ROARING FORK FIRE RESCUE AUTHORITY

FIRE SPRINKLER MAINTENANCE AND INSTALLATION GUIDELINES

Updated: March 1, 2023

All Pitkin County submittals will follow the 2021 International Fire Code requirements.

Roaring Fork Fire Rescue Authority

Dwelling Sprinkler Requirements/NFPA 13-D Amendments
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NFPA 13-D Amendments

A. **Fire Department Connections:** Section 903.3.1.4 A fire department connection (FDC) will be required on all sprinkler systems and located within 6 feet of the Knox box or in an approved location by the jurisdiction having authority. A 1 ½ inch hose connection is required. Town of Snowmass Village requires 2 ½ hose connection.

B. **Number of Design Sprinklers:** Section 903.3.1.6-Number of Design Sprinklers is amended to read as follows: The number of design sprinklers shall include all sprinklers within a compartment, up to a maximum of <u>two sprinklers. under a flat, smooth, horizontal ceiling.</u> In occupancies with <u>sloped, beamed, or pitched ceilings over 10' the system shall be calculated with three or more heads operating per manufactures specs and</u> (note-appendix A.8.1.1.2.2, A.8.1.2, A.8.2.5 NFPA 130)
    - Structures greater than 3,500 square feet shall be calculated with a minimum of three heads operating.

C. **Location of Sprinklers:** Section 903.3.1.7 Residential sprinklers shall be installed in residential garages. Sprinklers are not required in open attached porches, carports and similar structures.
    - Crawl spaces or attics with fuel burning appliances to be protected with residential sprinklers and ceilings to be protected with drywall within a 3 foot arc of the perimeter of the appliance. Attics with pull down ladders will be protected with residential sprinklers.

D. **Water Supply:** Water supply systems that require a fire pump shall be provided with a fire department connection (FDC) in a location approved by the jurisdiction having authority.
    - Where stored water is used as sole source of supply, the minimum quantity of water shall equal water demand for the system times 10 minutes.
    - Any building that is difficult to access by fire apparatus and stored water is the sole source of supply; the minimum quantity is the demand for the system up to a multiplier of 30 minutes. Depending on time of response from a fire station and operational needs.

E. Special Situations:
    - Access exceptions 1 and 2 of Section 503.1.1 of the 2015 International Fire Code as applicable. In these cases the residential structure must be completely sprinkled.

Any building in excess of 5,000 square feet or in a location that is difficult to access, as determined by the fire code official, shall be equipped with an approved automatic sprinkler system including the installation of a fire department connection. A minimum of a three sprinkler head hydraulic

calculation shall be submitted for approval by the fire code official, and the official may require a larger number of sprinkler heads, depending upon the structural design submitted.
Fire separations shall not constitute separate buildings for this purpose, including all R-3 occupancies

F. **Fire Alarms:** Fire alarms serving automatic sprinkler systems protecting one, two, and multiple family dwellings shall operate in the following manner:
   - All water flow activations shall be capable of sounding an interior audible alarm notifying all occupants simultaneously,
   - All water flow activations shall be capable of activating an exterior audible/visual alarm. This alarm shall be located within 20 feet of the Fire Department Connection.

Plans and Submittals, What They Should Include

Plan submittals with required approval and associated inspections must be secured through the Roaring Fork Fire Rescue Prevention Bureau. Click here to apply and pay for a permit through our website.

A. Drawing
   a. Floor Plan Drawn to Scale
      i. Piping location
      ii. Pipe sizing
      iii. Hanger locations and details
      iv. Head locations and details
      v. Existing System Components if applicable
      vi. Riser specifics including valves and gauges
      vii. Location of Fire Department Connection at building front
      viii. Outside horn and strobe installed proximate and within 20 feet of the Fire Department Connection

B. Attachments to Drawings
   a. Manufacturing data sheets on all equipment used
   b. Hydraulic calculations
      i. Diagram to accompany gridded system calculations for lines with sprinklers operating in the remote area
      ii. Expansion tank formula and size shall be indicated within the drawings and/or specifications
      iii. Antifreeze system shall have the% installed to the system in the notes: section of the Materials and Testing Certification

Special Projects

Please use this checklist from the State of Colorado for any small project, such as tenant finishes or remodels, as a guideline for our requirements.
State of Colorado, Section 5.6 Small Projects

5.6.1 Small projects are defined as any work involving the addition or relocation of less than 20 sprinkler heads. Completed work cannot have an adverse affect on the integrity of the existing fire protection system, including the

hydraulic design.

5.6.2 A scale drawing of the proposed project on an 8 ½ x 11 inch paper to be submitted through Roaring Fork Fire Rescue website, including product data sheets, calculations, and all information required by the applicable NFPA standard may, upon request, be permitted for submittal to the certified fire suppression inspector in lieu of a full set of blue prints. The certified fire suppression system inspector has the right to require additional information as may be necessary to fully evaluate the project.

5.6.3 A signed letter on the registered contractor's letterhead explaining the scope of work, start and completion dates, and a statement that tenant finish, remodel, or additions do not affect the hydraulic demand design or integrity of the existing fire protection system is also required for submittal to the administrator or the local certified fire suppression inspector. The authority having jurisdiction may require hydraulic calculations.

5.6.4 If it is likely that the hydraulic design or integrity of the existing fire protection system has been affected by the scope of work, or if the owner, contractor, or authority having jurisdiction has concerns about the system integrity, a NICET Level III or above or a professional engineer review shall be required.

Inspections

A. Sprinkler system shall require a 200 pound hydrostatic or pneumatic test procedure (2 hours minimum) and shall have the test witnessed and approved by the RFFR Inspector.
B. During rough-in inspection, sprinkler piping and hangers shall not be covered and/or concealed by any means prior to being inspected and approved. This includes grid style ceilings.
C. Structure should be "move in ready" at final inspection.
D. All valves labeled appropriately and hydraulic calculation sticker on riser.
E. Water flow test through inspector's test valve, alarm should sound in less than 60 seconds.
F. All heads shall be trimmed out at final and spare head box in place.
G. FDC is unobstructed with horn above.
H. Control valves supervised.
I. An Above Ground Piping Certificate shall be provided to the Fire Authority at time of final inspection before final approval will be given.