

SUFFOLK COUNTY WATER AUTHORITY CROSS CONNECTION CONTROL

Policy of Suffolk County Water Authority as a condition of service:

1. Cross Connection Control will be one of complete containment by requiring the customer to install a backflow prevention device (RPZ/DCV) as determined by degree of hazard under the guidelines of the NYS Sanitary Code Section 5-1.31.
2. All **New** commercial buildings are required to install a Reduced Pressure Zone backflow prevention device (RPZ). See page 2 for filing requirements.
3. New fire line services and existing fire line services being modified will require a backflow prevention device based upon M-14 guidelines. Contact us for determination prior to submittal.
4. Retrofit commercial accounts and existing buildings converting from a well will require the installation of either a Reduced Pressure Zone device (RPZ) or Double Check Valve (DCV), determined by SCWA Cross Connection Control Dept. based upon degree of hazard under NYS Department of Health guidelines. See page 3.
5. Retrofit commercial accounts determined as non-hazardous by a Cross Connection survey will be required to have a dual check valve installed at the meter.
6. Residential accounts with high degree of hazard will be required to install a RPZ device. These include, but are not limited to, fire systems, chemicals in irrigation systems, existing properties with open-loop geothermal systems connected to SCWA.
7. Residential accounts with low and no degree of hazard will be required to have a dual check valve installed at the meter.
8. All new non-residential dock services will require the installation of an RPZ.
9. SCWA may permit domestic RPZ devices to be installed in a building provided the length of the service line does not exceed 125'. Where it is not feasible to install the device inside the building, it will be required to be installed behind the water meter in a heated enclosure or above ground vault. See page 3.
10. Only devices approved by USC Foundation for Cross Connection Control will be acceptable. Plans and installations must conform to NYS Department of Health guidelines, as well as Suffolk County Water Authority's Cross Connection Control Rules / Regulations. Failed installation inspections necessitate a \$25 fee billed to the customer's account.
11. Devices are required to be tested annually at the customer's expense and results submitted thru the SCWA online test portal. All tests must be performed by a NYS Certified backflow prevention device tester who holds all appropriate licensing under Suffolk County Consumer Affairs Law regarding Backflow Testing. Should the test not be performed within the allotted 60 day time, the account will be slated for shut off.

BACKFLOW PREVENTION DEVICES
Cross Connection Control Department: 631-563-0266

The purpose of this booklet is to provide you with in the necessary information required for approval of the installation of your Reduced Pressure Zone / Double Check Valve Assembly.

NEW COMMERCIAL BUILDINGS, EXISTING BUILDINGS WITH SERVICES OVER 2", AND ALL FIRELINES.

SUBMIT FOUR (4) ORIGINALS OF THE FOLLOWING:

1. APPLICATION FORM 236 or NYS DOH 347 (page 8)
2. SITE PLAN - **STAMPED BY PROFESSIONAL ENGINEER or REGISTERED ARCHITECT** (see sample drawing # 9)
3. INSTALLATION DRAWING* - **STAMPED BY PROFESSIONAL ENGINEER or REGISTERED ARCHITECT** (see samples)
4. ENGINEERS REPORT* (see sample on page 9)
5. LETTER OF COMPLIANCE (page 11)

*The samples are designed to supply you with as much information as possible. **THEY ARE GENERIC PRINTS ONLY and cannot be submitted for review.**

There is a Plan Review Fee of \$170.00 payable to Suffolk County Water Authority that should accompany first time submittals.

Forward 4 complete sets to:

**SCWA / Cross Connection Control Department
4060 Sunrise Hwy
PO Box 38
Oakdale NY 11769**

BACKFLOW PREVENTION DEVICES
Cross Connection Control Department: 631-563-0266

The purpose of this information is to aid you in the **installation** of your **Reduced Pressure Zone or Double Check Valve device**.

NEW AND EXISTING SERVICES 2" AND SMALLER:

RPZ/DCV Installation Criteria:

Outside water meter: If the total length of the water service from the property line to the service entry in the building exceeds 125', the device **must** be installed in either a low-profile berm vault or a heated enclosure a minimum of 10', but not more than 20' from the property line. See drawings for specific installation criteria (Drawings 4, 6).

Outside water meter (length of service less than 125' allowance) or Inside water meter: The preferable inside RPZ installation is on the first floor. If the water meter is in a basement, additional copper piping will need to be run to install the device on the first floor. SCWA only allows RPZ valves in a basement up to 1 ¼" in size **and** the floor area and volume below the device is a minimum of 2,000 cubic feet. If a basement installation is chosen, a waiver must be signed alleviating SCWA of any responsibility should water damage occur due to intermittent discharge or relief valve failure. The backflow preventer must be installed on the incoming domestic water line **immediately** after the main shut off valve. Please have this verified by your plumber **BEFORE** the installation so the device is installed on the proper line. All backflow prevention devices must be installed **DOWNSTREAM** of the water meter. We only approve "K" copper upstream of a backflow device. RPZ/DCV should be sized by the size of the incoming water service. See drawings for specific installation criteria (Drawings 1, 2A, 8).

RPZ Drainage Criteria:

¾", 1", 1 ¼" RPZ = 2" minimum drain

1 ½"- 2" RPZ = 4" minimum drain

Installation must meet all criteria on the installation diagrams to meet NYS Code requirements.

Waiver for basement installation See page 10.

**New and Existing Master Metered Residential Communities
Including, but not limited to apartments, townhouses, condos/co-ops**

Board Approved in June 1996: We will not require the installation of large Primary RPZ devices behind each master meter **if**:

The customer allows the Cross Connection Control Department of the Suffolk County Water Authority to survey their **existing** facility. This would enable us to detect areas that would require the installation of an RPZ/DCV device. The purpose behind installing these smaller devices is two-fold, protecting the residents internally from these concerns, as well as not compromising on site fire protection. Often, this will be a substantial cost savings. Typically, smaller devices will be required to be installed for sewage treatment/lift stations, pool/clubhouses, commercial boiler feeds, cooling towers, maintenance buildings, slop sinks, as well as extensive irrigation systems. For **existing** master meter communities, a fee of \$190 will be charged for this survey.

If there are private hydrants on site, the customer must sign a "Hydrant Maintenance Agreement" under which all hydrants are turned over to SCWA. Suffolk County Law requires private hydrants to be tested annually. This agreement enables SCWA to flow test and maintain your hydrants. Only SCWA and the local Fire Districts will have use of these hydrants. There is an upfront fee to be paid for each hydrant. Call our New Construction Department at (631) 218-1148 for current fees.

If the owner does not want to comply with this version of our program, a Primary RPZ installation will be required directly behind each master meter.

In June 1998, the Board of the Suffolk County Water Authority approved another option for the installation of RPZ devices for the above master metered Residential Communities:

By mutual agreement we would install the required Reduced Pressure Zone Devices for you. You would reimburse the Authority for the cost of the installation. There would be a warranty period for the installation, and it would become your property. The installation would be strictly for master RPZ devices behind the meter. It would not include internal devices throughout your distribution system. The agreement could be financed over five years at a rate of 6%. This surcharge would be added to your water bill.

Through the Authority's bidding process, a licensed plumber would be hired to provide for the installation of the RPZ devices and for the design work required by an engineer/architect. SCWA would supervise the installation as required by code. This option is offered to ensure the quality of the work and to keep costs reasonable for our customers.

Please call the Cross Connection Control Department at 631-563-0266 for further information.

