City of Newport

WATER SYSTEM

NEWPORT, WASHINGTON

CROSS-CONNECTION CONTROL PROGRAM

Protecting the Water Distribution System
from Cross-Connection Contamination

Meeting requirements of WAC 246-290-490

July 2022

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For the City of Newport, Washington

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LEGAL AUTHORITY

I Legal Authority

City of Newport's Public Works Department (PWD) legal authority to implement a cross-connection control program is provided by the Newport City Council Ordinance 847, Chapter 13.10, adopted by the City Council for the City of Newport on March 1, 1994. The ordinance requires PWD to implement a cross-connection control program in accordance with WAC 246-290-490 or subsequent revisions of the WAC as adopted by the Washington State Department of Health. (DOH)

PURPOSE, RESPONSIBILITY AND GENERAL REQUIREMENTS OF PROGRAM

II Purpose, Responsibility and General Requirements of Program

A. Purpose and Responsibility

1. The purpose of PWD's cross-connection control program shall be to protect the health of the water consumer and the potability of the water in the distribution system as defined in WAC 246-290-490, from contamination via cross-connections.

2. PWD's responsibility for cross-connection control shall begin at the water supply source, include all the public water treatment, storage, and distribution facilities, and end at the point of delivery to the consumer's water system, which begins at the consumer's water service at a point near the property line or utility held easement.

B. General Program Requirements

1. PWD shall develop and implement a cross-connection control program that meets the requirements of WAC 246-290-490, but may establish a more stringent program through PWD's ordinance or operating policies.

2. PWD shall ensure that good engineering and public health protection practices are used in the development and implementation of the cross-connection control program. Washington State Department of Health (DOH), Division of Drinking Water publications and the most recently published editions of references such as, but not limited to those listed below, are used as guidance for the cross-connection program development and implementation.

    a. Accepted Procedure and Practice Cross-Connection Control Manual published by the Pacific Northwest Section of the American Water Work Association (PNWS-AWWA Manual).
    b. Manual of Cross-Connection Control published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California (USC Manual).

3. PWD may implement their cross-connection control program, or any portion thereof, directly or by means of a contract with another agency or party acceptable to the State Department of Health

4. PWD shall coordinate with the administrative authority in all matters concerning cross-connection control.

5. PWD shall ensure that cross-connections between the distribution system and the consumer's water system are eliminated or controlled by the installation of an approved backflow preventer commensurate with the degree of hazard. This will be accomplished by implementation of a cross-connection program and policy that relies on:

    a. Premise isolation as defined in WAC 246-290-490
    b. In-premise protection as defined in WAC 246-290-490
    c. Combination of both.

6. When PWD's cross-connection program relies both on premise isolation and/or in premise protection:

    a. The program shall comply with the premise isolation requirements specified in subsection (4)(b) of WAC 246-290-490; and
    b. May reduce premise isolation requirements that rely on in premise protection for premise other than the type addressed in subsection (4)(b) of-WAC 246-290-490 if the conditions of (h) of that subsection are met.

7. PWD may rely on in premise protection only when the following conditions are met:

    a. The in-premise backflow preventers provide a level of protection commensurate with the purveyor's assessed degree of hazard;
    b. Backflow preventers which provide the in-premise backflow protection must meet the definition of approved backflow preventers as described in WAC 246-290-490;
    c. The approved backflow preventers are installed, inspected, tested, maintained, and repaired in accordance with subsections (6) and (7) of WAC 246-290-490;
    d. Records of such backflow preventers are maintained in accordance with subsections (3)(j) and (8) of WAC 246-290-490; and
    e. PWD has reasonable access to the consumer's premise to conduct an initial hazard evaluation and periodic reevaluations to determine whether the in-premise protection is adequate to protect PWD's distribution System.

8. PWD shall take appropriate corrective action within its authority if;

    a. A cross-connection exists that is not controlled commensurate to the degree of hazard assessed by PWD.
    b. A consumer fails to comply with PWD's requirements regarding the installation, inspection, testing, maintenance or repair of approved backflow preventers required by WAC 246-290-490.

9. PWD's corrective action may include, but is not limited to:

    a. Denying or discontinuing water service to a consumer's premises until the cross-connection hazard is eliminated or controlled to the satisfaction of the purveyor;
    b. Requiring the consumer to install an approved backflow preventer for premise

isolation commensurate with the degree of hazard; or

c. PWD installing an approved backflow preventer for premise isolation commensurate with the degree of hazard at the consumer's expense.

10. PWD denying or discontinuing water service to a consumer's premises for one ormore of the reasons listed in subsection 2(i) of WAC 246-290-490 shall notify the administrative authority prior to taking such action except in the event of an emergency.

