
Cross Connection

cross connection & surveys

Silver Falls 2018

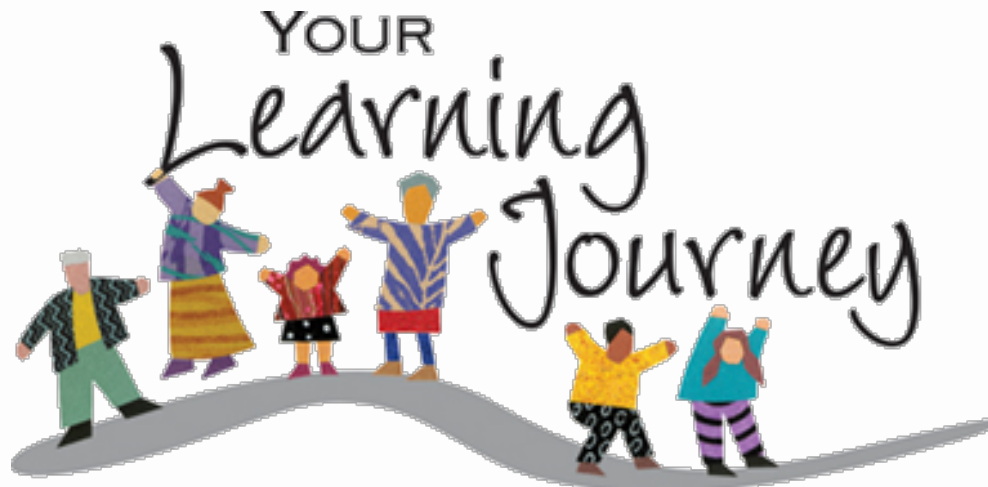


DRINKING WATER SERVICES

CROSS CONNECTION & BACKFLOW PREVENTION

Agenda

- Terminology
- Types of assemblies
- Survey Time
- When do I need an assembly/device?
- Enabling authority CC Plan
- FAQs

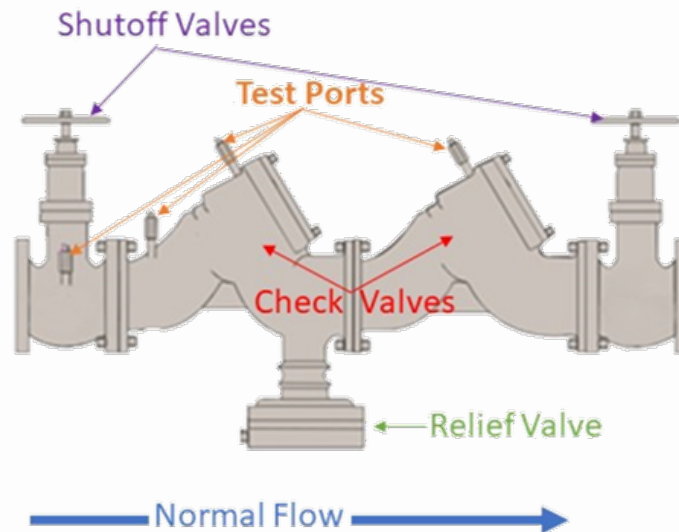
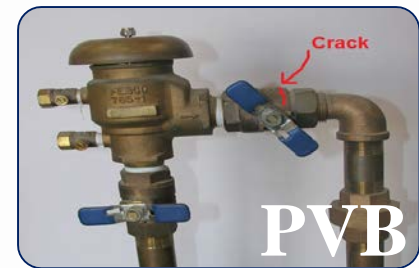
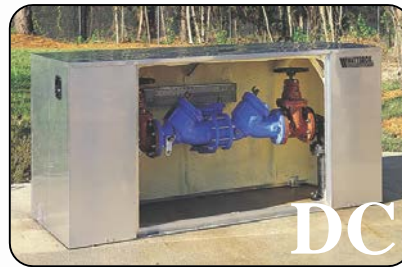


Assembly vs Device

- An **assembly** is **testable** and includes an RP, DC, and PVB (Reduced Pressure, Double Check, and Pressure Vacuum Breaker).
- A **device** is **not testable** and includes Atmospheric Vacuum Breakers.

