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DRINKING WATER SECTION

# City of Rainier Cross-Connection Program

RAINIER WATER DEPARTMENT  
41-00689

## November 1995

**CITY OF RAINIER  
CROSS-CONNECTION PROGRAM**

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**CITY OF RAINIER**  
**CERTIFIED CROSS CONNECTION INSPECTOR STAFF**

Dwayne Barnes, Superintendent of Public Works I-384

**Program Responsibilities:** Program administration including, record keeping, inspection notification, device testing notifications, device installation requirements, plumbing plan review, data base management, and public relations.

**Don Jessee, Leadworker I-2650**

**Program Responsibilities:** Inspections (initial and re-inspections), public relations, and on-site cross connection education.

# City of Rainier

## Cross-Connection Control Program

October, 1995

**Purpose:** The City of Rainier has the responsibility to prevent contamination of the public water system from backflow. This responsibility begins at the source and includes the entire water supply distribution system and ends at the water service connection. As a water supplier, it is the cities responsibility to enforce all laws, rules, regulations, and policies necessary to carry out our responsibilities to our citizens and the public at large. The City of Rainier will not provide water service to premises where an unprotected cross connection exists.

The hub of the program will be inspections, which will be conducted on the basis of level of hazard as outlined in OAR 333-61-070 and Rainier ordinance 962.

**The Cross Connection Program is separated into six areas**

1. New Construction
2. Existing Facilities
3. Installation Support
4. Testing
5. Record Keeping
6. Reporting

**New Construction:** Before any plumbing permit for new construction or existing plumbing modifications are issued, the Superintendent of Public Works will first review plumbing plans to identify cross connection hazards. If a potential cross connection is found to exist on the plans, the owner shall eliminate or protect the cross connection with a backflow device suitable to the degree of hazard as required by the Superintendent. All modifications will be annotated on the plumbing plans, and if a backflow device is required, a backflow permit will be issued, only then will a plumbing permit be issued by the city.



**Existing Facilities:** The inspection and enforcement of cross connection control requirements in existing facilities is the core of the program and the toughest part of the program to operate. All existing water services will be inspected on an initial inspection basis, with follow-up inspections done on a spot check basis. Existing facility initial inspections will be carried out in an order commensurate with the level of hazard, with the highest levels of hazards, (as identified in OAR 333-61-070) being the first to be inspected.

**Installation Support:** If a backflow device is required, the City of Rainier will work with the affected customer to identify the most cost effective location to install the device, and which backflow device is the most economical to install that will protect the level of hazard identified by the cross connection inspector.

**Testing:** OAR 333-61-070 requires that all RPBD's, DCVA's, and PVBA's will be tested on an annual basis. Customers may be required to test devices more frequently if there is an extreme health risk or repeated failure. Devices are also required to be tested upon installation and when they are moved. The testing on new or moved devices will be done before the device is put into service.

The City of Rainier will notify customers with backflow devices thirty (30) days prior to the annual test anniversary date in an effort to assist in annual testing requirements.

After a backflow device is tested, the test form will be forwarded to the city for proper routing to the Oregon State Health Division.

The city will provide, on request by the customer, a list of certified backflow device testers.

**Record Keeping:** The city will keep accurate, up to date, records of all backflow devices in the water service area. Records will consist of installation date, type, model, and make of device, location, and a photograph of the device as well as records of device inspections, tests and correspondence regarding each device.

**Reporting:** The City will keep in close contact with the Oregon State Health Division in an effort to keep up to date on all rules regarding cross connection control. The city will also send device test forms to the health division in a timely manner.

ORDINANCE NO. 962

AN ORDINANCE TO PROTECT THE WATER SUPPLY OF THE CITY OF RAINIER FROM CONTAMINATION OR POLLUTION DUE TO ANY EXISTING OR POTENTIAL CROSS CONNECTIONS; DEFINING AND DESCRIBING ASSEMBLY AND INSTALLATION REQUIREMENTS; PROVIDING FOR PREMISES ACCESS, TESTING AND REPAIR OF ASSEMBLIES, AND COMPLIANCE COSTS WITH PENALTIES FOR FAILURE TO COMPLY.

The City of Rainier ordains as follows:

Section 1. Definitions:

- (1) "Approved backflow prevention assembly" means an assembly to counteract back-pressure or prevent backsiphonage. This assembly must appear on the list of approved assemblies issued by the Oregon Health Division.
- (2) "Auxiliary supply" means any water source or system other than the public water system, that may be available in the building or on the premises.
- (3) "Backflow" means the flow in the direction opposite to the normal flow or the introduction of any foreign liquids, gases, or substances into the water system of the City of Rainier's water.
- (4) "City" or "the City" means the City of Rainier.
- (5) "Contamination" means the entry into or presence in a public water supply system of any substance which may be deleterious to health and/or quality of the water.
- (6) "Cross Connection" means any physical arrangement where a public water system is connected, directly or indirectly, with any other non-drinkable water system or auxiliary system, sewer, drain conduit, swimming pool, storage reservoir, plumbing fixture, swamp coolers, or any other device which contains, or may contain, contaminated water, sewage, or other liquid of unknown or unsafe quality which may be capable of imparting contamination to the public water system as a result of backflow. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, or other temporary or permanent devices through which, or because of which, backflow may occur are considered to be cross connections.
- (7) "Degree of hazard" shall be derived from the evaluation of a health, system, plumbing or pollutional hazard.
- (8) "Health hazard" means an actual or potential threat of contamination of a physical or toxic nature to the public potable water system or the consumer's potable water system that would be a danger to health.
- (9) "Plumbing hazard" means an internal or plumbing-type cross connection in a consumer's potable water system that may be either a pollutional or a contamination-type hazard. This includes, but is not limited to, cross connections to toilets, sinks, lavatories, wash trays, domestic washing machines and lawn sprinkling systems. Plumbing-type cross connections can be located in many types of structures including homes, apartment houses, hotels and commercial or industrial establishments.
- (10) "Pollutional hazard" means an actual or potential threat to the physical properties of the water system or the potability of the public or the consumer's potable water system but which would not constitute a health or system hazard, as defined. The maximum degree of intensity of pollution to which the potable water system could be degraded under this definition would cause a nuisance or be aesthetically objectionable or could cause minor damage to the system or its appurtenances.
- (11) "Superintendent" means the Superintendent of Public Works of the City of Rainier.
- (12) "System hazard" means an actual or potential threat of severe danger to the physical properties of the public or consumer's potable water system or of a pollution or contamination which



would have a detrimental effect on the quality of the potable water in the system.

(13) "Potable water supply" means any system of water supply intended or used for human consumption or other domestic use.

(14) "Premises" means any piece of land to which water is provided including all improvements, mobile home(s) and structures located on it.

(15) "Reduced pressure principle assembly" shall mean an assembly containing two, independently acting, approved check valves together with a hydraulically operated, mechanically independent, pressure differential relief valve located between the check valves and at the same time below the first check valve. The assembly shall include properly located test cocks and tightly closing shut-off valves at the end of the assembly. A check valve is approved if it appears on the list of approved assemblies issued by the Oregon Health Division.

Section 2. No cross connections shall be created, installed, used or maintained within the boundaries of the City of Rainier jurisdiction, except in accordance with this ordinance.

Section 3. Approved backflow prevention assemblies shall be installed at the expense of the user, either at the service connection or within the premises, as determined by a certified cross connection inspector employed by the City of Rainier, whenever:

(1) The nature and extent of any activity of the premises, or the materials used in connection with any activity of the premises, or materials stored on the premises, could contaminate or pollute the drinking water supply.

(2) Premises having any one or more cross connections as that term is defined in Section 1, (5) are identified or are present.

(3) Internal cross connections that are not correctable, or intricate plumbing arrangements which make it impractical to ascertain whether or not cross connections exist are present.

(4) There is a repeated history of cross connections being established or reestablished.

(5) There is unduly restricted entry so that inspections for cross connections cannot be made with sufficient frequency or with sufficient notice to assure that cross connections do not exist.

(6) Materials of a toxic or hazardous nature are being used such that, if backflow should occur, a health hazard could result.

(7) Any mobile apparatus which uses City water or water from any premises within the boundaries of the City of Rainier jurisdiction.

(8) Installation of an approved backflow prevention assembly is deemed to be necessary to accomplish the purpose of these regulations in the judgement of a certified cross connection specialist employed by the City of Rainier.

(9) An appropriate cross connection report form has not been filed with the City of Rainier.

(10) A fire sprinkler system using non-potable piping material is connected to the City's water system.

(11) All residential properties occupied by persons other than the property owner shall install an approved backflow prevention assembly, or the property owner shall assume all responsibility for any backflow that should occur.

(12) All service connections 2 inches and larger will be required to have a minimum of a double check valve assembly or as directed by the Superintendent of Public Works.

Section 4. To ensure proper operation and accessibility of all backflow prevention assemblies, the following requirements shall apply to the installation of these assemblies:

(1) No part of the backflow prevention assembly shall be submerged in water or installed in a location subject to flooding. If installed in a vault or basement, adequate drainage shall be provided.

(2) Assemblies must be installed at the point of delivery of the water supply, before any branch in the line, on private property located just inside of the property line. Alternate locations must be approved in writing by the City of Rainier prior to installations.



- (3) The assembly must be protected from freezing and other severe weather conditions.
- (4) ✓ All backflow prevention assemblies shall be of a type and model approved by the Oregon Health Division and the City of Rainier.
- (5) ✓ Only assemblies specifically approved by the Oregon Health Division for vertical installation may be installed vertically. No assembly over 4" shall be installed vertically.
- (6) The assembly shall be readily accessible with adequate room for maintenance and testing. Assemblies 2 inches and smaller shall have at least 6-inch clearance on all sides of the assembly. All assemblies larger than 2 inches shall have a minimum clearance of 12 inches on the back side, 24 inches on the test cock side, 12 inches below the assembly and 36 inches above the assembly. "Y" pattern double check valve assemblies shall be installed so that the checks are horizontal and the test cocks face upward (see example following).
- (7) The property owner assumes all responsibility for all maintenance and testing of the assembly, as determined and required by the City of Rainier.
- (8) If written permission is granted to install the backflow assembly inside of the building, the assembly shall be readily accessible during regular working hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.
- (9) If an assembly, with written permission, is installed inside of the premises and is 4 inches or larger and is installed 4 feet above the floor, it must be equipped with a rigidly and permanently installed scaffolding acceptable to the City. This installation must also meet the requirements set out by the U.S. Occupational Safety and Health Administration and the State of Oregon Occupational Safety and Health Codes.
- (10) Reduced pressure principle assemblies may be installed in a vault only if relief valve discharge can be drained to daylight through a "boresight" type drain located above the 100 year flood plan as specified by the City current flood plan map. The drain shall be of adequate capacity to carry the full rated flow of the assembly and shall be screened on both ends.
- (11) An approved air gap shall be located at the relief valve orifice. This air gap shall be at least twice the inside diameter of the incoming supply line as measured vertically above the top rim of the drain and in no case less than 1 inch.
- (12) A backflow permit shall be obtained by the property owner prior to any new backflow assembly installation. With the permit, the owner and/or contractor will be provided with a City cross connection ordinance and will be advised as to the minimum type of backflow assembly required and as to the locations that will be acceptable to the City.
- (13) Upon completion of installation, the City shall be notified and all assemblies must be inspected and tested. All backflow prevention assemblies must be registered with the City. Registration shall consist of date of installation, make model, serial number of the backflow assembly, and initial test report.
- (14) Any water pressure drop caused by the installation of a backflow assembly is not the responsibility of the City of Rainier.
- (15) It is the responsibility of the property owner to eliminate the possibility of thermal expansion if a closed system has been created by the installation of a backflow assembly.
- (16) All new plumbing construction shall be evaluated as to the need for a backflow assembly before the issuance of all plumbing permits within the boundaries of the City of Rainier jurisdiction.

Section 5. Authorized employees of the City of Rainier, with proper identification, shall have access during reasonable hours to all parts of the premises and within the building to which water is supplied. However, if any water user refuses access to the premises or to the interior of a structure at reasonable times and on reasonable notice for inspection by a cross connection specialist appointed by the City, a reduced pressure principle assembly will be required to be installed at the service connection to the premises. ✓

Section 6. All backflow assemblies installed within the jurisdiction of the City of Rainier shall be tested immediately after installation and then annually on or before the anniversary date by a state-



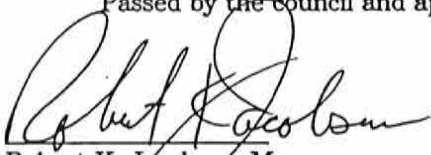
certified tester. The City will send out notices of reminder that a test is due. If the test is not completed within 15 days after the anniversary date, a second notice in the form of a registered letter, return receipt requested will be sent. If the backflow assembly is not tested within 15 days of the second and final notice, the water service will be disconnected from the City water system. The City of Rainier retains the right to have the assembly tested in special circumstances rather than terminating the water service. Special circumstances may consist of, but are not limited to, retirement homes, rental homes, hospitals, group homes, homes in which water dependent devices are in use (such as kidney dialysis machines), or any other circumstance where the City deems it a health risk to terminate water service. Should the City opt to have a backflow assembly tested, three current state-certified cross connection testers will be contacted and a price quoted. The City will pick the low quote and have the assembly tested and the test fee plus City staff time required to set up the test added to the assembly owner's water bill.

Forty-eight hours notice shall be given prior to all backflow testing to the Superintendent of Public Works. This notice is required as to allow the City cross connection inspector to be on site to observe the test. If the owner, tester, or contractor fail to comply with this 48-hour notice, the City will not accept the device test and a retest will be required in the presence of a City inspector. All backflow assemblies found not functioning properly shall be promptly repaired or replaced by the water user. If any such assembly is not promptly repaired or replaced, the City of Rainier may deny or discontinue water to the premises. All testing and repairs are the financial responsibility of the water user.

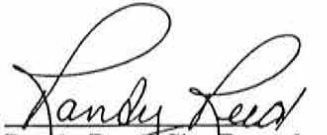
Section 7. All costs associated with purchase, installation, inspections, testing, replacement, maintenance, parts, and repairs of the backflow assembly are the financial responsibility of the property owner.

Section 8. Failure on the part of any customer to discontinue the use of all cross connections and to physically separate cross connections is sufficient cause for the immediate discontinuance of public water service to the premises (OAR Chapter 333-061-070, Section 1).

Passed by the council and approved by the Mayor this 18 day of September 1995.

  
Robert K. Jacobsen, Mayor

ATTEST:

  
Randy Reed, City Recorder

# **CITY OF RAINIER**

## **PROVISIONS AND SCHEDULE FOR INITIAL INSPECTIONS, RE-INSPECTIONS, ANNUAL TESTING, AND PERIODIC RE-INSPECTIONS**

*All Water Services in the City Of Rainier are Subject to Cross Connection Control Inspections*

Although all water services are subject to inspections, limited resources and staff time force the city to focus first on commercial and high hazard water services. Attached is a list of all water services in the City of Rainier and the estimated hazard for each. The actual hazard for each service will be determined after ~~and~~ actual inspection.

Inspections will be undertaken on a minimum of 10 water services per month, with the first inspections being made to the extreme hazard services as listed in the Health Division Rules. Inspections will progress from very high hazard, high hazard, moderate hazard, and low hazard. Re-inspections will be made on a random basis as time permits or as information dictates. ✓

If on initial inspection a backflow device is deemed necessary by a city inspector the customer will be given sixty days to install a device or water service will be terminated. If an immediate hazard is found service will be terminated immediately until the hazard is removed.

All backflow devices requiring testing will be tested annually unless more frequent testing is deemed necessary by the Superintendent of Public Works. The city will notify the owners of backflow devices thirty days prior to the anniversary date of the annual test.