11. PWD shall prohibit the intentional return of used water to the purveyor's distribution system. Such water would include, but is not limited to, water used for heating, cooling, or other purposes within the consumer's water system.

APPROVED BACKFLOW PREVENTER SELECTION

III Approved Backflow Preventer Selection

A. PWD Cross-Connection Control Specialist (CCS)

1. Assesses the degree of hazard posed by the consumer's water system upon PWD's distribution system; and

2. Determines the appropriate method of backflow protection for premise isolation in accordance with **Table 12,** listed in WAC 246-290-490, and shown in **Section B**, below; and

3. Determines premise isolation requirements:

   a. For service connections with premises posing a high health cross-connection hazard including, but not limited to, those premises listed in **Table 13**, listed in WAC 246-290-490, and shown in **Section C** below, the purveyor shall ensure that an approved air gap or RPBA is installed for premise isolation.

   b. IF PWD's CCS determines that no hazard exists for a connection serving a premise of the type listed in **Table13**, the requirements of 3(a) of this section do not apply.

   c. PWD will document, on a case-by-case basis, reasons for not applying the requirements of 3(a), of this section to a connection serving premises of the type listed in **Table 13** and include such documentation in the cross-connection control program summary report as required by WAC 246-290-490.

Table 13

Appropriate Methods of Backflow Protection for Premises Isolation

Degree of Hazard	Application Condition	Appropriate Approved Backflow Preventer
High Health Cross-Connection Hazard	Backsiphonage or backpressure backflow	AG, RPBA, or RPDA
Low Cross-Connection Hazard	Backsiphonage or backpressure backflow	AG, RPBA, RPDA, DCVA or DCDA

Table 13

High Health Cross-Connection Hazard Premises

Requiring Premises Isolation by AG or RPBA as identified by WAC 246-290-490.

1. Agricultural (farms, dairies, <City Wastewater Spray Field and Lagoon>),
2. Beverage bottling plant,
3. Car Washes,
4. Chemical plants

5. Commercial laundries and dry cleaners,
6. Premises where both reclaimed water and potable water are provided,
7. Film processing facilities,
8. Food processing plants,
9. Hospitals, medical centers, nursing homes, veterinary, medical/dental clinic and blood plasma centers,
10. Premises with separate irrigation systems using the purveyor's water supply and with chemical addition, *
10. Laboratories,
11. Metal plating industries,
12. Mortuaries,
13. Petroleum processing or storage plants,
14. Piers and docks,
15. Radioactive material processing plants or nuclear reactors, **
16. Survey access denied or restricted,
17. Wastewater lift stations and pumping stations,
18. Wastewater treatment plants,
19. Premises with an unapproved auxiliary water supply interconnected or the potential to interconnect with the potable water supply.

* For example: parks, playgrounds, golf courses, cemeteries, estates, etc.

** RPBA's for connections serving these premises are acceptable only when used in combination with an in-plant approved air gap; otherwise, PWD shall require an approved air gap at the service connection.

B. Backflow Protection for Residential

(One, Two, or Three family residences)

1. For one, two or three family residential service connections, PWD shall comply with the requirements of paragraph A(3) of this section when applicable.

2. If the requirements of paragraph A(3), of this section do not apply and the requirements specified in subsection (2)(h) of WAC 246-290-490 are met, PWD will rely on backflow protection provided at the point of hazard in accordance withWAC 51-56-0600 of the Uniform Plumbing Code and Newport Municipal Code Section 13.10.040 for hazards such as, but not limited to:

    a. Irrigation systems,
    b. Swimming pools or spas;
    c. Ponds;
    d. Boilers.

For example, PWD may accept an approved AVB on a residential irrigation system, if the AVB is properly installed in accordance with the Uniform Plumbing Code.

C. Backflow Protection for Fire Protection Systems

1. Backflow protection is not required for residential flow-through or combination fire protection systems constructed to potable water piping and materials.

2. For service connections with fire protection systems other than flow-through or combination systems, PWD shall ensure that backflow protection is consistent with WAC 51-56-0600 of the Uniform Plumbing Code (UPC). The UPC requires minimum protection as follows.

   a. An RPBA or RPDA for fire protection systems with chemical addition or using unapproved auxiliary water supply; and
   b. A DCVA or DCDA for all other fire protection systems.

3. For new connections made on or after the effective date of ordinance 847, Chapter 13.10, PWD shall ensure backflow protection is installed before water service is provided.

