

New England Backflow Inc.
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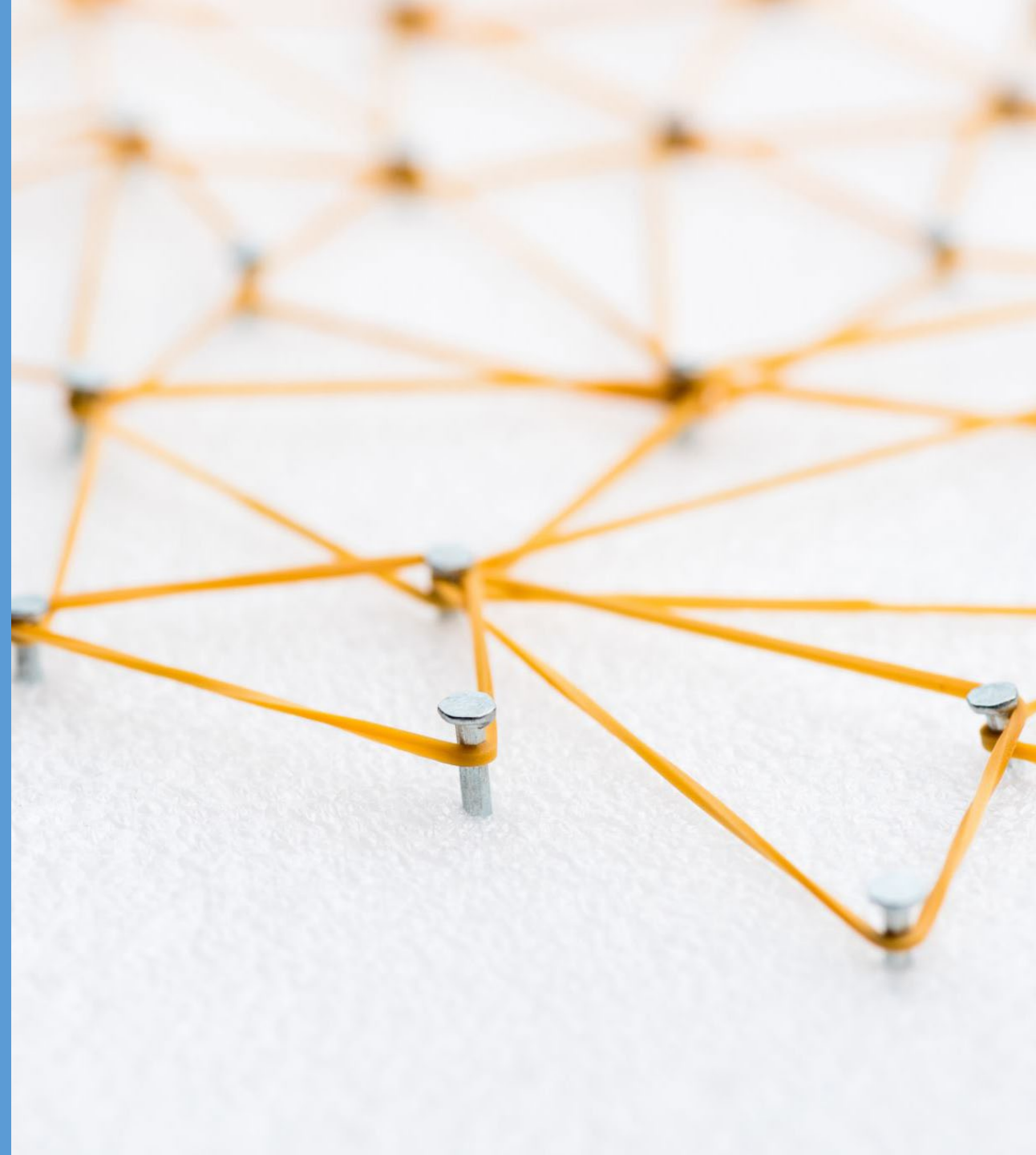
Office: 603-669-4004



Any
community
USA each with
a water
service
connection

Cross Connection Requirements

There are several elements of
a cross connection program



Elements of a cross connection program

Ordinance

Education

Types of service connections

Surveys

Backflow testing



An ordnance starts
with a meeting of
the Select Board,
Commissioners



Where to begin?