COMERCIAL BACKFLOW

11/26/95

HAZARD LEVEL	BUSINESS NAME	ADDRESS OF METER	CITY	STATE	ZIP
VERY HIGH	HAAKINSON GROULX FUNERAL HOME	215 E C ST	RAINIER	OREGON	97048
VERY HIGH	ED VANBELLINGHEN DDS PC	116 WEST A ST	RAINIER	OREGON	97048
VERY HIGH	GOON CHEER DENTAL CLINIC	109 EAST A ST	RAINIER	OREGON	97048
VERY HIGH	RAINIER DENTAL CLINIC	303 EAST A ST.	RAINIER	OREGON	97048
VERY HIGH	KAROL LEE'S, AND IDS DENTAL	124 WEST B ST.	RAINIER	OREGON	97048
VERY HIGH	GOODRICH DENTAL	608 WEST B ST.	RAINIER	OREGON	97048

COMERCIAL BACKFLOW

11/26/95

HAZARD LEVEL	BUSINESS NAME	ADDRESS OF METER	CITY	STATE	ZIP
HIGH	COUNTRY PARLOR	107 EAST FIRST ST	RAINIER	OREGON	97048
HIGH	RIVERSIDE AUTO BODY	309 EAST A ST.	RAINIER	OREGON	97048
HIGH	RAINIER SHELL	207 WEST B ST.	RAINIER	OREGON	97048
HIGH	HAIRWORX	233 WEST B ST	RAINIER	OREGON	97048
HIGH	ADVANCED SPINAL FITNESS	225 WEST B ST.	RAINIER	OREGON	97048
HIGH	D & D AUTO BODY	506 WEST B ST.	RAINIER	OREGON	97048
HIGH	CHEVRON FOOD MART	312 WEST B ST.	RAINIER	OREGON	97048
HIGH	INTERNATIONAL MARINA SALVAGE	411 EAST A ST	RAINIER	OREGON	97048
HIGH	FOSS MARITIME	611 EAST A ST	RAINIER	OREGON	97048
HIGH	FOSS MARITIME	615 EAST A ST	RAINIER	OREGON	97048
HIGH	HEAD HUNTER	206 EAST B ST.	RAINIER	OREGON	97048
HIGH	RAINIER MIDDLE SCHOOL		RAINIER	OREGON	97048
HIGH	RAINIER MIDDLE SCHOOL		RAINIER	OREGON	97048
HIGH	RAINIER GRADE SCHOOL		RAINIER	OREGON	97048
HIGH	RAINIER RAINWASH	204 WEST 6TH	TIGARD	OREGON	97224
HIGH	LUCAS	714 WEST B ST.	RAINIER	OREGON	97048
HIGH	B & R EQUIPMENT REPAIR	212 WEST 12TH	RAINIER	OREGON	97048
HIGH	RAINIER TIER AND WHEEL AND FRED B	75936 ROCKCREST ST.	MEDFORD	OREGON	97504
HIGH	RIGHTLINE	29120 DIKE RD.	RAINIER	OREGON	97048
HIGH	MENASHA	29191 DIKE ROAD	CHEHALIS	WASHINGTON	98532
HIGH	COOPER OIL	75719 ROCKCREST ST.	LONGVIE	WASHINGTON	98632
HIGH	DELPHIA OIL	75742 ROCKCREST ST.	PORTLAN	OREGON	97228



COMERCIAL BACKFLOW

11/26/95

HAZARD LEVEL	BUSINESS NAME	ADDRESS OF METER	CITY	STATE	ZIP
MODERATE	RAINIER BUDGET INN	WEST 2ND AND A ST	RAINIER	OREGON	97048
MODERATE	RIO VISTA	103 WEST A ST	WARREN	OREGON	97053
MODERATE	RUMORS	102 EAST A ST	RAINIER	OREGON	97048
MODERATE	OL PASTIME	105 EAST A ST	RAINIER	OREGON	97048
MODERATE	RAINIER AERIE #4022 FOE	113 EAST A ST	RAINIER	OREGON	97048
MODERATE	EVERGREEN TAVERN	115 EAST FIRST	RAINIER	OREGON	97048
MODERATE	HANLEY'S SENTRY MARKET	215 WEST B ST.	RAINIER	OREGON	97048
MODERATE	KANDIE'S KOFFEE'S	319 WEST B ST.	RAINIER	OREGON	97048
MODERATE	CRAZY 'B'S'	228 WEST B ST.	RAINIER	OREGON	97048
MODERATE	INTERSTATE TAVERN	119 EAST B ST.	RAINIER	OREGON	97048
MODERATE	LUIGI'S PIZZA	119 FIRST ST.	RAINIER	OREGON	97048
MODERATE	COUNTRY CAFE	117 EAST FIRST ST	RAINIER	OREGON	97048
MODERATE	MINIT MART	WILLCUT	VANCOUV	WASHINGTON	98668

COMERCIAL BACKFLOW

11/26/95

HAZARD LEVEL	BUSINESS NAME	ADDRESS OF METER	CITY	STATE	ZIP
LOW	ELAM'S	102 EAST B	RAINIER	OREGON	97048
LOW	BENDER CHIROPRACTIC	103 WEST C ST.	RAINIER	OREGON	97048
LOW	RAINIER THRIFT STORE	109 EAST A ST.	RAINIER	OREGON	97048
LOW	ST. HELENS FEDERAL CREDIT UNION	118 EAST A ST	RAINIER	OREGON	97048
LOW	RAINIER HARDWARE	115 EAST A ST	RAINIER	OREGON	97048
LOW	OLIVA RENTALS	115 EAST A ST.	RAINIER	OREGON	97048
LOW	BANK OF AMERICA	203 EAST A ST.	PORTLAN	OREGON	97228
LOW	TRI CITY INSURANCE	TRI-CITY INSURANCE	RAINIER	OREGON	97048
LOW	RAINIER REGISTER	109 EAST FIRST ST.	RAINIER	OREGON	97048
LOW	MORE POWER COMPUTER UPGRADES	107 EAST FIRST ST.	RAINIER	OREGON	97048
LOW	LIQUOR STORE	315 WEST B ST.	RAINIER	OREGON	97048
LOW	RAY MCKEE INSURANCE	318 WEST B ST.	RAINIER	OREGON	97048
LOW	EARTH 'N SUN	222 WEST B ST.	RAINIER	OREGON	97048
LOW	RAINIER RV CENTER	218 WEST B ST.	RAINIER	OREGON	97048
LOW	BYRNES APTS.	124 WEST B ST	RAINIER	OREGON	97048
LOW	RAINIER FIRE DIST.	211 WEST 2ND	RAINIER	OREGON	97048
LOW	OLIVA BROS	103 EAST 3RD	RAINIER	OREGON	97048
LOW	US WEST COMMUNICATIONS	318 EAST A T	SEATTLE	WASHINGTON	98191
LOW	A & G FLOWERS	313 EAST B ST.	RAINIER	OREGON	97048
LOW	NEB'S AUTOMOTIVE	306 EAST B ST.	RAINIER	OREGON	97048
LOW	USER FRIENDLY TECHNOLOGIES	118 EAST B ST.	RAINIER	OREGON	97048
LOW	CHER'S ACCOUNTING	218 EAST B ST.	RAINIER	OREGON	97048
LOW	CATALDO'S	212 EAST B ST	RAINIER	OREGON	97048
LOW	MOVIEHOUSE	210 EAST B ST.	RAINIER	OREGON	97048
LOW	A.C.T. DEVOLPMENT CORP.	112 EAST B ST.	RAINIER	OREGON	97048
LOW	RIVER OF DREAMS	114 EAST B ST.	RAINIER	OREGON	97048
LOW	COLUMBIA CARPET ONE	105 WEST B ST.	RAINIER	OREGON	97048
LOW	LUCAS AND ASSOCIATES	118 WEST B ST.	RAINIER	OREGON	97048
LOW	INSURANCE	112 WEST B ST	RAINIER	OREGON	97048
LOW	HEADSTART	108 WEST B ST	ST HELEN	OREGON	97051
LOW	INFINITY ENTERPRISE	233 WEST C ST.	RAINIER	OREGON	97048
LOW	VANCE APARTMENTS	309 WEST C ST.	RAINIER	OREGON	97048
LOW	PETERSON AND REED	612 WEST B ST.	RAINIER	OREGON	97048
LOW	1888 HOUSE	713 WEST B ST.	RAINIER	OREGON	97048
LOW	BECK'S LUMBER	917 WEST B ST.	RAINIER	OREGON	97048
LOW	J & R SALES	75930 ROCKCREST ST.	RAINIER	OREGON	97048
LOW	ROCKCREST REALTY	75845 ROCKCREST RD.	RAINIER	OREGON	97048
LOW	RAINVIEW MOBILE HOMES	29368 WASHINGTON WAY	HILLSBOR	OREGON	97123
LOW	BRIDGEVIEW TOBACCO	29375 WASHINGTON WAY	RAINIER	OREGON	97048



## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	75375 FERN HILL LOOP
LOW	.75	75379 FERN HILL LOOP
LOW	.75	75383 FERN HILL LOOP
LOW	.75	75387 FERN HILL LOOP
LOW	.75	75391 FERN HILL LOOP
LOW	.75	75394 FERN HILL LOOP
LOW	1	74758 TOWNSEND
LOW	.75	75252 FERN HILL RD
LOW	.75	FERN HILL RD
LOW	.75	75310 FERN HILL
LOW	.75	75320 FERN HILL RD
LOW	.75	29694 RIVERVIEW
LOW	.75	29714 RIVERVIEW
LOW	.75	29722 RIVERVIEW
LOW	.75	29628 RIVERVIEW TER.
LOW	.75	29694 RIVERVIEW TER.
LOW	.75	29660 RIVERVIEW TER
LOW	.75	29693 RIVERVIEW TER
LOW	1	29668 RIVERVIEW TER.
LOW	.75	29665 RIVERVIEW TER
LOW	.75	29693 RIVERVIEW TER
LOW	.75	29708 RIVERVIEW TER
LOW	.75	29530 OLD RAINIER RD
LOW	.75	29644 RIVERVIEW DR.
LOW	.75	29889 RIVERVIEW
LOW	.75	29628 RIVERVIEW TER
LOW	.75	29755 RIVERVIEW DR
LOW	.75	29764 RIVERVIEW DR
LOW	.75	29773 RIVERVIEW DR
LOW	.75	29720 RIVERVIEW TER
LOW	.75	29787 RIVERVIEW DR
LOW	.75	29815 RIVERVIEW DR
LOW	.75	29843 RIVERVIEW DR
LOW	.75	29865 RIVERVIEW DR
LOW	.75	29885 RIVERVIEW DR
LOW	.75	29874 RIVERVIEW DR
LOW	.75	29903 RIVERVIEW DR
LOW	.75	29913 RIVERVIEW DR
LOW	.75	29937 RIVERVIEW DR
LOW	.75	29951 RIVERVIEW DR
LOW	.75	29953 RIVERVIEW R
LOW	.75	29988 RIVERVIEW DR
LOW	.75	75362 FERNHILL RD
LOW	.75	75373 FERNHILL RD
LOW	.75	75381 FERNHILL RD
LOW	.75	75389 FERNHILL RD
LOW	.75	75393 FERNHILL RD
LOW	.75	75389 FERNHILL RD
LOW	.75	75428 FERNHILL RD
LOW	1	75442 FERNHILL RD
LOW	.75	75641 FERNHILL RD
LOW	.75	75500 FERNHILL RD
LOW	.75	75514 FERNHILL RD
LOW	.75	75507 FERNHILL RD
LOW	.75	75517 FERNHILL RD
LOW	.75	75523 FERNHILL RD
LOW	.75	313 W 7TH
LOW	.75	75560 FERNHILL RD
LOW	.75	75550 FERNHILL RD
LOW	1	314 W 7TH

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	312 W 7TH
LOW	.75	310 W 7TH
LOW	.75	624 W 7TH
LOW	.75	631 W C ST
LOW	.75	627 W C ST
LOW	.75	623 W C ST
LOW	.75	618 W C ST
LOW	.75	615 W C ST
LOW	.75	611 W C ST
LOW	.75	607 W C ST
LOW	.75	616 W C ST
LOW	.75	606 W C ST
LOW	.75	601 W C ST
LOW	.75	214 W 6TH
LOW	.75	210 W 6TH
LOW	.75	29496 DIKE RD
LOW	.75	29478 DIKE RD
LOW	.75	29348 DIKE RD
LOW	.75	29333 DIKE RD
LOW	.75	29320 DIKE RD
LOW	.75	29191 DIKE RD
LOW	.75	29191 DIKE RD
LOW	.75	29398 WASHINGTON WAY
LOW	.75	29402 WASHINGTON WAY
LOW	.75	29406 WASHINGTON WAY
LOW	.75	29428 WASHINGTON WAY
LOW	.75	29425 WASHINGTON WAY
LOW	.75	29470 WASHINGTON WAY
LOW	.75	29513 WASHINGTON WAY
LOW	.75	29521 WASHINGTON WAY
LOW	.75	29533 WASHINGTON WAY
LOW	.75	29510 WASHINGTON WAY
LOW	.75	29524 WASHINGTON WAY
LOW	1	29561 LARCH ST
LOW	.75	75721 MILL ST
LOW	.75	75688 MILL ST
LOW	.75	29604 MILL ST
LOW	.75	29612 FIR ST
LOW	.75	29624 FIR ST
LOW	.75	29665 FIR ST
LOW	.75	29656 FIR ST
LOW	.75	29674 FIR ST
LOW	.75	29677 FIR ST
LOW	.75	30000 LARCH ST
LOW	.75	29575 LARCH ST
LOW	.75	29607 VIEW ST
LOW	.75	29711 VIEW ST
LOW	.75	29685 VIEW ST
LOW	.75	29671 VIEW ST
LOW	.75	29653 VIEW ST
LOW	.75	29641 VIEW ST
LOW	.75	29210 HICKORY ST
LOW	.75	29204 HICKORY ST
LOW	1	29792 WASHINGTON WAY
LOW	.75	29770 OLD RAINIER RD
LOW	.75	29728 OLD RAINIER RD
LOW	.75	29765 OLD RAINIER RD
LOW	.75	29723 OLD RAINIER RD
LOW	.75	29701 OLD RAINIER RD
LOW	.75	29611 OLD RAINIER RD

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	29600 OLD RAINIER RD
LOW	.75	29568 OLD RAINIER RD
LOW	.75	29545 OLD RAINIER RD
LOW	.75	29526 OLD RAINIER RD
LOW	.75	29527 OLD RAINIER RD
LOW	.75	29521 OLD RAINIER RD
LOW	.75	29515 OLD RAINIER RD
LOW	.75	29503 OLD RAINIER RD
LOW	.75	29510 OLD RAINIER RD
LOW	.75	29514 OLD RAINIER RD
LOW	.75	29518 OLD RAINIER RD
LOW	.75	29471 OLD RAINIER RD
LOW	.75	29441 OLD RAINIER RD
LOW	.75	29986 MAPLE DR
LOW	.75	29993 MAPLE DR
LOW	.75	30013 MAPLE DR
LOW	.75	30012 MAPLE DR
LOW	.75	30012 MAPLE DR
LOW	1	30036 MAPLE DR
LOW	.75	30025 MAPLE DR
LOW	.75	30044 MAPLE DR
LOW	.75	30052 MAPLE DR
LOW	.75	30071 MAPLE DR
LOW	.75	30077 MAPLE DR
LOW	.75	30087 MAPLE DR
LOW	.75	30099 MAPLE DR
LOW	.75	75535 FERN HILL RD
LOW	.75	30111 MAPLE DR
LOW	.75	30128 MAPLE DR
LOW	.75	317 W 8TH
LOW	.75	312 W 8TH
LOW	.75	215 W 10 TH
LOW	.75	913 W C ST
LOW	.75	913 W C ST
LOW	.75	907 W C ST
LOW	.75	216 W 9TH
LOW	.75	904 W CST
LOW	.75	824 W C ST
LOW	.75	818 W C ST
LOW	.75	815 & 817 W C ST
LOW	.75	811 & 813 W C ST
LOW	.75	813 W C ST
LOW	.75	810 W C ST
LOW	.75	306 W 8TH
LOW	.75	809 W C ST
LOW	.75	803 W C ST
LOW	.75	712 W C ST
LOW	.75	706 W C ST
LOW	.75	211 W 7TH
LOW	.75	632 W C ST
LOW	.75	626 W B ST
LOW	.75	713 W B ST
LOW	.75	713 W B ST
LOW	.75	706 W B ST
LOW	.75	710 W B ST
LOW	2	714 W B ST
LOW	.75	812 W A ST
LOW	.75	816 W A ST
LOW	.75	820 W A ST
LOW	.75	824 W A ST



## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	907 W A ST
LOW	.75	104 W 9TH
LOW	.75	917 W A ST
LOW	.75	925 W A ST
LOW	.75	111 W 9 TH
LOW	.75	819 W B ST
LOW	.75	813 W B ST
LOW	.75	805 W B ST
LOW	.75	203 W 9TH
LOW	.75	902 W B ST
LOW	.75	908 W B ST
LOW	.75	916 W B ST
LOW	.75	922 W B ST
LOW	.75	923 W B ST
LOW	.75	112 W B ST
LOW	.75	1009 W B ST
LOW	.75	1004 W B ST
LOW	1	1012 W B ST
LOW	.75	1016 W B ST
LOW	.75	1018 W B ST
LOW	.75	1020 W B ST
LOW	.75	1104 W B ST
LOW	.75	1021 W B ST
LOW	.75	1103 W B ST
LOW	.75	1109 W B ST
LOW	.75	1112 W B ST
LOW	.75	1116 W B ST
LOW	.75	1120 W B ST
LOW	.75	1119 W B ST
LOW	.75	1125 W B ST
LOW	.75	1124 W B ST
LOW	.75	212 W 12TH
LOW	.75	1204 W B ST
LOW	.75	1218 W B ST
LOW	.75	1224 W B ST
LOW	.75	1218 W C ST
LOW	.75	1210 W C ST
LOW	.75	1204 W C ST
LOW	.75	1123 & 1125 W C ST
LOW	.75	1124 W C ST
LOW	.75	1126 W C ST
LOW	.75	1113 W C ST
LOW	.75	1114 W C ST
LOW	.75	1110 W C ST
LOW	.75	1105 W C ST
LOW	.75	1115 W C ST
LOW	.75	1024 W C ST
LOW	.75	215 W 11 TH
LOW	.75	1019 W C ST
LOW	.75	1018 W C ST
LOW	.75	1010 W C ST
LOW	.75	1008 W C ST
LOW	.75	1011 W C ST
LOW	.75	1009 W C ST
LOW	.75	212 W 10 TH
LOW	1	207 W A ST
LOW	.75	118 W A ST
LOW	.75	106 W A ST
LOW	.75	404E A ST
LOW	.75	411 E A ST

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	2	503 E A ST
LOW	.75	502 E A ST
LOW	.75	510 E A ST
LOW	.75	622 E A ST
LOW	.75	618 E A ST
LOW	.75	618 E A ST
LOW	.75	605 E B ST
LOW	.75	608 E A ST
LOW	.75	518 E A ST
LOW	.75	E 6TH
LOW	.75	104 E 6TH ST
LOW	.75	517 E B ST
LOW	.75	513 E B ST
LOW	.75	507 E B ST
LOW	.75	624 E B ST
LOW	1	512 E B ST
LOW	.75	207 E 5TH ST
LOW	.75	209 E 5TH ST
LOW	.75	418 E B ST
LOW	.75	503 E B ST
LOW	.75	417 E B ST
LOW	.75	409 E B ST
LOW	.75	410 E B ST
LOW	.75	313 E B ST
LOW	.75	204 E 4TH ST
LOW	.75	118 E B ST
LOW	.75	116 E 3RD ST
LOW	.75	106 E 3RD ST
LOW	.75	109 E 3RD ST
LOW	.75	231 W B ST
LOW	.75	209 W A ST
LOW	.75	319 W B ST
LOW	.75	323 W B ST
LOW	.75	424 W B ST
LOW	.75	420 W B ST
LOW	.75	412 W B ST
LOW	.75	408 W B ST
LOW	.75	404 W B ST
LOW	.75	324 W B ST
LOW	.75	318 W B ST
LOW	.75	222 W B ST
LOW	.75	124 W B ST
LOW	.75	112 W B ST
LOW	.75	809 E F ST
LOW	.75	814 E F ST
LOW	.75	904 E F ST
LOW	.75	912 E F ST
LOW	.75	511 E 9TH
LOW	.75	904 E E ST
LOW	.75	905 E FST
LOW	.75	906 E E ST
LOW	.75	911 E E ST
LOW	.75	914 E E ST
LOW	.75	1013 W E ST
LOW	.75	1019 E E ST
LOW	.75	1023 E E ST
LOW	.75	1035 E E ST
LOW	.75	1020 E E ST
LOW	.75	1018 E E ST
LOW	.75	1012 E E ST