4. For existing fire protection systems:

   a. With chemical addition or using unapproved auxiliary supplies, PWD shall ensure that backflow protection is installed within ninety (90) days of the purveyor notifying the consumer of the high health cross-connection hazard or in accordance with an alternate schedule acceptable to the purveyor.
   b. Without chemical addition, without on-site storage, and using only PWD's water (i.e., no unapproved auxiliary supplies on or available to the premises), the purveyor shall ensure that backflow protection is installed in accordance with a schedule acceptable to PWD or at an earlier date if required by the administrative authority administering the Uniform Building Code as adopted under chapter 19.27 RCW.
   c. When establishing backflow protection retrofitting schedules for fire protection systems that have been assessed as a low hazard, PWD will consider factors such as, but not limited to, impacts of assembly installation on sprinkler performance, costs of retrofitting, and difficulty of assembly installation.

D. Additional Backflow Preventer Installation

1. PWD may require backflow preventers commensurate with the degree of hazard determined by the purveyor to be installed for premises isolation for connections serving premises that have characteristics such as, but not limited to, the following:

a. Complex plumbing arrangements or plumbing potentially subject to frequent changes that make it impractical to assess whether cross-connections hazards exist; or
b. A repeated history of cross-connections being established or reestablished; or
c. Cross-connection hazards are unavoidable or not correctable, such as, but not limited to tall buildings.

APPROVED BACKFLOW PREVENTERS

IV Approved Backflow Preventers

A. New Assemblies

1. PWD shall unsure that all new backflow prevention assemblies relied upon are models included on the current list of Backflow Prevention Assemblies Approved for Installation in Washington State, as publishing in DOH Publication #331-137, dated February 2002, or as later amended. The current approved assemblies list is available from the State of Washington, Department of Health, Division of Drinking Water, and is included as **Appendix B**.

B. Existing Assemblies

1. PWD may rely on testable backflow prevention assemblies that are not currently approved by the department, if the assemblies:
   a. Were included on the department and/or USC list of approved backflow prevention assemblies at the time of installation;
   b. Have been properly maintained;
   c. Are commensurate with PWD's assessed degree of hazard; and
   d. Have been inspected and tested at least annually and have successfully passed the annual test.

C. Unlisted Assemblies

1. PWD shall ensure that an unlisted backflow prevention assembly is replaced by an approved assembly commensurate with the degree of hazard, when the unlisted assembly:

   a. Does not meet the conditions specified in B, of this subsection;
   b. Is moved; or
   c. Cannot be repaired using spare parts from the original manufacturer.

D. Residential AVB's

1. PWD shall ensure that AVB's meet the definition of approved atmospheric vacuum breakers as described in WAC 246-290-490.

APPROVED BACKFLOW PREVENTER INSTALLATION

V Approved Backflow Preventer Installation

A. Installation Guidelines

1. PWD shall ensure that approved backflow preventers are installed in the orientation for which they were originally approved by the certifying laboratory.

2. PWD shall ensure that approved backflow preventers are installed in a manner that:

   a. Facilitates their proper operation, maintenance, inspection, and/or in-line testing (as applicable) using standard installation procedures acceptable to the department such as those in the USC Manual or PNWS-AWWA Manual;
   b. Ensures that the assembly will not become submerged due to weather-related conditions such as flooding; and
   c. Ensures compliance with all applicable: safety regulations.

3. PWD shall ensure that approved backflow assemblies for premises isolation are installed at a location adjacent to the meter or property line or an alternate location acceptable to the purveyor.

4. When premise isolation assemblies are installed at an alternate location acceptable to PWD, PWD shall ensure that there are no connections between the point of delivery from the public water system and the approved backflow assembly, unless the installation of such a connection meets PWD's cross-connection control requirements and is specifically approved by PWD.

5. PWD shall ensure that approved backflow preventers are installed in accordance with the following time frames;

   a. For new connections made on or after the effective date of Ordinance 847, Chapter 13.10, the following conditions listed in Section VII A through B shall be met before service is provided.
   b. For existing connections where the purveyor identifies a high health cross-connection hazard, the provisions listed in Section VII C.6.a shall be met.
   c. For existing connections where the purveyor identifies a low health cross connection hazard, the provisions listed in Section VII C.6.b shall be met in accordance with a schedule acceptable to the purveyor.

6. PWD shall ensure that bypass piping installed around any approved backflow preventer is equipped with an approved backflow preventer that:

   a. Affords at least the same level of protection as the approved backflow preventer that is being bypassed; and
   b. Complies with all applicable requirements of this section.

APPROVED BACKFLOW PREVENTER INSPECTION AND TESTING

VI Approved Backflow Preventer Inspection/Testing

A. PWD Staff Responsibilities

1. PWD shall ensure that:

    a. A PWD CCS inspects backflow preventer installations to ensure that protection is provided commensurate with the assessed degree of hazard.
    b. Either a Backflow Assembly Tester (BAT) or CCS inspects:
        i. Backflow prevention assemblies for correct installation and approval status.
        ii. Air gaps installed in lieu of approved backflow prevention assemblies for compliance with the approved air gap definition.
    c. A BAT tests the approved backflow prevention assemblies upon installation for proper operation.

