



Village of Glen Ellyn
Planning & Development Department
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Residential Fire Sprinkler System Requirements

Village of Glen Ellyn Ordinance #5017-VC requires all single family homes submitted for building permit after February 28, 2002 to be equipped throughout with an approved automatic fire sprinkler system.

Permit Process

Building permit applications for new homes shall include the following documents:

- Completed residential fire sprinkler system application and information form.
- Two copies of drawings including the following:
- A floor plan indicating the location of all sprinkler heads, location, size and type of all sprinkler piping and fittings, smoke detectors and alarms.
- A section drawing indicating the elevation of all sprinkler heads and the elevation of the pressure test location.
- Manufacturer's cut sheets for all sprinkler heads, pipe, backflow preventers, and alarm devices.
- Manufacturer's cut sheets for fire pump and/or tanks (if used).

Documents must be reviewed and approved prior to the issuance of a building permit.

General Requirements

Backflow Prevention

The Illinois Plumbing Code requires that fire safety systems employ a Double Check Valve assembly. If the system utilizes antifreeze, a Reduced Pressure Zone (RPZ) assembly is required.

Water Connection Arrangement

Residential fire sprinkler systems connect to the public water supply after the water meter. A minimum of a 1" water meter is approved for homes with fire sprinkler systems. Shut-off valves shall be arranged such that it shall be impossible to turn off the water supply to the fire sprinkler system without shutting off the water supply to the domestic plumbing system.

Water Connection Fees

There are no additional water connection costs associated with the installation of a fire sprinkler system. Water connection fees are based on the domestic demand calculated as specified in the Illinois Plumbing Code. In the event that the service size must be increased to supply a fire sprinkler system, no additional fees will be incurred.

Fire Pumps

In the event that a fire pump is utilized in a NFPA 13D sprinkler system, the pump is not required to be listed for fire protection use. Electrical power for fire pumps shall be supplied by a dedicated circuit. This circuit shall not supply any other equipment including alarm bells. The circuit breaker shall be equipped with a locking clip to insure that it is not inadvertently turned off.

Piping Materials

Residential sprinkler systems may utilize steel, copper, or CPVC pipe. CPVC pipe may be run exposed consistent with UL listing.

Water Flow Alarm

All systems shall be equipped with a water flow alarm consisting of the following as a minimum:

- Water flow detector which activates within 1 minute of water flow from the smallest sprinkler orifice in the system.

- Inside bell six inches in diameter, mounted to the home's furnace return duct. In the event that a home has more than one furnace, a separate bell shall be required for each furnace return duct.
- Outside bell ten inches in diameter mounted on the street side of the building.
- Power for alarm bells shall be on a separate circuit from any fire pump. If a dedicated circuit is used for alarm bells, a locking clip shall be installed on the circuit breaker to insure that it is not inadvertently turned off.
- Connection to a central station alarm system is encouraged, but not required.

Spare Heads

At least three spare sprinklers of each type, temperature rating, and orifice size used in the system should be kept on the premises.

Inspection Procedures

Fire sprinkler systems in single family homes will be inspected as follows:

Rough Sprinkler Inspection

After insulation, but prior to installation of wall and ceiling drywall, a rough inspection is required to verify the following:

- All elements installed in compliance with approved plans.
- Hangers installed in accordance with Illinois Plumbing Code.
- Thermal insulation installed between sprinkler piping and unheated areas. Minimum value of R-38.
- Presence of nail guards at points where CPVC piping passes closer than 1-1/4" from finished wall surface.

Final Sprinkler Inspection

Prior to the issuance of a certificate of occupancy, the following items shall be verified.

- All trim hardware installed.
- Sprinkler heads absent of paint or other building materials.
- All sprinkler heads unobstructed.
- Operation of water flow alarm.
- Completion of Glen Ellyn sprinkler contractor's material and test certificate.
 - One copy for Village
 - One copy for owner
 - One copy posted in a protective sheath at the riser location.
- Verification that water supply valves are open and system is operational.
- Plumbing inspector to inspect the installation and certification of the backflow preventer.

Periodic Maintenance and Inspections

The occupant should complete the following tests and inspections throughout the life of the system:

Monthly: Verify that control valves are open. Verify pressure gauge reads the value specified in the system data sheet.

Quarterly: Open test/drain valve and verify operation of water flow alarm and verify that residual pressure is in agreement with data sheet.

Annually: Visually inspect sprinklers, pipe, fittings, and hangers for defects. Verify sprinkler heads have not been painted. Verify freezing point of antifreeze if so equipped. Have backflow preventer certified by a licensed cross-connection control device inspector.

For further information, contact:

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