

Cross Connection Control Backflow Prevention Assembly Device Installation Guide

This guide is intended to assist property owners, contractors, and licensed plumbers with the installation of cross-connection control (backflow prevention) devices, as required by the City of Palo Alto (City) and California State regulations. If you have received a notice from the City or are if your project requires a backflow prevention device, the information outlined in this document will help guide you through each step of the process. For further assistance, contact the Cross-Connection Control Program at 650-496-5926 or visit www.PaloAlto.gov/backflow.

Cross-Connection Control and Backflow Prevention Assembly Devices

Cross-connection control refers to the practices and regulations aimed at preventing non-potable substances, pollutants, or contaminants from entering the public drinking water system. This process includes identifying potential hazards, maintaining installation standards, and ensuring ongoing compliance with regulations. Backflow prevention assembly devices (BPAs) are mechanical safety devices designed to safeguard and prevent contaminated or polluted water from flowing back into the public drinking water system. These devices are mandatory for commercial water services and many residential water systems, as required by California Health and Safety Code (CHSC) Section 116555(a)(2) and the Cross-Connection Control Policy Handbook, effective July 1, 2024.

Backflow Prevention Assembly Installation Placement Requirement

(BPAs) shall be installed as follows:

- Installed on the private side before any branches or connections to the service line, and within 5 feet of the point of service/water service meter.
- In an accessible location
- Above ground with adequate clearance (see Water Gas Wastewater Utility Standards)
- Outside of public right-of-way

To install or replace a BPA, contact the Building Department at 650-329-2496. All necessary City permits must be obtained before a licensed professional or the property owner performs the work. New installations must use a Reduced Pressure Principle Assembly (RPPA), unless the device is serving a low-hazard fire protection system, in which case a Double Check Detector Assembly (DCDA) may be permitted. Additional technical requirements are available in the City's Utility Water, Gas, and Wastewater Standards and in Rule and Regulation 21, which governs cross-connection control compliance:

- **City of Palo Alto Water Gas Wastewater Utility Standards:**
<https://www.paloalto.gov/Departments/Utilities/Utilities-Services-Safety/Engineering-and-Operations>
- **Rule & Regulation 21:**
<https://www.paloalto.gov/Departments/Utilities/Customer-Service/About-CPAU/Utility-Rules-and-Regulations>

Approved Device Types

- Reduced Pressure Principle Assembly (RPPA) – required for all new installations
- Reduced Pressure Detector Assembly (RPDA) – approved for fire line protection

Step-by-Step Installation Guide

STEP 1 What needs to be done.

- Choose a suitable location for your BPA.
- Determine which City permits will be required
- Identify whether the BPA installation will require any other changes. (*For example, all water heating devices are required to have an expansion tank which is sized for the system.*)
- Ensure all new materials are lead free and meet the current CPAU standards
- If your property has multiple addresses on-site, affix a brass tag to each backflow device identifying the address which it is servicing.
- If you're not the property owner, coordinate with the landlord to clarify responsibilities.

STEP 2 Fill out the Building Department Permit Application

To get a permit for installing a backflow device, you or your contractor/plumber will need to complete the general information sections of the application.

Visit: www.paloalto.gov/planning or visit the Development Center to obtain copies of the full application.

If applying for your permit in person, If applying in person, bring your completed application to the Development Center. Over-the-counter permits are typically issued the without delay unless the project involves a major remodel. For permit fee information, visit:

<https://www.paloalto.gov/Departments/Administrative-Services/City-Budget/Archived-Budget-Documents/Municipal-Fees>

Complete a Cross-Connection Control Hazard Survey found on page 5 for residential properties and page 6 for commercial properties in this document. You can also access the survey online at www.PaloAlto.gov/backflow under the “General Information” section.