Assembly vs Device

- An **assembly** is **testable** and includes an RP, DC, and PVB (Reduced Pressure, Double Check, and Pressure Vacuum Breaker)

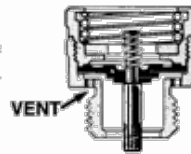
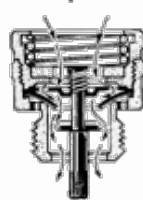


Assembly vs Device

- A **device** is **not testable** and includes **Atmospheric Vacuum Breakers**

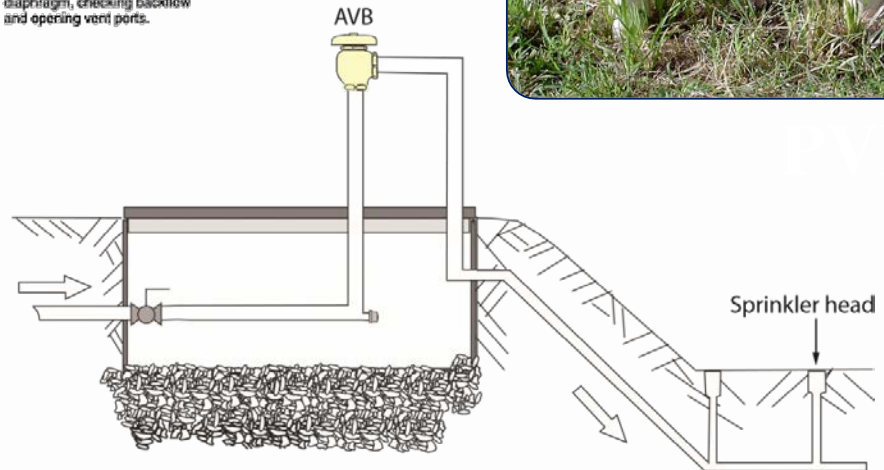


How It Operates:



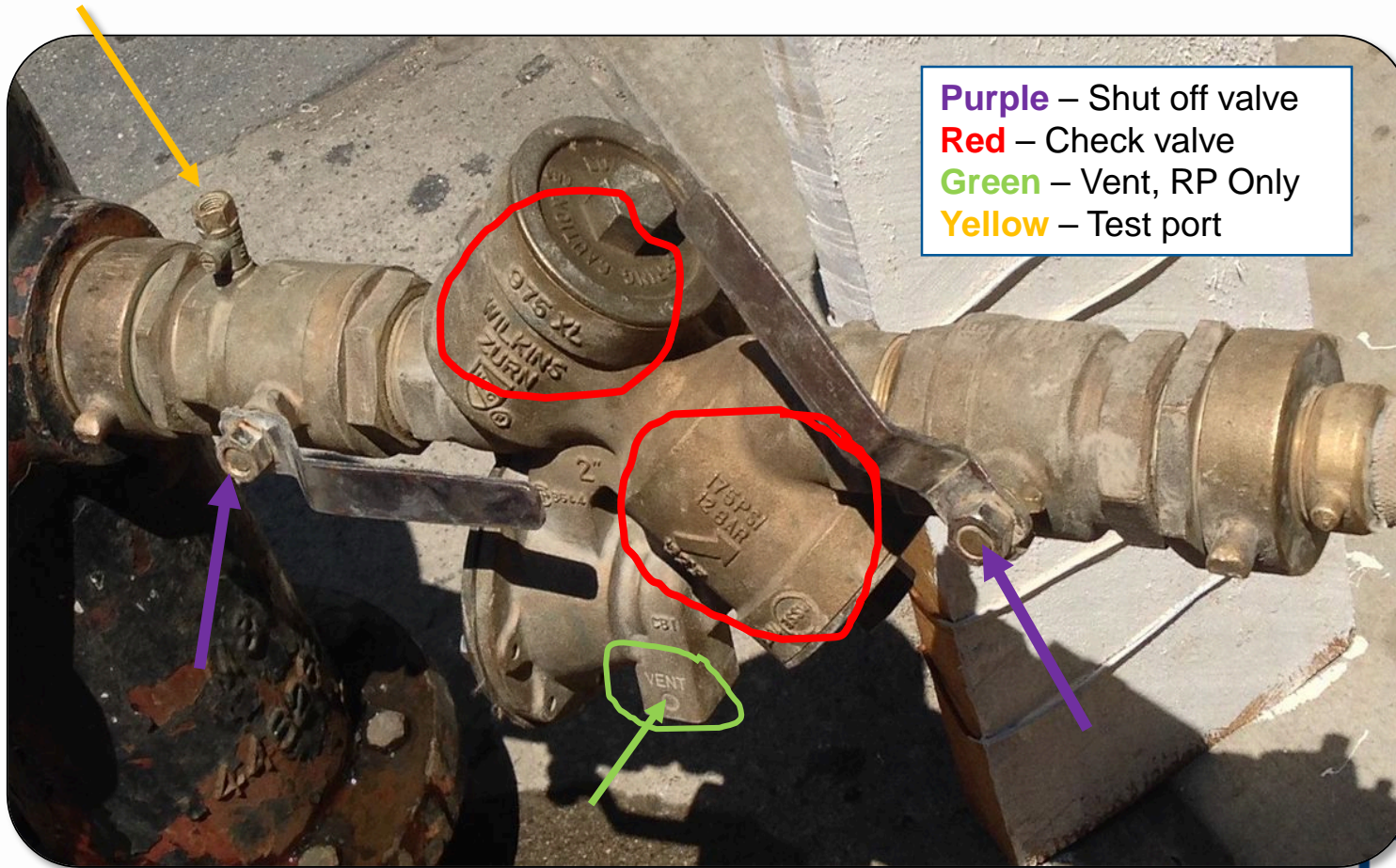
With loss of water supply pressure, disk seals against diaphragm, checking backflow and opening vent ports.

