

Soos Creek Water & Sewer District

Cross-Connection Control Program

SECTION I: PROGRAM PURPOSE AND OBJECTIVES

Soos Creek Water and Sewer District, hereinafter referred to as the District, has developed a Cross-Connection Control (CCC) Program to protect the public water system from contamination resulting from cross-connection. The District's responsibility for cross-connection control shall begin at the water supply source, include all public water treatment, storage, and distribution facilities and end at the point of delivery to the consumer's water system, or water meter, located in the public right of way, property line or utility-held easement.

The District's CCC Program shall align with the requirements of WAC 246-290-490, in its most recent version. The District shall ensure that actual or potential cross-connections between the distribution system and consumer's water system are eliminated or controlled by the installation of approved backflow preventers or methods commensurate with the degree of hazard.

The District has established standards and procedures governing the evaluation, installation, approval, testing and recordkeeping of the CCC Program. The District reserves the right to establish more stringent requirements than those listed in regulations, guidance materials, or provided by the Washington State Department of Health (DOH), as deemed necessary to protect the public water system.

The District works in collaboration with the local administrative authorities. Copies of the CCC Program are provided to local jurisdictions and made publicly available.

The District prohibits the intentional return of used water.

SECTION II: DEFINITIONS

For the purposes of the Soos Creek Water and Sewer District Cross-Connection Control Program, the following definitions shall apply. Definitions, abbreviations and acronyms relating to cross-connection included in WAC 246-290-010 shall also apply.

Backflow: the undesirable reverse flow of water, or other substances, through a cross-connection into the public water system or consumer's potable water system.

Backpressure: backflow that occurs when the pressure in an unprotected downstream piping system exceeds the pressure in the supply piping.

Backsiphonage: backflow resulting from negative pressure in the distributing pipes of a potable water supply.

Backflow Assembly or Method: certified assembly or method that prevents backflow into the District's Water Distribution System. Assemblies must be testable.

Air Gap (AG): a physical separation between the free-flowing end of a potable water supply and the overflow rim of an open receiving vessel. Air gaps must be twice the diameter of the potable water supply pipe and not less than one inch.

Atmospheric Vacuum Breaker (AVB):

AVBs are not testable and therefore not allowed within the District.

Double Check Detector Assembly (DCDA) and Double Check Valve Assembly (DCVA):

DCDAs and DCVAs are designed to protect against both backsiphonage and backpressure in low hazard conditions.

Pressure Vacuum Breaker Assembly (PVBA) and Spill-Resistant Vacuum Breaker

Assembly (SVBA): PVBAs and SVBAs only prevent backsiphonage and therefore may only be allowed for irrigation or when premise protection is already present.

Reduced Pressure Backflow Assembly (RPBA) and Reduced Pressure Detector Assembly

(RPDA): RPBAs and RPDAs are designed to protect against both backsiphonage and backpressure in high or severe hazard conditions. RP Assemblies may be required if the hazard level is unknown due to restricted access, complex plumbing or tenant turnover, or unavoidable, as with tall buildings. The District's certified Cross-Connection Control Specialist (CCS) reserves the right to determine if an RP Assembly is required.

Backflow Assembly Tester (BAT): only a Washington State certified BAT may perform backflow testing. BATs must hold certification for the year of testing and operate an annually calibrated test kit.

Cross-Connection: any potential or actual physical connection between a potable water system and a source of contamination or pollution.

Cross-Connection Control Specialist (CCS): District personnel who are Washington State DOH Cross-Connection certified, responsible for administering the District's CCC Program and may determine degree of hazard and protection required.

Degree of Hazard: assessment of the existing or potential level of risk of contamination to the public water system.

Low Hazard: presence of existing or potential contaminants that could result in undesirable aesthetic or palatable water quality but do not pose an immediate health concern. Low hazard connections include, but are not limited to, fire suppression systems (without chemical additions), irrigation systems (without chemical additions), residential pools, spas, ponds, boilers and fixtures. Low health hazard connections may rely on in-premise backflow protection provided at the point of hazard.

High Hazard: presence of existing or potential contaminants that could result in an immediate health concern, including disease, illness and injury, if introduced to the potable water system. High hazard connections include, but are not limited to, Table 13 facilities. High health hazard connections will rely on premise isolation by an approved Reduced Pressure (RP) Assembly and/or Air Gap.

