter Failed Remarks: _____

_____

_____

**FOR AIR GAP**

Backflow Test Result:
☐ Pass
☐ Fail

Supply pipe diameter: _____ Air Gap Separation: _____

**Summary:**

☐No visible violations as of this date: _____

☐In violation as of this date: _____

☐Violation to be corrected as of this date: _____

**Printed Name of Inspector:** _____

**Printed Name of Representative:** _____

**These are examples of pass & fail inspection reports from the Asset Management and Work Order System:**

*Failed Inspection:*

# Inspections

**WD Backflow Test RP\RPDA**

**Status:** COMPLETED **Start Date:** 12/31/24 **Completed:** 12/31/24

**Result #:** 17356 **Started By:** CHAVEZANTHONY **Comp By:** CHAVEZANTHONY

**Address:**

**Work Order:** 3599812 - Water,Testing, Backflow

**Status:** WORKCOMP **Lead:** BRADENTODD **Parent PM #:** WBF-JANUARY

**Location:** W-SERVICE-POINT-1688 - COM, Irrigation @ (address)

**Asset:** 567205 - BACKFLOW PREVENTER, RP, 1.5 IN, CI, PRIVATE

**Serial #:** 3373958 **Asset Tag:**

| Seq | Question | : Results | Entered By | Entered Date |
|---|---|---|---|---|
| 1 | Testing Date and Time | : Dec 31, 2024 10:20AM | CHAVEZANTHONY | 12/31/24 |
| 2 | BACKFLOW TEST RESULT (PASS/FAIL) | : FAIL | CHAVEZANTHONY | 12/31/24 |
| **FAILED BACKFLOW ASSEMBLY TEST RESULTS** | | | | |
| 3.001 | Did the Shut Off Valve 1 Work? | : PASS | CHAVEZANTHONY | 12/31/24 |
| 3.002 | Did the Shut Off Valve 2 Work? | : PASS | CHAVEZANTHONY | 12/31/24 |
| 3.005 | Check Valve 2 Closed Tight (Y/N) | : N | CHAVEZANTHONY | 12/31/24 |
| 3.006 | PRV Opened (Y/N) | : Y | CHAVEZANTHONY | 12/31/24 |
| 3.007 | PRV Opened At PSID | : 2.40 | CHAVEZANTHONY | 12/31/24 |
| 3.008 | Enter Failed Remarks | : #2 check did not hold tight, drops to relief point and DPRV opens, cant finish test | CHAVEZANTHONY | 12/31/24 |

*Passing Inspection:*

# Inspections

## WD Backflow Test RP\RPDA

**Status:** COMPLETED
**Start Date:** 1/2/25
**Completed:** 1/2/25
**Result #:** 17361
**Started By:** CHAVEZANTHONY
**Comp By:** CHAVEZANTHONY
**Address:**

**Work Order:** 3599817 - Water,Testing, Backflow
**Status:** WORKCOMP
**Lead:** BRADENTODD
**Parent PM #:** WBF-JANUARY
**Location:** W-SERVICE-POINT-712 - COM, Irrigation @ (address)
**Asset:** 567048 - BACKFLOW PREVENTER, RP, 1 IN, CI, PRIVATE
**Serial #:** 41395
**Asset Tag:**

| Seq | Question | : Results | Entered By | Entered Date |
|---|---|---|---|---|
| 1 | Testing Date and Time | : Dec 31, 2024 12:40PM | CHAVEZANTHONY | 1/2/25 |
| 2 | BACKFLOW TEST RESULT (PASS/FAIL) | : PASS | CHAVEZANTHONY | 1/2/25 |
| **PASSED BACKFLOW ASSEMBLY TEST RESULTS** | | | | |
| 4.001 | Check Valve 1 Held At Pressure | : 8.60 | CHAVEZANTHONY | 1/2/25 |
| 4.002 | Check Valve 2 Closed Tight (Y/N) | : Y | CHAVEZANTHONY | 1/2/25 |
| 4.003 | PRV Opened At PSID | : 2.20 | CHAVEZANTHONY | 1/2/25 |

# Appendix G – Hazard Assessment

This form is used as a hard-copy back-up to the Asset Management and Work Order System, which allows more robust tracking of location records, assets, attributes and work orders.

| | |
|---|---|
| CITY OF ROSEVILLE CALIFORNIA Environmental Utilities | **Hazard Assessment Form**<br>Water System: City of Roseville, CA<br>Water System Number: CA3110008 |