If you are unable to install your BPA device within 5 feet of your property line—as required by the City’s Rules and Regulations and the California Plumbing Code—you must contact the Building Department to request a pre-installation meeting. This meeting will help determine an acceptable alternate location for the device. The property owner must attend the meeting or designate a licensed plumber under contract to attend on their behalf. Bidding contractors are not eligible to represent the project.

Please ensure that you take the time to review the following considerations:

a. If the backflow assembly installation crosses or impact the public right of way (i.e., the sidewalk, curb, or parking strip) during installation, you will also need a Public Works Street Cut Permit. More information about this permit and the permit itself can be found at

<https://www.paloalto.gov/Departments/Public-Works/Engineering-Services/Forms-and-Permits>.

Contact the Public Works Department for assistance. As a reminder BPAs are considered private property and must not be installed within the public right-of-way.

b. If you are installing a device on a Fire Service, you will need to contact the Fire Prevention Bureau, 250 Hamilton Ave, 6th Floor. A link to the Fire Department’s permit form is available at: www.PaloAlto.gov/fire.

STEP 3 Have your plumber or backflow professional install your new backflow device

After confirming the installation location, request bids (ideally from at least three vendors) and schedule the work. You may use different contractors, but do not begin installation until all required City permits are issued.

STEP 4 Once installed, your new device must pass a field test

Backflow prevention assemblies must be inspected and tested prior to continuous service connection and the test report must be submitted to backflow@PaloAlto.gov, within five business days of the test date and must be performed by a tester registered with the City's Cross Connection Control Program office. Your device must pass a field test (it is possible to have a defective new device.)

Be sure that your tester has registered with the City's Cross Connection Office before performing the test. You should expect your Backflow Professional to do all of the following:

- Use an official City of Palo Alto test form (*see page 4 of this document* or visit www.PaloAlto.gov/backflow)
- Identify the water service meter that the backflow assembly is safeguarding
- Submit the results to the Cross Connection Control Program at backflow@PaloAlto.gov
- Provide a copy of the test results to keep for record purposes
- Attach a City of Palo Alto color-coded, serialized, metal tag to your device

STEP 5 Call for your Building Inspection

Leave any pipe or excavations exposed. The City Building inspector will want to see the work before you close the job up. Your device will need to have already been tagged by a certified tester in order to obtain sign off from the Building Inspector.

STEP 6 Remember that your backflow device must be tested annually

- No building permit is required to do the annual test.
- You can select any tester from the City's list of approved backflow testers to do the test each year.
- You do not need to use the same company that installed your device



Backflow Prevention Assembly Test Report

Please Return this form to:
Cross Connection Control Program
Utilities - WGW Operations
P.O. Box 10250
Palo Alto, CA 94303
Ph: 650-496-5926
Email: Backflow@PaloAlto.gov

2026

PLEASE VERIFY AND COMPLETE ALL FIELDS

I. GENERAL INFORMATION

Installation #:

Premise:

☐ Please check box if there any changes to this section		Last Test Date:	
Name of facility:		Street Address Where Assembly is Installed:	
Annual Renewal Due:			
Palo Alto Water Meter # (Must be 5 or 6 Digits)	Service Type: ☐ Domestic ☐ Fire Service ☐ Irrigation ☐ Unknown		Date of Installation:
Serial Number:	Manufacturer:	Model:	Size: Inch
Serial # (If replaced):	Location of Assembly at Site:		
Type: ☐ RP ☐ RPDA1 ☐ RPDA2 ☐ PVB ☐ DC ☐ DCDA1 ☐ DCDA2 ☐ SVB	Is this a primary (Service Containment) Primary Secondary or Secondary (Isolation Containment) device? ☐ ☐		Previous tag #:
Installation Orientation:	Is this device lead free? ☐ YES ☐ NO	Is this device in a vault? ☐ YES ☐ NO	
Gauge Serial #:	Gauge Calibration Expiration Date:		