SUFFOLK COUNTY WATER AUTHORITY
CROSS CONNECTION CONTROL-FIRE PROTECTION SYSTEMS
M-14

CLASS	ARRANGEMENT	PROTECTION REQUIRED
1	Direct connections from public water mains only; no pumps, tanks, or reservoirs; no physical connection from other water supplies; no antifreeze or other additives of any kind; all sprinkler drains discharging to atmosphere, dry wells, or other safe outlets.	Approved Double Check Valve (DCV)
2	Same as Class 1, except that booster pumps may be installed in the connections from the street mains. (Booster Pumps do not affect the potability of the system, it is necessary however, to avoid drafting so much water that pressure in the water main is reduced below 20 PSI).	Approved Double Check Valve (DCV) Flow regulator to control over drafting.
3	Direct connection from public water supply main plus one or more of the following: elevated storage tanks; fire pumps taking suction from above-ground covered reservoirs or tanks; and pressure tanks (all storage facilities are filled or connected to public water only, the water in the tanks to be maintained in a potable condition. Otherwise, Class 3 systems are the same as Class 1.	Approved Double Check Valve (DCV)
4	Directly supplied from public water mains similar to Classes 1 and 2, and with an auxiliary water supply on or available to the premises; or an auxiliary supply may be located within 1700' of the pumper connection.	Approved Reduced Pressure Zone Device (RPZ)
5	Directly supplied from public mains, and interconnected with auxiliary supplies, such as pumps taking suction from reservoirs exposed to contamination, or rivers or ponds; driven wells; mills or other industrial water systems; or where antifreeze or other additives are used.	Approved Reduced Pressure Zone Device (RPZ)
6	Combined industrial and fire protection systems supplied from the public water mains only, with or without gravity storage or pump suction tanks.	Minimum protection Approved Double Check Valve (DCV). Protection would depend on the requirements of both industry and fire protection and could only be determined by a survey of the premises.

PRIVATE HYDRANTS: In order to be granted a waiver on installing an RPZ for a Private Hydrant, a Maintenance Agreement must be signed with SCWA. If there is no agreement, an RPZ device will be required. Fire lines without hydrants are determined by M-14 guidelines.

DRY RECHARGE BASIN REQUIREMENTS

Suffolk County Water Authority has always considered a recharge basin (sump) as an “auxiliary water supply”; this is referred to in **M-14 Class 4 Fire Protection Systems**. This interpretation held true whether there was water in the recharge basin or whether it was dry. This interpretation has been reviewed and the determination has been made that a dry recharge basin is not to be considered an auxiliary water supply. In order to be considered a dry recharge basin, all of the following criteria **must** be met:

- A. Site inspection by a representative of Suffolk County Water Authority.
- B. Certified results of a test boring confirming the ground water elevation to be lower than the floor of the recharge basin. This information can be obtained by the Town’s Engineering Department.
- C. A report in writing from a Professional Engineer certifying to the dry condition of the recharge basin.

NEW and MODIFIED EXISTING FIRELINE SYSTEMS

At the October 30, 2001 meeting of the Board of the Suffolk County Water Authority, a new resolution was passed concerning new and modified existing fire lines.

Effective November 1, 2001, all fire line services are mandated to have a **minimum** of a Double Check Valve (DCV) installed on the line. A Double Check Valve filing is required by a licensed Engineer or Architect.

Reduced Pressure Zone Devices will be required where a Double Check Valve is not acceptable as per M-14 Code requirements.

Regardless of the length of service, fire line devices will be acceptable installed within the building so long as the fire department connection or other connections are installed downstream of the said device.

In order to obtain a decision as to which type of backflow device is required, please submit a detailed site plan showing the fire line service, size, the street the service is being taken from, the tie-in distance to the nearest cross street, and the location of the fire department connection (if any). A field survey will be performed to determine if an RPZ or DCV is required.

NEW YORK STATE DEPARTMENT OF HEALTH
APPLICATION FOR APPROVAL OF BACKFLOW PREVENTION DEVICES

COMPLETE ITEMS 1 THRU 12 ONLY

1. Name of Facility:	2. City, Village, Town:	3. County
4. Exact Location of Facility; i.e., Street Address:		
5. Approx. Location of Device:	6. Mfg., Size, Model No. of Device(s)	
7. Name & Title of Owner:		
Mailing Address:		Telephone Number
Zip:		8. Nature of Works
Owner's Signature	Date:	[] New [] Revised
9. Design Engineer or Architect	10. NYS License No.	
11. Water System Pressure (psi) at Point of Connection Max. Avg. Min.	12. Estimate Install Cost :	
13. Degree of Hazard:		
<input type="checkbox"/> Hazardous <input type="checkbox"/> Aesthetically Objectionable		
List Processes or reasons which lead to degree of hazard checked above:		
<div style="border-top: 1px solid black; height: 10px; margin-top: 10px;"></div>		
14. Public Water Supply Name:	Name and Title of Suppliers Designated Rep:	
Suffolk County Water Authority 4060 Sunrise Hwy/PO Box 38 Oakdale NY 11769	<div style="border-top: 1px solid black; height: 10px; margin-top: 10px;"></div>	
	* Signature <div style="border-top: 1px solid black; height: 10px; width: 100%;"></div>	
*Signature endorses proposal		Telephone #: 631-563-0266

NOTE: All applications must be accompanied by plans, specifications and an engineer's report describing the project in detail. The project must be submitted to the Suffolk County Water Authority. This form must be prepared with 4 copies of all plans, specifications and supporting information.

GEN 236 (8/08)

SAMPLE ENGINEER'S REPORT

Suffolk County Water Authority
4060 Sunrise Hwy/PO Box 38
Oakdale NY 11769

We have been retained by Emerson Development Corporation to prepare the design for the reduced pressure backflow prevention device (RPZ) for the Inn at Montauk, located at 1 Main St. Montauk, New York. The proposed project will consist of two story motel building. A 1" water service is requested. The average daily demand is estimated at 150GPD with a peak demand of 10 GPM.

In compliance with the requirements of the New York State Health Department, Suffolk County Department of Health Services, and the Suffolk County Water Authority, an RPZ is proposed for the service. The RPZ will be located on the first floor in the utility room. The RPZ proposed is Febco model LF825Y-1". At the peak demand of 10 GPM, the head loss through the RPZ is 9 psi.

Very truly yours,

Consulting Engineer/Registered Architect

WAIVER FOR WATER DAMAGE RPZ BASEMENT INSTALLATION

Date _____

Suffolk County Water Authority
Cross Connection Control
4060 Sunrise Hwy
Oakdale NY 11769

RE:

Suffolk County Water Authority has advised me of the potential for water damage to my basement in the event of an intermittent or catastrophic relief valve failure discharge of the RPZ installed in the basement of the above referenced property. By signing this letter, I attest to the fact that SCWA will not be held responsible should water damage occur.

Suffolk County Water Authority also suggests a water level alarm be installed to detect flow from the device which will alert personnel.

Sincerely,

Owner of Property

Please print name of whose signature appears _____

COMPLIANCE LETTER

Date_____

SUFFOLK COUNTY WATER AUTHORITY
CROSS CONNECTION CONTROL DEPT.
4060 Sunrise Hwy
PO Box 38
Oakdale, NY 11769

RE:

I request that water service be provided to the above- referenced facility. This request is being made with the understanding and agreement that we will at our expense comply with any, and all changes requested by the New York State Department of Health Services.

The Public Health code prohibits any connections before a backflow prevention device. Should any connections be made, I understand that I am in violation and I must take appropriate action to remove said violations.

Should we fail to comply with these requests, it is understood that the service will be terminated within 30 days.