**Cross-Connection Control Specialist**

Assessment Date: _____

Cross-Connection Control Specialist (CCCS): _____
CCCS Certification Number: _____
CCCS Certification Expiration Date: _____

**Premises Address and Contract Information**

Premises Address: _____

Company/Resident Name: _____

Address: _____

Premises Contact Person: _____ Title: _____

Phone: _____ Email: _____

Is this Assessment due to New Construction or Premise Use Change? ☐ Yes ☐ No

*If yes:*

Assigned Construction Inspector _____

Construction Purpose: _____

Have plans been provided to the Water Utility? ☐ Yes ☐ No

City wide Job # (CWJ#) if applicable: _____

Encroachment # (EN#) if applicable: _____

**Premises Type and Services**

**Commercial ☐ Yes ☐ No**

*If Commercial, select type:*

☐ Agriculture
☐ Chemical or Biological Handling
☐ Commercial/General
☐ Manufacturing/Industrial Processing
☐ Medical/Dental/Mortuary
☐ Recreation
☐ Restricted
☐ Utility

| | |
|---|---|
| CITY OF ROSEVILLE CALIFORNIA Environmental Utilities | **Hazard Assessment Form**<br>Water System: City of Roseville, CA<br>Water System Number: CA3110008 |

**Residential ☐ Yes ☐ No**

*If Residential, select type:*

☐ Single Family
☐ Multi-family

How Many Services on the Premises?

| **Number of Services on the Premises:** | **Corresponding BPA/Service Line?** |
|---|---|
| ☐ CD _____ ___ | ☐ AG ☐ RP ☐ DC ☐ DCDA |
| ☐ CI _____ _____ | ☐ AG ☐ RP ☐ DC ☐ DCDA |
| ☐ CF/CFB _____ | ☐ AG ☐ RP ☐ DC ☐ DCDA |
| ☐ RDI _____ | ☐ AG ☐ RP ☐ DC ☐ DCDA |
| ☐ RDIF _____ | ☐ AG ☐ RP ☐ DC ☐ DCDA |
| ☐ RI _____ | ☐ AG ☐ RP ☐ DC ☐ DCDA |
| ☐ RW _____ | ☐ AG |

Are all services metered (except fire)? ☐ Yes ☐ No ☐ N/A

Are there Backflow Preventers for each service connection? ☐ Yes ☐ No ☐ N/A

Notes: _____
_____
_____

**Hazard Assessment**

Are any of the following connected to the potable water supply?

Radiant heating ☐ Yes ☐ No
Solar heating panels ☐ Yes ☐ No
Cooling tower or heat exchanger? ☐ Yes ☐ No
Pumps? ☐ Yes ☐ No
Hot water or climate control boilers/mechanical equipment? ☐ Yes ☐ No
Water softener system? ☐ Yes ☐ No
Utility Sink? ☐ Yes ☐ No

Cistern/Rainwater harvesting systems? ☐ Yes ☐ No
Gray water systems? ☐ Yes ☐ No
Swimming pool/Hot tub? ☐ Yes ☐ No
Decorative pond? ☐ Yes ☐ No
Tank Trucks or portable vessels in use? ☐ Yes ☐ No

Notes/explanation for any of the above:

_____
_____
_____
_____

Any of the following conditions?

Private Well? ☐ Yes ☐ No
Private storage tank or reservoir? ☐ Yes ☐ No
Access to an auxiliary water supply onsite (i.e., creek, pond, or spring)? ☐ Yes ☐ No
Irrigation served by a different source (i.e. creek, pond, or spring)? ☐ Yes ☐ No
Multi-piping system/frequent changes to piping system? ☐ Yes ☐ No
Non-testable backflow preventers? ☐ Yes ☐ No
Recycled Water Irrigation interconnected to City water system? ☐ Yes ☐ No
Irrigation system with capabilities for injecting fertilizers or chemicals? ☐ Yes ☐ No

Notes/explanation for any of the above:

_____
_____
_____
_____

**Determination of Degree of Hazard**

Any previous backflow incidents on the premises? ☐ Yes ☐ No
What is the degree of piping system complexity? ☐ Low ☐ High ☐ Other
Are there hazardous materials handled and present, or likely to be, on the user premises? ☐ Yes ☐ No