II. TEST REPAIR INFORMATION

	Check Valve No. 1	Check Valve No. 2	Differential Pressure Relief Valve	Pressure Vacuum Breaker
Test Results	☐ Leaked ☐ Closed Tight Held at _____ PSID	☐ Leaked ☐ Closed Tight _____ PSID	☐ Open at _____ PSID ☐ Did Not Ope	☐ Air Inlet opened at _____ PSID ☐ Check Valve held at _____ PSID
Repairs	☐ Cleaned ☐ Repaired ☐ Replaced: _____	☐ Cleaned ☐ Repaired ☐ Replaced: _____	☐ Cleaned ☐ Repaired ☐ Replaced: _____	☐ Cleaned ☐ Repaired ☐ Replaced: _____
Final Test After Repairs:	☐ Closed Tight: Held at _____ PSID	☐ Closed Tight Held at _____ PSID	☐ Open at _____ PSID Reduced Pressure	☐ Air Inlet opened at _____ PSID ☐ Check Valve held at _____ PSID

City of Palo Alto Certification Tag: ☐ Tag attached to unit ☐ Noted 3 letter Month code on tag# _____ - _____

ADDITIONAL NOTES

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III. APPROVALS

Date Tested:	Tester Phone #:	Certified Tester #:	☐ Passed ☐ Failed
Company Name:			
Tested By (Signature):		Tested By (Print Name):	

☐ Please check box if there any changes to this section		Address Correction:
Mailing Address:		
Contact Email:	Phone #:	

Thursday, May 21, 2026

Cross Connection Control Residential Hazard Survey

Authorized Completion Requirement

This form must be completed by an individual knowledgeable about the property's plumbing system to affirm its accuracy and compliance with applicable regulations. The property owner or customer must engage a certified Cross-Connection Control Specialist to conduct a comprehensive site hazard survey if a qualified individual is unavailable. This survey is part of a system audit required by the State of California. If you have any questions or need assistance answering this survey, please contact us at 650-496-5926.

Resident Type: ☐ Owner ☐ Tenant ☐ Management Company ☐ Contractor

Contact Person:					
Customer/Property Owner:					
Site Address:		City:		State:	Zip:
Phone:		Email:			

Residence Type: ☐ Single Family Residence ☐ Multiple Family Residence,
If multiple, how many units? _____

Please check any of the following that are at this address:	
☐ Boiler (not a hot water heater)	☐ Multiple Stories
☐ Fire Protection System	If yes, how many stories? ____
☐ Fish Pond	☐ Rain Catchment Barrel
☐ Fountain or Lagoon (in ground or plumbed)	☐ Sewage Pump
☐ Heat Pump	☐ Solar Heating System
☐ Hot Tub	If yes, is it a "pass through" system? ☐ Yes ☐ No
☐ Irrigation System	☐ Swamp Cooler (type of cooling system)
If yes, are any the following used in your irrigation System? ☐ Pesticides ☐ Fertilizer ☐ Herbicides	☐ Swimming Pool
☐ Hose-end Sprayers ☐ Injectors ☐ None	☐ Water Booster Pump (to increase water pressure)
	☐ Water Storage Tank (not a hot water heater)

Auxiliary Water Source

Is there a well at this property (either functioning or non-functioning)?

☐ Yes ☐ No

If the well is non-functioning, do you have a Santa Clara Valley Water District demolition permit?

☐ Yes ☐ No

Do you have any of the following additional water sources in service at this location?

If yes, select all that apply:

- ☐ Grey Water (including "laundry to landscape" systems)
- ☐ Reclaimed Water (delivered through purple pipe)
- ☐ Well Water (please mark if well is on the property – or served by a well on another property)
- ☐ Non CPA Municipal Water (any other water source not mentioned above)

Do you have one or more cross connection control devices in place? ☐ Yes ☐ No ☐ Unsure

If yes, please proceed to *page 6* to provide detailed information about each backflow prevention device.