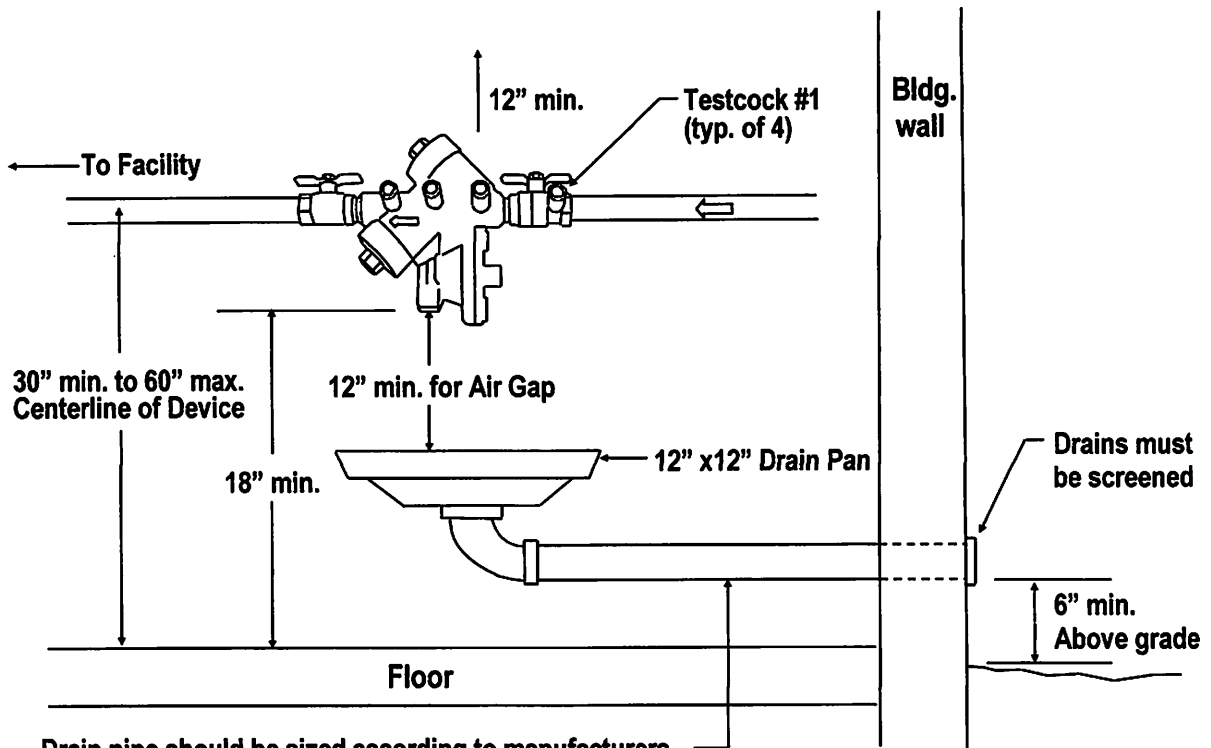
Very truly yours,

(Owner's signature)

Name: _____
(please print)

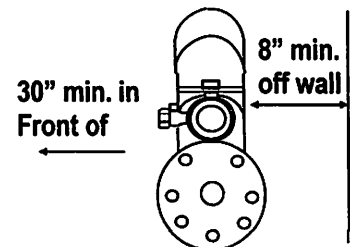
Mailing Address:

First Floor Installation Reduced Pressure Zone (RPZ)



Drain pipe should be sized according to manufacturers flow curves to determine maximum discharge rates.
See sample flow chart

FRONT VIEW

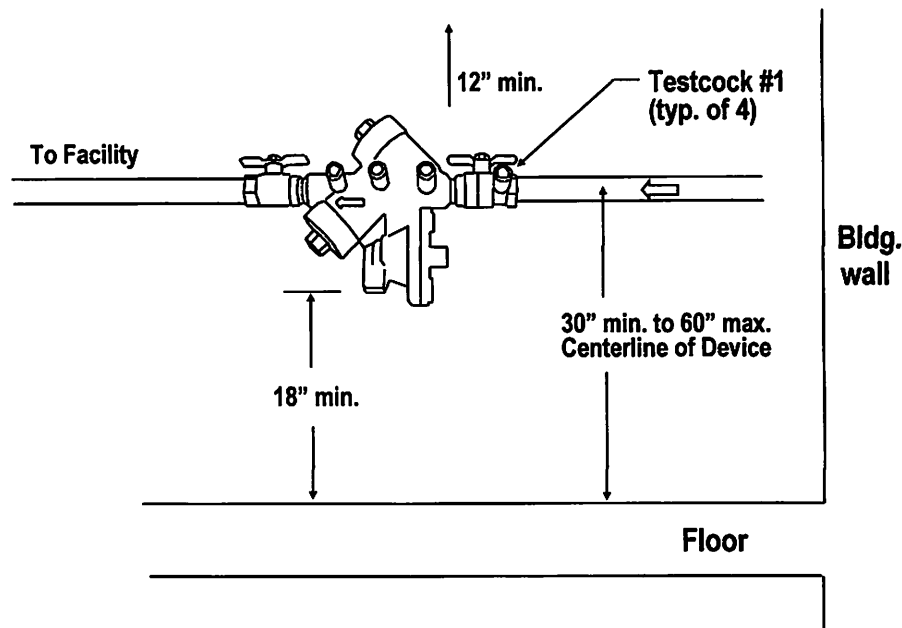


SIDE VIEW

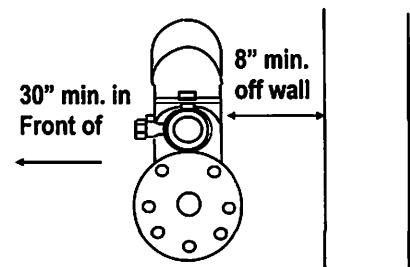
NOTES:

1. Must be a lead free model and have USC Foundation for CCC approval.
2. Must be protected against freezing.
3. Adequate lighting must be provided.
4. A separate shut off valve is required upstream of RPZ.
5. Test cocks must be positioned to facilitate testing (30" minimum required).
6. Drains must be screened and cannot be subject to flooding.
7. RPZ Must be adequately supported to either the wall behind or floor to prevent lateral movement. Sizes of 2' must be supported to the floor.
8. Supports must be placed where they will not obstruct the function or access to relief valve.
9. If installed higher than 5' above the floor an OSHA approved fixed platform is required
10. All connections, T's, hose bibs, irrigation etc., must be downstream of RPZ.
11. Perform proper maintenance as per manufacturer's requirements.
12. Must be tested annually.
13. If water meter is inside, and the RPZ is installed more than 10', all exposed piping must be stenciled and labeled every 6' "FEED TO BACKFLOW PREVENTER, DO NOT TAP".

Basement Installation (See Waiver): Reduced Pressure Zone Devices Between 3/4" to 1 1/4"



FRONT VIEW



SIDE VIEW

NOTES:

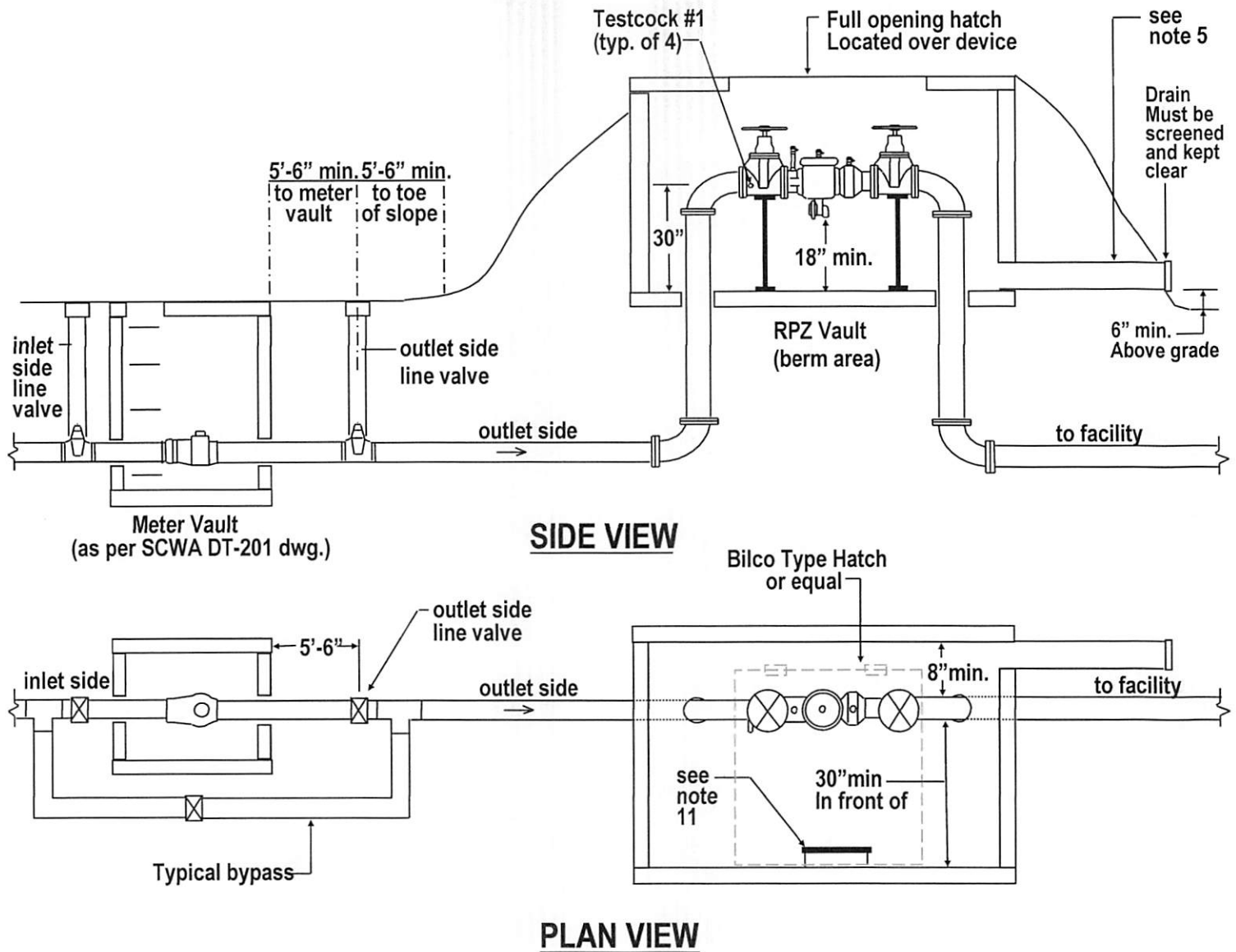
1. Basement installation is only acceptable when the floor area and the volume below the RPZ is a minimum of 2000 cubic feet to accommodate discharge from a relief valve failure. Customer beware there is a potential for water damage to the basement.
2. RPZ must be lead free model and have USC Foundation for CCC approval.
3. This device must be protected against freezing.
4. Test cocks must be positioned to facilitate testing (30" minimum clearance).
5. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
6. Proper maintenance must be performed.
7. Perform proper maintenance as per manufacturer's requirements.
8. RPZ must be supported to wall behind or floor to prevent lateral movement. Sizes of 2" must be supported to floor.
9. Supports must be placed where they will not obstruct the function or access to relief valve
10. A separate shut off valve is required upstream of the RPZ.
11. Adequate lighting must be provided.
12. If installed higher than 5' above the floor an OSHA approved fixed platform is required.
13. All connections, T's, hose bibs, irrigation, etc. must be downstream of RPZ.
14. RPZ must be tested annually.

Design by: L. Wynhurst

Drawn by: B. Wehnke

DWG
2A

RPZ Vault with Large Meter Vault



NOTES:

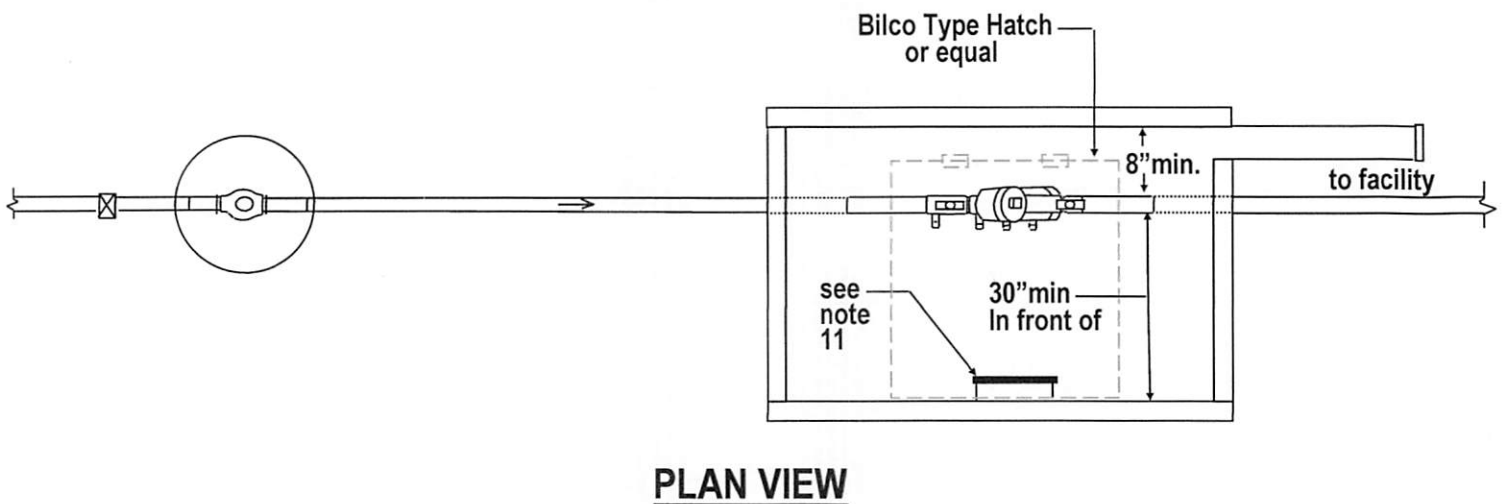
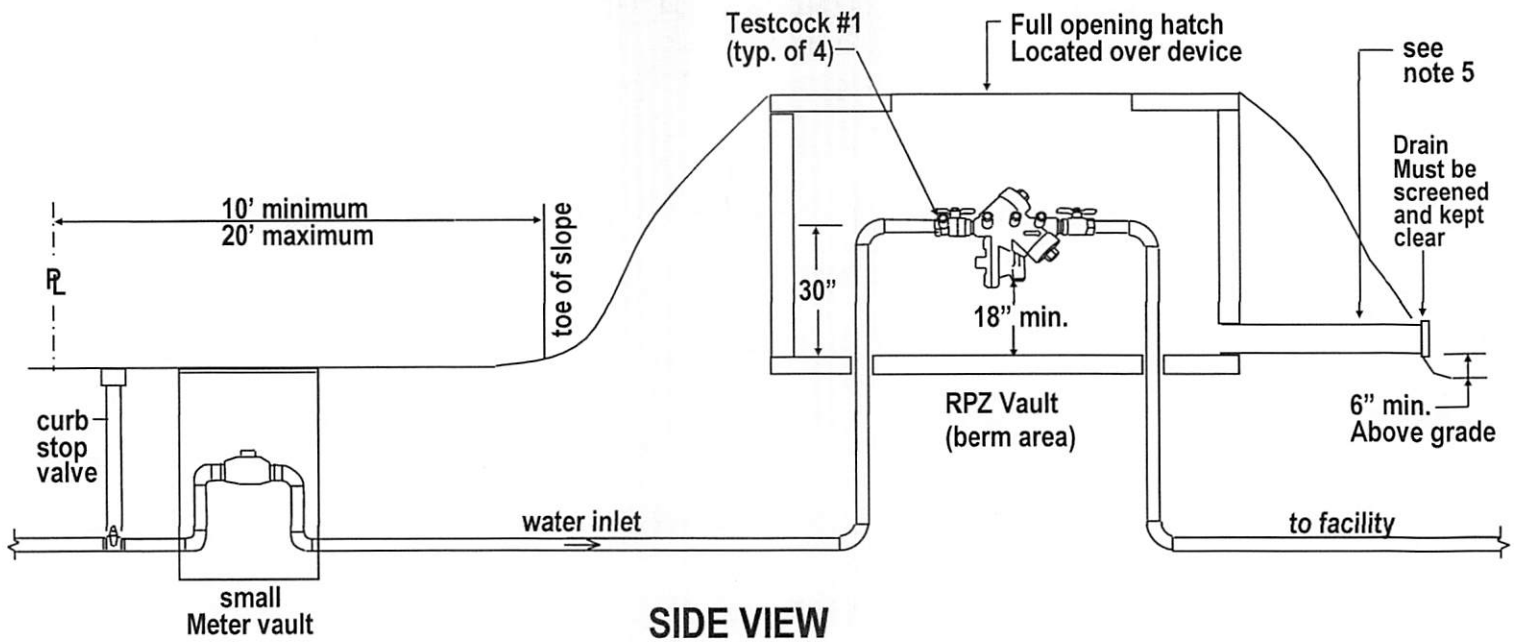
1. Must be a lead free model and have USC Foundation for CCC approval.
2. Test cocks must be positioned to facilitate testing (30" minimum clearance).
3. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
4. Drain(s) cannot be subject to flooding and must have exterior screen(s).
5. Drain pipe should be sized according to manufacturers flow curves to determine maximum discharge rates. See sample flow chart.
6. Must be protected against freezing.
7. Device must be adequately supported to prevent lateral movement. Devices 2" or larger must be supported to the floor with pipe stanchions.
8. Supports must be placed where they will not obstruct the function or access to relief valve.
9. Full opening hatch to encompass centerline of device.
10. Device must be tested annually.
11. Access ladder to be provided and cannot be on hinged side of hatch.
12. Perform proper maintenance as per manufacturer's requirements.