Notes/explanation:

_____
_____
_____
_____

What is the degree of hazard? ☐ None ☐ Low ☐ High
Do the backflow preventers match the degree of hazard? ☐ Yes ☐ No ☐ BPA not required
User Supervisor Required? ☐ Yes ☐ No

| CITY OF ROSEVILLE CALIFORNIA Environmental Utilities | **Hazard Assessment Form**<br>Water System: City of Roseville, CA<br>Water System Number: CA3110008 |
|---|---|

**Actions Required**

Actions Required: _____
_____
_____

Comments: _____
_____
_____

Cross Connection Control Survey

Date: _____
☐ Pass
☐ Fail

Comments: _____
_____
_____

CCCS Signature: _____
Date: _____

# Appendix H – Backflow Incident Response Plan

| CITY OF ROSEVILLE CALIFORNIA Environmental Utilities | **Water Utility/Water Quality**<br>**Backflow Incident Response Plan**<br>Updated 5/06/25 |
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## Purpose:

This plan provides a structured approach to responding to backflow incidents. It is designed to protect public health, ensure potable water safety, and maintain the integrity of the public water distribution system.

> ***If there is a known or suspected backflow incident, the State Water Board Division of Drinking Water (DDW) and local health agencies must be notified within 24 hours of the determination. Notification will be managed by the Cross Connection Control Program Coordinator (CCCPC) or Water Distribution Superintendent.***

## Safety/PPE

- Safety toe boots
- Safety glasses/eye protection
- Gloves
- Hard hats and safety vests when site required or in traffic conditions
- Backflow preventers are not always at ground level or easily accessible; take proper precautions when in vault or when elevations require ladders or step stools

## Key Personnel and Responsibilities:

- **Incident Manager** (Typically, the CCCPC or Water Distribution Superintendent)
  - Oversees the entire response process.
  - Coordinates with internal teams and external stakeholders.
  - Ensures compliance with regulatory requirements.
- **Water Distribution Operations**
  - Investigates and identifies the source of the backflow event.
  - Isolates and contains the affected area.
  - Conducts system inspections, flushing, disinfection, repairs, etc.
  - Collects water samples for laboratory analysis.
- **Water Admin/Customer Service Team**
  - Answers customer calls and alerts the CCCPC or Cross-Connection Control Specialist. on duty Incident Manager regarding potential backflow incidents.
  - Responds to customer inquiries in the event of a public notice.
- **Laboratory Personnel**
  - Tests and analyzes water samples.
  - Provides analysis and reports on water quality.
- **Public Information Officer**
  - Prepares and distributes public notifications, advisories, and updates.

## What is a backflow incident?

Clean water from a water treatment plan flows through distribution systems to end customers, typically homes and businesses. Unusual conditions can cause the water to flow backwards – from a customer's plumbing system into the public water system, which can be triggered by a drop in pressure. Backflow can occur whenever there is a physical cross-connection between the public water system supply and the customer's water system and any source of liquid, solid, or gas that could contaminate the water supply.

Contamination from cross-connections can cause public health hazards, including poisoning or spread of disease. Cross-connections can also introduce pollutants with undesirable qualities such as unpleasant tastes and odors, which can reduce water user trust in public drinking water.

Indications of a potential backflow incident can come from customer complaints or staff observations:

- **Discolored or unusual looking water**: This can be an early clue that a backflow event has occurred. Listen for words like *discolored*, *cloudy*, *foamy*, *soapy*, or *oily*.
- **Odor or taste**: Listen for words such as *medicinal*, *chemical*, *fuel*, or *salty*. This is especially true after a low-pressure event, perhaps due to a main break.
- **Loss of pressure**: Broken water mains, failed pumping systems, power outages, leaking storage reservoirs, and high demand such as fire flow, can cause unplanned pressure loss within parts of the distribution system.
- **Low Residuals in Distribution System**. Lower chlorine residuals could indicate that the chlorine is reacting to a foreign substance that has entered the water system.

## Procedure:

**Field Investigation**

1. **Find the cause of backflow** and assess the risk and affected area. The highest priority is to protect customer health.
2. **Record the investigation details** including location, time, and observations.
   - Review abnormal readings during routine water quality monitoring. Compare chlorine residuals to recent sampling records. A drop in chlorine residual may indicate the existence of foreign materials.
   - Review customer complaints of water quality issues (illness, taste, odor, appearance, or loss of pressure).
   - Investigate any discovered unprotected cross-connections allowing contaminants to flow into the water distribution system.
   - Monitor the pressure in the distribution system and be aware of any activities in the immediate area that may affect the pressure such as a water main break, use of a fire hydrant, or internal facility water pipe break.

