



**BEACON HILL
SEWER DISTRICT**
ESTABLISHED 1959

CROSS CONNECTION CONTROL PROGRAM

**FINAL
JULY, 2009**

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LEGAL AUTHORITY

Beacon Hill Sewer District (BHSD or the District) currently operates a public water system (ID 15650D) for Cowlitz Public Utility District No. 1 (Cowlitz PUD). In this capacity, BHSD has the responsibility to protect the public water system from contamination due to cross connections. A cross connection may be defined as:

“any actual or potential physical connection between a potable water line and any pipe, vessel, or machine that contains or has a probability of containing a non-potable gas or liquid, such that it is possible for a non-potable gas or liquid to enter the potable water system by backflow.”

Per Washington Administrative Code (WAC) 246-290-490, all public water systems are required to develop and implement cross-connection control (CCC) programs. This document contains the plan adopted by BHSD through Resolution 412 for this purpose.

PROGRAM OBJECTIVES

The objectives of the CCC program are to:

- Reasonably reduce the risk of contamination of the public water distribution system; and
- Reasonably reduce BHSD and Cowlitz PUD’s exposure to legal liability arising from the backflow of any contaminant originating from the customer's plumbing system and then supplied to other customers;

Resolution 412 authorizes the system to terminate water service to consumers who do not comply with the CCC program. However, the primary method for protection of the distribution system will be the installation of a backflow assembly by the customer or by the District with the cost thereof to be either billed to the customer or recovered through rates.

The service contract referred to in the resolution shall be the primary enforcement authority for all new customers. A copy of both the resolution and the service contract can be found in the Appendix of this document.

For customers supplied prior to the adoption of the attached resolution, an implied service contract allows BHSD to protect the distribution system from contamination by requiring a backflow preventer on the customer's service.

ELIMINATION AND CONTROL OF CROSS CONNECTIONS

BHSD requires premises isolation for all water connections, existing and new. The procedures for evaluating the backflow prevention requirements for new and existing customers are as follows:

New Non-Residential Services

BHSD will require that the customer submit a questionnaire about water use inside the facility with the application for water service and allow the District’s DOH certified cross-connection control specialist (CCS) to do a survey of the new plumbing system. The CCS will determine whether premises isolation will be in the form of either a double-check valve assembly (DCVA) or a reduced-pressure principle backflow assembly (RPBA) installed at the meter.

New Residential Services

BHSD will require that the customer submit a completed Water Use Questionnaire with the application for water service. If the customer's questionnaire indicates hazardous water use on the premises, BHSD or its Contractor will install a RPBA at the meter. If no hazardous use is indicated, BHSD or its Contractor will install a DCVA at the meter. The cost of the installed assembly will be charged to the customer as part of their LFC.

Existing Non-Residential Services

The customer is required to allow the District’s CCS to perform an onsite water use survey within three months of notification. The CCS will determine the level of hazard and require the installation at the meter of either a DCVA or a RPBA. The Customer must have a Contractor install this assembly at their expense within 180 days of notification.

Existing Residential Services

BHSD will require the customer to submit to the Purveyor, within 30 days of notification, a completed water use questionnaire. If the customer's reply indicates hazardous water use on the premises, BHSD or its Contractor will install a RPBA at the meter. If no hazardous use is indicated, BHSD or its Contractor will install a DCVA at the meter. The CCS will determine whether a DCVA or a RPBA will be installed. The cost of the installation shall be recovered through rates and/or surcharges.

Customers may opt to have a Contractor of their choice install the backflow assembly at their expense.

Customers refusing to respond to the water use questionnaire may have their service terminated.

Cross-Connection Survey Schedule

The schedule for determining the type of hazard present and type of premises isolation assembly needed at service connections is as follows. The schedule starts from the date the current CCC program is established.

Type of Connection	Schedule
Non-residential New Connection	At time of application for water service
Residential New Connection	At time of application for water service
Non-residential High Hazard Facilities - Existing (per Table 9 of WAC 246-290-490)	12 months
Non-residential Low Hazard Facilities - Existing	24 months
Residential - Existing	No earlier than 5 years

Service Contracts

The following service policy shall apply to all new and existing customers:

1. BHSD requires that water service to all customers be isolated at the meter by a DOH-approved DCVA or RPBA acceptable to BHSD. All high-hazard connections of the type described in Table 9 of WAC 246-290-490 shall be isolated with an RPBA. All other customers shall be isolated with a DCVA or RPBA as determined by the District's CCS.
2. All new customers will be required to sign a written service contract with BHSD which will include requirements for installation of the specified backflow assembly. The required premises isolation DCVA or RPBA shall be:
 - Installed by BHSD or their Contractor (residential customers) immediately downstream of the water meter in accordance with BHSD's standards described hereinafter, the cost of which will be added to the Customers LFC; or
 - Installed by the Customers Contractor (non-residential customers) immediately downstream of the water meter in accordance with BHSD's standards described hereinafter at the Customers expense; and
 - Maintained, tested, and inspected in accordance with BHSD standards as required per this policy at the Customers expense.