Design by: L. Wynhurst

Drawn by: B. Wehnke

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RPZ Vault with Small Meter Vault



NOTES:

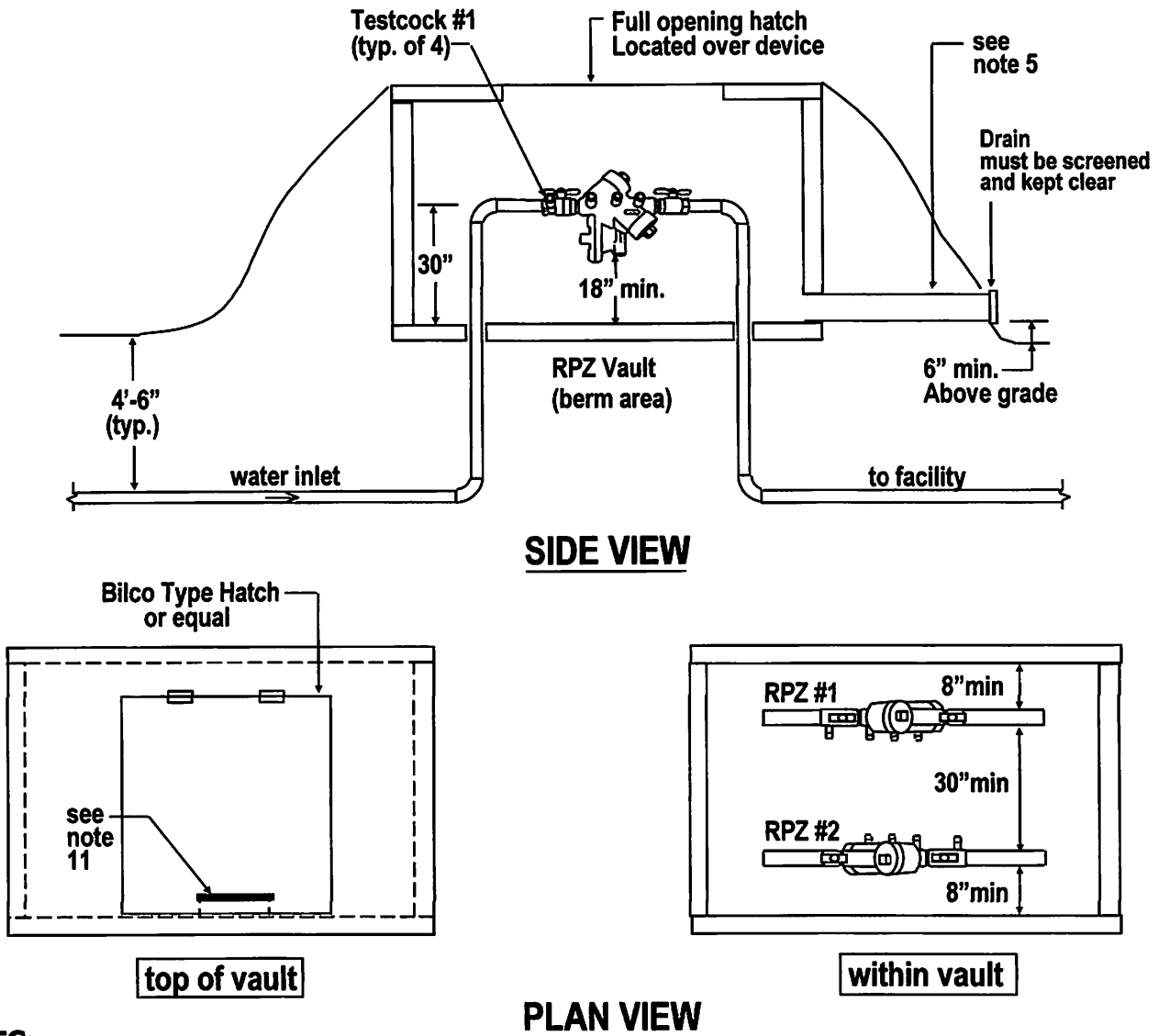
1. Must be a lead free model and have USC Foundation for CCC approval.
2. Test cocks must be positioned to facilitate testing (30" minimum clearance).
3. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
4. Drain(s) cannot be subject to flooding and must have exterior screen(s).
5. Drain pipe should be sized according to manufacturers flow curves to determine maximum discharge rates. See sample flow chart.
6. Must be protected against freezing.
7. Device must be adequately supported to prevent lateral movement. Devices 2" or larger must be supported to the floor with pipe stanchions.
8. Supports must be placed where they will not obstruct the function or access to relief valve.
9. Full opening hatch to encompass centerline of device.
10. Device must be tested annually.
11. Access ladder to be provided and cannot be on the hinged side of hatch.
12. Perform proper maintenance as per manufacturer's requirements.