3. **Conduct water sampling and testing to identify the extent and nature of any contamination** before taking corrective action. DDW recommends sampling for the following parameters: total coliform, E. coli, free and total chlorine residual, pH, odor, turbidity, temperature, and color. Additional sampling should be collected as indicated.
4. **Notify the Incident Manager** immediately regarding findings.

**Inform Officials and Public**

1. The Incident Manager will **determine whether the backflow issue must be reported** to DDW and the Placer County Environmental Health Specialist. The Incident Manager coordinates with the Water Distribution Superintendent and Water Utility Manager on that outreach.
2. DDW and the Placer County Environmental Health Specialist guide the City on which customers to contact and whether to **issue a health advisory**.
3. The Incident Manger will **inform the Public Information Officer** regarding the need for customer outreach (door hangers, door to door notification, social media, radio, television, newspaper, letters, etc.).
4. The PIO will **coordinate** with DDW and the Placer County Environmental Health Specialist **on notices to affected customers** about what happened.
   - Communications must include what customers should do to protect their health and what the water utility is doing to correct the situation.
   - If the risk assessment points to the possibility of bacterial or chemical contamination, including a substance capable of causing bodily harm, use DDW templates for public notification. Any notification must be approved by DDW prior to distribution or posting, unless otherwise directed by DDW.
5. Working with the Public Information Officer, the Incident Manager will **inform Water Customer Service/Administration, Utility Billing customer service, and other public contact counters** with information about the issue and actions the City is taking.
6. The Incident Manager will coordinate with the Water Distribution Superintendent and Water Utility Manager to **communicate with the City Manager, City Attorney, Building Code Administrator, Fire Department, and others** to review the incident and next steps.

**Field Operation**

1. **Limit the spread of contamination**. Multiple field crews may need to be dispatched.
2. **Confirm the source** of the backflow, affected area, and assess the risk.
3. **Isolate the affected area**, if possible, to prevent further spread of contamination.
   - If the Incident Manager determines that contamination has created an immediate and substantial endangerment to public health, they will coordinate with the Water Distribution Superintendent and Water Utility Manager to isolate the customer's water system from the public water supply system. This may be done without advance notice to the customer, informing the customer as soon as reasonably possible thereafter.

4. **Reverse the pressure differential**. If needed, restore normal pressure conditions to reverse the backflow
5. **Flush and Clean.** Take corrective actions to eliminate the contamination from the distribution system such as flushing through fire hydrants and blow offs.
    - Flushing should move any known contaminants to the nearest discharge point without unnecessarily spreading contamination through the distribution system.

**After return to normal operations**

1. **Collect water quality samples**. Include coliform and possibly certain chemical samples.
    - Take samples to the laboratory to confirm the distribution system meets drinking water standards.
2. **Eliminate any found cross-connections**.
3. **Install backflow prevention assemblies, as needed** to prevent future incidents.
4. **Continue to monitor water quality** and conduct testing to ensure the system is safe for consumption.
5. **Complete BACKFLOW INCIDENT REPORT FORM** in the Maximo Asset Management System. Send to appropriate authorities if requested. Upload attachments for the following:
    - Laboratory Test Results
    - Sketch of the cross-connection and modifications
    - MSDS or chemical information forms if chemical hazard is known
    - Applicable backflow assembly test reports including the most recent test before the incident
    - Other relevant supporting documentation
6. **Communicate with customers** to inform them regarding the results of actions taken.
7. **Review and improve the Backflow Incident Response Plan**.
    - Conduct a post incident review to identify lessons learned and improve the plan for future incidents

## References:

- Cross Connection Control Plan
- Maximo WD Backflow Incident Report Form
- Incident Report Form Sample (attached)
- Templates for Public Notification from DDW: (https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Notices.html)
- Blow-off Flushing SOP
- Unidirectional Flushing Plan, 2020
- Laboratory water sampling tool kit

