

Fire Sprinkler System Plan Review Checklist

Plans for new sprinkler systems or systems with 12 new heads or more should be submitted to the South Carolina Fire Marshal's office for review in addition to the City. Their plan review process can take up to 30 days. The information below should be submitted to the City to obtain your fire sprinkler system permit. Fire sprinkler system plans for modifications to an existing system adding 11 or fewer heads can be reviewed by the City. City plan review may take up to 10 business days.

- Sprinkler Drawings** - Plans may be submitted the following ways:
 - Electronically - Electronic plan submission is preferred. Please combine all sheets into one .pdf file and add bookmarks listing the sheet number to each page. Once plans are approved a paper copy will be requested. Submit plans using the following -
 - Via FTP site (contact us for login info)
 - Via Online Services website at www.cityofrockhill.com/onlineservices
 - Paper - Plans may be mailed or hand delivered to the address above. Two paper copies are needed.All plans must have the Professional Engineers' seal and signature or, when exempt under state law, the fire sprinkler license holder's signature, SC state license number and qualifying party certificate number (NICET Level).
- Approval letters** from the SC State Fire Marshal for Aboveground Piping and Underground Piping, if applicable.
- Fire Protection Sprinkler System Specification Sheet (FSSSS)** - Must be signed and sealed by a professional engineer licensed in this state.
- Certificate of Compliance (COC)** certifying the fire sprinkler system was designed in accordance with the "Fire Sprinkler System Specification Sheet" (FSSSS). Must be signed and sealed by a professional engineer.
- Contractor's Material and Test Certificate for Aboveground Piping** in accordance with NFPA. Must be completed by the licensed fire sprinkler contractor responsible for the installation of the fire sprinkler system.
- Contractor's Material and Test Certificate for Underground Piping** in accordance with NFPA. Must be completed by the licensed fire sprinkler contractor responsible for the installation of the fire sprinkler system.
- Permit application** – this form should be completed by the fire sprinkler system installer/contractor. If the sprinkler contractor is listed on the building permit for a project, a separate sprinkler permit is not needed.
- Plan Submittal Form** – this form tells us who to notify with plan review comments/ plan approval notice.

The engineer of record and the fire sprinkler contractor are required to obtain a City of Rock Hill business license.

The City will verify that the fire sprinkler system design matches the approved civil construction plans and/or building plans for the project, if applicable. Please coordinate with the civil engineer and architect to ensure your sprinkler design matches the approved plans. The approved plans, stamped by the City, are required to be kept at the job site for the fire inspector.

Information to include on the fire sprinkler drawings:

1. Name, address, phone, fax, e-mail, of professional engineer licensed in this state or fire state sprinkler contractor's state license number and NICET certification level.
2. Creation date of plan, revision dates, point of compass, scale and graphic representation of scale.
3. Complete address (include building name or suite) of project (include tenant name if known).
4. Clear and definitive scope of work for the project and the company permitting the work.
5. Site/plot drawings with paved roads, fire lanes, parking, and building orientation. Include locations of area hydrants, the remote FDC. FDC's shall be labeled in accordance with City Requirements.
6. Site/plot drawings indicating location, weight/class, size and length of underground piping and materials from water source to riser. Include any valves, meters, valve pit (include pit details), depth to bury pipe, thrust blocks, etc. All valves, including backflow, shall be electronically monitored.
7. One set of: hydraulic calculations for all remote areas, cut sheets for all components, P.E. signed/sealed FSSSS and COC.
8. Provide the type of construction (per NFPA 13). Include locations of wall partitions, fire walls, floor openings, concealed spaces, etc. Clearly label each area/room as to its use or title. Any area without sprinklers shall be clearly indicated and the appropriate NFPA 13 exception number shall be included.
9. Provide system design data at each design area. Hydraulic reference points shown on the plan shall correspond with a comparable reference on the hydraulic calculations.
10. Include full height cross section and elevations of the facility, include ceiling construction.
11. If room design method is used, provide information of room rating, including self-closing doors and indicate all unprotected wall openings throughout that floor.
12. Indicate location and type of inspector test. Show all control valves, switches, and alarm/flow devices. Flow switches per level of the building and an exterior water flow alarm will be required per City Code.
13. Indicate all duct work, ceiling layouts, lighting, diffusers, etc. which may affect the system coverage.