- NH Env-Dw 505.01 Purpose.
- (a) The purpose of this part is to regulate, control, and prevent the contamination of public drinking water by the backflow of water or other liquids, gases, mixtures, or other substances into the water distribution system of a public water system (PWS) from a source or sources other than the approved source(s) of water.
- (b) This part is not intended to interfere with the progress of existing effective cross-connection control programs, but rather to strengthen them and encourage uniformity across the state.

State model for cross connection program

Do not reinvent the wheel

The State has a model ordinance use it, your customers do business in other communities

The States model makes things uniform from community to community

Ordinance adopted

Be	Be sure the commissioner's support the ordinance
Be	Be kind to your customers
Go	Go to the local chamber of commerce
Go	Go to the rotary club
Visit	Visit as many businesses as possible (Especially the small mom and pop facilities)

To be successful

1

Begin slowly, (do not send every customer a demand letter)

2

Pick and choose where to begin, (small steps leads to big successes)

3

Work with your toughest critics, (gain their support)

4

Allow time for your customers to understand your needs

5

Help your customers understand why this needs to happen

6

Give your customers the tools to help them be successful



Education

Do Not Attack
everyone at
once

If you want a political nightmare:

Be forceful

Tell your customers it's the Law

Tell them they must comply, or you'll
shut their water off

This is the quickest way to kill your cross-connection program, trust me I've seen it