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	1010 E E ST
LOW	.75	507 E 10 TH
LOW	.75	512 E 10 TH
LOW	.75	603 E 10TH
LOW	.75	607 E 10TH
LOW	.75	1025 E 10TH
LOW	.75	30934 TIMONEY LN
LOW	.75	30881 TIMMONEY LN
LOW	.75	30901 TIMONEY LN
LOW	1	102 E B ST
LOW	.75	108 E B ST
LOW	1	103 W C ST
LOW	.75	109 E C ST
LOW	.75	111 E C ST
LOW	.75	112 E C ST
LOW	.75	117 E C ST
LOW	.75	212& 214 E 2ND
LOW	.75	204 E C ST
LOW	.75	203 E C ST
LOW	.75	307 E C ST
LOW	.75	306 E C ST
LOW	.75	315 E C ST
LOW	.75	318 E C ST
LOW	.75	313 E 4TH
LOW	.75	305 E 4TH
LOW	.75	414 E C ST
LOW	.75	414 E C ST
LOW	.75	407 E C ST
LOW	.75	413 E C ST
LOW	.75	417 E C ST
LOW	.75	418 E C ST
LOW	.75	504 E C ST
LOW	.75	503 E C ST
LOW	.75	511 E C ST
LOW	.75	518 E C ST
LOW	.75	517 E C ST
LOW	.75	609 E C ST
LOW	.75	307 E 6TH
LOW	.75	608 E C ST
LOW	.75	622 E C ST
LOW	.75	624 E C ST
LOW	.75	621 E C ST
LOW	.75	802 E C ST
LOW	.75	1015 E C ST
LOW	.75	303 E 8TH
LOW	.75	309 E 8TH
LOW	.75	628 E D ST
LOW	.75	629 E D ST
LOW	.75	626 E D ST
LOW	.75	616 E D ST
LOW	.75	612 E D ST
LOW	.75	609 E D ST
LOW	.75	606 E D ST
LOW	.75	318 E 6TH
LOW	.75	520 E D ST
LOW	.75	514 E D ST
LOW	.75	511 E D ST
LOW	.75	327 E 5TH
LOW	.75	506 E D ST
LOW	.75	320 E 5TH



## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	420 E D ST
LOW	.75	409 E D ST
LOW	.75	412 E D ST
LOW	.75	410 E D ST
LOW	.75	407 E 4TH
LOW	.75	408 E 4TH
LOW	.75	409 E D ST
LOW	.75	411 E 4TH
LOW	.75	413 E 4TH
LOW	.75	319 E E ST
LOW	.75	404 E E ST
LOW	.75	410 E E ST
LOW	.75	411 E E ST
LOW	.75	415 E E ST
LOW	.75	418 E 5TH
LOW	1	503 E 5TH
LOW	.75	514 E 5TH
LOW	.75	518 E 5TH
LOW	.75	544 E 5TH
LOW	.75	560 E 5TH
LOW	.75	508 E E ST
LOW	.75	415 E 4TH
LOW	.75	516 E E ST
LOW	.75	520 E EST
LOW	.75	524 E E ST
LOW	.75	515 E 4TH
LOW	.75	519 E 4TH
LOW	.75	525 E 4TH
LOW	.75	533 E 4TH
LOW	.75	537 E 4TH
LOW	.75	541 E 4TH
LOW	.75	545 E 4TH
LOW	.75	544 E 4TH
LOW	.75	534 E 4TH
LOW	.75	524 E 4TH
LOW	.75	520 E 4TH
LOW	.75	516 E 4TH
LOW	.75	508 E 5TH
LOW	.75	318 E E ST
LOW	.75	315 E E ST
LOW	.75	309 E E ST
LOW	.75	316 E EST
LOW	.75	314 E E ST
LOW	.75	306 E E ST
LOW	.75	511 E 3RD
LOW	.75	527 E 3RD
LOW	.75	704 E 3RD
LOW	.75	602 E 3RD
LOW	.75	516 E 3RD
LOW	.75	218 E E ST
LOW	.75	214 E E ST
LOW	.75	211 E E ST
LOW	.75	213 E E ST
LOW	.75	215 E E ST
LOW	.75	416 E 3RD
LOW	.75	218 E D ST
LOW	.75	409 E 3RD
LOW	.75	304 E DST
LOW	.75	310 E D ST
LOW	.75	314 E D ST

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	305 E D ST
LOW	.75	316 E 3 RD
LOW	.75	212 E D ST
LOW	.75	118 E D ST
LOW	.75	118 E D ST
LOW	.75	316 E 2ND
LOW	.75	312 E 2 ND
LOW	.75	116 E C ST
LOW	.75	110 E D ST
LOW	.75	106 E D ST
LOW	.75	109 W D ST
LOW	.75	112 W D ST
LOW	.75	121 W D ST
LOW	.75	409 W 2ND
LOW	.75	411 W 2 ND
LOW	.75	503 W 2ND
LOW	.75	109 W E ST
LOW	.75	107 W E ST
LOW	.75	102 W E ST
LOW	.75	509 W 2ND
LOW	.75	502 W 2ND
LOW	.75	116 W C ST
LOW	.75	110 & 112 W C ST
LOW	.75	109 W C ST
LOW	.75	108 W C ST
LOW	.75	104 W C ST
LOW	.75	318 W 1ST
LOW	.75	503 E 1ST
LOW	.75	528 W 1ST
LOW	.75	511 W 2ND
LOW	.75	622 W 1ST
LOW	.75	612 E 2ND
LOW	.75	555 E 2ND
LOW	.75	553 E 2ND
LOW	.75	547 E 2ND
LOW	.75	547 E 2ND
LOW	.75	547 E 2ND
LOW	.75	547 E 2ND
LOW	.75	535 E 2ND
LOW	.75	522 E 2ND
LOW	.75	523 E 2ND
LOW	.75	515 E 2ND
LOW	.75	513 E 2ND
LOW	.75	507 E 2ND
LOW	.75	506 E 2ND
LOW	.75	622 E 2ND
LOW	.75	210 FOX
LOW	.75	209 FOX
LOW	.75	216 FOX
LOW	.75	211 FOX
LOW	.75	213 FOX
LOW	.75	315 FOX
LOW	.75	317 FOX
LOW	.75	316 FOX
LOW	.75	312 FOX
LOW	.75	711 NEW BEDFORB
LOW	.75	713 NEW BEDFORD
LOW	.75	712 NEW BEDFORD
LOW	.75	715 NEW BEDFORD
LOW	.75	205 NORWOOD

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	204 NORWOOD
LOW	.75	208 NORWOOD
LOW	.75	212 NORWOOD
LOW	.75	214 NORWOOD
LOW	.75	208 NORWOOD
LOW	.75	315 NORWOOD
LOW	.75	320 NORWOOD
LOW	.75	820 PARK
LOW	.75	324 NORWOOD
LOW	.75	820 VIRGINA
LOW	.75	821 E 2ND
LOW	.75	840 E 2ND
LOW	.75	836 E 2ND
LOW	.75	833 E 2 ND
LOW	.75	827 E 2ND
LOW	.75	816 VALLEY ST
LOW	.75	74914 WATERSHED
LOW	.75	815 VALLEY
LOW	.75	813 E 2ND
LOW	.75	806 E 2ND
LOW	.75	729 E 2ND
LOW	.75	732 E 2ND
LOW	.75	723 E 2ND
LOW	.75	730 E 2ND
LOW	.75	722 E 2ND
LOW	.75	164 WESTCOT
LOW	.75	709 E 2ND
LOW	.75	718 E 2ND
LOW	.75	112 FOX ST
LOW	.75	432 WATERSHED
LOW	.75	516 4TH
LOW	.75	324 W F ST
LOW	.75	320 W F ST
LOW	.75	311 W F ST
LOW	.75	322 W F ST
LOW	.75	309 W F ST
LOW	.75	303 W F ST
LOW	.75	603 W 3 RD
LOW	.75	515 W 3 RD
LOW	.75	511 W 3 RD
LOW	.75	507 W 3 RD
LOW	.75	304 W E ST
LOW	.75	418 W 3 RD
LOW	.75	311 W E ST
LOW	.75	311 APT 2
LOW	.75	314 W E ST
LOW	.75	313 W E ST
LOW	.75	319 W E ST
LOW	.75	324 W E ST
LOW	.75	412 W E ST
LOW	.75	418 W E ST
LOW	.75	424 W E ST
LOW	.75	425 W E ST
LOW	.75	417 W E ST
LOW	.75	411 W E ST
LOW	.75	416 W 4TH
LOW	.75	413 W 4TH
LOW	.75	322 W D ST
LOW	.75	406 W D ST
LOW	.75	316 W 4TH



## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	305 W 4TH
LOW	.75	309 W 4TH
LOW	.75	313 W 4TH
LOW	.75	317 W D ST
LOW	.75	320 W D ST
LOW	.75	314 W D ST
LOW	.75	315 W D ST
LOW	.75	310 W D ST
LOW	.75	304 W D ST
LOW	.75	318 W 3RD
LOW	.75	314 W 3RD
LOW	1	233 W C ST
LOW	1.5	309 W C ST
LOW	.75	313 W C ST
LOW	.75	314 W C ST
LOW	.75	322 W C ST
LOW	.75	403 W C ST
LOW	.75	406 W C ST
LOW	.75	410 W C ST
LOW	.75	413 W C ST
LOW	.75	417 W C ST
LOW	.75	414 W C ST
LOW	.75	416 W C ST
LOW	.75	422 W C ST
LOW	.75	423 W C ST
LOW	.75	505 W C ST
LOW	.75	308 W 5TH
LOW	.75	305 W 5TH
LOW	.75	323 W 5TH
LOW	.75	503 W D ST
LOW	.75	516 W D ST
LOW	.75	512 W D ST
LOW	.75	414 W 5TH
LOW	.75	428 W D ST
LOW	.75	424 W D ST
LOW	.75	422 W D ST
LOW	.75	417 W D ST
LOW	.75	416 W D ST
LOW	.75	415 W D ST
LOW	.75	602 W 4TH
LOW	.75	702 W 4TH
LOW	.75	75168 DEBAST
LOW	.75	75162 DEBAST
LOW	.75	75133 ALDER LN
LOW	.75	75135 ALDER LN
LOW	.75	75085 NEERS WAY
LOW	.75	75076 ALDER LN
LOW	.75	75051 ALDER LN
LOW	.75	75043 ALDER LN
LOW	.75	74877 DEBAST
LOW	.75	74926 DEBAST
LOW	.75	74886 DEBAST
LOW	.75	74950 DEBAST
LOW	.75	30123 SKYLINE DR
LOW	.75	30156 SKYLINE DR
LOW	.75	30132 SKYLINE
LOW	.75	74980 DEBAST
LOW	.75	30121 SANDY LN
LOW	.75	30198 SANDY LN
LOW	.75	30186 SANDY LN

## RESIDENTIAL BACKFLOW

11/26/95

BACKFLOW HAZARD	METER SIZE	ADDRESS
LOW	.75	30174 SANDY LN
LOW	.75	30193 SANDY LN
LOW	.75	30170 SANDY LN
LOW	.75	30168 SANDY LN
LOW	.75	30166 SANDY LN
LOW	.75	30150 SANDY LN
LOW	.75	75054 DEBAST
LOW	.75	75126 DEBAST
LOW	.75	75178 DEBAST
LOW	.75	75174 DEBAST
LOW	.75	75186 DEBAST
LOW	.75	75040 LEWIS RD
LOW	.75	75028 LEWIS RD
LOW	.75	74981 LEWIS
LOW	.75	74931 LEWIS RD
LOW	.75	74893 LEWIS RD

**CITY OF RAINIER**  
**106 Bst West, Rainier, OR, 97048, Phone 556-7301**  
**WATER DEPARTMENT BACKFLOW PREVENTION INSPECTION**

Date of inspection \_\_\_\_\_  
 Inspector \_\_\_\_\_  
 Name of organization \_\_\_\_\_  
 Account # \_\_\_\_\_  
 Meter size \_\_\_\_\_  
 Location \_\_\_\_\_  
 Serial number \_\_\_\_\_

Meter Reading \_\_\_\_\_  
 Service address \_\_\_\_\_  
 Mailing address \_\_\_\_\_  
 Contact \_\_\_\_\_ Phone \_\_\_\_\_  
 Notes: \_\_\_\_\_

**Lawn Irrigation**

Type Device: Existing \_\_\_\_\_ Required \_\_\_\_\_  
 Size of line on property \_\_\_\_\_  
 ABV--6" above: Yes \_\_\_\_\_ No \_\_\_\_\_  
 DCVA: Drain to daylight \_\_\_\_\_ 12" clearance \_\_\_\_\_  
 PVB: 12" above \_\_\_\_\_

**Fire Protection**

Size of fire line \_\_\_\_\_ Account # \_\_\_\_\_  
 Type of fire system: Wet \_\_\_\_\_ Dry \_\_\_\_\_  
 Type device on fire line \_\_\_\_\_  
 Ser. no. \_\_\_\_\_ Make \_\_\_\_\_  
 Model no. \_\_\_\_\_ Size \_\_\_\_\_  
 Device required \_\_\_\_\_  
 Meter reading \_\_\_\_\_

Comments	Cross-Conn.		Device Recom'd
	Exists (yes)	(no)	
Kitchen	( )	( )	
Utility sinks	( )	( )	
Rest rooms	( )	( )	
Water cooled equip.	( )	( )	
Refrigerator sys.	( )	( )	
Sewer lines	( )	( )	
Swimming pool	( )	( )	
Lab equip	( )	( )	
Boiler	( )	( )	
Steam lines	( )	( )	
Hose bibs	( )	( )	
Wells on property	( )	( )	
Shampoo basin	( )	( )	
H2O boost. pumps	( )	( )	
Sewer lift pump	( )	( )	
Plating tanks	( )	( )	
Compressed air	( )	( )	

Comments	Cross-Conn.		Device Recom'd
	Exists (yes)	(no)	
Air washers	( )	( )	
Aspirators med.	( )	( )	
chem. feed tanks	( )	( )	
Chlorinator	( )	( )	
dishwasher	( )	( )	
Drinking fountain	( )	( )	
Post mix pop dispenser	( )	( )	
Photo devel'g	( )	( )	
Deterg. dispenser	( )	( )	
Floor Drains	( )	( )	
Ice maker	( )	( )	
Steam cleaner	( )	( )	
Steam table	( )	( )	
Wash tanks	( )	( )	
Air gap	( )	( )	
Other _____	( )	( )	
Other _____	( )	( )	

**REQUIRED BACKFLOW PREVENTION ON MAIN LINE:**

Reduces pressure principle backflow preventer \_\_\_\_\_  
 Double-check valve assembly \_\_\_\_\_  
 Pressure Vacuum Breaker \_\_\_\_\_  
 Atmospheric vacuum breaker \_\_\_\_\_

**Recommended Location**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Required to be installed in :    10 days \_\_\_\_\_    30 days \_\_\_\_\_    60 days \_\_\_\_\_

Oregon State Health division rules require water service to user's premises to be discontinued, where existing or potential cross-connections are located on the user's premises, until an approved backflow prevention device is installed.

**REMARKS:**

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Inspection Notification Letter

Dwayne Barnes  
Supt. of Public Works  
City of Rainier  
P.O. Box 100  
Rainier, Oregon 97048

[DATE]

[CUSTOMER]

Dear [RECIPIENT]:

The protection of the potable water supply in the City of Rainier is a matter of mutual concern and benefit.

Pursuant to Ordinance 962 regulating our Cross-Connection Control Program, our inspectors will be conducting inspections of the potable water system in building(s) under your control. These inspections will be carried out in the near future and we appreciate your cooperation in this matter.

Some literature explaining the need for backflow protection is attached for your information. Our inspector will phone to make arrangements for you or a member of your maintenance staff to participate in the inspection and to set the date for such inspection.

Should you require further information on the Cross-Connection Control Program, please contact me at Rainier City Hall 556-7301.

Sincerely,

Dwayne Barnes, Superintendent of Public Works

First Notification To Correct Deficiencies

Dwayne Barnes  
Supt. of Public Works  
City of Rainier  
P.O. Box 100  
Rainier, Oregon 97048

[DATE]

[CUSTOMER]

Dear [RECIPIENT]:

While inspecting your premises with the cooperation of your staff, the Cross-Connection Control Inspector identified certain deficiencies in the protection of the potable water supply.

A list of the items that require attention is attached. Certain appropriate backflow-prevention assemblies must be installed to comply with City of Rainier Ordinance 926 and Oregon Administrative Rule 333-61-070.

Certain backflow-prevention assemblies with test cocks (i.e., reduced-pressure principal, double check valve, and pressure vacuum breaker assemblies) must be tested on installation and annually thereafter by a tester licensed in the State of Oregon.

I have attached for your convenience a list of testers licensed in Oregon. The required device must be installed by the property owner or a licensed plumber. ✓

On completion of the backflow device test, the test form must be forwarded to me at city hall.

A plumbing permit and a backflow permit is required and must be obtained at city hall prior to commencing any work.

The date of completion for this work should be within thirty (30) days of the date of this letter.

If you require additional information or time to complete the required work, please contact me at 556-7301

Sincerely,

Dwayne Barnes, Superintendent of Public Works

Second and Final Notification To Correct Deficiencies

Dwayne Barnes  
Supt. of Public Works  
City of Rainier  
P.O. Box 100  
Rainier, Oregon 97048

[DATE]

[CUSTOMER]

Dear [RECIPIENT]:

On [INSERT DATE OF FIRST NOTIFICATION] you were advised by letter that it would be necessary for you to take certain steps to minimize danger of contamination of the potable water supply in the premises under your control at [INSERT ADDRESS] through the installation of approved protective assemblies.