## BACKFLOW INCIDENT REPORT FORM

This Water System: **City of Roseville, CA**
Water System Number: **CA3110008**

Incident Date: _____
Incident Time (if known): _____
Incident Location: _____

How was the incident discovered?
☐ Direct Observation ☐ Meter Running Backwards
☐Chlorine Residual Monitoring ☐Water Quality Complaint
☐ Illness/Injury complaint
☐ Other _____

By whom was the incident reported?
☐ PWS Personnel ☐ Premises Owner/Occupant ☐ Other Customer ☐ Backflow Prevention Assembly Tester
☐ Other _____

**Backflow Originated from:**

Premise Location: _____
Company/Resident Name:
_____

Address: _____
Premise Contact Person: _____ Title: _____
Phone: _____ Email: _____

Connection Type: (please check one)
☐Industrial ☐Commercial ☐Single-Family Residential ☐Multi-Family Residential ☐Irrigation ☐ Recycled Water ☐Water System Facility ☐ Medical Facility
☐Other: _____

How was the backflow discovered?
Description of backflow substance (please be as descriptive as possible):
_____
_____

*If available, please attach an MSDS or other chemical description form.*

Source of backflow substance:
☐Air conditioner/Heat exchanges ☐ Auxiliary water supply ☐ Beverage machine
☐ Boiler/Hot water system ☐ Chemical injector/Aspirator ☐ Fire protection system
☐ Irrigation system ☐ Industrial/Commercial process water/Fluid ☐ Medical/Dental fixture
☐ Reclaimed water system ☐ Swimming pools/Spa ☐ Wastewater system
☐ Other _____

Was the backflow fluid contained within the user side? ☐YES ☐NO

Estimated Number of Affected Persons: _____

Number and description of consumer complaints received:
_____
_____

Did any consumers report illness? Please describe.
_____
_____

If applicable, please describe the consumer notification:
_____
_____

## INVESTIGATION

Please describe the water system investigation including time frames:
_____
_____
_____

Main/Pressure status at time of incident.
☐Normal ☐ Main break ☐ Firefighting ☐ Power outage ☐ Source/plant outage
☐ Scheduled water shutoff by PWS ☐ Unscheduled/Emergency shutoff ☐ Unknown
☐Other_____

What was the area system pressure? _____

Is this within typical range: ☐YES ☐NO - typical pressure: _____

Was a sample of the water contaminated by the backflow incident collected and stored before flushing? ☐YES ☐NO

Please describe all sampling:

_____

_____

_____

*DDW recommends laboratory or field sampling for the following parameters: total coliform, E. coli, free and total chlorine residual, pH, odor, turbidity, temperature, and color. Additional sampling should be collected at the PWS and regulatory agency's discretion.*

## CORRECTIVE ACTIONS

Please describe the corrective actions taken by the water system:
☐None ☐ Flushed/cleaned mains ☐ Flushed/cleaned plumbing
☐ Other treatment: _____
☐Replaced mains ☐ Replaced plumbing
☐Other: _____

_____

_____

Approved volume of water use_____

Actions ordered by PWS to correct cross-connection.
☐ None ☐ Eliminate Cross-connection ☐ Install new preventer

*Change existing preventer:*
☐Repair/replumb ☐ reinstall correctly ☐ replace with same type ☐upgrade type ☐ None

_____

☐ Other/additional detail _____

_____

Was the chlorine residual increased after discovery of backflow incident? ☐YES ☐ NO

Date of the last cross-connection control hazard assessment of the premise with the backflow incident conducted: _____

Did the premise have backflow prevention assemblies? ☐YES ☐NO

Type of BPA required.
☐None ☐ AG ☐ DC ☐ RP ☐ DCDA ☐ RPDA

Date of most recent backflow prevention assembly test(s): _____

When was the Division of Drinking Water or Local County Health office notified?
Date: _____Time: _____ Contact Person: _____

Was the Division or Local County Health notified within 24 hours? ☐YES ☐NO

Other agencies or organizations contacted? _____

## CERTIFICATION

Name: _____ Job Title: _____
Certification(s): _____
_____
*Please list all cross-connection control related certifications including number and expiration date.*

I certify that the forgoing information is true and correct to the best of my ability.

Signature: _____ Date: _____

Attach the following applicable documentation

1. Laboratory Test Results
2. Sketch of the cross-connection and modifications
3. MSDS or chemical information forms if chemical hazard is known
4. Applicable backflow assembly test reports including the most recent test before the incident
5. Other relevant supporting documentation