Table 13, WAC 246-290-490

- Agricultural farms and dairies
- Beverage bottling plants
- Car washes
- Chemical plants
- Commercial laundries or dry cleaners
- Premises where both reclaimed water and potable water are provided
- Film processing facilities
- Food processing plants
- Hospitals, medical centers, nursing homes, veterinary, medical clinics, dental clinics, and blood plasma centers
- Irrigation systems with chemical additions
- Laboratories
- Metal plating industries
- Mortuaries
- Petroleum processing or storage plants
- Piers and docks
- Radioactive material processing plants or nuclear reactors*
- Survey access denied or restricted
- Wastewater lift station and pumping stations
- Wastewater treatment plants*
- Interconnected unapproved auxiliary water supply

***Severe Hazard:** presence of existing contaminants that would result in a high health risk, including death or the spread of disease or illness, if introduced to the potable water system. Severe health hazard facilities include, but are not limited to, radioactive material processing plants, nuclear reactors, and wastewater treatment plants. Severe health hazards must be isolated by both an approved RPBA or RPDA and an approved Air Gap.

Degree of Protection: degree of protection shall be commensurate with the degree of hazard as determined by evaluation, survey or District CCS.

In-premise Protection: method of protecting the public water system by installation of approved air gaps or backflow prevention assemblies at or near the point of hazard within the consumer's premises to protect the District's distribution system.

Premise Isolation: method of protecting the public water system by installation of approved air gaps or approved backflow prevention assemblies at or near the service connection, or alternative location acceptable to the District, to isolate the consumer's water system from the District's distribution system.

Elimination: method of protecting the public water system when premise isolation or in-premise protection are not obtained. Consumers who do not comply with CCC Program requirements, installation or testing are subject to elimination from the District's distribution system.

Metering Station: designated metered water fill stations made available to the public for bulk water purchase. Tank trucks utilizing the metering stations must include an air gap approved by District CCS. Obtaining water from District hydrants is prohibited.

SECTION III: PROGRAM ELEMENTS

Washington State Department of Health requires a Cross-Connection Control Program to include 10 elements as listed in WAC 246-290-490. These elements are summarized in this section with a description of District compliance for each program element.

Element 1: The purveyor shall adopt a resolution or other written legal instrument.

Soos Creek Water & Sewer District has adopted Resolution No. 2574-W, including subsequent revisions, which authorizes the District to implement and execute a CCC Program.

In accordance with WAC 246-290-490, the District has legal authority to implement a CCC Program as a condition for providing water service. Furthermore, the District may refuse water service when an existing or potential unprotected cross-connection is present.

Element 2: The purveyor shall develop and implement procedures and schedules for evaluating new and existing service connections to assess the degree of hazard posed by the consumer's premises to the purveyor's distribution system and notify the consumer within a reasonable time frame of the hazard evaluation results.

Initial Evaluation – The District will require that new consumers submit with their application for water service a completed Water Use Questionnaire. Responses to the questionnaire will aid the District CCS in determining the degree of hazard and necessity of installation of an approved backflow prevention assembly or air gap. This determination will be communicated to the consumer as a condition for the District to provide water service.

A District CCS will observe the initial testing of a newly installed backflow assembly by a Washington State DOH certified BAT. Access to water service for consumers requiring a backflow assembly will not be granted until the initial testing has been complete and test results are acceptable to the District.

Re-Evaluations – The District may periodically complete re-evaluations of determination of degree of hazard when requested by the consumer, determined necessary by the District or when there is a change of use to the premises.

If the District CCS determines that an installation, replacement, or removal of an assembly is required, the consumer has 30 days, or less in an emergency situation as determined by the District, to complete the requested change without incurring penalties or disruption to their water service. District CCS will verify the change on site.

The District shall be provided reasonable access to the consumer's premises to conduct initial hazard evaluations and periodic re-evaluations.

Surveys – As a condition of providing water service, the District reserves the right to survey existing consumers. Surveys may be conducted on site or via written correspondence.

If the District CCS determines that a backflow assembly is required, once notified, the consumer has 30 days, or less in an emergency situation as determined by the District, to complete the installation and initial testing of the assembly without incurring penalties or disruption to service.

When access to the premises is restricted or denied, the District may assume the degree of hazard is high and require installation of an appropriate backflow assembly to provide premise isolation.

Element 3: The purveyor shall develop and implement procedures and schedules for ensuring that cross-connections are eliminated whenever possible or controlled by installation of approved backflow preventers commensurate with the degree of hazard.

The District will ensure that cross-connections are either eliminated or controlled by an approved backflow preventer assembly. Backflow preventers utilized within the District must be present on the most current edition of the Approved Backflow Prevention Assemblies List, published by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research, at the time of installation.