Opened Completely



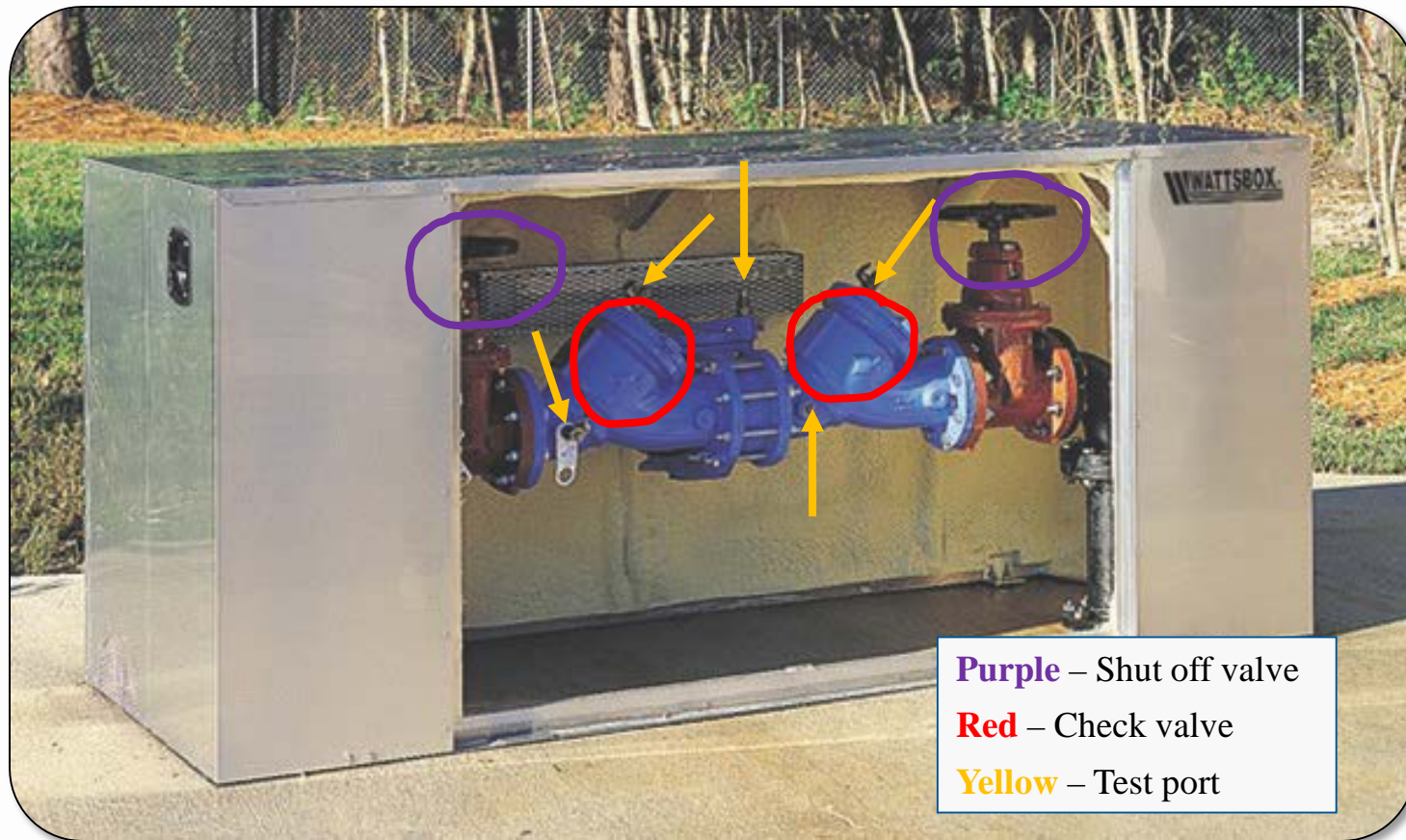
Types of Assemblies

- Reduced Pressure Backflow Assembly, RP, RPBA



Types of Assemblies

- Double Check Backflow Assembly, DC, DCBA



Types of Assemblies

- Pressure Vacuum Breaker, PVB, Spill-Resistant Pressure Vacuum Breaker SPVB



Survey Time!

- These are the 4 questions you need to answer

Cross Connection Control (CWS, NTNC, and TNC)

Yes	No	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Devices tested annually? (CWS, NTNC, TNC)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Ordinance or enabling authority? (CWS)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Annual Summary Report submitted? (CWS)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	● Certified Cross Connection Control Specialist? (CWS \geq 300 connections)

Oops!
Should say assemblies

Survey Time!

Q: Do you have any cross connections?

A: We do not.

You can probe a bit more.

Q: Do you have any backflow assemblies?

A: Nope

Survey Time!

Ask some leading questions just to be sure:

Q: Do you have:

- In ground sprinkling systems?
- Fountains?
- Ponds?
- Gas Station?
- Pools?
- Hot Tubs?
- Boiler?
- Is there a backflow device on/near the well?
- Waterbeds?
- Greenhouse?
- Dialysis machine?
- Utility sink with threaded faucet?



When is an Assembly/Device Needed?

- On all High Hazards
 - Table 42: High Hazard Table
- Any cross connection
- What I think are the most common assemblies installed:
 - DC on in-ground sprinkling systems
 - DC or RP on Fire systems



High Hazards – Table 42



High hazards and need an air gap or an RP.

- Agriculture
- Beverage bottling plants
- Car washes
- Chemical plants
- Commercial laundries/dry cleaners
- Reclaimed & potable water
- Film processing plants
- Food processing plants
- Medical centers
- Irrigation w/ chemical addition
- Laboratories
- Metal plating



- Mortuaries
- Petroleum processing/storage
- Piers and docks
- Radioactive material processing/reactors
- Wastewater lift/pumping/treatment
- Piping under pressure in proximity to potable water
- Auxiliary water supply connected to potable water
- Water supplier denied access
- Water being treated w/ chemicals or other additives

Enabling Authority & CC Plan

- All Community Water Systems
- Need Local Ordinance or **Enabling Authority** that authorizes discontinuing water service to premises for:
 - Failure to remove or eliminate an existing unprotected or potential cross connection
 - Failure to install a required approved backflow prevention assembly
 - Failure to maintain an approved backflow prevention assembly or
 - Failure to conduct the required testing of an approved backflow prevention assembly

There is a template for small water systems online

www.healthoregon.org/crossconnection

Enabling Authority OAR

333-061-0070(10)(a) Local ordinance or **enabling authority** that authorizes discontinuing water service to premises for:

- (A) Failure to remove or eliminate an existing unprotected or potential cross connection;
- (B) Failure to install a required approved backflow prevention assembly;
- (C) Failure to maintain an approved backflow prevention assembly; or
- (D) Failure to conduct the required testing of an approved backflow prevention assembly.

Small water system? That's all you are required to have. Large (300+), you need more, you need a plan!

Written Program Plan 300+ Connections

333-061-0070(10) (b) A written **program plan** for community water systems with **300 or more service connections** shall include the following:

- (A) A **list of premises** where health hazard cross connections exist, including, but not limited to, those listed in Table 42 (Premises Requiring Isolation);
- (B) A current **list of certified cross connection control staff members**;
- (C) Procedures for **evaluating the degree of hazard** posed by a water user's premises;
- (D) A procedure for **notifying the water user** if a non-health hazard or health hazard is identified, and for informing the water user of any corrective action required;
- (E) The type of **protection required to prevent** backflow into the public water supply, commensurate with the degree of hazard that exists on the water user's premises, as defined in Table 43 (Backflow Prevention Methods);
- (F) A description of what **corrective actions** will be taken if a water user fails to comply with the water supplier's cross connection control requirements;
- (G) Current **records** of approved backflow prevention assemblies **installed**, **inspections completed**, backflow prevention assembly **test results** on backflow prevention assemblies and **verification** of current Backflow Assembly Tester certification; and
- (H) A **public education program** about cross connection control.

