

B. Flushing of Lines: Water lines shall be thoroughly flushed prior to installing a backflow prevention device to remove all debris.

C. Testing: All approved backflow prevention devices shall be tested and certified that it works properly by a certified backflow technician immediately after system activation and every year thereafter according to manufacturer's recommendation. Any device failing to meet performance standards, it shall be repaired and retested promptly. If repairs cannot be made promptly, the District shall exercise prudence in evaluating the hazard that is created and appropriate actions shall be taken. Spare parts should be kept available by the customer to repair devices.

D. Thermal Water Expansion and/or Water Hammer: Downstream of the backflow prevention assembly thermal water expansion and/or water system, water hammer arresters, surge protectors or thermal expansion tanks should be installed as required by the Ky. State Plumbing Code - 815 KAR 20:120.

E. Devices Installed Inside Pits: The pit structure and piping arrangement shall be installed According to the Northern Kentucky Water District Standard Drawings. The type of device installed in pits shall be limited to double check valve type assemblies, except as specified in 3.03.

F. Consumers Requiring Continuous Service: Where a consumer requires continuous uninterrupted service and where it is not possible or practical to provide water service from two separate service lines into a premises, as permitted by the District, provisions must be made for the installation of two backflow prevention devices in parallel.

3.02 AIR-GAP SEPARATION: The only absolute means to eliminate backflow and back-siphonage is through the use of a vertical air-gap separation. Air-gaps should be used whenever possible. The minimum required air-gap shall be measured vertically from the lowest end of the potable water outlet to the flood rim or line of the fixture or receptacle into which it discharges. This air-gap shall be twice the effective inside diameter of the potable water outlet. In no case shall the minimum required air-gap be less than one (1) inch. There shall be no provisions for extending the fixture outlet below the flood level rim.

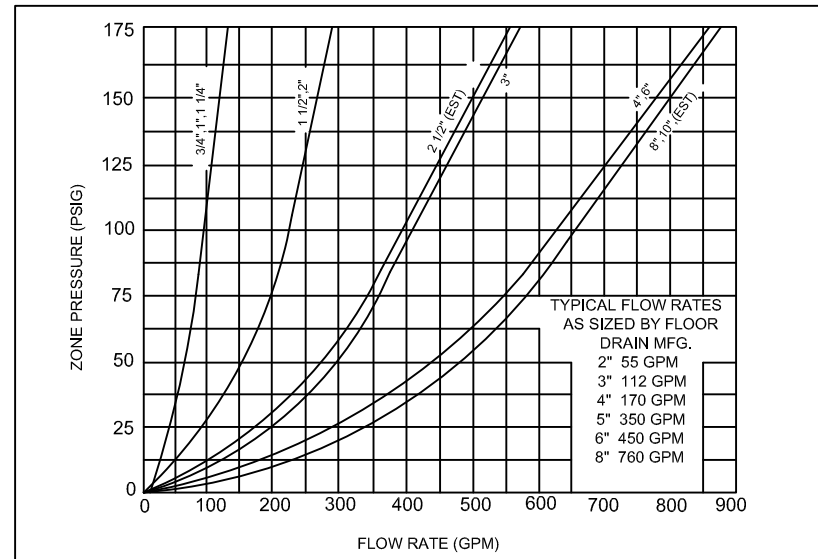
3.03 REDUCED PRESSURE BACKFLOW PREVENTION DEVICE: The reduced pressure backflow preventer shall be installed in the horizontal position, unless approved for vertical installation by the Foundation for Cross-Connection Control Research, University of Southern California, with adequate space to facilitate maintenance and testing.

These devices should never be installed below grade level. The only case where they may be installed in a pit-type structure is where the drain of the box will permit direct drainage to the atmosphere. The drain must be capable of handling the volume of water that can be discharged from the relief port. The relief port shall be located twelve (12) inches above ground level at the point of discharge. Under no circumstances, should the relief port be plugged. This device depends upon an open relief port for safe operation. Care must be taken to protect the device from freezing. When the device is located inside a building, there must be suitable means of taking care of any discharge. If there is a drain provided for the relief valve port, there must be a fixed air gap separation between the relief port and the drain line.

3.04 DOUBLE CHECK VALVE ASSEMBLIES: Double check valves shall be installed in the horizontal position, unless approved for vertical installation by the Foundation for Cross-Connection Control Research, University of Southern California, with adequate space to facilitate maintenance and testing.

A double check valve should only be considered when the probability of backflow and the degree of hazard is considered low as determined by the Water District. The degree of protection offered by this device is much less than that of an air-gap separation or a reduced pressure backflow prevention device.

Figure II-a



Relief Valve Discharge Rates For Reduced Pressure Backflow Assemblies.

REVISION	BY	DATE

N. KY. WATER DISTRICT  
 BACKFLOW PREVENTION DEVICE  
 ASSEMBLY INSTALLATION SPECIFICATIONS

DRAWN BY: SAR

APPROVED: *RH*

DATE: 2/17/10

STANDARD DRAWING NO: 301A