I said it before, be kind

Implement your program slowly and over time, not all at once

Work with your customers

Help them find solutions to a problem they didn't know they had

Working together



Be prepared to go to the Chamber of commerce



Go to Rotary



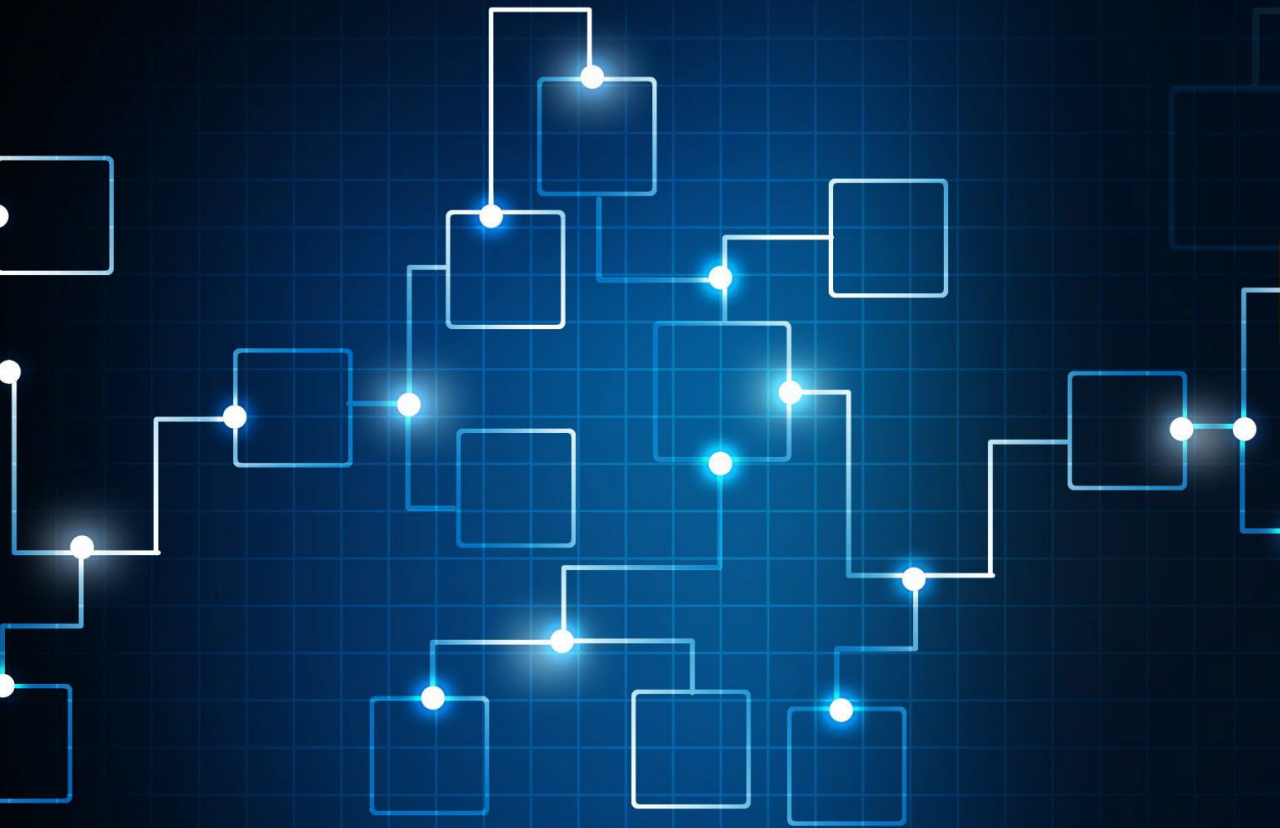
Put up a display at the local library



Visit your local businesses and talk with them



Educate your customers one at a time



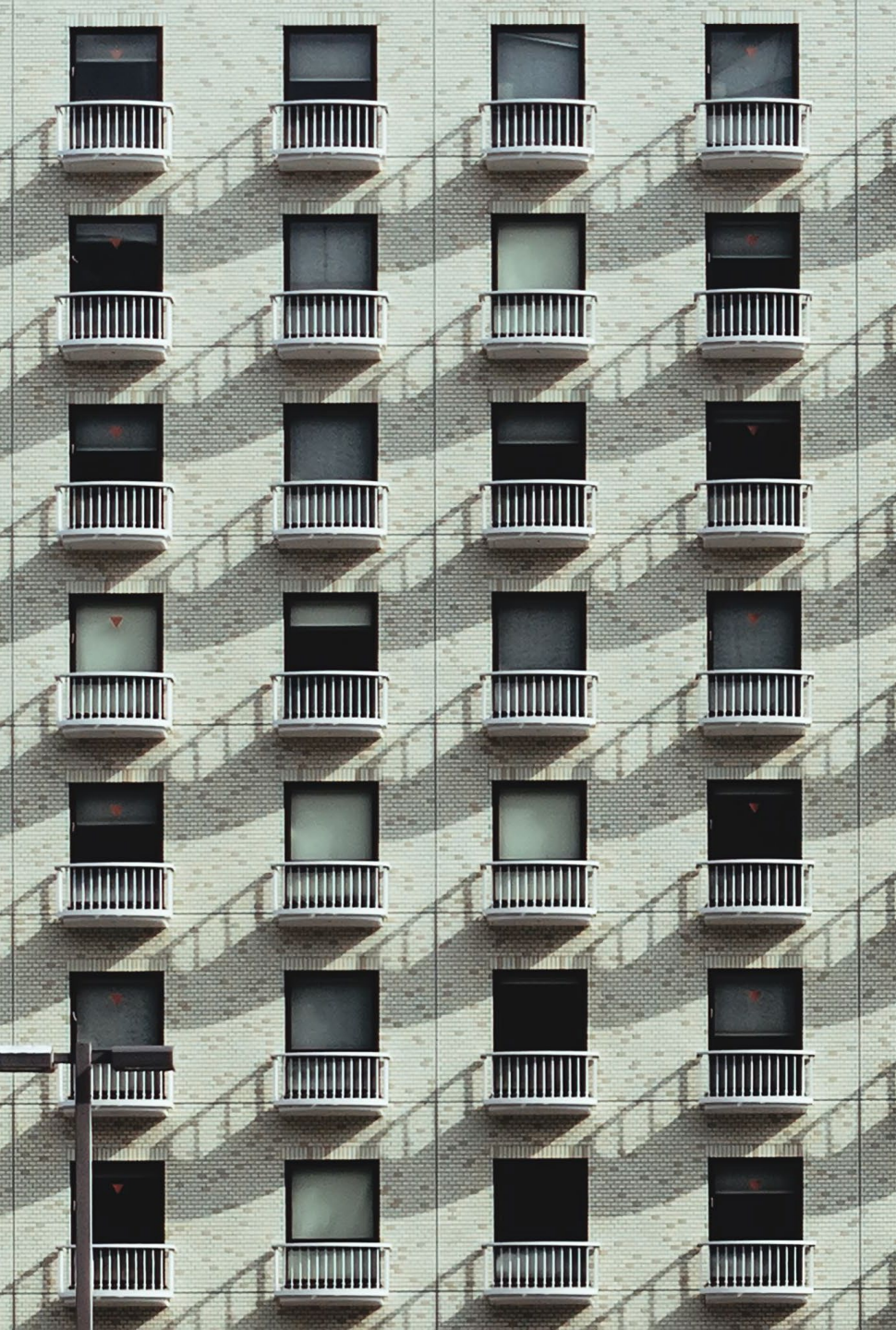
Elements of a cross connection program

Knowing your service connections

Residential

Commercial

