



Board of Directors

President  
James L. Deming

President-Elect  
Scott A. Fitzgerald

Secretary  
George R. Allan

Treasurer  
Matthew E. Pearson

Past President  
Paul B. Howard

First Trustee  
Andrew L. Reid

Second Trustee  
Robert P. Sims

Third Trustee  
Blake D. Lukis

Executive Director  
Jennifer A. Pederson

Committee Chairs

Awards  
Paul B. Howard

Education  
Jeff Faulkner  
Blake Lukis

Finance  
Paul B. Howard

Historical  
Martin C. Taylor

Legislative Advisory  
Philip D. Guerin  
Alan Cathcart

Membership/  
Public Relations  
Michael Ohl

Program  
Robert P. Sims  
Patrick O'Neale

Scholarship  
Thomas J. Mahanna

Technical Advisory  
J. Cary Parsons

Sponsor  
Thomas J. Mahanna

December 14, 2010

Mr. Alexander MacLeod, Chair  
c/o Board of Building Regulations and Standards  
1 Ashburton Place, Room 1301  
Boston, MA 02108

**RE: Residential Sprinkler Systems in One and Two Family Homes**

Dear Chairman MacLeod:

Massachusetts Water Works Association (MWWA) is a non-profit membership organization representing the public water supply profession. Through education and advocacy, MWWA is committed to protecting public health and providing a safe and sufficient supply of drinking water to Massachusetts consumers. We have been in discussions with fire sprinkler advocates and the Fire Marshal's office for approximately two years on the issue of installation of fire sprinklers in residential one and two family homes. MWWA does not dispute the life saving aspects of residential sprinkler systems; however, the Commonwealth's public water suppliers are responsible for public health by assuring the safety of the drinking water supply to the last free flowing tap; therefore, backflow protection and cross connection control are vitally important to our members. In 2003 MWWA developed a joint position statement (enclosed for your review) with New England Water Works Association, the Massachusetts Fire Chiefs Association and the Massachusetts Department of Environmental Protection; we have reviewed this position and stand by it as recommended options for residential sprinkler installation; however, this does not preclude utilities from imposing different requirements.

It should be noted that the installation of residential sprinklers will have impacts on water utilities and the customers they serve. It has become very clear during our discussions over the past two years that costs and requirements will vary by utility. Undoubtedly there will be infrastructure



costs for the utility, not only in installation, but for ongoing maintenance and future replacement. There may also be costs for additional water quality monitoring and annual backflow device testing. With increasingly limited resources at many smaller water utilities, these issues are of special concern. Homeowners might be required to install a dedicated service for the sprinkler system or a second meter and ensure that the system is properly maintained. If the utility requires a testable backflow prevention device, it will be necessary to access the home for testing. Costs to the homeowners could range from one hundred dollars to thousands of dollars depending on the utilities' requirements. Because of the concerns regarding water quality, it is vitally important that the water utility has the final say on how installation of residential sprinklers will be implemented in their community.

We appreciate the opportunity to provide you with our perspective on this issue. If you should have any questions, please do not hesitate to contact me at 978-263-1388 or [mwwa@verizon.net](mailto:mwwa@verizon.net).

Sincerely,

A handwritten signature in black ink, appearing to read "Jennifer A. Pederson". The signature is fluid and cursive, with a large initial "J" and "P".

Jennifer A. Pederson  
Executive Director

Enclosure (Joint Position Statement)

## JOINT POSITION STATEMENT ON BACKFLOW PROTECTION FOR RESIDENTIAL SPRINKLER SYSTEMS

MASSACHUSETTS FIRE CHIEFS ASSOCIATION

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION -  
DIVISION OF WATER SUPPLY

MASSACHUSETTS WATER WORKS ASSOCIATION

NEW ENGLAND WATER WORKS ASSOCIATION

### ISSUE

The two associations were approached by the Massachusetts Fire Chiefs Association on a proposed bill to require residential sprinkler systems in new construction of single through three family structures. The associations were asked to identify issues that would impact public water suppliers and to work jointly with them on possible solutions.

### APPROACH

The three above listed associations formed a joint ad-hoc committee to review the information and develop a position statement. The committee included Dino Eliadi and Scott Habelt of MWWA, Wayne Southworth, a joint member of NEWWA and MWWA, Ray Raposa and Ted Kenney of NEWWA, George Baker of MFCA and Karen Doherty of MA DEP. The ad-hoc committee conferred with the MFCA Residential Sprinkler Committee and the NEWWA Board of Certification for Backflow Prevention and Cross Connection Control.

Committee members made various contacts around the country to understand the approach in other states. The National Fire Prevention Association standards on the installation of residential sprinkler systems were reviewed.

### CONCERNS

The ad-hoc committee identified the following major concerns to public water supply. First, the issue of a cross connection and concerns of stagnant water or anti-freeze additives used in the sprinkler systems. Second, the issue of accurate metering of water use which includes sizing of meters to measure low flows and water theft. A third issue was shut off capability in cases of non-payment.

## INFORMATION

The background information developed by the ad-hoc committee included: the residential sprinkler systems have low flow needs. The purpose is to save lives by filling the room with a fine mist of water and to wet the walls to prevent flashing which results in the spread of the fire to other rooms in a structure providing additional time for people to be saved. The pressure needs are approximately 24 to 30 lbs. and the life saving valve spray 8 to 10 gallons of water per minute. There was a review of the NFPA approved methods for the installation of residential sprinkler systems. The group agreed single check valves do leak and there are documented cases of anti-freeze backflowing into domestic water supply. The majority of water suppliers are presently using 5/8" meters to achieve accurate measurements of the flow of water and there have been cases of meter tampering and water theft in recent years. The committee acknowledged that for residential sprinkler systems to be accepted the cost must be affordable.

## POSITION STATEMENT

The organizations listed have worked jointly in the development of this position statement. The organizations support and encourage the installation of residential sprinkler systems because they will save lives, and can be utilized with acceptable impacts on public water supply at a reasonable cost.

The following procedures are acceptable for the installation of residential sprinkler systems.

**First Choice Option: Flow through Connections.** A single service connection to a house will supply the water for potable use and the residential sprinkler system. The split for the sprinkler will occur after the meter.

The sprinkler system will be a flow through system that supplies a household item such as a toilet. The piping will be acceptable to the plumbing code for potable water and no backflow prevention device will be necessary.

**Second Choice Option:** A single service connection to a house will supply the water for potable use and the residential sprinkler system, the split for the sprinkler system will occur after the meter.

These will be closed systems and will require a minimum of a residential dual check backflow preventers as long as no chemicals or anti-freeze is used.

The dual check should be replaced at least during meter change out or as required by local authority or as conditions require.

If any chemicals or anti-freeze are used, a reduced pressure principle backflow prevention device must be installed.