Design by: L. Wynhurst

Drawn by: B. Wehnke

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Dual Devices Within The Same Vault



SIDE VIEW

top of vault

within vault

PLAN VIEW

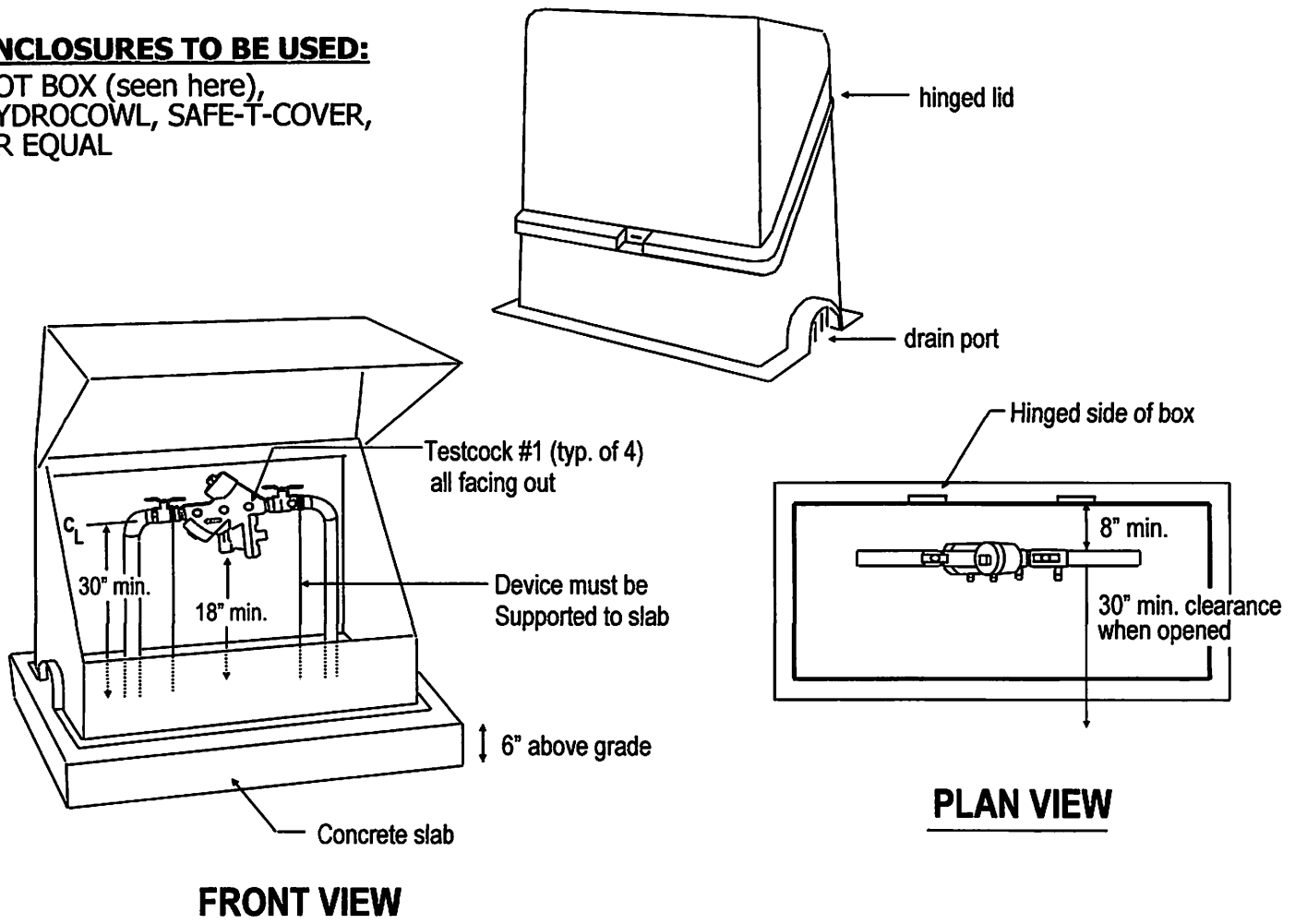
NOTES:

1. Must be a lead free model and have USC Foundation for CCC approval.
2. Must be protected against freezing.
3. Test cocks must be positioned to facilitate testing (30" minimum clearance).
4. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
5. Drain pipe should be sized according to manufacturers flow curves to determine maximum discharge rates. See sample flow chart.
6. Drain(s) cannot be subject to flooding and must have exterior screen(s).
7. Devices must be adequately supported to prevent lateral movement. Devices 2" or larger must be supported to the floor.
8. Supports must be placed where they will not obstruct the function or access to relief valve.
9. Full opening hatch to encompass centerline of one device to centerline of the opposite device.
10. Device to be tested annually.
11. Access ladder to be provided and cannot be on hinged side of hatch.
12. Perform proper maintenance as per manufacturer's requirements.

Insulated Heated Enclosure

ENCLOSURES TO BE USED:

HOT BOX (seen here),
HYDROCOWL, SAFE-T-COVER,
OR EQUAL



NOTES:

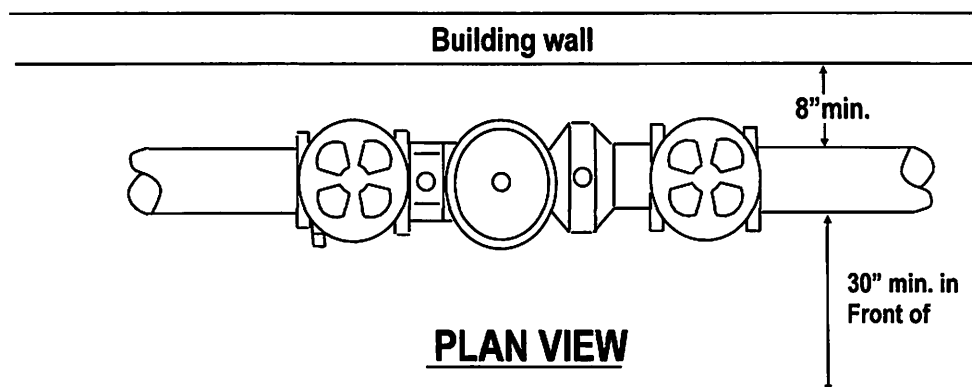
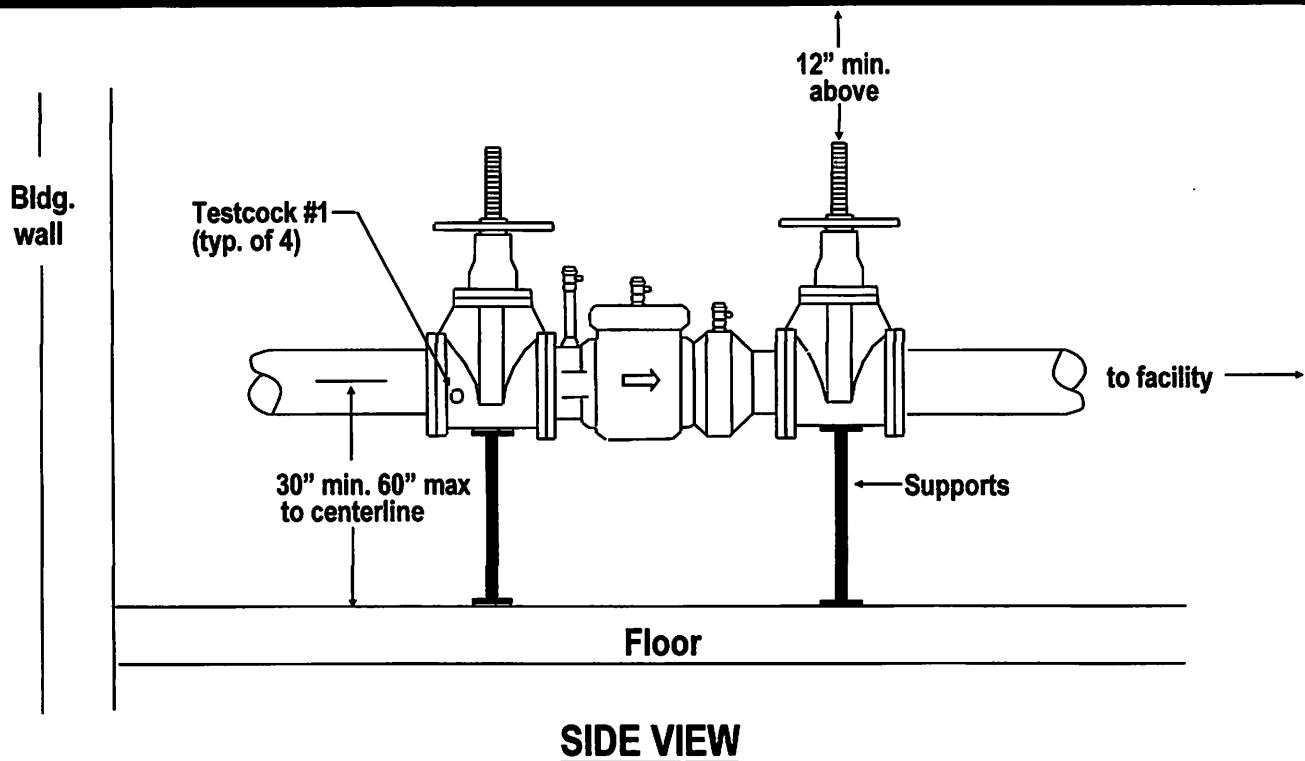
1. Must be a lead free model and have USC Foundation for CCC approval.
2. Adequate electric power required within the box for heat trace tape or space heater.
3. GFI outlet required within the enclosure and be a minimum 18" off slab.
4. Test cocks must be positioned to facilitate testing (30" minimum clearance).
5. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
6. Enclosure must have screened weep holes for drainage and cannot be subject to flooding.
7. Device must be supported to concrete slab.
8. Supports must be placed where they will not obstruct the function or access to relief valve.
9. Concrete slab to be sized according to manufacturer's recommendations.
10. Device must be tested annually.
11. Enclosure to be HOT BOX, HYDROCOWL, SAFE-T-COVER, OR EQUAL.
12. Enclosure to be N.Y. designation.
13. Diaphragm of Febco models must be on open side of box.
14. Perform proper maintenance as per manufacturer's requirements.