Your attention is directed to City of Rainier Ordinance 962, which sets forth requirements for protection of the potable water supply and for eliminating potential health hazards.

You are hereby required to complete the corrective work within fifteen (15) calendar days. Failure to do so will result in you water service being discontinued at [INSERT DATE AND TIME WATER SERVICE WILL BE TERMINATED] provided by Ordinance 962 and Oregon Administrative Rule 333-61-070. The required work is considered complete only after the device is tested by a licensed tester, and the test form is received at Rainier City Hall.

If further information is required , please contact me at 556-7301

Sincerely,

Dwayne Barnes, Superintendent of Public Works



Initial Notification To Test Devices

Dwayne Barnes  
Supt. of Public Works  
City of Rainier  
P.O. Box 100  
Rainier, Oregon 97048

[DATE]

[CUSTOMER]

Dear [RECIPIENT]:

I understand that a cross-connection and backflow-prevention assembly(s) has been installed at [INSERT ADDRESS] for the purpose of protecting the potable water supply.

In order to comply with City of Rainier Ordinance 962, backflow-prevention assemblies with test cocks (i.e., reduced-pressure principal, double check valve, and pressure vacuum breaker assemblies) must be tested on installation and annually thereafter by a tester licensed in the State of Oregon.

Accordingly, you are required to have such equipment tested within thirty (30) days from the date of this letter and submit a test report to me at Rainier City Hall.

For your use and information, a list of licensed testers is enclosed.

Should you need additional information please call me at 556-7301.

Sincerely,

Dwayne Barnes, Superintendent of Public Works

Annual Backflow Device Testing Final Notification

Dwayne Barnes  
Supt. of Public Works  
City of Rainier  
P.O. Box 100  
Rainier, Oregon 97048

[DATE]

[CUSTOMER]

Dear [RECIPIENT]:

Our records indicate that the annual test on the following backflow devices under your control is due in thirty (30) days.

Device Type	Device Location
_____	_____
_____	_____
_____	_____

Please have the above listed device(s) tested within thirty (30) days of the device anniversary date of [INSERT ANNIVERSARY DATE]

For your use and information, a list of licensed testers is enclosed.

For additional information, please contact me at 556-7301

Sincerely,

Dwayne Barnes, Superintendent of Public Works

Second and Final Notification To Test Device

Dwayne Barnes  
Supt. of Public Works  
City of Rainier  
P.O. Box 100  
Rainier, Oregon 97048

[DATE]

[CUSTOMER]

Dear [RECIPIENT]:

On [INSERT DATE] a letter was mailed to you requiring testing of existing backflow-prevention assembly(s) under your control installed at [INSERT ADDRESS].

My records show that to date the necessary test report has not been received. In order that such assemblies continue to operate efficiently, they must be tested and serviced when required.

If the test report(s) are not received within thirty (30) calendar days on [INSERT DATE AND TIME] your water service will be discontinued without further notice, as required by City of Rainier Ordinance 962.

If you have further questions call me at 556-7301

Sincerely,

Dwayne Barnes, Superintendent of Public Works



FINAL RULE

1/7/94

333-61-070 CROSS CONNECTION CONTROL REQUIREMENTS

- (1) Water suppliers shall undertake programs for controlling and eliminating cross connections:
  - (a) In community water systems, water suppliers shall carry out a local cross connection program consisting of the following elements:
    - (A) Local ordinance or enabling authority which authorizes discontinuing water service to premises for failure to install an approved backflow device or conduct a required annual test on a backflow device.
    - (B) A written program plan which includes the following:
      - (i) A master list of facilities and premises which are subject to inspection, and the hazard level for each.
      - (ii) A current list of certified inspector staff and work responsibilities.
      - (iii) Provision and schedule for an initial inspection, the installation and annual testing of each required backflow device, and a periodic re-inspection of each required backflow device.
    - (C) The water supplier shall maintain current records of backflow devices installed, inspections completed, and backflow device test results.
    - (D) The water supplier shall prepare and submit an annual written report to the Division using a format to be provided by the Division.
  - (b) In community water systems where the water supplier has reasonable cause to believe that an existing or potential cross connection is located on the user's premises, the water supplier shall deny or discontinue service to those premises until an appropriate backflow prevention device assembly is installed or until the cause of the hazard is eliminated;

which could backflow is hazardous to health, such as but not limited to; sewage treatment plants, sewage pumping stations, chemical manufacturing plants, plating plants, hospitals, mortuaries, car washes, medical clinics;

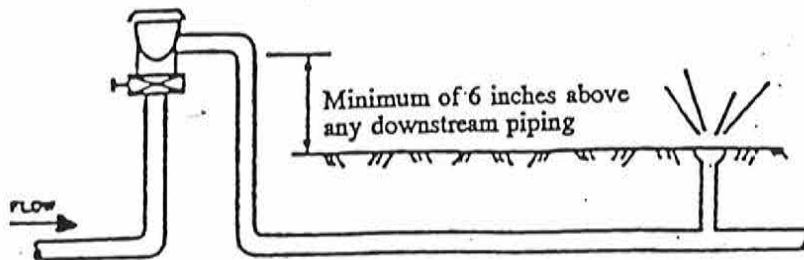
- (b) An approved double check valve assembly (DCVA) shall be installed where the substance which could backflow is objectionable but does not pose an unreasonable risk to health. An approved double check valve assembly shall be the minimum protection for fire sprinkler systems using piping material that is not approved for potable water use and/or which does not provide for periodic flow through during each 24 hour period.
  - (c) An approved pressure vacuum breaker or an atmospheric vacuum breaker shall be installed where the substance which could backflow is objectionable but does not pose an unreasonable risk to health and where there is no possibility of backpressure in the downstream piping. A shutoff valve may be installed on the line downstream of a pressure vacuum breaker but shall not be installed downstream of an atmospheric vacuum breaker.
- (7) All backflow prevention device assemblies required under this section shall be of a type and model approved by the Division and the Division shall maintain a list of backflow prevention device assemblies approved for use in Oregon.
  - (8) All device assemblies installed after the effective date of these rules shall meet the specifications of construction, evaluation and approval of backflow prevention assemblies as specified in Section 10, Manual of Cross-Connection Control, 8th Edition, June, 1988. Published by the Foundation for Cross-Connection Control and Hydraulic Research, University of Southern California and AWWA Standards C510-92 and C511-92.
  - (9) All backflow prevention device assemblies shall be installed in accordance with Sections (1) through (4) of OAR 333-61-071. Pressure Vacuum Breaker, Double Check Valve and Reduced Pressure Device Assemblies shall have resilient seated gate valves or fully ported ball valves provided by the device manufacturer for both shut-off valves and for the test cocks.
  - (10) The water user or the owner of the premises where one or more reduced pressure device assembly, double check valve assembly, or pressure vacuum breaker have been installed shall have the device tested by a certified tester at least once per year. Devices installed at facilities which pose an extreme health risk and devices which repeatedly fail shall be tested on a more frequent basis as determined by the local water purveyor. Backflow prevention devices found not to be functioning properly shall be promptly

FINAL RULE

1/7/94

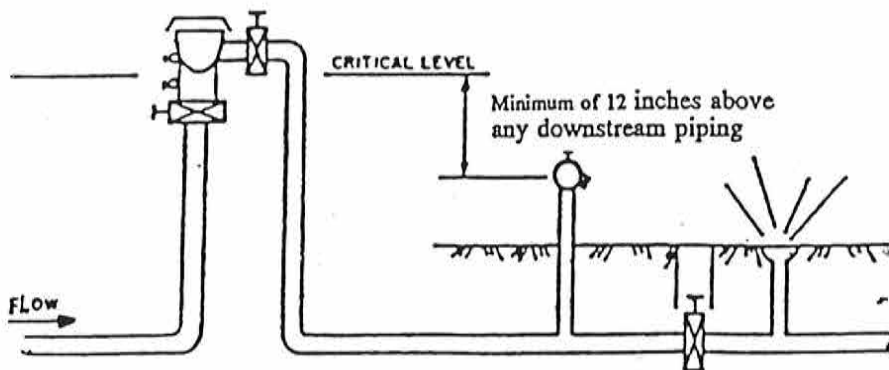
333-61-071 BACKFLOW DEVICE INSTALLATION STANDARDS

(1) TYPICAL INSTALLATION OF AN AVB



- NOTE:
1. Absolutely no means of shut-off on the downstream or discharge side of the vacuum breaker.
  2. For intermittent use only. Must not be pressurized for more than 12 hours in any 24 hour period.
  3. Shall not be subject to any backpressure.
  4. Shall not be installed in dusty or corrosive atmospheres.
  5. Shall not be installed where subject to flooding.
  6. Shall be installed a minimum of six inches above the highest downstream piping and/or outlets.

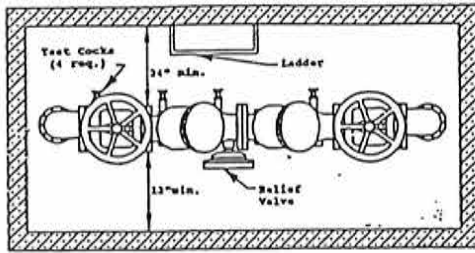
(2) TYPICAL INSTALLATION OF A PVB



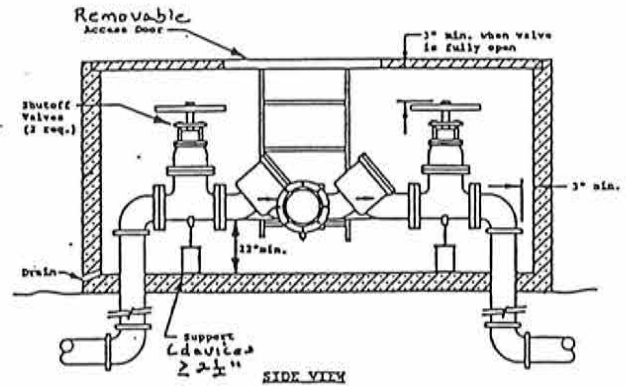
- NOTE:
1. Downstream side of vacuum breaker may be maintained under pressure by a valve. But, there may be absolutely no means of



(4) MINIMUM CLEARANCE FOR RPBD INSTALLATION



TOP VIEW



SIDE VIEW

- NOTE:
1. Bottom and side clearances apply when devices are installed inside building. Access doors may be provided on side of above-ground vault.
  2. RPBDs shall always be installed horizontally, never vertically.
  3. RPBDs shall always be installed above the 100 year (1%) flood level unless approved by the local authority.
  4. Relief valves shall never be extended or plugged.
  5. Protection from freezing should be provided.
  6. A provision for an air gapped drain shall be provided.
  7. RPBDs shall not be installed in an enclosed vault or box unless a bore-sighted drain to daylight is provided.
  8. Minimum clearances for device assemblies 2 inches or smaller may be reduced provided that they are accessible for testing and repairing and approved by the water purveyor.

FINAL RULE

1/7/94

333-61-072 CROSS CONNECTION TESTER AND INSPECTOR CERTIFICATION

- (1) Qualifications for Examination
  - (a) Evidence of successful completion of a cross connection inspector training course approved by the Division is required to qualify for the cross connection inspector certification examination.
  - (b) Evidence of successful completion of a cross connection tester training course approved by the Division is required to qualify for the cross connection tester examination.
- (2) Examinations
  - (a) Examinations shall be given at locations and at times designated and/or approved by the Division.
  - (b) The qualifications of each applicant will be reviewed by the Division for the purpose of determining that minimum requirements for special training as listed in these rules have been satisfied.
    - (A) An examination fee shall be charged for all applications submitted to the Division.
    - (B) The Division may require or allow oral examination of any applicant seeking certification as evidence of proficiency.
  - (c) Examinations shall be reviewed by the Division and graded by the Division or its designee. Upon successfully passing the examination and meeting all other requirements, the Division shall issue a Certificate of Competency to the applicant.
    - (A) A minimum score of 85% is required to pass the cross connection inspector examination.
    - (B) A minimum score of 75% is required to pass the cross connection tester written examination.
    - (C) A minimum score of 90% is required to pass the cross connection tester hands-on proficiency examination.

initial certification under these rules shall begin January 1, 1994 and expire on June 30, 1995. A certificate shall be renewable every two years upon payment of a renewal fee and satisfactory evidence submitted to the Division at the time of renewal that the applicant has completed the following:

- (A) The certified cross connection inspector must attend a cross connection inspector training course, update course, or obtained 0.5 CEUs pertaining to cross connection activities in the past two years in order to renew the certification.
- (B) The certified cross connection tester must submit evidence to the Division at the time of renewal that:
  - (i) The certified tester has attended the tester training course or tester update course within the past two years prior to this renewal, and;
  - (ii) Has had his/her test gauges tested for accuracy and calibrated if necessary within the past year by a calibrator approved by the Division.
- (f) An applicant who has failed to renew the certificate pursuant to the provisions of this section by July 30 following the date of expiration must apply for reinstatement of certification by submitting an application accompanied by a reinstatement fee in addition to the certificate renewal fee. An applicant who has failed to renew certification pursuant to the provisions of this section for a year following the date of expiration must meet the requirements established for new applicants.
- (g) The Division may refuse or revoke a certification if it finds, after opportunity for hearing under ORS 183, that:
  - (A) The inspector is incompetent in identifying potential or existing cross connections or in selecting appropriate backflow prevention devices commensurate with the degree of hazard.
  - (B) The device tester:
    - (i) is incompetent in performing device testing; or
    - (ii) has falsified a test report.
  - (C) The inspector or device tester has allowed any other person



tester training course.

- (C) The training program must be able to provide uniform training at all course locations. The training schedule must be set in advance and the schedule must be submitted to the Division quarterly for review and publication.
  - (D) The training program shall provide the training materials necessary to complete the course. The training materials must be updated annually and submitted to the Division for approval.
  - (E) The training program must have the following minimum training equipment available for each course:
    - (i) Each test station for tester training courses and update sessions shall include an operating pressure vacuum breaker, double check valve assembly, and a reduced pressure backflow device assembly with appropriate test gauges for each assembly. A device failure simulator that is capable of simulating leaking check valves, shut off valves, and relief valve failures shall also be provided.
    - (ii) The training aids for the tester and inspector training courses shall include the pressure vacuum breaker, atmospheric vacuum breaker, double check valve assembly, the reduced pressure backflow device assembly, and test gauges.
  - (F) The training program must maintain a uniform course curriculum according to subsection (b) of this section, and maintain a uniform instructor criteria according to subsection (c) of this section, subject to approval by the Division.
- (b) In order to qualify as a cross connection training course or update course, the following requirements must be met:<sup>3</sup>
- (A) Requirements for the cross connection inspector training course:
    - (i) The course duration must be a minimum of 30 hours of training.
    - (ii) The course content shall contain but is not limited to the following topics:

- (III) Backflow assembly approval requirements, specifications and installation criteria for approved backflow assemblies, and backflow assembly repair techniques.
  - (IV) Complete disassembly and reassembly of a reduced pressure backflow device assembly, and/or a double check valve assembly, and/or a pressure vacuum breaker assembly.
  - (V) Hands-on demonstration of the correct test procedure and troubleshooting for the pressure vacuum breaker, double check valve assembly, and the reduced pressure device assembly, and diagnosis of two failure and/or abnormal conditions during the hands-on backflow assembly test of the reduced pressure backflow device assembly and the double check valve assembly.
  - (VI) Test gauge calibration methods and tester safety.
- (C) Requirements for the cross connection inspector update course:
- (i) The course duration must be a minimum of 5 hours of training.
  - (ii) The course content shall contain but is not limited to the following topics:
    - (I) Review of cross connection regulations.
    - (II) Review and discussion of recent backflow incidents and identification of cross connections.
    - (III) Review and discussion of inspector safety issues.
- (D) Requirements for the cross connection tester update course:
- (i) The course duration must be a minimum of 6 hours of training.

- (v) Must attend at least one instructor update meeting provided by the Division each year.
- (B) To be eligible as an instructor for the cross connection tester training course or tester update course, the following experience in the backflow field is required:
- (i) Must be currently certified as a backflow device tester.
  - (ii) Must have two years experience as a certified tester and experience installing, testing devices, or as a vocational instructor, or related field or experience subject to approval by the Division.
  - (iii) Must participate in two complete cross connection tester training courses as a student instructor assigned to teach a portion of the text curriculum and the hands-on proficiency portion of the curriculum.
  - (iv) Must receive a recommendation from the instructor of record for approval as an instructor. An unfavorable recommendation must be documented by supporting information and may be challenged by the trainee or by the Division.
  - (v) Must attend at least one instructor update meeting provided by the Division each year.
- (C) The Division shall maintain a list of qualified instructors.



## City of Rainier

### REQUIREMENTS FOR BACKFLOW PREVENTION DEVICE INSTALLATIONS

To insure the proper operation and accessibility of all backflow prevention devices, the following requirements shall apply to installations of these devices.

