



# FIRE SPRINKLER SYSTEMS

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## PROJECT SUCCESS CHECKLIST

Fire sprinkler systems are required for many buildings, whether due to size, use, contents, or number of people they are designed to accommodate. They limit the spread of fire and damage to the building and its contents, and allow time for people to get out safely. They also allow time for fire departments to respond and fully extinguish blazes.

The Ohio Building Code specifies when and under what conditions they are required. To ensure timely approval and inspection, this guide explains what needs to be submitted, and what needs to be inspected, by whom, and in what sequence.



*Fire can put you out of business and put your community at risk*

### WHO'S INVOLVED

You will need approvals from some or all of the following:

- **The Building Department** – issues permits and inspects the installation of the work
- **The Fire Department** – participates in design review, inspects the installation of the underground fire sprinkler system piping, the hydrostatic pressure test on the system, and checks the final installation for adherence to approve drawings.
- **Environmental Services/Water Department** – inspects new main line water services provided to the property, and the connection to the municipal source.

### WHAT'S COVERED, AND WHAT'S EXEMPT

**Building Department** approval is required for all new and altered fire sprinkler systems. They will verify that the sprinkler design is appropriate for the hazards identified on the architectural drawings. When a building changes in use, sprinkler system requirements may also change. Like for like replacing of single sprinkler heads does not require a permit, but adding, removing, or relocating any heads does.

**Fire Departments** verify the design will allow effective response to incidents, including the exterior underground piping. For example, fire hydrant and fire department connection type and placement is subject to fire department approval, to quickly connect to their pumper trucks. They may have additional requirements. See your local department for additional information

**Environmental Services/Water Departments** regulate connections to the municipal water supply.

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## WHAT NEEDS TO BE SUBMITTED FOR APPROVAL

- Drawings drawn to an approved scale with completed title block and signed by architect, engineer, or certified suppression system designer. Drawings shall include at a minimum the following:
  - Scope of work being performed, such as if it is a full system, an alteration, or an addition.
  - Site plan showing location of building, underground waterline and location of fire hydrants used for flow test, and a point of compass, location of fire department connection and distance to hydrant. (May not be needed for minor interior alterations)
  - Floor plan indicating location of piping and sprinklers, walls, roof or ceiling construction, and equipment legends.
  - When more than one hazard level exists, each hazard area must be identified graphically on the plans.
  - Full height building section with roof slope, and with sprinkler piping and heads shown.
  - Hydrant flow test information, including location tested and flowed hydrants, static pressure, residual pressure, flow and date and time.
  - Type of system with riser diagram, such as wet, dry, antifreeze, etc.
  - If an addition or alteration to an existing system, show previous system design with piping and pipe sizes to aid in review. Clearly distinguish between new and existing work.
- A completed and signed Owner's Certificate, which Describe the intended use, occupancy, and any special risks within the building. See NFPA 13, Chapter 4.
- Hydraulic calculations complete back to the gauged hydrant.
- Equipment cut-sheets of all materials being installed.
- Refer to NFPA 13, 22.1.3 for additional items that shall be included on drawings
- For alterations, provide a key plan of where in the building the work will be installed.

## WHAT NEEDS TO BE INSPECTED, AND BY WHOM

*B = Building Inspection    F = Fire Inspection    H = Health Inspection*

- Connection to municipal water source – W
- Underground piping – Dedicated fire lines - F; Combined Fire & Domestic - W, F
- Underground piping flush – F
- Underground piping hydrostatic – F
- Hydrostatic of above ground piping – F, B in some
- Rough inspection of above ground piping – F, B
- Final inspection of entire system, include test of connected alarm initiation devices – F, B