For new connections, BHSD will not turn on water (except for testing purposes) at the meter until the backflow assembly has been installed, inspected by the Districts CCS and tested by a DOH certified Backflow Assembly Tester (BAT).

The failure of the Customer to comply with BHSD's installation and maintenance requirements shall constitute a breach of contract by the customer. BHSD may then proceed with the corrective action provisions stipulated in the service contract.

3. Existing residential customers without written contracts are considered to have an implied contract that requires the customer to bear all reasonable costs of service. BHSD will install the required DCVA or RPBA on the service, downstream of the meter, the cost of which shall be recovered through rates and/or surcharges to the customer. Annual testing will be performed by a Contractor for the District and the cost will be added to the customer's bill. The failure of the customer to pay these costs shall constitute a breach of contract by the customer, and BHSD will proceed with the established delinquency of payment procedures. Alternately, the customer may opt to have their own contractor install the assembly, perform annual testing and submit test reports to BHSD as required.
4. Non-residential customers without written contracts are considered to have an implied contract that requires the customer to bear all reasonable costs of service. The customer must install the required DCVA or RPBA on the service, downstream of the meter within the time allowed. The installation must be inspected by BHSD's CCS and tested by a DOH approved BAT at the customer's expense. All future

maintenance, testing, and repair, as set forth in this policy shall be performed at the customer's expense. Annual testing will be performed by a Contractor for the District and the cost will be added to the customer's bill. The failure of the customer to pay these costs shall constitute a breach of contract by the customer, and BHSD will proceed with procedures included in the current policy for delinquency of payment. Alternately, the customer may opt to have their own contractor perform annual testing and submit test reports to BHSD as required. Should the customer fail to perform any of the requirements, BHSD reserves the right to terminate service.

Schedule for Installation of Backflow Preventers

The following table shows the schedule customers must follow for installation of backflow preventers upon notification of requirements (if required or opting to furnish and install backflow assemblies with their own contractor).

Type of Service	Schedule
New connections	Before service is initiated
Existing connections with Table 9-type hazards and other high cross-connection hazards	Within 90 days of notification
Existing connections	Within 180 days of notification
Existing fire protection systems using chemicals or supplied by unapproved auxiliary water source	Within 90 days of notification
Existing fire protection systems not using chemicals and supplied by BHSD's water	Within 1 year after notification

BHSD may consider granting an extension of time for installation of backflow preventer for an existing connection if requested by the premises owner. Granting of any extension request is at the discretion of the District Manager and/or CCS.

Approved Backflow Preventers and Installation

All backflow preventers relied upon by BHSD to protect the public water system shall meet the definition of "approved backflow preventer" as contained in WAC 246-290-010. BHSD will obtain and maintain a current list of assemblies approved for installation in Washington State from the DOH Office of Drinking Water.

All backflow preventers will be installed in:

- The orientation for which they are approved;
- A manner and location that facilitates their proper operation, maintenance, and testing or inspection;
- A manner that will protect them from weather-related conditions such as flooding and freezing; and
- Compliance with applicable safety regulations.

Installation standards contained in the most recently published edition of the Pacific Northwest

Section, American Water Works Association (PNWS-AWWA) *CCC Manual* or the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research (USCFCCCHR) *CCC Manual* shall be followed unless the District's Standard Requirements are more stringent. Standard Requirements are included in the Appendix of this document.

BHSD has no regulatory responsibility or authority over the installation and operation of the customer's plumbing system. The customer is solely responsible for compliance with all applicable regulations and for prevention of contamination of his plumbing system from sources within his/her premises. Any action taken by BHSD to survey plumbing, inspect or test backflow prevention assemblies, or to require premises isolation (installation of DCVA or RPBA on service) is solely for the purposes of reducing the risk of contamination of the District's distribution system.

Any action taken by BHSD shall not be construed by the customer as guidance on the safety or reliability of the customer's plumbing system. BHSD will not provide advice to the customer on the design and installation of plumbing other than through the District's general public education program.