2. PWD shall ensure inspections and/or tests of approved air gaps and approved backflow assemblies are conducted:

    a. At the time of installation;
    b. Annually, after installation, or more frequently if required by PWD for connection serving premises or systems that pose a high health cross-connection hazard of for assemblies that repeatedly fail;
    c. After a backflow incident;
    d. After an assembly is repaired, reinstalled, or relocated or an air gap is replumbed.

3. PWD shall ensure that inspections of AVB's installed on irrigation systems are conducted:

    a. At the time of installation;
    b. After a backflow incident; and
    c. After repair, reinstallation, or relocation.

4. PWD shall ensure that approved backflow prevention assemblies are tested using procedures acceptable to the department, such as those specified in the most recently published editions of the USC Manual. When circumstances, such as, but not limited to, configuration or location of the assembly, preclude the use of the USC test procedures, PWD may allow, on a case by case basis, the use of alternate (non-USC) test procedures acceptable to the department.

5. PWD shall ensure that the results of backflow prevention assembly inspections and tests are documented and reported in a manner acceptable to PWD.

6. PWD shall ensure that an approved backflow prevention assembly or AVB, whenever found to be improperly installed, defective, not commensurate with the degree of hazard, or failing a test (if applicable) is properly reinstalled, repaired, overhauled, or replaced.

7. PWD shall ensure that an approved air gap, whenever found to be altered, or improperly installed, is properly replumbed or, if commensurate with the degree of hazard, is replaced by an approved RPBA.

EVALUATION OF PROTECTION REQUIRED

VII Evaluation of Protection Required

A. New Water Services - Commercial

1. Prior to providing water service, the following procedures shall be followed:

    a. A service application shall be properly filled out by the owner of the project or his/her designated agent.
    b. A copy of the site plan is provided.
    c. If premise is listed as a high hazard per **Table13**, WAC 246-290-490, PWD will initially classify it as the same.
    d. If the premise is not listed under **Table13**, WAC 246-290-490 or there is question as to whether it is a high hazard, the following steps are followed:
        i. A copy of the mechanical (plumbing) and plumbing fixture schedule is requested.
        ii. The plans are reviewed for actual and potential cross-connections.
        iii. Each fixture and/or cross-connection is assessed for degree of hazard and backflow protection required for each according to plans.
        iv. Based on this information, the degree of hazard the premises poses to PWD public water system is assessed and backflow protection shall be required in accordance with the assessed degree of hazard.
        v. Backflow protection will be required at the property line or where water service enters the premise prior to the first branch tee.
        vi. A letter is sent to the owner, general contractor, and plumbing contractor (if known) including the following information:

            (1) Basic definitions associated with cross-connection control; reasons for controlling cross-connections; type of protection required; annual testing; detailed installation instructions, etc. Information also included stipulates *"that in accordance with State Regulations, the water purveyor shall deny water service to anyone who does not cooperate in the installation, testing, and repair of required backflow protection".*
            (2) PWD also informs the owner of their financial and legal responsibilities in protecting the quality of their drinking water within their premise. PWD stated that additional backflow protection will be required by the administrative authority. These devices are required to protect the quality of the drinking water within the owner's premise in accordance with the Plumbing Code enforced within the city. The Plumbing Code requires all testable backflow preventers to be tested annually by a certified backflow assembly tester (BAT). Documentation of this testing and any repairs shall be maintained by the owner.
            (3) PWD offers to answer any questions and provide assistance to the owner.

(4) When construction begins, PWD monitors progress. When backflow prevention assemblies PWD has required are installed, one of PWD's CCS will inspect to assure proper type of assembly has correctly been installed.

(5) When installation is approved, PWD gathers the required information for each assembly, records the information in the PWD database, and the assembly is then tested by a certified BAT.

B. New Water Services - Residential

1. At the time of building permit issuance, the Administrative Authority will notify the new applicant or contractor of the requirements for cross connection control.

2. At the time of service connection, PWD personnel will assess the degree of hazard posed by the residential premises to PWD's distribution system.

3. Based on this information, the degree of hazard the premise may pose to PWD's distribution system is assessed and backflow protection shall be required in accordance with the assessed degree of hazard and installed prior to occupancy or issuance of "Certificates of Occupancy" by the Administrative Authority.

C. Existing Water Services

1. Under WAC 246-290-490, PWD will begin a program to evaluate all commercial accounts to assess the degree of hazard the use of the premise poses on the distribution system of the city. Also, PWD will identify commercial premises that:

   a. Have devices installed, without current test data and that are not on the current list of approved assemblies within Washington State.
   b. Have devices installed commensurate with the degree of hazard.
   c. Have no devices installed.