#### Installation Requirements Applicable To All Devices:

1. No part of the backflow prevention assembly shall be submerged in water or installed in a location subject to flooding. If installed in a vault or basement, adequate drainage shall be provided.
2. Assemblies must be installed at the point of delivery of the water supply, before any branch in the line, on private property located just inside of the property line. Alternate locations must be approved in writing by the City of Rainier prior to installations.
3. The assembly must be protected from freezing and other severe weather conditions.
4. All backflow prevention assemblies shall be of a type and model approved by the Oregon Health Division and the City of Rainier.
5. Only assemblies specifically approved by the Oregon Health Division for vertical installation may be installed vertically. No assembly over 4" shall be installed vertically.
6. The assembly shall be readily accessible with adequate room for maintenance and testing. Assemblies 2 inches and smaller shall have at least 6-inch clearance on all sides of the assembly. All assemblies larger than 2 inches shall have a minimum clearance of 12 inches on the back side, 24 inches on the test cock side, 12 inches below the assembly and 36 inches above the assembly. "Y" pattern double check valve assemblies shall be installed so that the checks are horizontal and the test cocks face upward (see example following).
7. The property owner assumes all responsibility for all maintenance and testing of the assembly, as determined and required by the City of Rainier.
8. If written permission is granted to install the backflow assembly inside of the building, the assembly shall be readily accessible during regular working hours of 8:00 a.m. to 5:00 p.m., Monday through Friday.
9. If an assembly, with written permission, is installed inside of the premises and is 4 inches or larger and is installed 4 feet above the floor, it must be equipped with a rigidly and permanently installed scaffolding acceptable to the City. This installation must also meet the requirements set out by the U.S. Occupational Safety and Health Administration and the State of Oregon Occupational Safety and Health Codes.
10. Reduced pressure principle assemblies may be installed in a vault only if relief valve discharge can be drained to daylight through a "boresight" type drain located above the 100 year flood plan as specified by the City current flood plan map. The drain shall be of adequate capacity to carry the full rated flow of the assembly and shall be screened on both ends.
11. An approved air gap shall be located at the relief valve orifice. This air gap shall be at least twice the inside diameter of the incoming supply line as measured vertically above the top rim of the drain and in no case less than 1 inch.
12. A backflow permit shall be obtained by the property owner prior to any new backflow assembly installation. With the permit, the owner and/or contractor will be provided with a City cross connection ordinance and will be advised as to the minimum type of backflow assembly required and as to the locations that will be acceptable to the City.
13. Upon completion of installation, the City shall be notified and all assemblies must be inspected and tested. All backflow prevention assemblies must be registered with the City. Registration shall consist of date of installation, make model, serial number of the backflow assembly, and initial test report.

## City of Rainier

14. Any water pressure drop caused by the installation of a backflow assembly is not the responsibility of the City of Rainier.
15. It is the responsibility of the property owner to eliminate the possibility of thermal expansion if a closed system has been created by the installation of a backflow assembly.
16. All new plumbing construction shall be evaluated as to the need for a backflow assembly before the issuance of all plumbing permits within the boundaries of the City of Rainier jurisdiction.
17. Only approved open stem and yoke (O.S. & Y.) resilient seated gate valves will be allowed.
18. The property owner assumes all responsibility for foundation or basement wall penetration, maintenance, leaks, and other damage.
19. All pipe joints shall be suitably restrained from movement, and the device shall be adequately supported from the floor.
20. A location plan with an elevation view of the piping arrangement of the device shall be furnished to the City prior to installation.
21. Installation of backflow devices may alter the delivery pressure and the flow of the water service. It is the responsibility of the water user to insure that flow and pressure requirements downstream of the device are adequate.

### Additional Installation Requirements for Double Check Valve Devices and Detector Double Check Valve Devices:

In addition to the installation requirements given above, if a double check valve or a detector double check valve device is installed in a vault or chamber, the chamber or vault shall:

1. Have two coats of bitumastic and be sealed by non-shrink grout from the outside. Backfilling will be as per manufactures specifications.
2. Have access through a standard "Bilco" (or equal) door.
3. Be equipped with an approved ladder if the vault or chamber depth is 5'0" to 7'11" and entry is through the vault or chamber roof. An approved extension ladder is required if the vault or chamber depth is 8'0" or greater and the entry is through the roof.
4. Be equipped with a moisture proof light fixture if adequate lighting is not available.
5. Have no other use, except for fire alarm conditions.
6. All metering devices must have a remote reading totalizer attached to the register, unless the meter can be easily read through a small door, cover, or opening without leaving the public



## City of Rainier

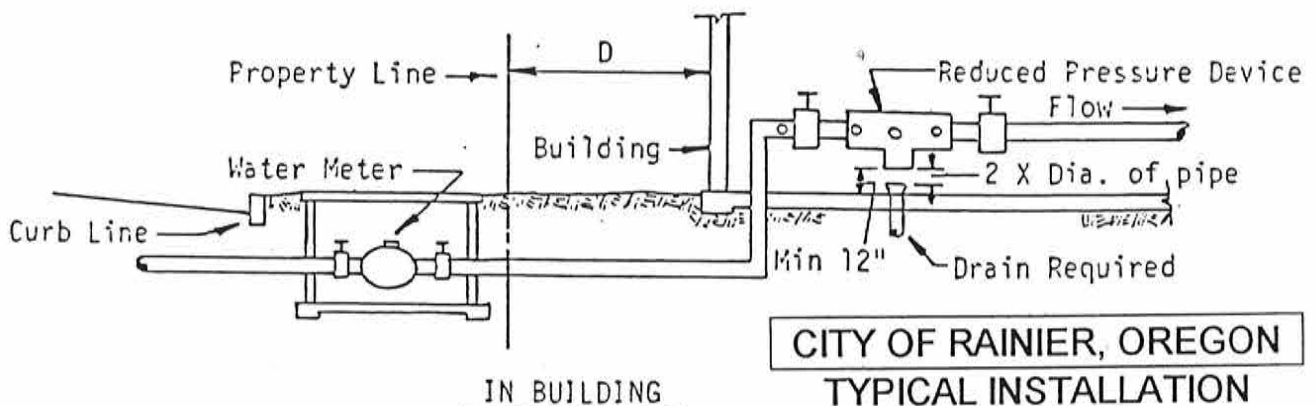
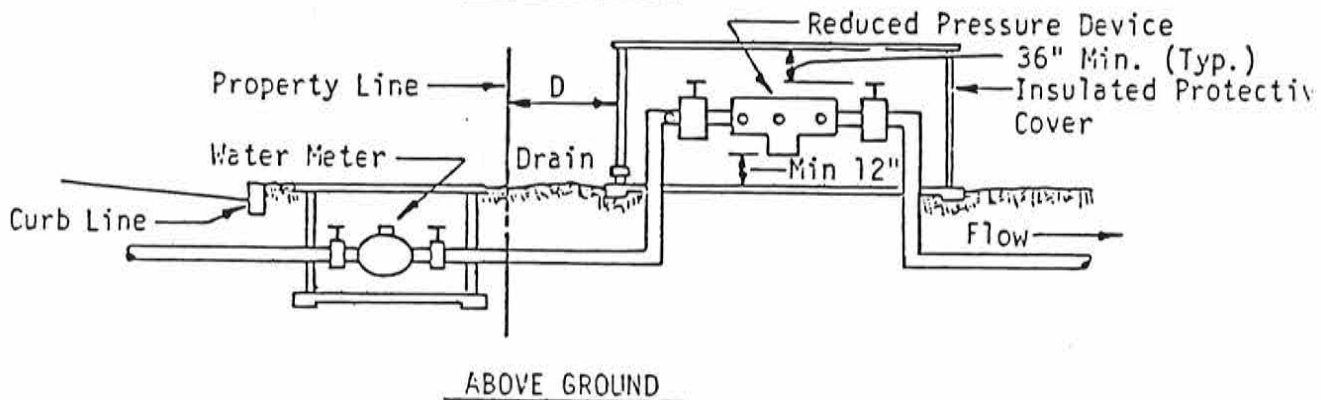
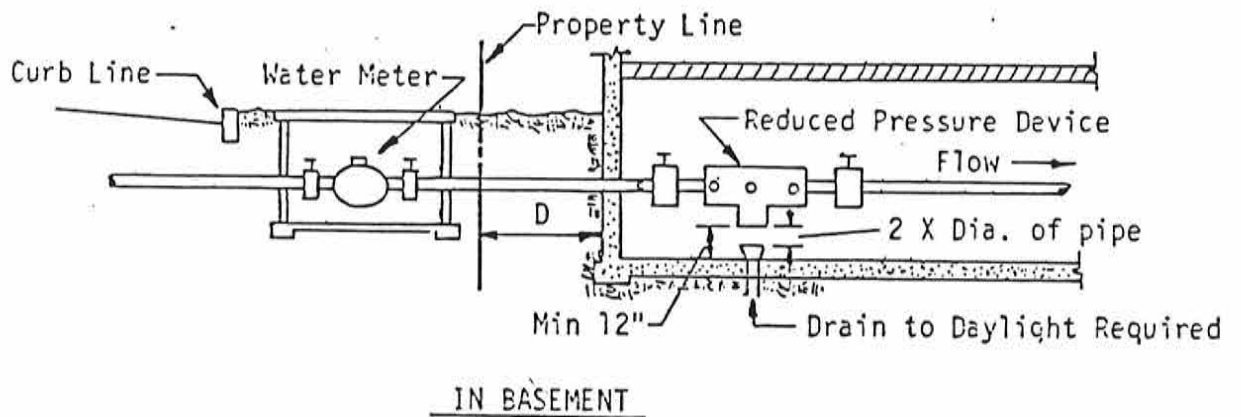
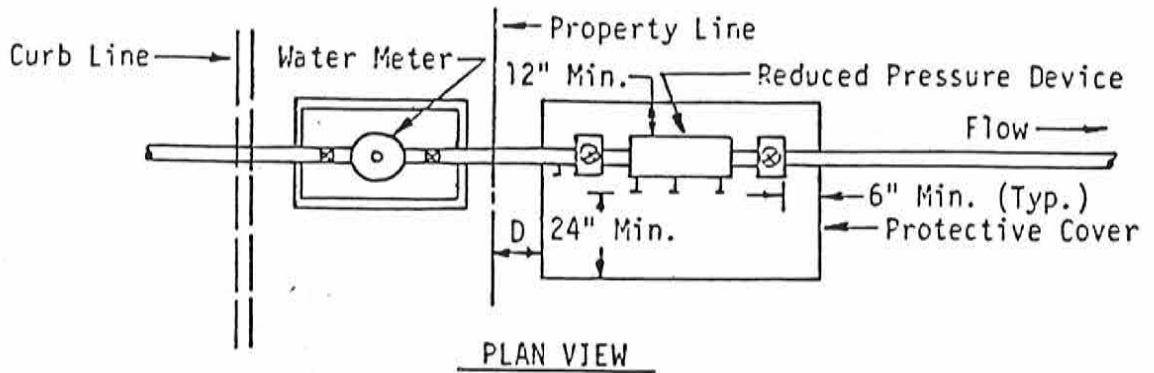
right-of-way. It shall be possible to read this remote reader <sup>from</sup> ~~form~~ the public right-of-way and the remote reader shall have the same number of dials to read as the metering device itself. All wires to the remote reader shall be enclosed in heavy plastic or metal conduit and all wiring shall be in conformance with appropriate sections of the national electric code.

Remote readers must be rigidly mounted in the following order of preference:

1. On the outside of the building wall, enclosed in a plastic box with a slot opening which allows reading the remote without opening the box, at an elevation of 4' to 5' above the ground and within 5 feet of the centerline of the water service connection.
2. Inside a street-facing window at an elevation of 2' to 6' above the ground and within 5 feet of the centerline of the water service connection. The remote reader must not be obstructed by draperies, blinds, displays or other obstructions.
3. On the pumper connection or other permanent facility which is located at or near the property line and owned and maintained by the property owner. The remote reader shall be installed in an enclosed in a plastic box with a slot opening which allows reading the remote without opening the box, at an elevation of 4' to 5' above the ground and within 5 feet of the centerline of the water service connection.
4. In a sidewalk box or vault on its' own mounting bracket. the remote reader shall not be attached to existing meters or valves.

**See attached drawings of double check valves and detector double check valves**

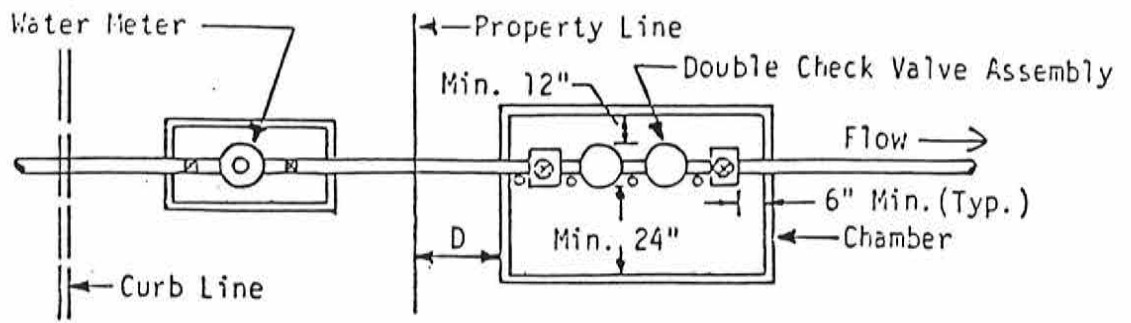




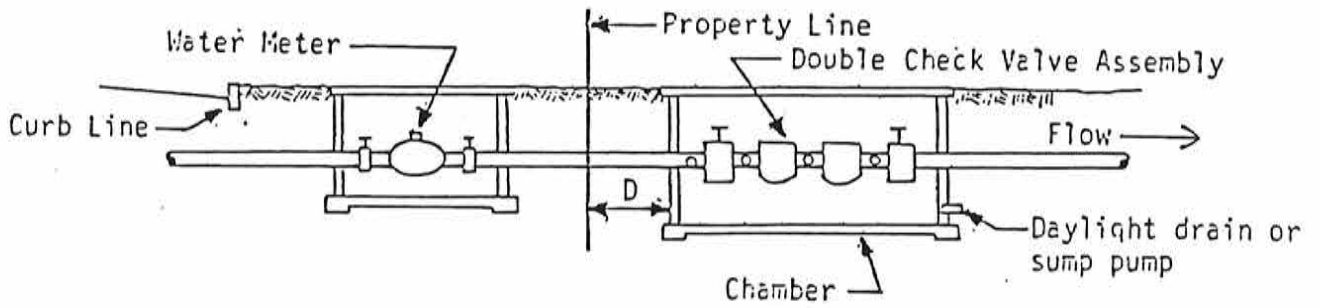
D: Distance must be less than length of backflow device. See Backflow Prevention Device Installation Requirements for detailed information on installations.

**CITY OF RAINIER, OREGON**  
**TYPICAL INSTALLATION**  
**REDUCED PRESSURE**  
**PRINCIPAL**  
**BACKFLOW DEVICE**

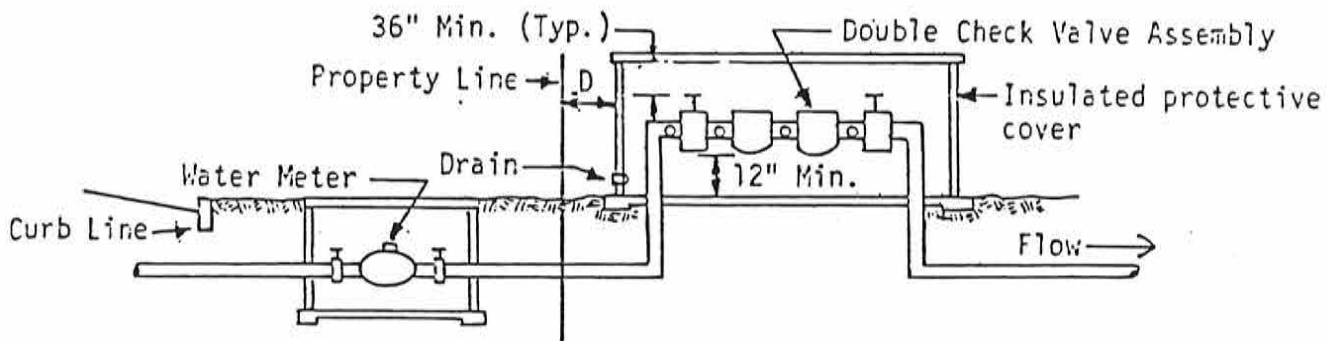
October 12, 1995



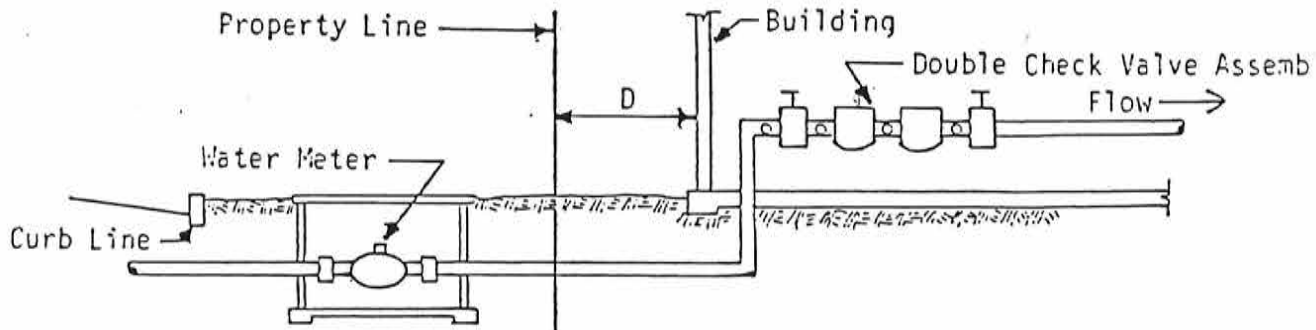
PLAN VIEW



IN CHAMBER



ABOVE GROUND

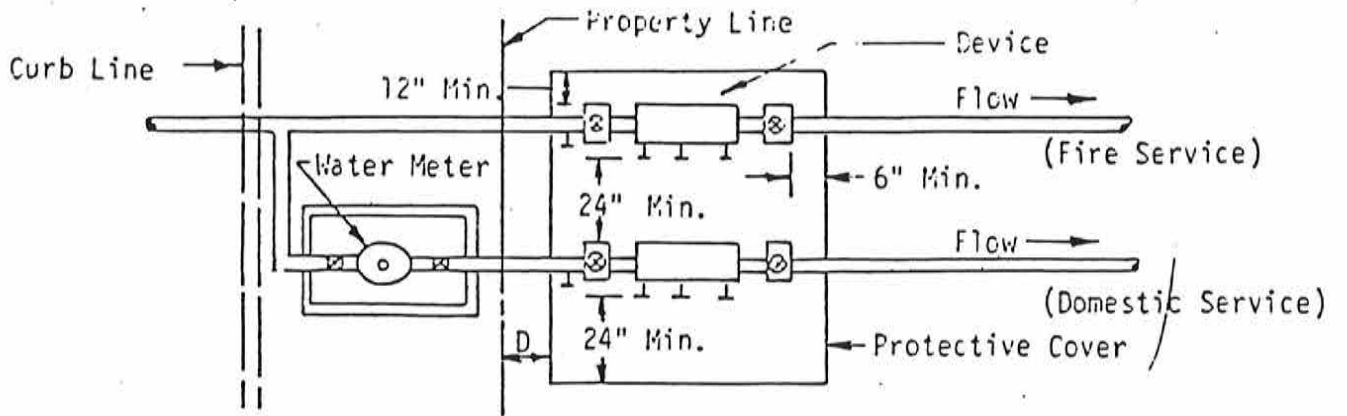


IN BUILDING

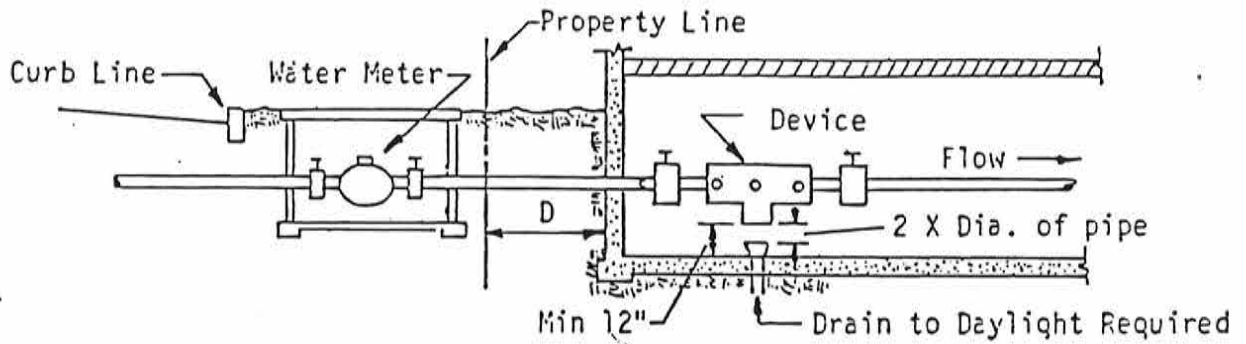
D: Distance must be less than length of backflow device. See Backflow Prevention Installation Requirements for detailed information on installations.