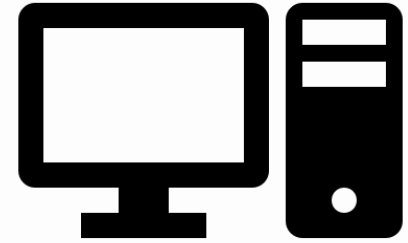
What About Transient or NTNC WsSs?

333-061-0070(12) In transient or NTNC water systems, the water supplier that owns or operates the system shall:

- (a) Ensure **no cross connections** exist, or are **isolated** from the potable water system with an **approved backflow prevention assembly**, as required in section (13) of this rule;
- (b) Ensure approved backflow prevention assemblies are installed at, or near, the cross connection; and
- (c) Conduct an **annual cross connection survey** and inspection to ensure compliance with these rules, and test all backflow assemblies annually. All building permits and related inspections are to be made by the Department of Consumer and Business Services, Building Codes Division, as required by ORS 447.020.

Enabling Authority & CC Plan

- How do you know if we have received it?
- Check Data Online of course!



[Introduction](#) :: [Data Search Options](#) :: [WS Name Look Up](#) :: [WS ID Look Up](#) :: [DWS Home](#) :: [Quick Data Links](#)

IR41 00062 YOUNGS RIVER LEWIS & CLARK WD **Classification:** COMMUNITY

Contact: CARL GIFFORD III
 34583 HWY 101 BUSINESS
 ASTORIA, OR 97103
Phone: 503-325-4330
County: CLATSOP
Activity Status: ACTIVE -- [History](#)
Population: 2,797
Number of Connections: 984
Operating Period: January 1 to December 31
Regulating Agency: REGION 1
Certified Operator(s)
Owner Type: LOCAL GOVERNMENT
Required: Y
Licensed By: N/A
Distribution class: 2
Approved Drinking Water Protection Plan: No
Treatment class: 2
Source Water Assessment: Yes
Filtration Endorsement Required: No
Last Survey Date: Nov 12, 2015

Sources

Facility ID	Facility Name	Activity Status	Availability	Source Type
P-A	EP FOR N & S FORK/BARNEY CREEK	A		SW
RC-AA	NORTH FORK/BARNEY CREEK	A	Permanent	SW
RC-AB	SOUTH FORK/BARNEY CREEK	A	Permanent	SW

Cross Connection/Backflow Prevention Information (Last 3 Records)

Facility ID	<u>Enabling Authority Received</u>	<u>Annual Summary Report Received</u>	<u>Fee Invoice Paid</u>
TP-A	Yes (PDF)	2017	2018
TP-A		2016	2017
TP-A		2015	2015

or Year

017

016

015

014

013

Aug 08, 2016

May 19, 2015

Jul 10, 2014

Aug 08, 2016

May 19, 2015

Jul 10, 2014

Cross Connection/Backflow Prevention Information (Last 3 Records)

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Yes (PDF)	2017	2018
	2016	2017
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Annual Summary Report (ASR)



- Due by **March 31** of every year.
- **ALL COMMUNITY** water systems should have copies on file for you to review.
- Are they missing 1 or 2 reports? Or more?
- How many testable assemblies were tested?
 - If it seems low... under 70% and there are no comments, ask why.
 - Sometimes there are good reasons why assemblies weren't tested.
 - Sometimes there isn't a good reason why assemblies weren't tested.
 - Encourage clear and concise notes on the ASR's

Common Questions & Answers

Q: Which assemblies do WS need to be tracking?

A: If the backflow assembly is protecting the WS from an real or potential cross connection, then it needs to be tracked.

Q: The WS doesn't own the assembly, do they still track it?

A: Yes, if it is protecting the water from a real or potential cross connection

Q: The WS says they have assemblies but they haven't tested any.

A: Their may be a good reason, but then again, maybe not. Find out why and encourage them to put clear concise notes on their ASRs.



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