2. A priority list will be made with the premises PWD determine pose the highest hazards to PWD's potable water supply. The list will rank the hazards in order of threat. The greatest threats will be listed at the top and the least potential at the bottom. **Table 13** in the State Regulations on page 7 in this program, and section 13.10.040, of the City Code regulating cross-connections will be used as a guideline for establishing this list.

3. The priority list will be used for re-evaluating the degree of hazard starting with the highest threat and working down the list.

4. A letter will be sent to the owners of each facility listed on the priority list. This letter will review cross-connection control basics, with the addition of the reasons for water use evaluations and a prospective date for a meeting and/or water use survey.

5. Degree of Hazard will be determined during the survey of the premises, by use of **Table 13** of WAC 246-290-490 and the current PNWS AWWA Cross-Connection Control Manual.

6. Backflow protection shall be required based upon the above findings in accordance with **Table 12** of WAC 246-290-490, and as shown on page 6 of this regulation.

    a. If it is determined the premise poses a high hazard to PWD's public water system, a RPBA will be required on the water service to the facility within 90 days or in accordance with an alternate schedule acceptable to the purveyor.
    b. If it is determined the premises poses a low hazard toe PWD's public water supply, either:

        i. A DCVA will be required on the water service to the facility within 90 days or in accordance with an alternate schedule acceptable to the purveyor; or
        ii. In premises backflow protection shall be provided as described in VII.D.

7. Existing fire suppression systems not presently controlled by State approved backflow prevention assemblies will be required to comply as described in III.C.4.

8. Existing irrigation systems that are capable of polluting or contamination PWD's public water supply and controlled by State approved backflow protection, shall comply as described in Section III.A.3. a.

9. Backflow protection assemblies shall be installed:
    a. On the service line to premises requiring premise isolation at or near property line or inside of the facility prior to the first branch or tee; or
    b. At the point of supply to fire suppression and/or irrigation systems.

10. When backflow prevention assemblies are installed, PWD follows the procedures listed in Section V.

D. In-Premise Backflow Protection

1. When PWD is relying on in-premise backflow protection for the potable water supply, PWD shall require owners to follow the below identified provisions which includes but is not limited to:
    a. A water use survey of premises entire plumbing system by a PWD Cross-connection Control Specialist (CCS), will be required.
    b. The CCS Inspector shall prepare a cross-connection control inspection report which:

        i. Identifies all cross connections including degree of hazard and if properly controlled in accordance with III.A.3.a.

ii. Inspect all backflow protection assemblies for correct installation and State of Washington approval.
i. Notify owner of tests required, and receive reports for all testable devices.

ii. Records receipt of all inspection reports, test report(s) and documentation of air gaps or atmospheric vacuum breaker inspections, prior to annual compliance date.

iii. Notifies owner if above items are not complied with, PWD will proceed with procedures for discontinuing water service at the customer curb stop.

E. Periodic Re-evaluation

1. All premises without an approved APBA installed on a water service are subject to periodic reevaluation.

   a. All changes in occupancy of commercial and industrial facilities will be monitored through PWD's backflow assembly computer database and business office utility billing system computer.

   b. In the type of occupancy changes which may increase the degree of hazard, a water use reevaluation will be conducted within 90 days. The procedures followed are:

      i. A letter will be sent to the owner of each premises to be reevaluated. This letter will review cross-connection control basics as described in A.1.d.vi of this section with the reasons for the reevaluation and a prospective date for a meeting and/or water use survey.

      ii. Based upon the water use survey, backflow protection will be required commensurate with the degree of hazard as described in Section III.

F. Construction and/or Temporary Water Meter Connection

1. PWD will not supply water through temporary connections, such as those used for construction projects or water main chlorination, except through a backflow assembly/water meter device supplied and approved by the purveyor.

2. An applicant request use of such water, shall complete forms for use of the device as determined by PWD.

3. PWD will complete and maintain accurate records of yearly testing of their backflow assemblies.

G. Tank Truck Connections

1. PWD may allow tank trucks or well drilling trucks to obtain water from the water system under the following conditions:

   a. The tank truck is equipped with an approved AG or an approved RPBA, with a current satisfactory inspection or test report.

b. The tank trucks shall obtain water from PWD's designated water points only. These water points are equipped with purveyor installed and tested backflow devices.

PWD
CROSS-CONNECTION
PERSONNEL

VIII PWD Cross-Connection Control Personnel

A. Staffing/Responsibilities

1. PWD currently has the following employees within the utility operations section and involved in maintenance functions:

    a. David North, Water Distribution Manager 2, Cross-Connection Specialist, Water Treatment 1, Wastewater Operator, Backflow Assembly Tester
    b. Shea Courtney, Water Distribution Manager 1, Cross-Connection Specialist, Backflow Assembly Tester
    c. Josh Howard, Water Distribution Manager 2, Water Treatment 2, Wastewater Operator 2.