Backflow assemblies will be installed in the orientation for which they are approved and with adequate access for maintenance, testing and safety. No part of the approved assembly shall be submerged under water or installed in a location subject to flooding. Assemblies larger than 2 inches require permanent support blocking to prevent damage to the assembly or piping. When continuous service is required during testing or maintenance, a parallel backflow prevention assembly of the same type must be present.

Determination of degree of hazard will be completed by the District CCS during initial evaluation, re-evaluation or by survey.

Low hazard connections may be isolated from the public water system either by premise isolation or in-premise protection. DCDA and DCVA are approved for low hazard connections. PVBAs and SVBAs may be allowed only for irrigation or when premise isolation is already present.

Residential flow through fire suppression systems may not require a backflow assembly at the discretion of the District CCS.

High hazard connections must be isolated from the public water system by premise isolation with a RPBA, RPDA or air gap. High hazards include, but are not limited to, those listed in WAC 246-290-490, Table 13. Fire suppression lines with chemical additives are considered a high hazard. Premises that utilize both public water and an auxiliary water supply are considered high hazard.

The District considers commercial properties, as determined by the District CCS, high hazard. The District CCS may also determine the degree of hazard to be high if plumbing is complex or subject to frequent changes, premise access is restricted or denied, cross-connection is unavoidable or if there has been a history of backflow incidents.

Backflow assemblies utilized for premise isolation shall be installed at a location adjacent to and downstream of the meter, or an alternate location approved by the District. The District CCS shall ensure that there are no connections between the meter and the backflow assembly unless otherwise approved by the District.

Severe health hazards must be isolated by both an approved RPBA or RPDA and an approved Air Gap.

The District is not responsible for eliminating or controlling cross-connections within the consumer's water system, i.e. within private property, which shall be regulated by the local administrative authority having jurisdiction.

Element 4: The purveyor shall ensure that personnel, including at least one person certified as a CCS, are provided to develop and implement the cross-connection control program.

The District will employ a minimum of two Washington State Department of Health certified Cross-Connection Specialists to provide program administration and field work. If necessary, the District may retain a CCS by contract as a temporary alternative.

District CCS will be responsible for overseeing or accomplishing the following tasks:

- Maintain current CCS Certification
- Develop, update or revise CCC Program
- Determine degree of hazard for new or existing services
- Recommend appropriate assembly commensurate with degree of hazard
- Observe initial assembly installation and testing
- Administer database or record retaining platform
- Distribute reminders, notices and public education materials
- Conduct surveys, either onsite or by written correspondence
- Review, approve or reject assembly test reports
- Notify owners of assembly test failures
- Assist BATs with submitting annual certification, test kit calibration & test reports
- Approve air gaps for metering station recipient vehicles
- Confirm physical separation of pipes for auxiliary water supplies
- Confirm system changes no longer requiring backflow assemblies
- Provide customer service regarding aspects of the CCC Program
- Prepare and submit annual reporting to WA State DOH
- Collaborate with water purveyors, municipalities and professional backflow organizations
- Report incidences of backflow
- Coordinate with local administrative authorities
- Ensure and enforce compliance with CCC Program

Element 5: The purveyor shall develop and implement procedures to ensure that approved backflow preventers relied upon to protect the public water system are inspected and tested.

Backflow assemblies utilized to protect the public water system shall be tested:

- At the time of installation
- Annually, after installation
- After a backflow incident
- After a repair, relocation, seasonal reconnection, reinstallation or replumbing
- Additional tests may be required at the discretion of the CCS

A District CCS must be physically present to inspect installation of newly installed backflow assemblies and to observe initial testing. If the initial test fails, District CCS will return to observe subsequent tests after repairs have been complete. Water service will not be provided until test results are acceptable to the District, as determined by the CCS.

Backflow assemblies are required to be tested by a certified Backflow Assembly Tester (BAT) and results submitted to the District via the District's preferred method of acquisition. Consumers shall procure, at the consumer's expense, a certified BAT to perform annual testing. A list of WA State approved BATs will be made publicly available.

As a courtesy, the District endeavors to send reminders to consumers with backflow assemblies 60 days prior to the due date of their annual test. Notices will include enforcement actions for non-compliance. A one-time extension of no more than 45 days may be granted to the consumer at the discretion of the CCS.