Industrial

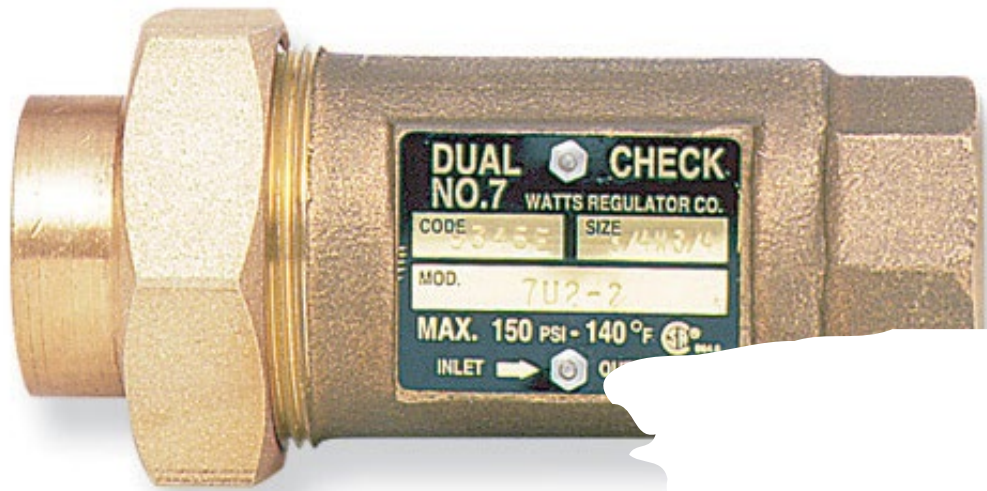


Residential

- Homes, Condominiums, Apartments
- Typically, low hazard
- Could have irrigation systems
- May have fire protection systems
- May have boilers with glycol
- Do you know if any of your customers have any of these?



Each of these facilities are a risk, is your system protected



What is the Proper protection for Residential



Dual checks

Technically not an approved backflow

They do offer protection

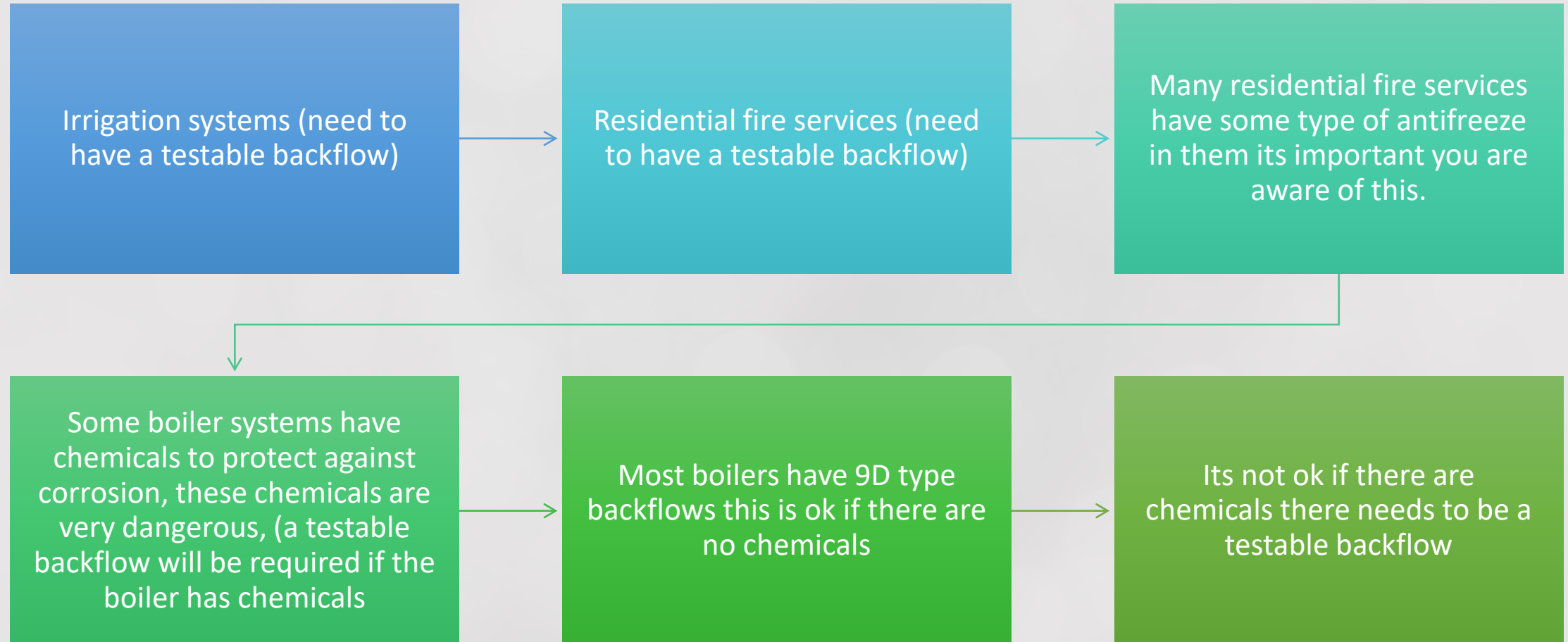
Worth having in place Vs not having anything at the service entrance