Design by: L. Wynhurst

Drawn by: B. Wehnke

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Typical Fireline Double Check Valve Inside Installation



NOTES:

1. Must be a lead free model and have USC Foundation for CCC approval.
2. Test cocks must be positioned to facilitate testing (30" minimum clearance).
3. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
4. Resilient seated valves required to be OS & Y on 2 1/2" and larger.
5. FDC/Siamese connection must be shown downstream of double check valve.
6. Perform proper maintenance as per manufacturer's requirements.
7. Must be protected against freezing.
8. Device must be adequately supported to prevent lateral movement. Devices 2" or larger must be supported to the floor with pipe stantions.
9. Adequate lighting must be provided.
10. Device may not be installed higher than 5' above the floor or a fixed platform is required.
11. SCWA only approves ductile iron pipe upstream of backflow device.
12. Must be tested annually.

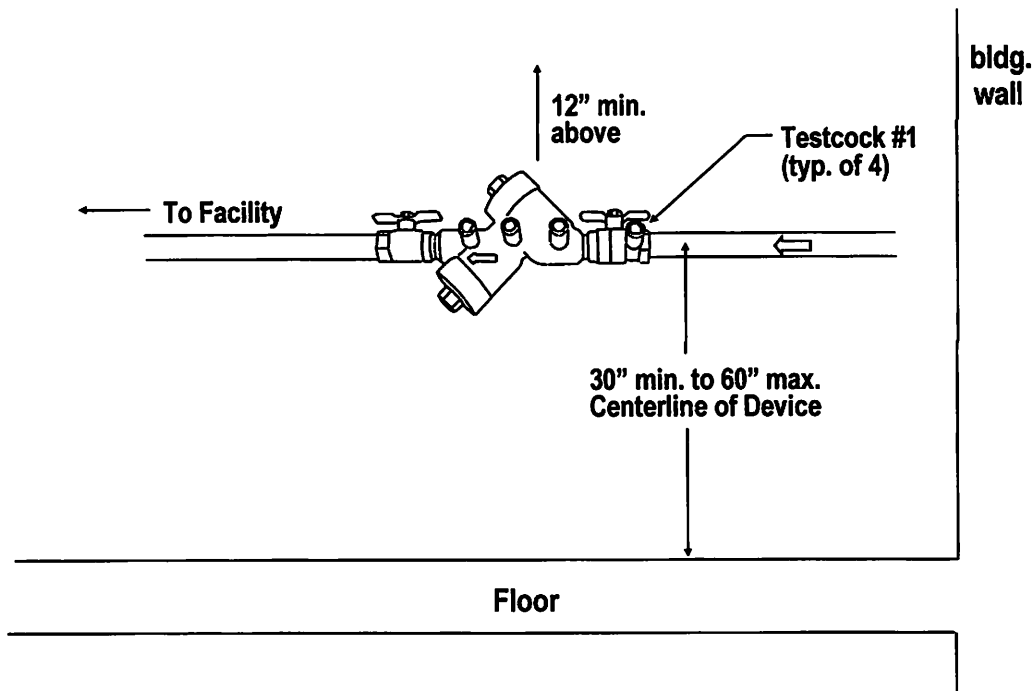
Design by: L. Wynhurst

Drawn by: B. Wehnke

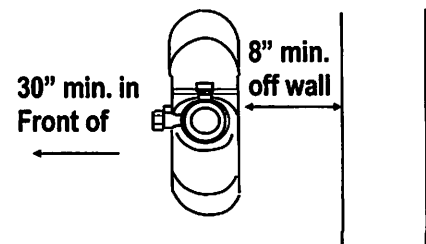
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Double Check Valve Inside Installation



FRONT VIEW



SIDE VIEW

NOTES:

1. Must be lead free model and have USC Foundation for CCC approval.
2. Test cocks must be positioned to facilitate testing (30" minimum clearance).
3. All connections T's, hose bibs, irrigation etc. must be installed after (downstream) of device.
4. Proper maintenance must be performed
5. Must be protected against freezing.
6. Device can be installed vertically if approved in that orientation by USC Foundation for CCC.
7. Device must be adequately supported to prevent lateral movement. Devices 2" or larger must be supported to the floor with pipe stanchions.
8. A separate shut off valve is required upstream of the assembly
9. Adequate lighting must be provided
10. Device may not be installed higher than 5' above the floor or an OSHA approved fixed platform is required.
11. Perform proper maintenance as per manufacturer's requirements.
12. Must be tested annually.