**CITY OF RAINIER, OREGON**  
**TYPICAL INSTALLATION**  
**DOUBLE CHECK VALVE**  
**BACKFLOW DEVICE**

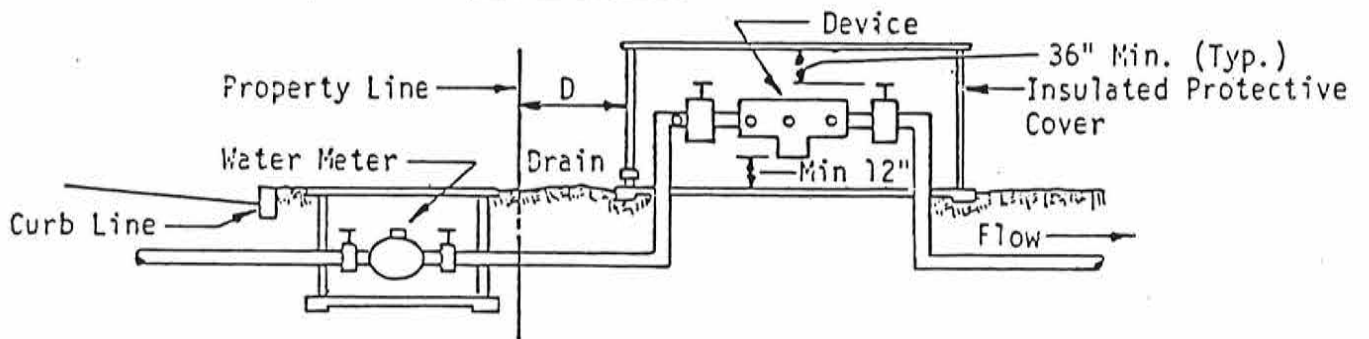
October 12, 1995



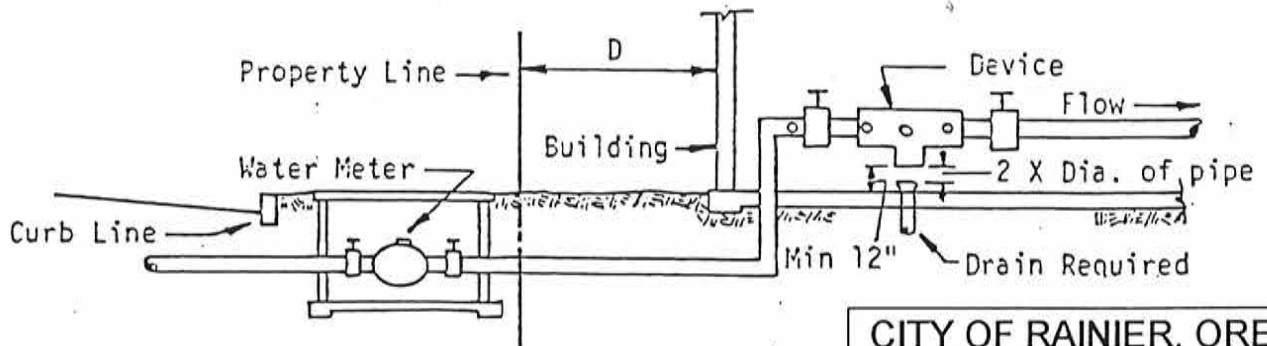
PLAN VIEW



IN VAULT / BASEMENT



ABOVE GROUND



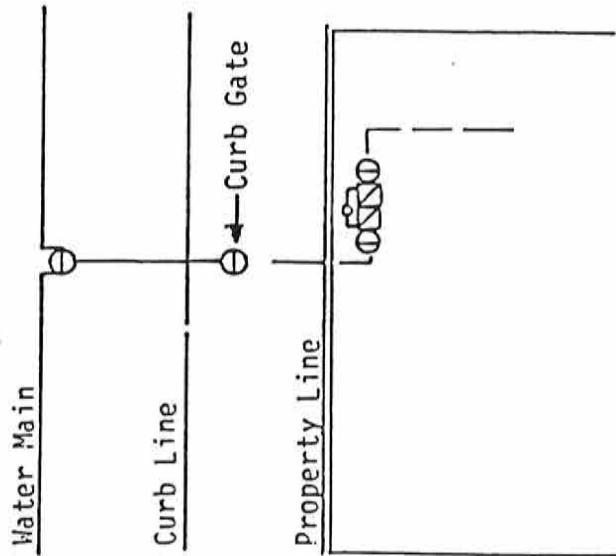
IN BUILDING

CITY OF RAINIER, OREGON  
 TYPICAL INSTALLATION  
 BACKFLOW DEVICE  
 IN PARALLEL

October 12, 1995

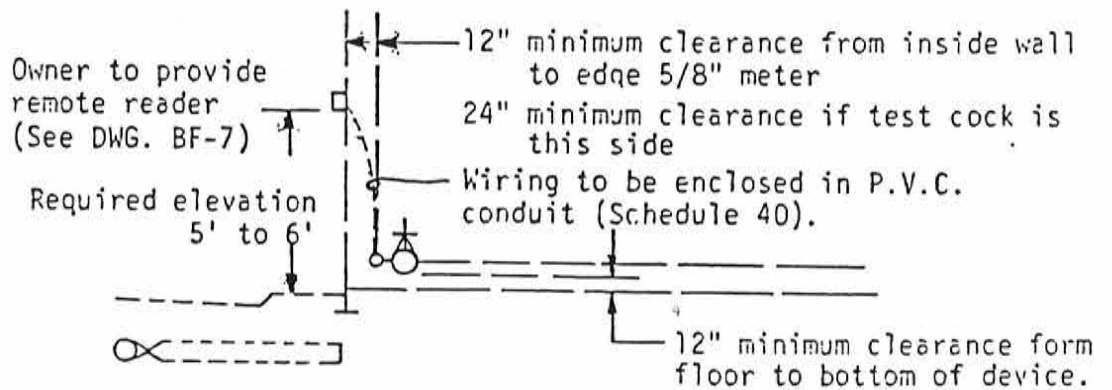
D: Distance must be less than length of backflow device. See Backflow Prevention Device Installation Requirements for detailed information on installations.





PLAN VIEW

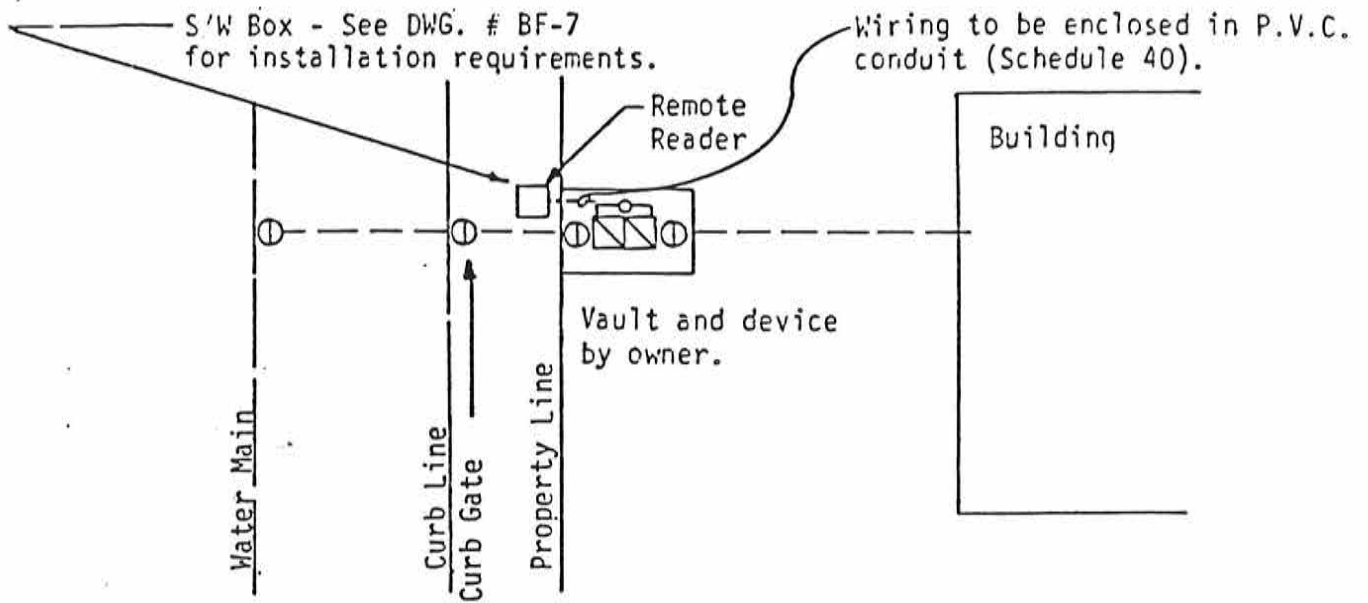
BUILDING AT PROPERTY LINE



SIDE VIEW ELEVATION

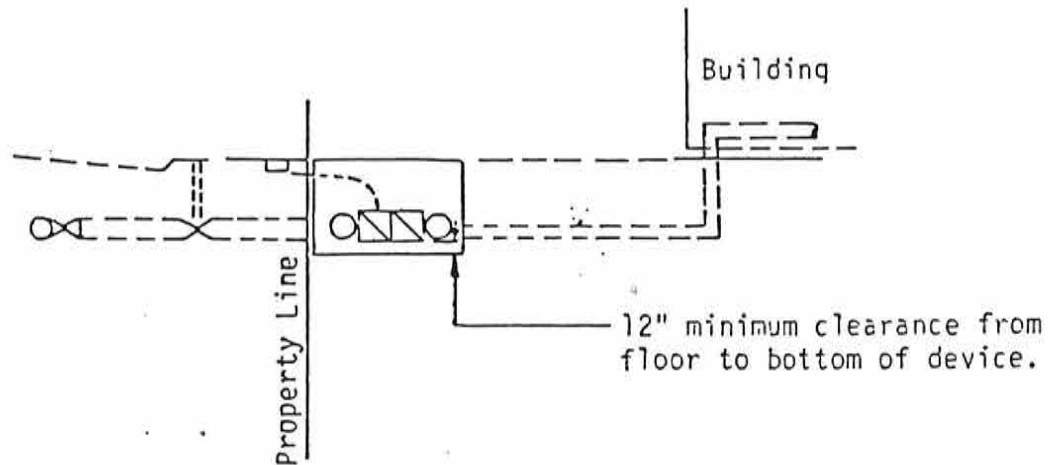
NOTE: See Backflow Prevention Device Installation Requirements for complete installation details.

CITY OF RAINIER, OREGON
TYPICAL INSTALLATION APPROVED DETECTOR DOUBLE CHECK VALVE BACKFLOW DEVICE
October 12, 1995



PLAN VIEW

BUILDING SET BACK GREATER THAN LENGTH OF DEVICE

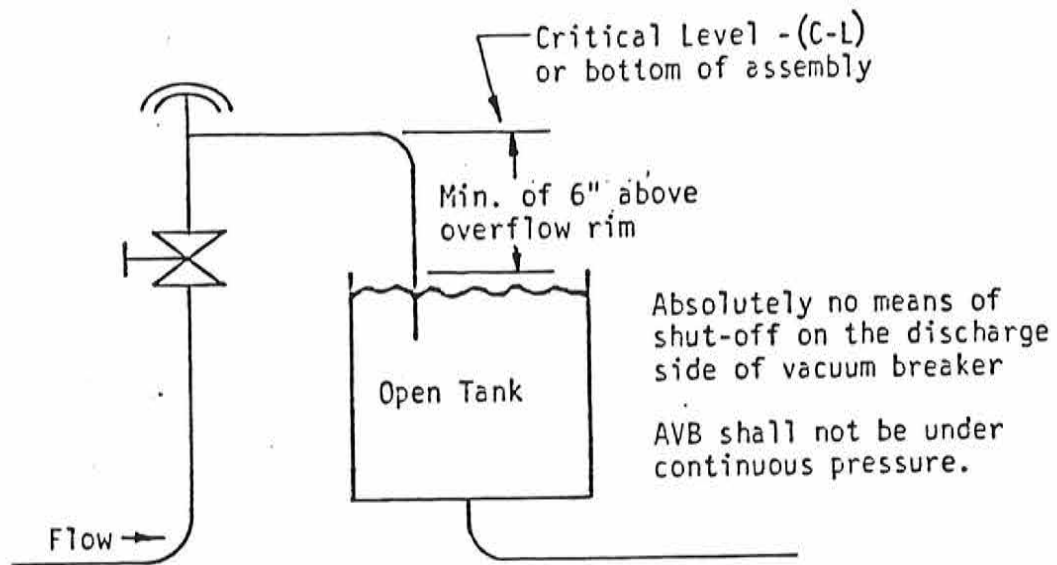


SIDE VIEW  
ELEVATION

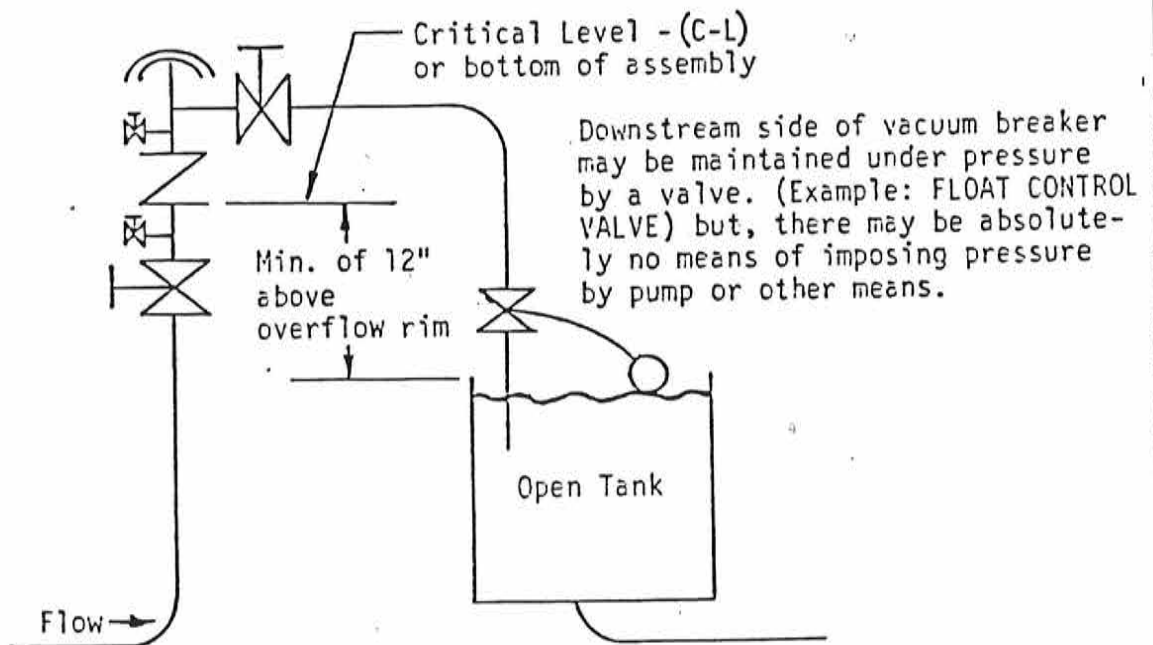
NOTE: See Backflow Prevention Device Installation Requirements for complete installation details.  
Detector Double Check Assembly installed in lieu of MFM/MCT meter in street R/W.