Can be installed during a meter replacement program

If you plan on adding a dual check where there isn't one be sure there is an expansion tank on the cold-water line

Expansion tanks need to be pressurized to system pressure

Beyond the service entrance





Proper protection Residential

- **Question? Does a residential property pose a risk to your water system**
- **These properties may have:**
- Irrigation systems
- Pools
- Boilers with glycol
- Fire protection systems

Do you know if any of these residential properties have any of these connections?



Proper protection Residential

- **Is there an irrigation system? If so:**
- a vacuum breaker or reduced pressure zone type backflow would be required on the irrigation system.
- If the irrigation system has heads higher than where the backflow is located, then an RPZ backflow would be required, otherwise a vacuum breaker type would be acceptable.
- **Completing a survey would help you in identifying these issues.**



Proper protection Residential

- Is there a boiler system with glycol? If so:
- a reduced pressure zone type backflow would be required on the boiler system
- Most systems have a non-testable 9D
- If there were no chemicals in the boiler system this device would be considered ok
- The water utility makes the determination where to protect, at the service entrance or the cross connection, you decide
- **Completing a survey would help you in identifying these issues.**



Residential Fire Protection Systems

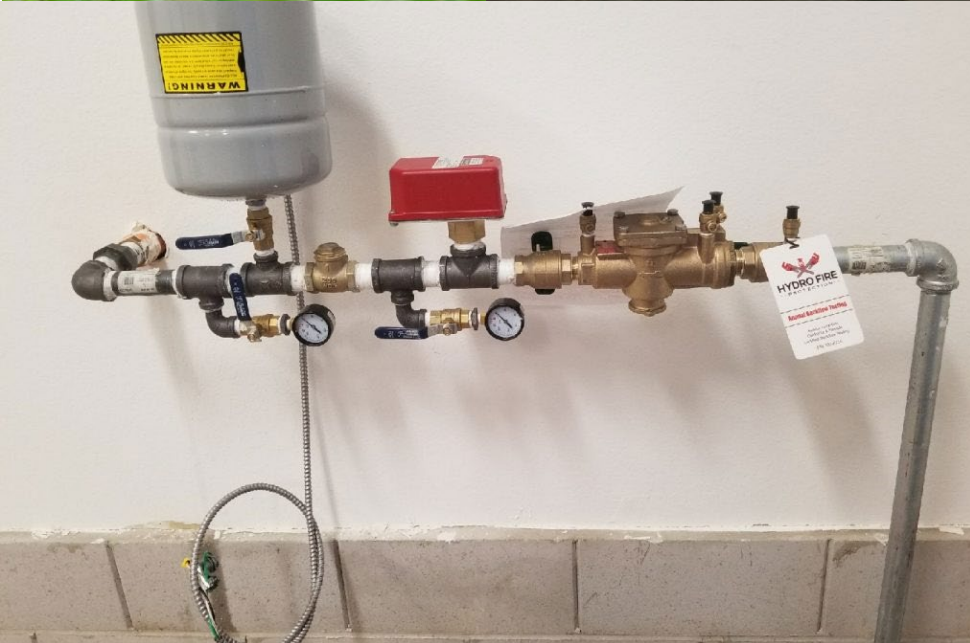
- Is there a fire protection system, does it have glycol? If so:
 - a reduced pressure zone type backflow would be required on the fire protection system
 - There are residential fire protection systems that connect to the potable water supply that do not need additional backflow protection systems
-
- **Completing a survey would help you in identifying these issues.**





Three potential cross connections we've identified without leaving the office

- Irrigation
 - Boilers with or without glycol
 - Fire protection systems
-
- I would say a residential property poses a risk for cross connections, wouldn't you?