Model Name: _____	Model Number: _____
Serial Number: _____	Date of Installation: _____
Last Test Date: _____	Water Meter #: _____
The connected water service is a: ☐ Fire Service ☐ Irrigation Service ☐ Standard Service ☐ Well Where on the property is the device located (front right, in basement, etc.)? _____	

Model Name: _____	Model Number: _____
Serial Number: _____	Date of Installation: _____
Last Test Date: _____	Water Meter #: _____
The connected water service is a: ☐ Fire Service ☐ Irrigation Service ☐ Standard Service ☐ Well Where on the property is the device located (front right, in basement, etc.)? _____	

**Print Name (Property
Owner/Customer):** _____

Date: _____

**Sign (Property
Owner/Customer):** _____

Date: _____

By signing below, I represent and warrant under penalty of perjury under the laws of the State of California that I am the legal owner (or an authorized representative) of the described residential property, that I have full authority to execute this document and make decisions regarding the property, and that the information provided herein is true, accurate, and complete.

For Office Use:

CCC Specialist Reviewer:		ID No.:	
Premise No.:		Date:	

Cross Connection Control Commercial Hazard Survey

Authorized Completion Requirement

This form must be completed by an individual knowledgeable about the property's plumbing system, such as a facilities manager, to affirm its accuracy and compliance with applicable regulations. The property owner or customer must engage a certified Cross-Connection Control Specialist to conduct a comprehensive site hazard survey if a qualified individual is unavailable. This survey is part of a system audit required by the State of California. If you have any questions or need assistance answering this survey, please contact us at 650-496-5926.

Please check one: ☐ Owner ☐ Tenant ☐ Management Company ☐ Contractor

Contact Person:									
Customer/Property Owner:									
Site Address:				City:		State:		Zip:	
Phone:				Email:					

How many levels does the building at this site have? ☐ 1 ☐ 2 ☐ 3 ☐ More than 3

This facility is primarily: ☐ Mixed-Use ☐ Commercial ☐ Industrial ☐ Park/Open Space ☐ Multi-Residential	
Please check any of the following that are at this address:	
☐ Boiler (not a hot water heater)	☐ Rain Catchment Barrel
☐ Fire Protection System (fire sprinklers)	☐ Sewage Pump
☐ Fish Pond (in ground or plumbed)	☐ Swamp Cooler (type of cooling system)
☐ Fountain or Lagoon (in ground or plumbed)	☐ Swimming Pool
☐ Heat Pump	☐ Vehicle Washing Facility
☐ Hot Tub	☐ Water Booster Pump (to increase water pressure)
☐ Irrigation System	☐ Water Chiller (either for HVAC or other equipment)
☐ Laboratory	☐ Water Storage Tank (not a hot water heater)
☐ Radio Active Materials Handling	
Do you have a Solar Heating System? ☐ Yes ☐ No ☐ I'm not sure	
If yes, is it a "pass-through" system? ☐ Yes ☐ No ☐ I'm not sure	
Do you have any of the following equipment that can be connected to the water system?	
☐ Portable Cleaning Equipment	☐ Steam Cleaning Equipment
☐ Portable Spray Equipment	☐ Tank Trucks

Auxiliary Water Source

Is there a well at this property (either functioning or non-functioning)?

☐ Yes ☐ No ☐ I'm not sure

If well is non-functioning, do you have a demolition permit on file with Santa Clara Valley Water Authority?

☐ Yes ☐ No ☐ I'm not sure

Do you have any of the following additional water sources in service at this location? ☐ Yes ☐ No

If yes, select all that apply?