**CITY OF RAINIER, OREGON**  
**TYPICAL INSTALLATION**  
**APPROVED DETECTOR**  
**DOUBLE CHECK VALVE**  
**BACKFLOW DEVICE**

October 12 1995



TYPICAL INSTALLATION  
ATMOSPHERIC VACUUM BREAKER



TYPICAL INSTALLATION  
PRESSURE VACUUM BREAKER

**CITY OF RAINIER, OREGON**  
**TYPICAL INSTALLATIONS**  
**VACUUM BREAKERS**  
**BACKFLOW DEVICE**

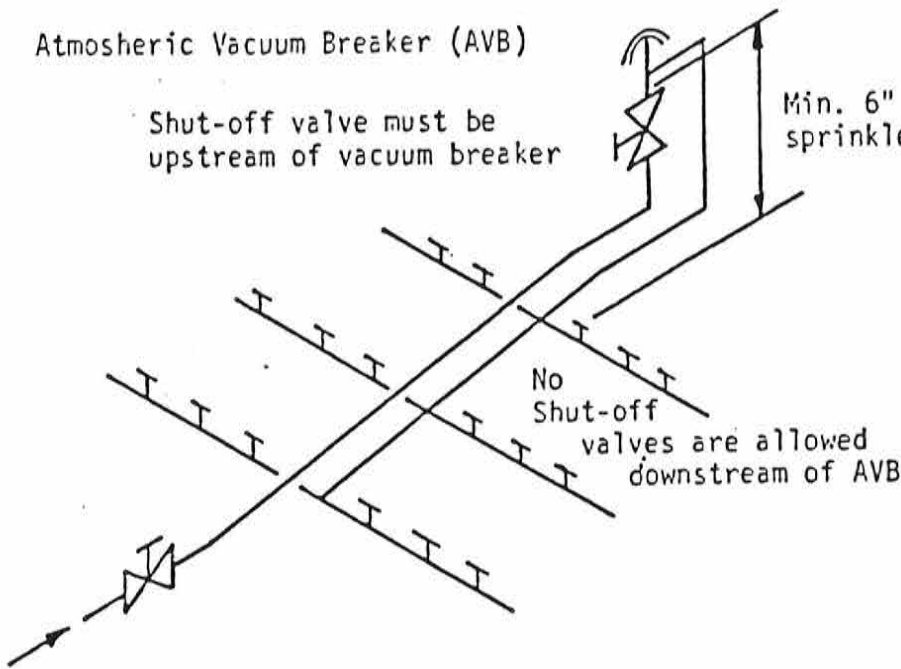
October 12, 1995



Atmospheric Vacuum Breaker (AVB)

Shut-off valve must be upstream of vacuum breaker

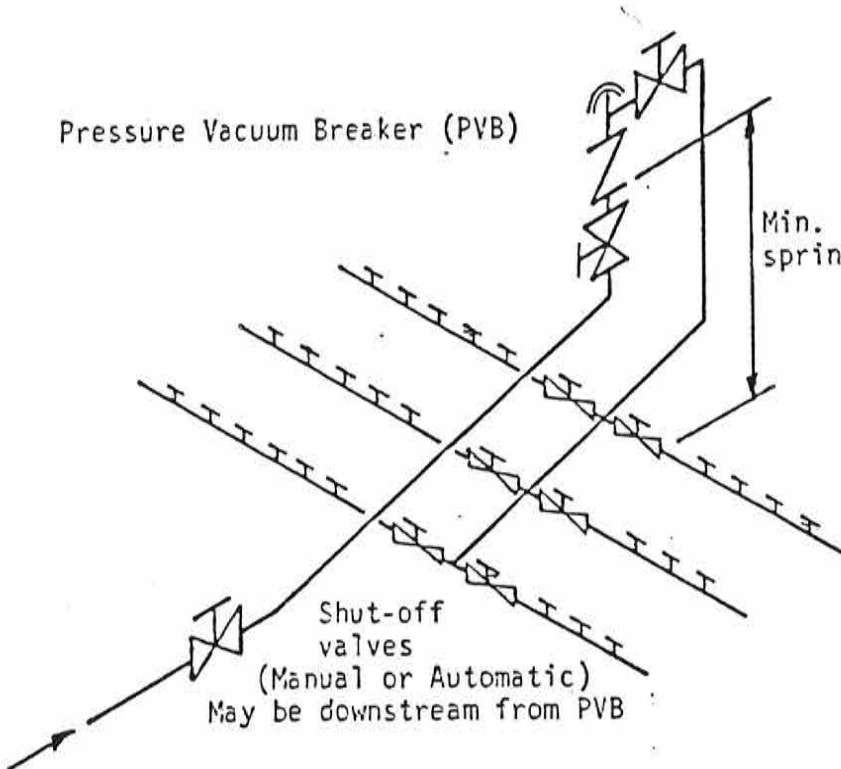
Min. 6" above highest sprinkler head



Pressure Vacuum Breaker (PVB)

Min. 12" above highest sprinkler head

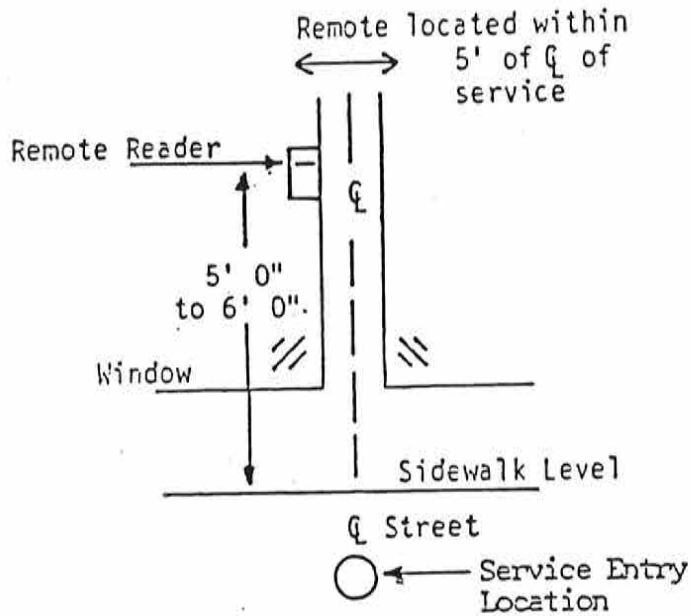
Shut-off valves  
(Manual or Automatic)  
May be downstream from PVB



CITY OF RAINIER, OREGON  
TYPICAL INSTALLATION  
IRRIGATION SYSTEMS  
FEEDING UPHILL

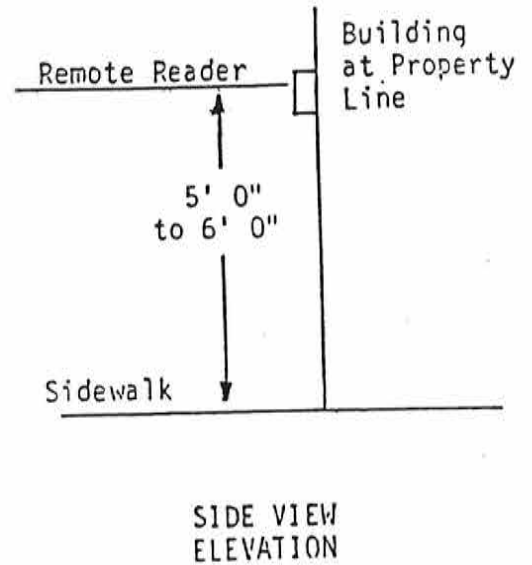
October 12, 1995

1. IN WINDOW

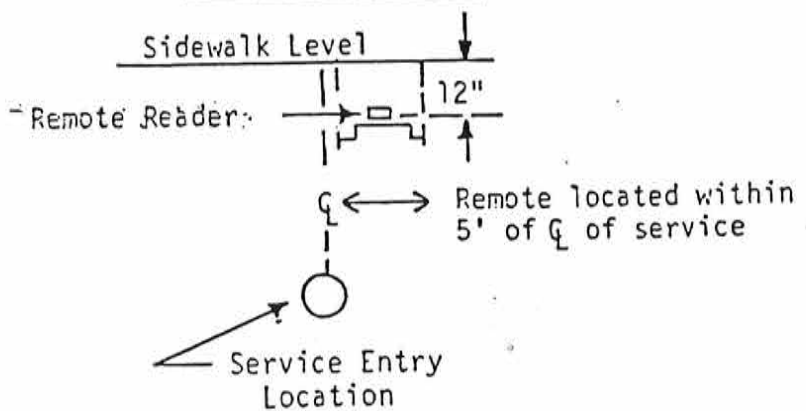


FRONT VIEW ELEVATION

2. ON WALL



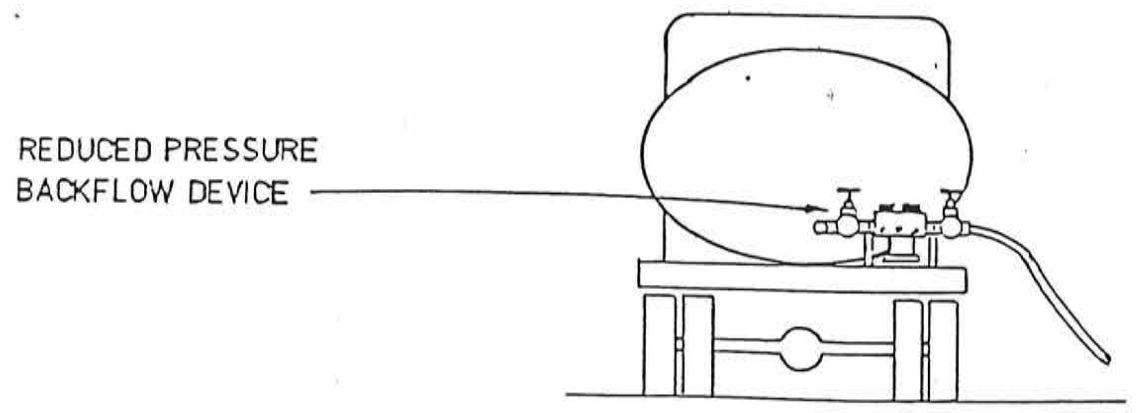
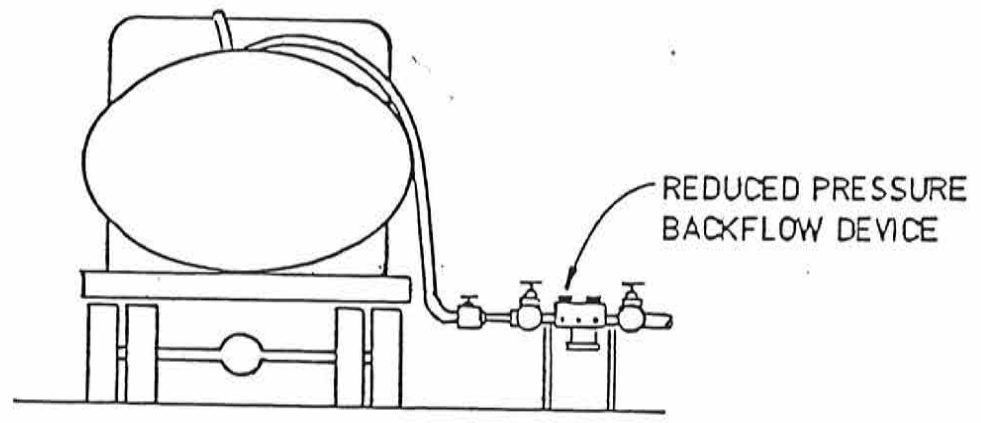
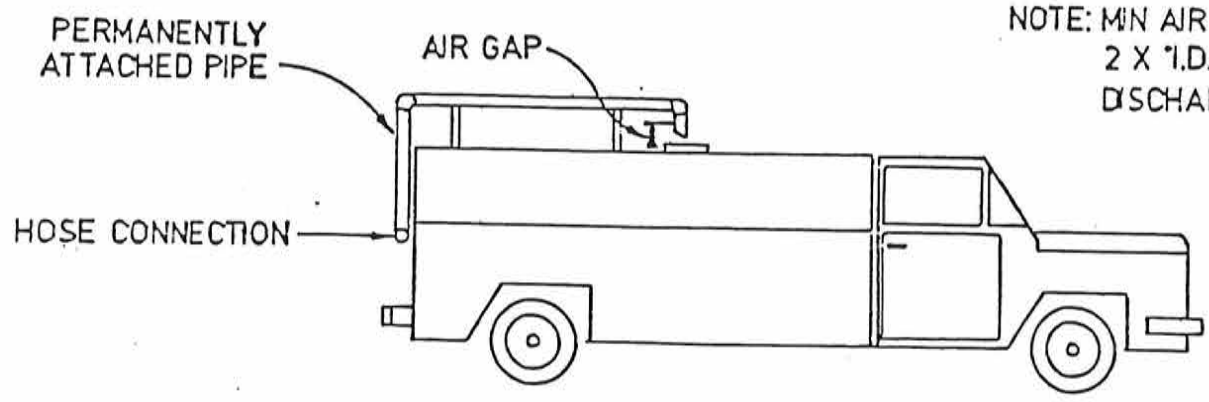
3. IN METER BOX



FRONT VIEW ELEVATION

NOTE: See Backflow Prevention Device Installation Requirements for complete installation details.

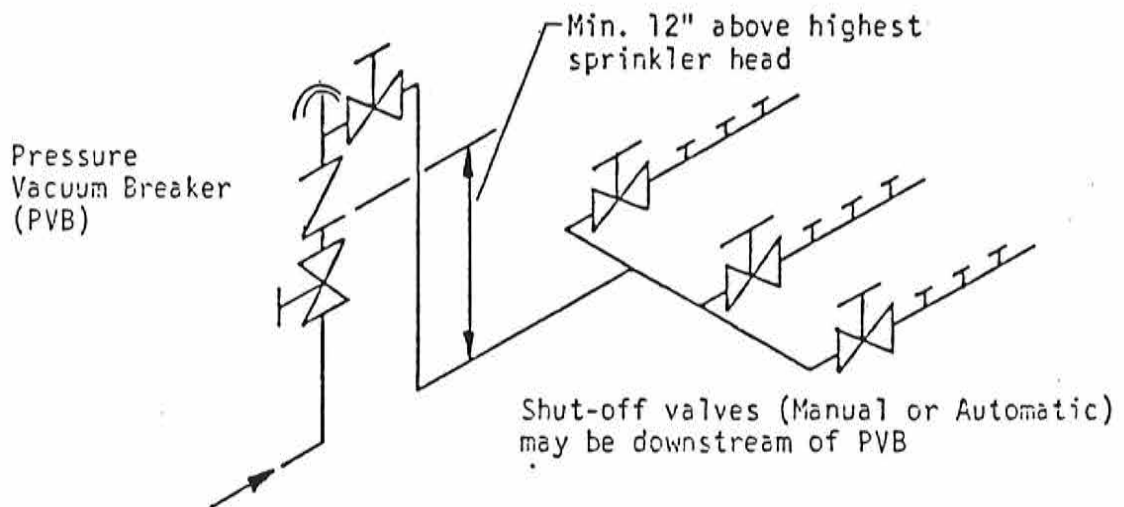
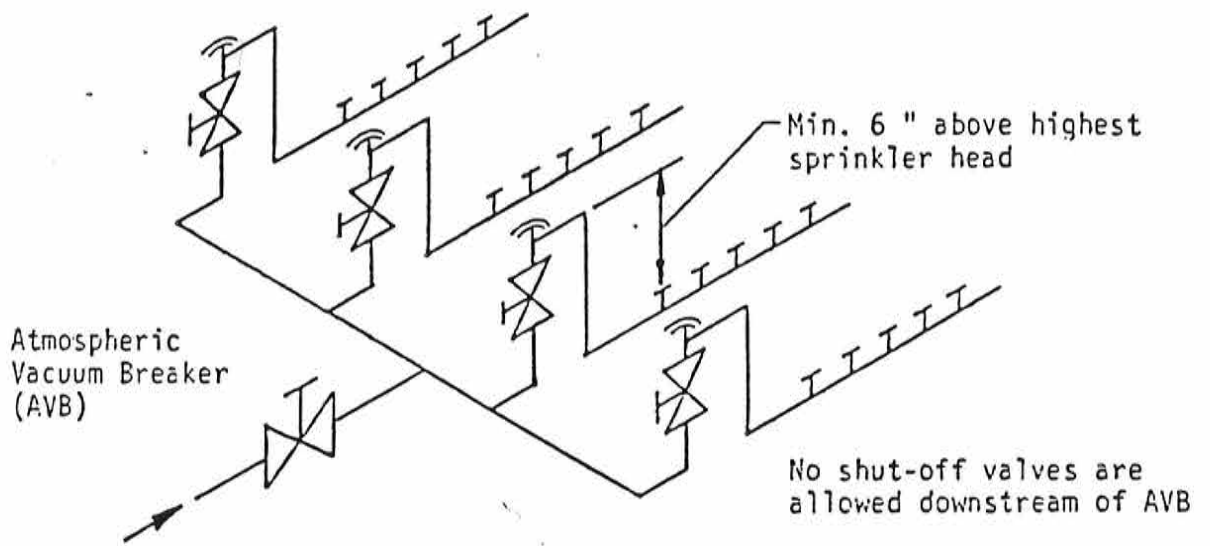
**CITY OF RAINIER, OREGON**  
**TYPICAL INSTALLATION**  
**APPROVED REMOTE REGISTER**



CITY OF RAINIER, OREGON  
REQUIREMENTS FOR  
MOBILE APPARATUS

October 12, 1995





CITY OF RAINIER, OREGON  
 TYPICAL INSTALLATION  
 MULTI-ZONE  
 IRRIGATION SYSTEMS

(503) 731-4899  
FAX (503) 731-4077  
TDD-Nonvoice (503) 732-4031

# Oregon

DEPARTMENT OF  
HUMAN  
RESOURCES

HEALTH DIVISION



## Approved Backflow Prevention Assembly List

### June 1995

#### OREGON HEALTH DIVISION Drinking Water Program

The attached sheets list all backflow prevention assemblies approved for use in the State of Oregon.

