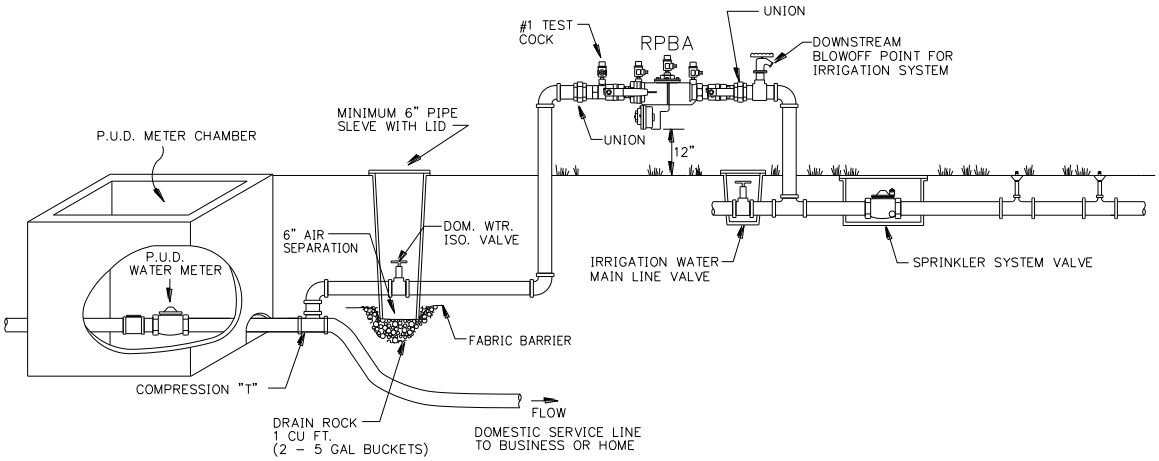
Installing a Reduced Pressure Backflow Assembly (RPBA) With a Stop-and-Waste Ball Valve

Washington State Department of Health requires installation of a RPBA if the irrigation sprinkler system uses or is designed to use a combination of domestic and irrigation ditch water.

The following directions are intended to help give guidance in installation and winterizing an outdoor backflow assembly and irrigation system. **The directions in bold lettering are Washington State Department of Health, Chelan County PUD, City of Wenatchee, and East Wenatchee Water District requirements.**



All connections to the domestic service water line must be at least 3 feet away from the meter chamber. Most domestic water lines are located 3 to 4 feet below ground. You must contact the correct water purveyor to arrange for the water to be shut off inside the water meter chamber. Entering the water chamber or shutting the water service off within the meter chamber is <u>prohibited</u>.

1. Once the domestic service line has been exposed it must be cut. A brass compression "T" must be installed to reconnect the domestic service line. Make sure the open end of the "T" is facing upward (vertical position). Pipe wrenches will be needed to tighten the compression "T"

2. **After the compression "T" has been tightened, install a 6"threaded brass pipe to the open vertical end of the "T". Next install a street 90-degree elbow to the 6" threaded brass pipe.**

3. **A stop-and-waste-curb-stop will need to be threaded on to the street 90-degree elbow** and add a PVC male adapter to the other end of this valve.

    - The stop-and-waste valve located below ground level can become a submerged inlet, which has the potential of becoming a cross connection. **Because of the potential cross connection and flooding of stop-and-waste valves consideration should be given when selecting the location. The installation of all stop-and-waste-curb stops shall only be allowed when the water table (area or zone that is continually filled with underground water) is not present around the stop-and-waste valve. 1 cubic foot (2-5 gallon buckets) of clean drain rock shall be installed below the drain hole with a 6" air separation from the bottom of the curb stop to the top of the drain rock. Before the hole is back filled landscape fabric or newspaper must be installed on top of the drain rock to prevent dirt from filling in the voids of the drain rock**.

    - The purpose of the stop-and-waste curb-stop ball valve is to isolate the domestic irrigation line and allow the water to drain out of the stop-and-waste hole from the isolation valve to the piping prior to backflow assembly. The removal of the water helps prevent the piping and some parts of the backflow assembly from freezing and breaking in the late fall.

4. Glue and install a short piece of pipe into the PVC male adapter that was installed. Then glue the first PVC 90-degree elbow into the end of the PVC pipe. Make sure the open end of the 90-degree elbow is in the vertical position.

5. Next, a long piece of pipe can be glued into the 90-degree elbow that will bring the piping up and out of the ground. **There must be a minimum of 12 inches of clearance from the bottom of the backflow assembly to ground level** to make sure the pipe will be long enough.

6. Glue a second 90-degree elbow and a short piece of pipe to the existing plumbing. This will allow the backflow assembly to be installed horizontally. **Thoroughly flush supply lines before installing the backflow assembly to prevent debris from fouling the check valves.**

7. Next install unions on both sides of the backflow assembly (close-end-nipples and male adapters may be needed depending on the type of unions that are used.) Then, glue the one end that's located on the downstream end of the backflow assembly to the existing plumbing. The unions allow the backflow assembly to be removed or turned to its side when the sprinkler system is winterized.

8. Next glue a short piece of pipe and a "T" to the union that is on the existing plumbing. The "T" will need female threads on the middle section so a hose bib (faucet) can be installed. **This will be the point of entry where an air compressor is hooked up to blow out the sprinkler lines. The blow-off port for winterizing shall be located directly after the backflow assembly. This will eliminate the assembly to be damage from high velocity of air and also keep air from entering the water main. NOTE: Make sure to close #2 shut off valve on Backflow Assembly, before blowing out sprinkler system.**

9. A 90-degree elbow and a piece of PVC pipe will be installed next to bring the piping back underground.

10. **Sleeve the curb-stop valve with a minimum 6-inch diameter pipe. This allows access to the curb-stop after the piping has been buried while also creating a 6" air separation from the bottom of the curb stop to the top of the drain rock. Before the hole is back filled landscape fabric or newspaper must be installed on top of the drain rock to prevent dirt from filling in the voids of the drain rock**.

11. Installation of the irrigation sprinkler system from this point is up to you. Make sure a shut-off valve is installed somewhere on the irrigation ditch water line. This valve will prevent domestic water from flowing into the main irrigation ditch water line.

- **There will be no water service to a new irrigation sprinkler system until the backflow assembly is inspected and tested by the water purveyor. Failure to make contact will result in the water being shut off and possible fines.**

- **Backflow assemblies that need repairs must be tested by a Washington state certified backflow assembly tester with the approval of the water purveyor.**

- **If you have questions or concerns, please call the appropriate water purveyor.**

Chelan Co PUD water department	**(509) 661-4543**
City of Wenatchee Public Works	**(509) 888-3200**
East Wenatchee Water District	**(509) 884-3569**

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