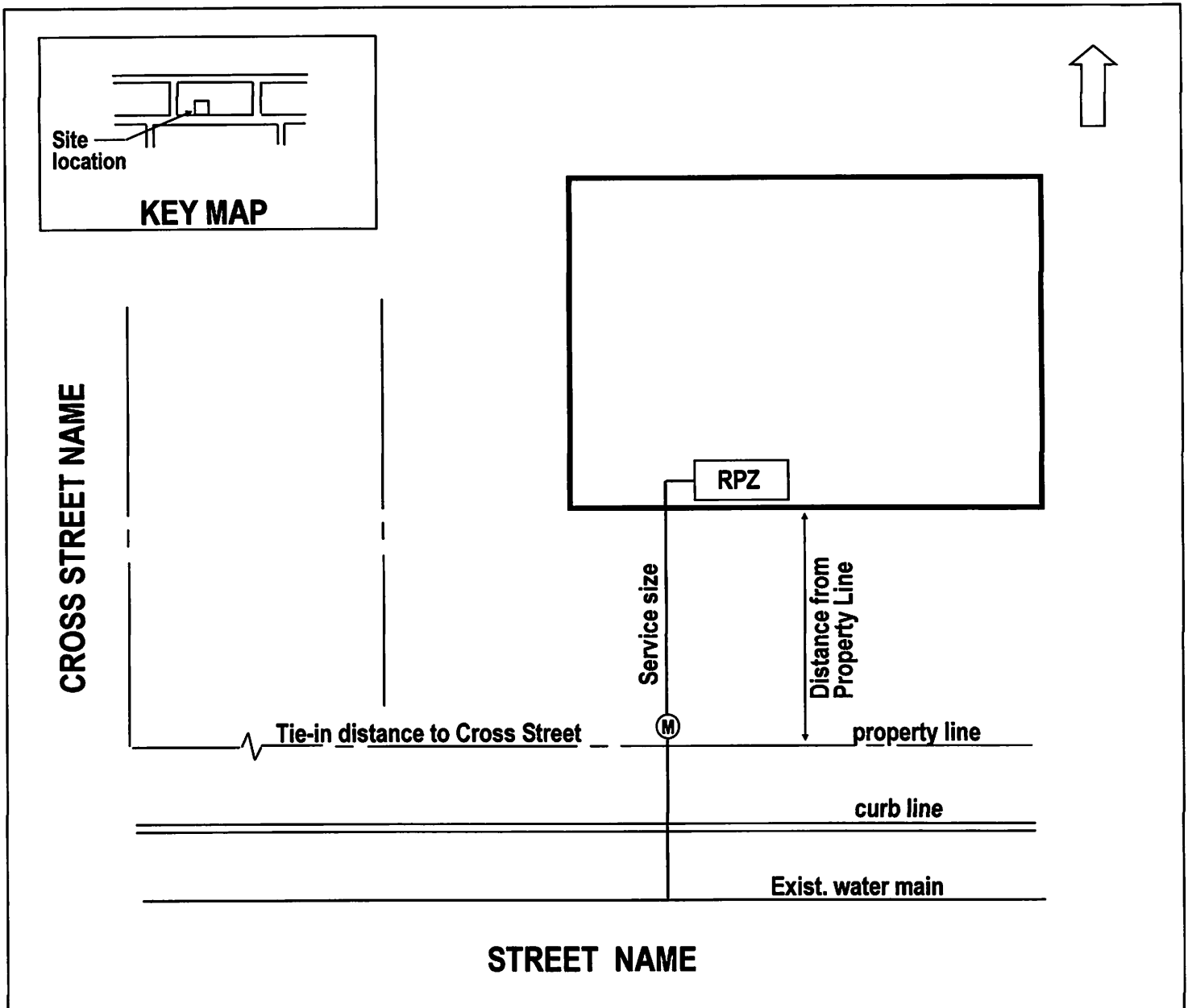
Design by: L. Wynhurst

Drawn by: B. Wehnke

DWG

8

Typical Site Plan



INDICATE THE FOLLOWING ON SITE PLAN:

- 1) Location of existing water main.
- 2) Location of curb line.
- 3) Location of property line.
- 4) Location of water meter.
- 5) Location and size of water service.
- 6) Location of proposed RPZ/DCV device.
- 7) Distance from property line to building.
- 8) Street Name
- 9) Cross Street name(s)
- 10) Distance from closest cross street
- 11) North Arrow
- 12) Key Map
- 13) Tax Map Number
14. 10' clearance from all existing and new utility lines, driveways, catch basins, obstructions etc.

NOTE:

Maximum distance of 125' for RPZ / DCV to be acceptable inside a building. If service is greater than 125' than RPZ / DCV is required to be installed in a outside enclosure.

Design by: L. Wynhurst

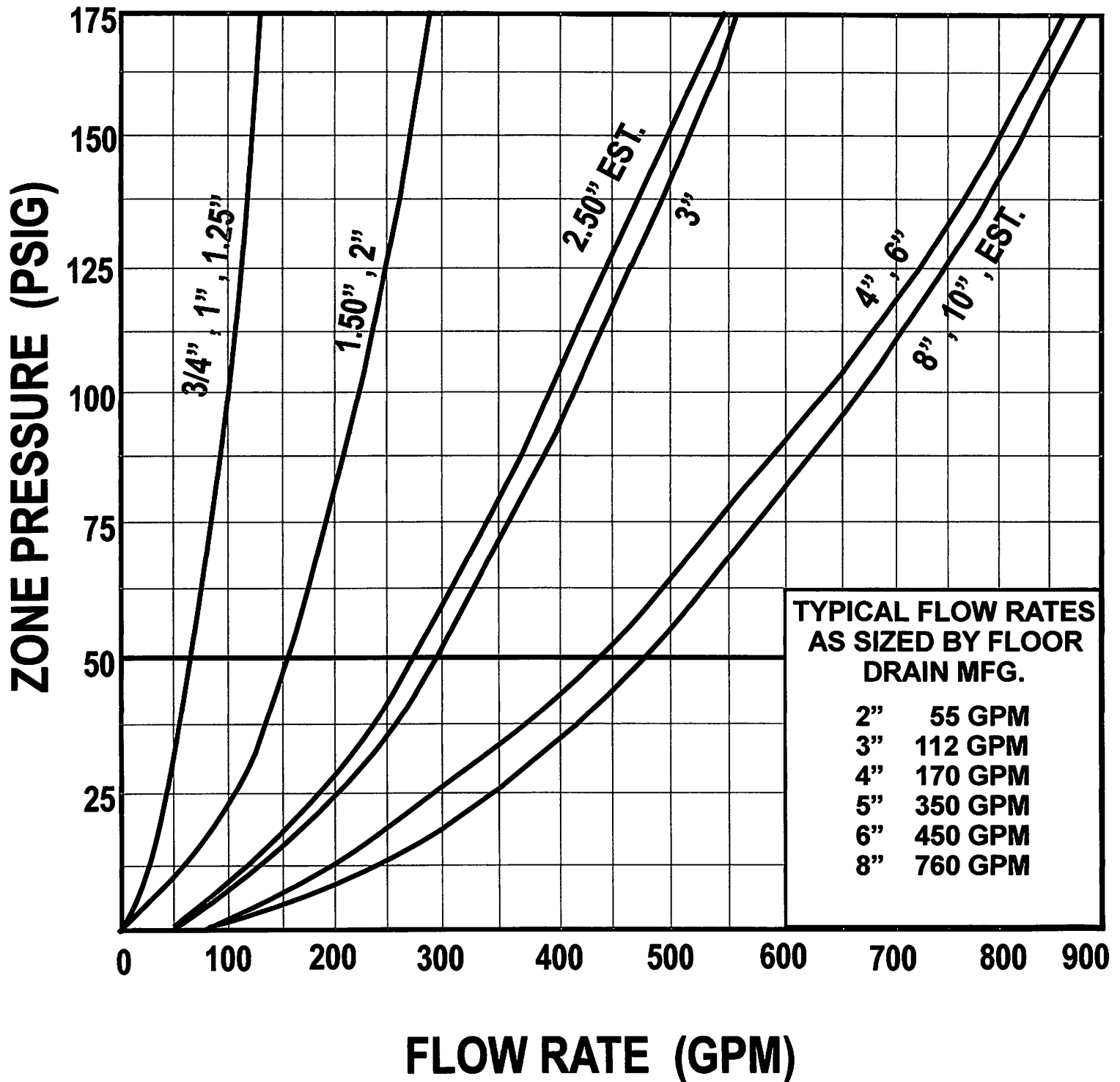
Drawn by: B. Wehnke

DWG

9

Sample Relief Valve Discharge Rates

(Please refer to actual manufacturer's rate chart)



Design by: L. Wynhurst

Drawn by: B. Wehnke

DWG
10