2. David North, Distribution Manager oversees PWD's Cross-Connection Control Program and is assisted by Shea Courtney and Josh Howard, Operators, all under the oversight of the Mayor of the City.

ANNUAL TESTING PROGRAM

XI Annual Testing Program

A. Backflow Prevention Assembly Testing Assurance Program

1. PWD has developed and implemented a backflow prevention assembly testing quality assurance program. This includes:

   a. Documentation of tester certification by requiring proof of current certification of all testers.

   b. Documentation of brand, model, serial number, and date of last verification of accuracy is required on all test kits used to test backflow preventers in PWD's jurisdiction.
      i. Verification of accuracy of test kits is required annually.

   c. A test report **(Appendix A)** for each backflow prevention assembly required to be tested is sent to the owner of the backflow preventer.
      i. Test report lists the following information:
         - Owner's name, address, service account and phone number.
         - Name of business, if applicable, and contact person.
         - Cross-connection controlled.
         - Location of backflow assembly.
         - Make of assembly, model number and serial number.

      ii. The tester is required to correctly fill out the test report, including:
         - System water pressure at time of test.
         - Pressure differentials, buffer, etc. for assembly being tested.
         - Note if assembly passed or failed test.
         - Note if assembly is installed correctly.
         - Note if any unauthorized connections or modifications to assembly have been made.
         - Test kit brand, model, serial number and date of last verification of accuracy.
         - Print full name and telephone number.
         - Signature and certification number of assembly tester, BAT.
         - Date of initial test.
         - If assembly failed:
           (1) List repairs made.
           (2) Person making repairs.
           (3) Results of final test.
           (4) Signature and certification number of tester.
           (5) Date of final test.

iii. A letter accompanies the test report that contains basics of cross-connection control as described in Section VII.A.1.d.vi. with the addition of testing requirements and compliance date for returning test report.

- Test report and letter is sent to owner and lessee, if applicable.
- A list of area commercial testers is included.

iv. Compliance date for returning completed test report form is included in the letter.

- Report form is sent out 30 to 40 days prior to the compliance date for the device.
- If completed test report is not returned by compliance date, a "Notification of Non-Compliance" (second notice) is sent.
  (1) This letter is sent by certified mail to the owner.
  (2) The letter indicates that this is a "Notification of Non-Compliance"
  (3) Return date for completed test report (15-days minimum) is established.
  (4) Owner is reminded if test report is not returned by due date, PWD will discontinue water service without further notification.

APPENDIX A

Appendix A
Backflow Prevention Assembly Test Report

Account#_____

Name of Premises_____Commercial ___ Residential ___

Service Address_____City/State_____Zip_____

Contact Person_____ Phone _____ Fax _____

Location of Assembly_____

DownStream Process _____DCVA ___ RPBA ___ PVBA ___ Other _____

New Install____ Existing ____ Replacement ____ Old Serial # _____ Proper Installation? Yes ___ No ___

Make of Assembly _____Model_____Serial #_____Size_____

INITIAL TEST PASSED ☐ FAILED ☐	**DCVA/RPBA CHECK VALVE NO. 1** LEAKED ☐ CLOSED TIGHT ☐ _____**PSID**	**DCVA/RPBA CHECK VALVE NO. 2** LEAKED ☐ CLOSED TIGHT ☐ _____**PSID**	**RPBA** OPENED AT _____PSID #1 CHECK _____PSID AIR GAP OK? _____	**PVBA** OPENED AT _____PSID DID NOT OPEN ☐
NEW PARTS AND REPAIRS	CLEAN REPLACE PART ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	CLEAN REPLACE PART ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	CLEAN REPLACE PART ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	**CHECK VALVE** HELD AT _____PSID LEAKED ☐ CLEANED ☐ REPAIRED ☐
TEST AFTER REPAIRS PASSED ☐ FAILED ☐	CLOSED TIGHT ☐ _____**PSID**	CLOSED TIGHT ☐ _____**PSID**	OPENED AT _____**PSID** #1 CHECK _____**PSID**	AIR INLET _____**PSID** CHECK VALVE _____**PSID**

AIR GAP INSPECTION: required minimum air gap separation provided? Yes ___ No ___ Detector Meter Reading _____