Except for within easements containing BHSD's distribution system, the District will not undertake work on the customer's premises without express permission.

PROGRAM ADMINISTRATION

BHSD is responsible for administration of the CCC program. General policy direction and risk management decisions are established by the District's elected Commissioners.

The General Manager of the District shall obtain and maintain CCS certification. The General Manager shall be responsible for supervising and administering the CCC program. Field staff with current CCS certifications shall perform field inspections and water use surveys. Field staff may temporarily administer the CCC program if the General Manager is not certified. In the absence of any certified District staff, BHSD may retain a DOH-certified CCS on contract to provide the necessary expertise and services.

1. The following cross-connection related tasks will be performed by or under the direction of the District's General Manager (certified CCS):
 - Preparation of and recommendations regarding changes to the CCC program;
 - Recommendations on schedules for retrofitting of backflow preventers;
 - Recommendations and/or the granting of exceptions to mandatory premises isolation;
 - Review monthly CCC program activity reports;
 - Review backflow assembly test reports;
 - Review backflow testing quality control information;
 - Oversee clerical and field CCC activities;
 - Participation in or cooperation with other water utility staff in the investigation of backflow incidents and other water quality problems; and
 - Completion of CCC Activity and Program Summary Reports.
2. The following cross-connection related tasks will be performed by CCS certified field staff:

- Performance of on site water use surveys;
 - Recommendations on the type of backflow preventer to be installed;
 - Inspections of backflow preventers for proper application and installation; and
 - Completion of Backflow Incident Reports;
3. The following cross-connection related tasks will be performed by administrative staff (no certification required):
- Administration of paperwork associated with service agreements;
 - Mailing, collecting, and initial screening of hazard evaluation/water use questionnaires;
 - Mailing of assembly testing notices;
 - Receiving and screening of assembly testing reports;
 - CCC program database administration and record keeping; and
 - Dissemination of public education material;

INSPECTION AND TESTING OF BACKFLOW PREVENTERS

All backflow preventers that BHSD relies upon for protection of the water system will be subject to inspection and testing. Inspection and testing of backflow preventers will be as follows:

- The District's CCS will inspect backflow preventers for proper application and installation.
- A DOH certified BAT will test all assemblies relied upon by BHSD to protect the public water system.

Frequency of Inspection and Testing

Inspection and testing of backflow preventers will be conducted:

- At the time of installation;
- Annually after installation;
- After a backflow incident; and
- After repair, reinstallation, relocation, or re-plumbing.

BHSD 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 tests or inspections.

Responsibility for Inspection and Testing

BHSD will be responsible for inspection and testing of all District owned backflow preventers.

BHSD will either enter into a contract on an annual basis with a DOH certified BAT tester or

provide staff to perform all testing within the District. BHSD will schedule testing of customers assemblies annually and when requested will provide other District required testing for the customer. Testing costs will be provided to the customer prior to testing and will be added to the customer's next utility bill. Testing upon initial installation will also be provided by the District through contract, with the cost being included in the customers LFC. A test report shall be completed and signed by the BAT and provided to the District with a copy sent to the customer.

Non-residential customers must provide their own initial testing using a DOH-certified BAT tester.

All customers may opt to contract directly with a DOH certified BAT tester at their own expense upon providing notification to the District and within the time allowed for testing. In this case, the test report shall be completed and signed by the BAT, then countersigned and returned by the customer to BHSD before the due date specified. The customer may request an extension of the due date for returning a test report by submitting a written request to the District. Extensions are at the discretion of the General Manager or program administrator.

Approved Test Procedures

BHSD requires that all assemblies relied upon to protect the public water system be tested in accordance with DOH-approved test procedures as specified in WAC 246-290-490(7)(d). All assembly tests are to be reported on either AWWA-PNWS test forms or District provided forms (see Appendix).

Notification of Inspection and/or Testing

BHSD will notify in writing all customers to schedule annual testing. Notices will be sent out not less than 30 days before the scheduled date of the test. The notice will give the customer the option of providing their own testing and specify the date by which the test report must be received by the District.