What is the proper protection for a residential property?

You really don't know until you've completed a survey of each property

It is easy for the homeowner to buy and install an irrigation system over the weekend

It is unlikely a homeowner would install a fire protection system

It is possible the local boiler guy or plumber would put glycol into a boiler system without you ever knowing it

Do you know what is connected to your water system?



Commercial Properties

Commercial Properties



What type of facility is it



Food processing plant



Hospital



Auto mechanics



Dentist office



Restaurant



Office building

Commercial Properties What type of protection would you require

Would you automatically require an RPZ at the service entrance

Do all commercial properties pose the same risk

Would a dentist facility and office building require an RPZ backflow

I ask these questions because it is important to survey all the facilities connected to your water system

A double check backflow (DC) device is typically used for low hazards while a reduced pressure zone (RPZ) device is used in high hazard situations

Commercial Properties

Multiple Tenant Building

What could possibly be connected here

Irrigation

Fire Protection System

Boilers with Glycol

Cooling Towers

Mop or slop sinks

Soap dispensers

Dish washers

Laundry Facilities

By completing a survey of the facility, you can make an informed decision for the type of protection you should require





Industrial Properties

- What is in this facility?
- Is it a risk to you water system?
- Does it have the proper protections?

- Have you surveyed this facility?

Industrial Properties

What type of protection would you require

Would you automatically require an RPZ at the service entrance

Do all industrial properties pose the same risk

Would an Amazon facility and chip manufacturing facility require an RPZ backflow at the service entrance

I ask these questions because it is important to survey all the facilities connected to your water system

A double check backflow (DC) device is typically used for low hazards while a reduced pressure zone (RPZ) device is used in high hazard situations

Industrial Properties are not all the same

Domestic service
multiple backflows
in parallel (limits
interruptions)

Fire service (RPZ or
DC type backflow)

Cooling towers

Water treatment
systems

Boilers

Internal uses, acid
baths, metal plate
washing, cooling
water for machinery

Kitchens

Laundry facilities



Proper protection

- **For the Fire protection systems**
- a Double check backflow device or reduced pressure zone type backflow would be required.
- If the fire protection system has Glycol in the system, then an RPZ backflow would be required, otherwise, if there are no chemicals in the fire protection system then a double check backflow would be acceptable.
- (We caution you on Y-connections)
- **Completing a survey would help you in identifying these issues.**

Elements of a cross connection program

Your cross-connection program goes beyond backflow testing

A double check backflow device doesn't mean you only need to test that backflow once a year. It very well could be the wrong backflow for the application

You really need to complete a survey of the facility to determine what would be the proper backflow for a particular application



Surveys

Surveying for cross- connections

**P. O. BOX 528
AUBURN, NH 03032
603-669-4004**



**NEW ENGLAND
BACKFLOW INC.**

**SITE ASSESSMENT
FOR BACKFLOW**

Site Address: _____ Occupant: _____
 City/Town: _____ Occupant phone: _____
 Review date/time: _____ Meter size: _____ Account #: _____

Property owner: _____ Owner Address: _____
 Owner city, state, zip: _____
 Owner phone: _____ Owner Email: _____

Room # or Name	Location description	Recommendation

Reviewed by: _____

Result - hazard:

High Low No device required

Recommendation Domestic: RPZ DCVA NONE

Recommendation Fire Service: RPZ DCVA NONE



Documentation

- When you physically walk a property, it gives you an idea what is connected to your water system
- Once you've completed your survey then you can make an informed decision on what type of backflow you should be requiring



Where do you protect this property from

This could have one service connection

- Multiple tenants with individual meters
- Does each tenant have the right to be protected from the other
- Where does the water utility responsibility begin or end
- Each tenant is metered, each tenant poses a risk to the other





hair



Clientel

- One of the units is a dentist office
- One of the units is a dog grooming facility
- One of the units is a coffee shop
- One of the units is a hair salon

What would you do

- It is easier when a plaza is new, and you are in on the planning stages
- You can require individual service lines, with separate meters and backflows
- But what if an existing building is being rehabbed and only has one service line, what can you require
- A large city in New Hampshire may treat this situation differently than a small community
- You really need to know what is connected to your water system

End of the: Elements of a cross connection program

I really wanted to express to you that your cross-connection program is more than a backflow testing program

There is a program and steps that you need to take to manage your program

This is always in motion with changes in property owners, different uses, and new people to educate on why you do what you do.

Questions



- PJW