REMARKS:_____LINE PRESSURE _____PSI

_____CONFINED SPACE?_____

TESTERS SIGNATURE _____CERT. NO. _____DATE: _____

REPAIRED BY _____DATE:_____

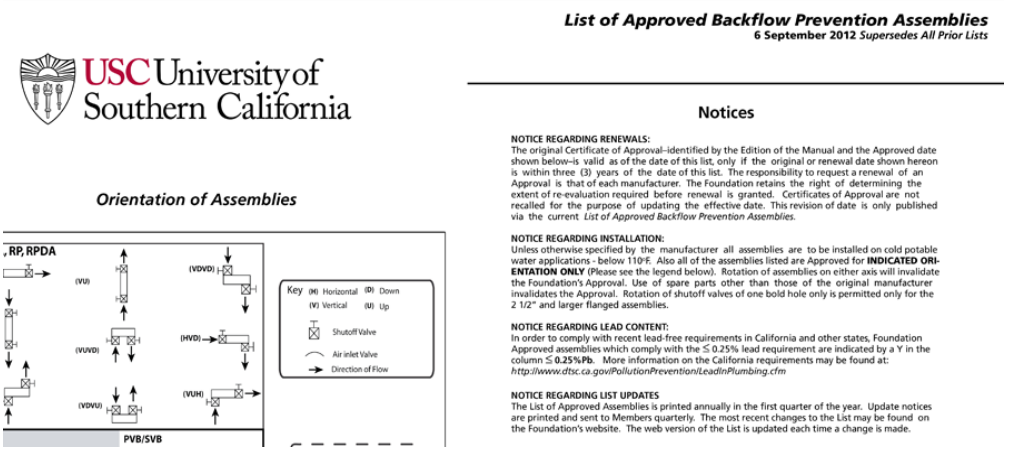
FINAL TEST BY _____CERT. NO. _____DATE: _____

GAUGE CALIBRATION DATE _____GAUGE #_____MODEL _____SERVICE RESTORED YES ___ NO ___

APPENDIX B

List of Approved Backflow Prevention Assemblies

The List of Approved Backflow Prevention Assemblies continues to be a valuable source of information for anyone involved in cross-connection control. Keeping up to date with the most current List is crucial. The best way to stay current is downloading the List from the USC Foundation's website since it is updated as changes are made to the List.



USC University of Southern California

Orientation of Assemblies

RP, RPDA

(VUI) (VDVD) (VUVD) (HVD) (VDVU) (VUH) PVB/SVB

Key (H) Horizontal (D) Down (V) Vertical (U) Up

Shutoff Valve

Air inlet Valve

Direction of Flow

List of Approved Backflow Prevention Assemblies

6 September 2012 *Supersedes All Prior Lists*

Notices

NOTICE REGARDING RENEWALS:
The original Certificate of Approval–identified by the Edition of the Manual and the Approved date shown below–is valid as of the date of this list, only if the original or renewal date shown hereon is within three (3) years of the date of this list. The responsibility to request a renewal of an Approval is that of each manufacturer. The Foundation retains the right of determining the extent of re-evaluation required before renewal is granted. Certificates of Approval are not recalled for the purpose of updating the effective date. This revision of date is only published via the current *List of Approved Backflow Prevention Assemblies.*

NOTICE REGARDING INSTALLATION:
Unless otherwise specified by the manufacturer all assemblies are to be installed on cold potable water applications - below 110°F. Also all of the assemblies listed are Approved for **INDICATED ORIENTATION ONLY** (Please see the legend below). Rotation of assemblies on either axis will invalidate the Foundation's Approval. Use of spare parts other than those of the original manufacturer invalidates the Approval. Rotation of shutoff valves of one bold hole only is permitted only for the 2 1/2" and larger flanged assemblies.

NOTICE REGARDING LEAD CONTENT:
In order to comply with recent lead-free requirements in California and other states, Foundation Approved assemblies which comply with the ≤ 0.25% lead requirement are indicated by a Y in the column **≤ 0.25%Pb.** More information on the California requirements may be found at: *http://www.dtsc.ca.gov/PollutionPrevention/LeadInPlumbing.cfm*

NOTICE REGARDING LIST UPDATES
The List of Approved Assemblies is printed annually in the first quarter of the year. Update notices are printed and sent to Members quarterly. The most recent changes to the List may be found on the Foundation's website. The web version of the List is updated each time a change is made.

The List is comprised of backflow prevention assemblies, which have successfully completed the laboratory and field evaluation phases of the Foundation's Approval Program. The backflow prevention assemblies are approved for a period of three years and this approval is subject to renewal.