14. Show size, type, piping, drainage, location and elevation of: risers, drains, house outlets, hand hose, etc. Include the City's Standard Building Fire Riser Detail when applicable, <http://www.cityofrockhill.com/home/showdocument?id=2427>.
15. Show settings for pressure reducing valves at all levels.
16. Legend shall clearly indicate the sprinkler type, temperature, manufacturer, etc. of each head.
17. Indicate spacing of sprinklers and number of sprinkler in each story or fire area.
18. Indicate type and location of hangers, sleeves, flexible couplings, and braces. Provide location spacing, direction, and calculations on loads for sizing of sway bracing with materials detail.
19. Adding a fire line to an existing building may also require Civil Construction Plans. Contact the Infrastructure Division at 803-329-5515 for more information.

SC State Law Sections from Title 40, Chapter 22 - <http://www.scstatehouse.gov/code/t40c022.php>

SECTION 40-10-250. Fire Protection Sprinkler System Specification Sheet; completion of form; attachment to building permit applications.

(A) A "Fire Protection Sprinkler System Specification Sheet" must be completed for every fire protection sprinkler system, and submitted on a form approved by the State Fire Marshal's Office to the authority having jurisdiction. The completed form must contain the following information at a minimum:

- (1) the available static and residual water pressure from a flow test conducted less than one year before submittal;
- (2) the volume per minute of the available water flow and duration;
- (3) the source of water supply;
- (4) the NFPA hazard classifications and details of storage arrangement, if applicable;
- (5) the occupancy use of the building, or the area to be sprinkled;
- (6) the type of system to be installed;
- (7) the applicable National Fire Protection Association standards to be followed for each component of the system;
- (8) other state and local statutes, regulations, codes, or ordinances that must be followed;
- (9) the name, address, title, and phone number of the person developing the fire sprinkler system specification sheet.

(B) The form must be completed by:

- (1) a professional engineer licensed in this State bearing his professional seal and signature; or
- (2) a fire sprinkler contractor licensed in this State with a qualifying party holding a NICET Level IV Technician Certification in "Fire Protection Engineering Technology Automatic Sprinkler System Layout" if a specific statute, regulation, or ordinance does not require the services of a licensed professional engineer. The qualifying party must be the individual completing the form, and he must place his name on the lower right hand corner on the first page of the form with the words "Qualifying Party" after his name and with his qualifying party certificate number.

(C) When applying for building permits or other required permits, the Fire Sprinkler System Specification Sheet completed in accordance with subsections (A) and (B) must be made part of the bid documents and must be submitted to the authority having jurisdiction, along with the architectural or engineering, or both, drawings and specifications. The completed Fire Sprinkler System Specification Sheet must accompany the shop drawings when they are submitted for review.

SECTION 40-10-260. Shop drawings; contents and review; certificates of occupancy.

(A) Shop drawings must be prepared for every fire sprinkler system and must meet the following requirements:

- (1) shop drawings and the attached specification sheet must contain sufficient information to show compliance with the National Fire Protection Association standards required in the Fire Sprinkler Specification Sheet; and
- (2) shop drawings must bear the authorized signature and license number of the fire sprinkler contractor licensed in this State who prepared the drawings;
- (3) shop drawings for the exceptions listed in Section 40 10 230(1) must be submitted and approved by the State Fire Marshal's Office or his designee before installation. The installation must comply with NFPA Standard 14.

(B) Shop drawings must be reviewed in accordance with the following to determine compliance with the Fire Sprinkler Specification Sheet.

- (1) If a licensed engineer prepared a Fire Sprinkler System Specification Sheet for the shop drawings, the shop drawings must be submitted to that licensed engineer. After determination of compliance with the Fire Sprinkler System Specification Sheet, the shop drawings must be submitted to the State Fire Marshal's Office or to his designee for further review in accordance with subsection (C). In no case must the seal of a licensed professional engineer be required on shop drawings.
- (2) If a licensed fire sprinkler contractor prepared a Fire Sprinkler System Specification Sheet for the shop drawings, the shop drawings must be submitted to the State Fire Marshal's Office or to his designee for review and determination of compliance with the Fire Sprinkler System Specification Sheet.

Links

SC State Fire Marshal - <http://www.scfiremarshal.llronline.com/EngServices/index.asp?file=main.htm>

City Fire Inspection Checklist - <http://www.cityofrockhill.com/home/showdocument?id=4110>

Occupant Load Notice - <http://www.cityofrockhill.com/home/showdocument?id=2111>