John A. Kitzhaber  
Governor



(rev 7/95)

800 NE Oregon Street # 21  
Portland, OR 97232-2162  
(503) 731-4030 Emergency  
(503) 252-7978 TDD  
Emergency  
24-26 (Rev. 12-94)

UPATE TO AUGUST 1994 APPROVED BACKFLOW PREVENTION DEVICE LIST

JUNE 1995

**ADDITIONS**

**Double Check Valve Assemblies**

*Ames*

2000SS-3/4",1"  
2000SS-M-4",6"

*Conbraco*

40-103-02-1/2"

*Febco*

850-4",6" (vertical up)  
870-2 1/2",3",8"

*Elomatic*

DCV-1 1/2",2"

*Watts*

007M1PCQT-3/4",1",1 1/2",2"  
007M2PCQT-1 1/2"  
007PCQT-1/2",1 1/2", 2"  
007RWNRS-4",6"  
007RWOSY-4",6"  
007SSM1PCQT-3/4",1"  
007SSPCQT-1 1/2", 2"  
U007M1APCQT-3/4",2"  
U007M1PCQT-3/4",1",1 1/2",2"  
U007M2AQT-1 1/2"  
U007M2QT-1 1/2"  
U007PCQT-3/4",1",1 1/2",2"  
U007SSPCQT-3/4",1",1 1/2",2"

**ADDITIONS**

**Reduced Pressure Principle Assemblies**

*Conbraco*

40-204-A2S-3/4"  
40-205-A2S-1"  
40-206-A2U-1 1/4"  
40-207-A2U-1 1/2"  
40-208-A2U-2"  
40-206-A2Z-1 1/4"  
40-207-A2Z-1 1/2"  
40-208-A2Z-2"

*Febco*

860-4"  
880-2 1/2",3",4",6",8"

*Elomatic*

RPZ-1 1/2",2"

*Watts*

009M1PCQT-1 1/4",1 1/2",2"  
009M2PCQT-1 1/4",1 1/2"  
009PCQT-1/2",3/4",1",1 1/4", 1 1/2",2"  
009RWNRS-4",6"  
009RWOSY-4",6"  
009SSM1PCQT-2"  
009SSPCQT-3/4",1",1 1/4",1 1/2",2"  
909PCHWM1QT-1 1/4",1 1/2",2"  
909PCHWQT-3/4",1"  
909PCM1QT-1 1/4",1 1/2",2"  
909PCQT-3/4",1"  
U009APCQT-3/4",1"  
U009M1APCQT-1 1/2",2"  
U009M1PCQT-1 1/4",1 1/2",2"  
U009M2APCQT-1 1/2"  
U009M2PCQT-1 1/2"

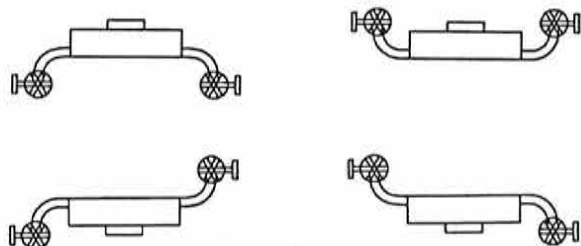


## Double Check Valve Assemblies

Company	Model-Size	Company	Model-Size
Ames	* DC - 4",6",8" 2000-DC - 10" (Formerly Model DC) 2000-G-DC - 10" (Formerly Model DC) t 2000-DCA - 4",6",8" (Formerly Model DCA) t,l 2000-G-DCA - 4",6",8" (Formerly Model DCA) t,l 2000 SS - 2 1/2", 3" t 2000 SS - 4",6" t,l 2000 SE - 6",8" t,l	Conbraco	40-104-A2T - 3/4" d 40-105-02 - 1" d 40-105-A2 - 1" d 40-105-A2T - 1" d 40-106-02 - 1 1/4" d 40-106-A2 - 1 1/4" d 40-106-A2T - 1 1/4" d 40-107-02 - 1 1/2" d 40-107-A2 - 1 1/2" d 40-107-A2T - 1 1/2" d 40-108-02 - 2" d 40-108-A2 - 2" d 40-108-A2T - 2" d 40-109-02 - 2 1/2" t,b,e,l 40-109-03 - 2 1/2" u,c,m 40-100-02 - 3" t,b,e,l 40-100-03 - 3" u,c,m 40-10A-02 - 4" t,b,e,l 40-10A-03 - 4" u,c,m 40-10C-02 - 6" t,b,e,l 40-10C-03 - 6" u,c,m 40-10E-02 - 8" t,b,e,l 40-10E-03 - 8" u,c,m 40-10G-02 - 10" t,b,e,l 40-10G-03 - 10" u,c,m
Beeco - see Hersey/Grinnell			
Buckner	24100 - 3/4" i 24101 - 1" i 24102 - 1 1/4" i 24103 - 1 1/2" i 24104 - 2" i 24100/25 - 3/4" i 24101/25 - 1" i 24102/25 - 1 1/4" i 24103/25 - 1 1/2" i 24104/25 - 2" i		
Cla-Val	D2 - 1 1/4",1 1/2",3/4",1" n,d D4 - 2" n,d D4 - 2 1/2",3",4",6",8",10" g		
Conbraco	40-104-02 - 3/4" d 40-104-A2 - 3/4" d		

## Double Check Valve Assemblies

Company	Model-Size	
Watts	709 NRS RW - 2 1/2",3",4", 6",8",10" (Formerly Model 709 RW) o,g,t	
	709 OSY RW - 2 1/2",3",4" (Formerly Model 709 RW) p,h,u	
	709 OSY RW - 6",8",10" (Formerly Model 709 RW) u,h,u	
	709 QT-FDA - 2 1/2",3",4", 6",8",10" w	
	007RW - 2 1/2",3" o,g,t	
	007M1QT - 3/4",1",1 1/2",2" v,x	
	007M2QT - 3/4",1 1/2" v,x	
	U007M1QT - 3/4",1",1 1/2", 2" v,x	
	007SSM1QT - 3/4",1" v,x	
	* 007QT - 3/4",1"	
	* 007SSQT - 3/4",1"	
	U007QT - 3/4",1",1 1/2",2" v,x	
	U007SSQT - 3/4",1", 1 1/2", 2" v,x	
	007QT - 1/2", 1 1/2",2" v,x	
	U007M1AQT - 3/4",2" v,x	
	NOTE: Model U007M1AQT is Approved in the configurations shown below:	



Company	Model-Size	
Watts	007SSQT - 1 1/2",2" v,x	
	770RW - 4" o,g,t	
	772RW - 4" o,g,t	
	770QT-FDA - 4",8" w	
	770NRSRW - 8" o,g,t	
	770OSYRW - 8" o,g,t	
	772NRSRW - 10" o,g,t	
	772OSYRW - 10" o,g,t	
	Wilkins	* 550 - 3/4",1"
		550A - 3/4",1" i
550 - 1 1/4",1 1/2",2" i		
550 - 2 1/2",3",4",6" g,e,t,y		
550 - M8"(4"x4"x8"Manifold) g,e,t,y		
550 - M10" (6"x6"x10" Manifold) (Formerly MBD) g,e,t,y		
950 - 3/4",1",1 1/4",1 1/2",2" i		
950XL - 3/4",1",1 1/4", 1 1/2", 2" i		
950XLU - 3/4",1",1 1/2",2" i		
950 - 2 1/2",3",4",6",8",10" g,e,t,y		
950A - 3/4",1",1 1/4",1 1/2", 2" i		

**Double Check Detector Assemblies**  
(see notes at end of listing)

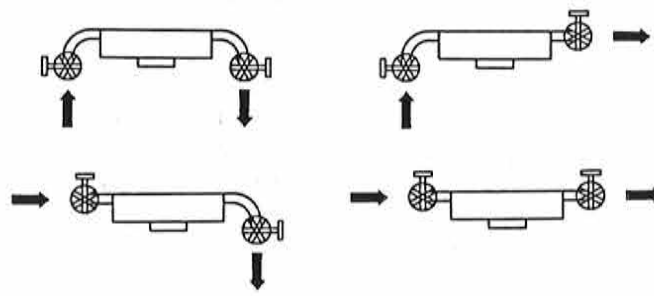
Company	Model-Size	Company	Model-Size
Febco	856 - 4",6" M,B,C,D,E,F,G,H,I,J,K,L, N,O f,m,u (Febco 805YB - 3/4")	Watts	770 DCDA NRS RW - 8" N,D,E,F,G,I,J,K,L,M,N,O o,g,t (Watts 007M1QT - 3/4")
	876 - 4",6" M,B,C,D,E,F,G,H,I,J,K,L, N,O f,m,u (Febco 805YB - 3/4")		770 DCDA OSY RW - 8" N,D,E,F,G,I,J,K,L,M,N,O p,h,u (Watts 007M1QT - 3/4")
Hersey/Grinnell	DDC-II - 3" O,A,B,C,D,E,F,G,H,I,J,K, L,M,N u,c,r (Hersey FDC - 3/4")	Watts	772 DCDA NRS RW - 4" H,A,B,C,D,E,F,G,I,J,K,L, M,N,O p,h,u (Watts 007M1QT - 3/4")
	DDC-II - 4",6",8" I,J,K,L,M,N,O u,c,r (Hersey FDC - 3/4")		772 DCDA NRS RW - 10" H,A,B,C,D,E,F,G,I,J,K,L, M,N,O o,g,t (Watts 007M1QT - 3/4")
	DDC-II - 10" O,B,C,D,E,F,G,H,I,J,K,L, M,N u,c,r (Hersey FDC - 3/4")		772 DCDA OSY RW - 10" H,A,B,C,D,E,F,G,I,J,K,L, M,N,O p,h,u (Watts 007M1QT - 3/4")
Watts	709 DCDA - 3" N,B,C,D,E,F,G,H,I,J,K,L, M,N,O (Formerly 709DDC) p,h,u (Watts 709QT - 3/4")	Wilkins	DCDA - 2 1/2",3" M,B,C,D,E,F,G,H,I,J,K,L, N,O h,f,u,z (Wilkins 550A - 3/4")
	007 DCDA - 2 1/2",3" H,D,E,F,G,I,J,K,L,M,N,O p,h,u (Watts 007M1QT - 3/4")		DCDA - 4",6" M,A,B,C,D,E,F,G,H,I,J,K, L,N,O h,f,u,z (Wilkins 550A - 3/4")
	709 DCDA - 4",6",8" N,A,B,C,D,E,F,G,H,I,J,K, L,M,O (Formerly 709DDC) p,h,u (Watts 709QT - 3/4")		950DA - 4",8" M,E,F,G,H,I,J,K,L,N,O h,f,u,z (Wilkins 950 - 3/4")
	709 DCDA - 10" N,E,F,G,H,I,J,K,L,M,O (Formerly 709DDC) p,h,u (Watts 709QT - 3/4")		950DA - 2 1/2",3" M,A,B,C,E,F,G,H,I,J,K,L, N,O h,f,u,z (Wilkins 950 - 3/4")
	770 DCDA OSY RW - 4" H,A,B,C,D,E,F,G,I,J,K,L, M,N,O p,h,u (Watts 007M1QT - 3/4")		950DA - 6",10" M,A,B,C,D,E,F,G,H,I,J,K, L,N,O h,f,u,z (Wilkins 950 - 3/4")



**Reduced Pressure Principle Detector Assemblies**  
(see notes at end of listing)

Company	Model-Size	Company	Model-Size
Watts	990 RPDA NRS RW - 8"		
	H,D,E,F,G,I,J,K,L,M,N,O o,g,t (Watts 009QT - 3/4")		
	990 RPDA OSY RW - 8"		
	H,D,E,F,G,I,J,K,L,M,N,O p,h,u (Watts 009QT - 3/4")		
	992 RPDA NRS RW - 4"		
	H,A,B,C,D,E,F,G,I,J,K,L, M,N,O p,h,u (Watts 009QT - 3/4")		
Watts	992 RPDA NRS RW - 10"		
	H,D,E,F,G,I,J,K,L,M,N,O o,g,t (Watts 009QT - 3/4")		
	992 RPDA OSY RW - 10"		
	H,D,E,F,G,I,J,K,L,M,N,O p,h,u (Watts 009QT - 3/4")		
Wilkins	975 DA - 2 1/2",3",4",6"		
M,A,B,C,D,E,F,G,H,I,J,K, L,M,N,O h,f,u,z (Wilkins 975 RP - 3/4")			

## Reduced Pressure Principle Assemblies

Company	Model-Size	Company	Model-Size	
Conbraco	40-208-02 - 2" d	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Febco</p>  </div> <div style="width: 45%;"> <p>NOTE: Models 825YA and 825YAR are Approved in the configurations shown below:</p> </div> </div>		
	40-208-A2 - 2" d			
	40-209-02 - 2 1/2" t,b,e,l			
	40-209-03 - 2 1/2" u,c,m			
	40-200-02 - 3" t,b,e,l			
	40-200-03 - 3" u,c,m			
	40-20A-02 - 4" t,b,e,l			
	40-20A-03 - 4" u,c,m			
	40-20C-02 - 6" t,b,e,l			
	40-20C-03 - 6" u,c,m			
	40-20E-02 - 8" t,b,e,l			
	40-20E-03 - 8" u,c,m			
	40-20G-02 - 10" t,b,e,l			
	40-20G-03 - 10" u,c,m			
	Febco		* 825 - 2 1/2",3",4",6",8",10"	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Flomatic</p> <p>RPZ - 3/4",1" i</p> <p>Hersey/Grinnell</p> <p>6CM - 2 1/2",3",4",6",8",10" t,b,q</p> <p>FRP-2 - 3/4",1",1 1/4",2" i</p> <p>FRP-2 - 1 1/2" a,b,c,d,e</p> <p>6CM-Bronze - 2 1/2",3",4",6" t,b,q</p> <p>Mueller</p> <p>* H-9506 - 4",6",8",10"</p> <p>Neptune - see Wilkins</p> <p>Orion</p> <p>80-0069 - 1 1/2" s</p> <p>BRP - 3/4",1" s</p> <p>9-2929 - 2" s</p> <p>BRP - 3",4" b,c</p> <p>NOTE: All Orion assemblies utilize inlet piping running vertically upward and outlet piping running vertically downward</p> <p>Rain Bird</p> <p>* RPA-075-R - 3/4" * RPA-100-R - 1" * RPA-125-R - 1 1/4" * RPA-150-R - 1 1/2"</p> </div> <div style="width: 45%;"> </div> </div>
			* 835B - 3/4",1",1 1/2",2"	
			* 825D - 2 1/2",3",4",6",8",10"	
			(Formerly 825 Type D)	
			825YD - 2 1/2",3",4",6",8",10" (Formerly 825 Type YD)	
			e,l,t	
825Y - 3/4",1",1 1/4",1 1/2",2" i				
845 - 3/4",1" i				
825YA - 3/4",1",1 1/2",2" i				
825YR - 3/4",1",1 1/2",2" i				
825YAR - 3/4",1",1 1/2",2" i				





## Pressure Type Vacuum Breakers

Company	Model-Size	Company	Model-Size
Buckner	24199 - 1/2" i	Rain Bird	* PVB-200-R - 2"
	24200 - 3/4" i	SMR - see Wilkins	
	24201 - 1" i	Toro	80-0550 - 3/4" (Formerly PVB) s
	24202 - 1 1/4" i		80-0560 - 1" (Formerly PVB) s
	24203 - 1 1/2" i	Watts	800QT - 3/4", 1", 1 1/4", 1 1/2", 2"
	24204 - 2" i		v,x
	24199/25 - 1/2" i		800MQT - 1/2", 3/4"
	24200/25 - 3/4" i		v,x
	24201/25 - 1" i		800CMQT - 1/2", 3/4"
	24202/25 - 1 1/4" i		v,x
	24203/25 - 1 1/2" i		800M2QT - 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"
	24204/25 - 2" i		v,x
			800M3QT - 1/2", 3/4"
			v,x
			800M4QT - 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"
			v,x
Conbraco	40-503-02 - 1/2" d	Wilkins	720A - 1/2", 3/4", 1", 1 1/4", 1 1/2", 2"
	40-504-02 - 3/4" d		i
	40-505-02 - 1" d		
	40-506-02 - 1 1/4" d		
	40-507-02 - 1 1/2" d		
	40-508-02 - 2" d		
Febco	765 - 1/2", 3/4", 1", 1 1/4", 1 1/2", 2" i		
	745 - 3/4", 1" i		
Neptune - see Wilkins			
Rain Bird	* PVB-075-R - 3/4"		
	* PVB-100-R - 1"		
	* PVB-125-R - 1 1/4"		
	* PVB-150-R - 1 1/2"		

**NOTES FOR  
DOUBLE CHECK DETECTOR ASSEMBLIES (DCDA) AND  
REDUCED PRESSURE PRINCIPLE DETECTOR ASSEMBLIES (RPDA)**

The DCDA and RPDA in this list have been approved with specific meters as the detector element of the assembly. Those specific meters are coded by a capital letter shown on the line below the size designation. The use of any other meter or modified bypass piping invalidates the Approval.

The bypass backflow preventer Approved with the detector assembly is listed after the meter designation in parentheses. Should replacement parts or a complete by-pass be needed the model number of the complete detector assembly should be used in ordering these components.

Identification of meters:

- |                                       |                               |
|---------------------------------------|-------------------------------|
| A - Hersey Model F-F 5/8"x3/4"        | I - Hersey Model 430 - 5/8"   |
| B - Carlon 5/8"x3/4"                  | J - Kent Model C700 5/8"x3/4" |
| C - Dande' Model D-3 5/8"x3/4"        | K - Precision 5/8"            |
| D - Gamon-Calmet 5/8"                 | L - Neptune Trident 8 5/8"    |
| E - Hays Acumeter 5/8"x3/4"           | M - Neptune T-10 5/8"         |
| F - Arad 5/8"x3/4" (Master Meter)     | N - Badger Model 25 3/4"      |
| G - Schlumberger 5/8"x3/4" Model MBRF | O - Hersey Model MVR-30 3/4"  |
| H - Rockwell (Sensus) SR-II 5/8"x3/4" |                               |

\* - Only Spare Parts Available