Enforcement

When a customer fails to allow access for testing or send in the customer provided test report within 15 days after the due date specified, and BHSD has not approved an extension to the due date, the District will take the following enforcement action:

- BHSD will send a second notice giving the customer an additional 20 days to allow access for testing or send in the customer provided test report.
- If the customer has not allowed access for testing or sent in the customer provided test report by the due date given in the second notice, BHSD will hand deliver a third notice giving the customer an additional 15 days to allow access or send in the report. The notice will also inform the customer that failure to satisfactorily respond to this notice will result in water service shut-off.
- BHSD will send copies of the third notice to both the owner and occupants of the premises.
- If the owner and/or occupants have not responded satisfactorily to the District the due date specified in the third notice, BHSD will implement water service shut-off

- procedure
- If water has been shut off for lack of response, service will only be reestablished upon receipt of test report or provision of access

QUALITY ASSURANCE OF TESTING PROCEDURES

DOH certified BATs who provide testing within the District must furnish the following information to BHSD along with their test reports:

- Evidence of current DOH certification in good standing;
- Make and model of testing equipment; and
- Evidence of test equipment verification of accuracy and/or calibration within the past 12 months;

This information will be verified prior to the District issuing a contract for annual backflow testing. Test forms submitted by BHSD contract BATs will be reviewed by District CCS within 30 days of submission. For customers opting to provide their own testing, the District will review the backflow preventer test report forms and supporting information submitted by the customer within 30 days of receipt.

The District's CCS will provide follow up on test reports that are deficient in any way.

The District's CCS will report incidences of fraud or gross incompetence on the part of any BAT or CCS to DOH Operator Certification program staff.

BACKFLOW INCIDENT RESPONSE PLAN

In the case of a backflow incident, BHSD will follow the emergency response plan for M microbial or chemical contamination that is contained in the Districts Water Supply Response Plan. The incident response plan will include, but will not be limited to:

- Notification of affected population;
- Notification and coordination with other agencies, such as the City of Longview, DOH and the local health jurisdiction;
- Identification of the source of contamination;
- Isolation of the source of contamination and the affected area(s);
- Cleaning, flushing, and other measures to mitigate and correct the problem; and
- Apply corrective action to prevent future backflow occurrences.

The Purveyor will use the most recently published edition of the manual *Backflow Incident Investigation Procedures* published by the PNWS-AWWA as a supplement to the Water Supply Emergency Response Plan.

CUSTOMER EDUCATION

BHSD will distribute with utility bills or some other means, at regular intervals, public education brochures to system customers. For residential customers, such brochures will describe the cross-connection hazards in homes and the recommended assemblies or assemblies that should be installed by the homeowner to reduce the hazard to the public water system. The education program will emphasize the responsibility of the customer in preventing the contamination of the public water supply.

RECORD KEEPING

BHSD will maintain records of the following types of information required by WAC 246-290-490:

- Service connections/customer premises information including:
 - Assessed degree of hazard; and
 - Required backflow preventer to protect the public water system.

- Backflow preventer inventory and information including:
 - Backflow assembly location, assembly description (type, manufacturer, make, model, size, and serial number), installation, inspection and test dates, test results and data, and person performing test.

The District will maintain records on all premises isolation assemblies that protect the public water system from contamination.

Reports to be Prepared and Submitted to DOH

BHSD will prepare the following reports required by WAC 246-290-490 including:

- Cross-connection control program activities report for the calendar year, to be sent to DOH when requested;
- Cross-connection control program summary information, when required, or when there are significant policy changes;
- Backflow incident reports to DOH; and
- Documentation when exceptions to mandatory premises isolation are granted.

The District's CCS will prepare and sign all reports.

RECLAIMED WATER

At this time BHSD does not receive or distribute reclaimed water. In the event that reclaimed water use is proposed within the District's service area, BHSD will make all cross-connection control requirements mandated by the Permitting Authority in accordance with Chapter 90.46 RCW part of the written CCC program plan and comply with such additional requirements.

ADDITIONAL PROVISIONS

Unapproved Auxiliary Water Supplies

All water supplies other than those owned or operated by BHSD (i.e. wells, irrigation sources) are considered unapproved auxiliary water supplies. BHSD will require RPBD's for customers with auxiliary supplies on their premises.

Temporary Water Connections

BHSD will not supply water through temporary connections, such as those used for construction projects or main disinfection, except through a backflow preventer arrangement approved by the District. The applicant for the temporary connection shall document that the backflow preventer is a DOH-approved model and has passed an inspection and/or test within the past 12 months.

Wholesale Water Customers

BHSD will require that interties with wholesale customers (such as mobile home parks) be isolated at the point of delivery by:

- A minimum of a DCVA; or
- A minimum of an RPBA if the Purveyor considers the purchasing system or wholesale customer to pose a high-health hazard to the Purveyor's system.

Tanker Trucks

BHSD may allow tanker trucks to obtain water from the District's water system if the tanker truck is equipped with an approved AG or an approved RPBA with a current satisfactory inspection or test report.

APPENDIX