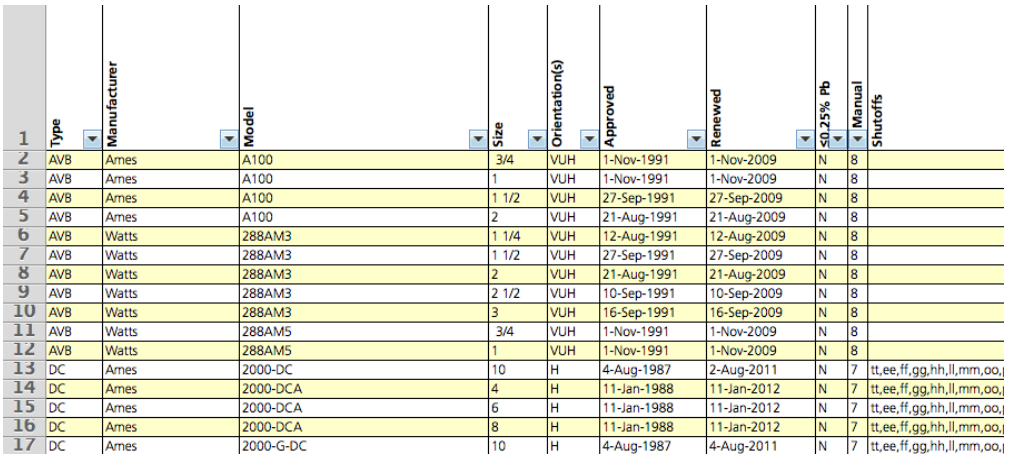
Each approved backflow prevention assembly is listed by the type of assembly, manufacturer's name, model, size, edition of the manual under which the assembly was approved, approval date, and the latest renewal date. The List also reflects assemblies no longer in production but for which spare parts are still available from the manufacturer.

All of the acceptable shutoff valves, which may be used as replacement shutoff valves, are listed with each approved assembly. The use of shutoff valves other than those listed invalidates the Foundation's approval. The listing of shutoff valves allows those in the field to replace one or both shutoff valves of a backflow preventer with any of the listed valves.

https://fccchr.usc.edu/list.html

The USC List is made available digitally in three formats; a sortable Excel format, PDF format and as a web app. The web app is designed for mobile devices and may not display properly on your desktop computer.

The USC List is also made available in printed format but does not include any additions after January 15, 2021. The 2021 USC List Book is available to anyone and is a great tool to have when access to the USC List online is not available.



	Type	Manufacturer	Model	Size	Orientation(s)	Approved	Renewed	≤0.25% Pb	Manual	Shutoffs
2	AVB	Ames	A100	3/4	VUH	1-Nov-1991	1-Nov-2009	N	8	
3	AVB	Ames	A100	1	VUH	1-Nov-1991	1-Nov-2009	N	8	
4	AVB	Ames	A100	1 1/2	VUH	27-Sep-1991	27-Sep-2009	N	8	
5	AVB	Ames	A100	2	VUH	21-Aug-1991	21-Aug-2009	N	8	
6	AVB	Watts	288AM3	1 1/4	VUH	12-Aug-1991	12-Aug-2009	N	8	
7	AVB	Watts	288AM3	1 1/2	VUH	27-Sep-1991	27-Sep-2009	N	8	
8	AVB	Watts	288AM3	2	VUH	21-Aug-1991	21-Aug-2009	N	8	
9	AVB	Watts	288AM3	2 1/2	VUH	10-Sep-1991	10-Sep-2009	N	8	
10	AVB	Watts	288AM3	3	VUH	16-Sep-1991	16-Sep-2009	N	8	
11	AVB	Watts	288AM5	3/4	VUH	1-Nov-1991	1-Nov-2009	N	8	
12	AVB	Watts	288AM5	1	VUH	1-Nov-1991	1-Nov-2009	N	8	
13	DC	Ames	2000-DC	10	H	4-Aug-1987	2-Aug-2011	N	7	tt,ee,ff,gg,hh,ll,mm,oo,
14	DC	Ames	2000-DCA	4	H	11-Jan-1988	11-Jan-2012	N	7	tt,ee,ff,gg,hh,ll,mm,oo,
15	DC	Ames	2000-DCA	6	H	11-Jan-1988	11-Jan-2012	N	7	tt,ee,ff,gg,hh,ll,mm,oo,
16	DC	Ames	2000-DCA	8	H	11-Jan-1988	11-Jan-2012	N	7	tt,ee,ff,gg,hh,ll,mm,oo,
17	DC	Ames	2000-G-DC	10	H	4-Aug-1987	4-Aug-2011	N	7	tt,ee,ff,gg,hh,ll,mm,oo,

The top of each column in the Excel version of the List can act as filters to filter the exact information needed. One can choose which type of assembly (DC, RP, DCDA, DCDA-II, RPDA-II, RPDA, AVB, PVB, or SVB) at the top of the column. Then only those particular assemblies show on the List. This can be printed and handed out to the customer. With the Excel version of the List, it is much easier to provide the end user with a narrowed down list of what is needed in any specific situation. For example, one could select the following: RP, Lead Free, 2", Vertical up inlet and vertical down outlet. This would generate a list of five acceptable assemblies. and distribute it to their end user.