☐ Grey Water (including "laundry to landscape" systems) ☐ Reclaimed Water (delivered through purple pipe)

☐ Well Water (please mark even if property is served by a well on another property)

☐ Non-CPA Municipal Water (any other water source not mentioned above)

What kind of business is at this site? Please check all that apply:

☐ Aircraft Industry	☐ Gym / Hot Tub / Spa Facility
☐ Agricultural Industry	☐ Hotel / Motel
☐ Animal Grooming Facility	☐ Hospital

☐ Apartment Building / Condominium (multi-family)	☐ Ice Manufacturing Plant
☐ Automotive Maintenance	☐ Laboratories
☐ Automotive Plant	☐ Laundry
☐ Autopsy Facility / Morgue / Mortuary	☐ Medical Building or Medical Clinic
☐ Bank	☐ Metal Manufacturing or Fabrication
☐ Barber / Beauty Shop / Salon	☐ Metal Cleaning or Processing
☐ Beverage Bottling Plant	☐ Nail Salon
☐ Brewery	☐ Oil/Gas Production, Storage or Transmission
☐ Cannery or Packing House	☐ Paper or Paper Product Manufacturing
☐ Chemical Plant (Manufacture, Sorting, Compounding or Processing)	☐ Photo Processing
☐ Church / Place of Worship	☐ Plating Plant
☐ Cold Storage Plant	☐ Radiator Shop
☐ Convalescent Home / Nursing Home	☐ Retail
☐ Copy / Reprographic Service / Printer	☐ Restaurant
☐ Dental Clinic	☐ Rubber Manufacturing Plant
☐ Dry Cleaning Facility	☐ Sand or Gravel Plant
☐ Film Processing or Manufacturing	☐ Sanitarium
☐ Florist	☐ School or College
☐ Gas Station	☐ Storage Facility
☐ General Offices	☐ Vehicle Washing Facility
☐ Grocery Store	☐ Veterinary Clinic
	☐ Other: _____

Do you have one or more Backflow Assembly devices in place? ☐ Yes ☐ No ☐ Unsure If yes, please provide the following information about your backflow/cross connection device:

Model Name: _____	Model Number: _____
Serial Number: _____	Date of Installation: _____
Last Test Date: _____	Water Meter #: _____
The connected water service is a: ☐ Fire Service ☐ Irrigation Service ☐ Standard Service ☐ Well	
Where on the property is the device located (front right, in basement, etc.)? _____	

Print Name (Property Owner/Customer): _____

Date: _____

Job Title: _____

Company Name: _____

**Property Owner/
Customer Signature:** _____

Date: _____

By signing below, I represent and warrant under penalty of perjury under the laws of the State of California that I am the legal owner (or an authorized representative) of the described residential property, that I have full authority to execute this document and make decisions regarding the property, and that the information provided herein is true, accurate, and complete

For Office Use:

CCC Specialist Reviewer: _____	ID No.: _____
Premise No.: _____	Date: _____

Thank you for your time and assistance. If you have any questions or need assistance to answer this survey please contact us at 650-496-5926.

Your City staff are here to help! Please contact us:

Cross Connection Control, Utilities

P.O. Box 10250
Palo Alto, CA 94303
Telephone: 650-496-5926
Email: Backflow@PaloAlto.gov
Hours: Mon – Thurs 6:30 am – 4:00 pm
Friday 6:30 am – 3:00 pm

Fire Department

250 Hamilton Avenue 6th Floor
Palo Alto, CA 94301
Telephone: 650-329-2184
Email: firepermits@PaloAlto.gov
Hours: Mon – Fri 8:00 am – 3:00 pm

Planning and Development

285 Hamilton Avenue, Suite 100
Palo Alto, CA 94301
Telephone: 650-329-2496
Email: buildingpermits@PaloAlto.gov
Hours: Mon – Thurs 8:00 am – 5:30 pm
Friday 8:00 am – 4:30 pm

Water-Gas-Wastewater Engineering, Utilities

1007 Elwell Court
Palo Alto, CA 94303
Telephone: 650-566-4501 (Appointments Only)
Email: Utilities.Engineering@PaloAlto.gov
Hours: Mon – Fri 9 am – 4 pm

Public Works Department

250 Hamilton Avenue
Palo Alto, CA 94301
Telephone: 650-329-2151
Email: pwd@PaloAlto.gov
Hours: Mon – Fri 8 am – 5 pm