If the consumer, or representative BAT, fails to provide the test report by the determined due date, and the District has not approved an extension, the District will take the following enforcement actions:

- 30 days past due, the first non-compliance penalty fee will be added to the utility billing account and a notice of non-compliance will be sent to the contact on file.
- 60 days past due, the second non-compliance penalty fee will be added to the utility billing account and a notice of non-compliance will be sent to the contact on file, the occupants of the premises and the local administrative authority. The District will inform recipients that failure to satisfactorily respond will result in a disruption to their water service in 15 days.
- 75 days past due, the District will implement service shut-off.

Non-compliance penalty fees will be determined annually and cited in the District's Resolution of annual rates, fees and charges.

Element 6: The purveyor shall develop and implement a backflow prevention assembly testing quality control assurance program including, but not limited to, documentation of BAT certification and test kit calibration, test report contents, and time frames for submitting completed test reports.

The District will maintain documentation for BATs that include:

- Organization or individual name and contact information
- BAT certification card for the current year
- Annual test kit calibration results

Backflow assembly test results will not be accepted from a BAT who has not submitted documentation of their current year's certification and test kit calibration. A delay in receiving the required credentials from the BAT may impact enforcement actions taken by the District against the backflow assembly owner.

District CCS will review and approve or reject annual test reports within 30 days of submittal. The CCS will notify owners when the District receives a failed or incomplete test report. An extension of no more than 45 days may be granted for required repairs and additional testing.

The District CCS will report incidences of fraud or gross incompetence on the part of any BAT to the WA State DOH.

Element 7: The purveyor shall develop and implement procedures for responding to backflow incidents.

The District will immediately implement a Backflow Incident Response Plan in the event of a backflow occurrence. The Backflow Incident Response Plan will be documented as part of the District’s Emergency Response Program as required by WAC 246-290-415.

The Backflow Incident Response Plan includes:

- Notification to District management
- Identification of the source of contamination
- Isolation of the source of contamination and the affected areas
- Notification to affected populations
- Notification to the Washington State DOH and Local Administrative Authorities
- Cleaning, flushing, and other measures as needed to mitigate contamination
- Submittal of the Backflow Incident Report to the DOH
- Documentation of incident details
- Application of corrective action to prevent similar backflow occurrences

Notifications shall be made as soon as possible but no later than the next business day following a known backflow incident. Backflow incidents shall be included in the annual summary report provided to the DOH.

Element 8: The purveyor shall include information on cross-connection control in the purveyor’s existing program for educating consumers about water system operation.

For the purpose of public education, the District may distribute or publicly post informational materials regarding common cross-connection scenarios and potential hazards. The education program will emphasize the responsibility of the consumer in preventing the contamination of their own water supply as well as the public water supply.

Educational materials may include:

- General cross-connection information
- Irrigation system hazards and corrective actions
- Fire sprinkler cross-connection hazards
- Importance of annual testing of backflow assemblies
- Thermal expansion in hot water systems and the value of backflow preventers

In cooperation with municipalities, community organizations or other Special Purpose Districts, the District may participate in public outreach opportunities including fairs, exhibits or other community events.

Element 9: The purveyor shall develop and maintain cross-connection control records including a master list of service connections and inventory of backflow preventers including approved air gaps and backflow assemblies.

The District will maintain a records database of the following:

Cross-Connection Determination

- Assessed degree of hazard
- Backflow preventer required to protect the public water system

Backflow Preventer Inventory

- Air gap location, installation date, inspection dates, inspection results and personnel conducting inspection
- Backflow assembly location, description (type, manufacturer, make, model, size and serial number), installation date, inspection and test dates, test results, and personnel providing test results

Records shall be maintained as long as the premises pose a cross-connection hazard and for a minimum of 5 years thereafter. Backflow incident documentation and annual reports provided to the DOH shall be kept for a minimum of 5 years.

Element 10: Purveyors who distribute and/or have facilities that receive reclaimed water within their water area shall meet any additional cross-connection control requirements.

Soos Creek Water & Sewer District does not currently receive or distribute reclaimed water. In the event that reclaimed water use is proposed within the District service area, all cross-connection control requirements mandated by the DOH will be made part the CCC program and be complied with.

SECTION IV: ADDITIONAL CONSIDERATIONS

For successful administration of the Cross-Connection Control Program, Soos Creek Water and Sewer District will ensure the following:

- Adequate number of CCS certified staff with designated staff time to administer the Program
- Adequate financial and administrative resources are available to execute the Program
- Communication is promoted between Program personnel and other District staff
- Adequate training is provided to all staff to recognize potential cross-connection control issues
- Cross-connection hazards will be considered in water quality investigations
- District CCS be consulted during water distribution system design, modifications and upgrades
- Operations under normal and abnormal conditions will not result in excessive pressure loss creating potential for backflow conditions