



New Hope Borough Office of the Fire Marshal

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Fire Sprinkler Plan Review Policies/Fees

When a Permit is Required

Permits shall be issued for the following work:

- a. New fire sprinkler systems;
- b. Additions, modifications, and changes to existing fire sprinkler systems, underground lines and/or associated equipment.

Fire Permit Applications

Each submittal or resubmittal shall include a Fire Permit Application. Permit applications may be obtained at New Hope Borough Hall. Required information also includes the Building Permit number that is related to the project work (if applicable). If the sprinkler work is not under a building permit number, this must be indicated in the comments/description area.

Fees

The fees for plan review are \$2.00 per sprinkler head but not less than \$28.00 with a maximum permit fee of \$3,150.00. (reference NFPA 13:6-2.3.4, & A-14.2.3.4).

- a. When the installation of sprinkler heads is not involved or insignificant due to the type of work being permitted, a plan review fee equivalent to 1% of the total bid price shall be assessed, up to a maximum of \$3,150.00 of a minimum \$28.00 (whichever is larger). Fees will be due when the approved plans are returned (picked up by submitter). Phasing of plans (underground, overhead, floors, etc.) may require separate permitting.
- b. The fee covers the review of the first two (2) submittals for the same project. If denied, an additional \$28.00 fee will be assessed for each subsequent review until approved.

Fire Sprinkler Cover Sheets-Design

Each permit application shall be accompanied by a Fire Sprinkler Design Cover Sheet, describing each affected fire sprinkler system and/or design area, etc.

Faxing Permit Applications

Faxing permit applications (with associated information) is acceptable for certain small fire sprinkler work, when a quick turn-around is required. The amount of work associated with this type of application shall be limited and acceptable to reviewing authority. All pertinent information shall be included in these permit application submittals, which shall address the location, intent of work and the meeting of minimum related adopted code. Such permit applications may be faxed to the Office of the Fire Marshal at (267)224-4488.

When Plans are Required

Plans and documents are required to be submitted when any one of the following applies:

- a. A new system is installed.
- b. An existing system is expanded to or in a new area.
- c. An existing system is modified, including relocation of heads and/or demolition, regardless of the number of fire sprinkler heads.
- d. When the occupancy of a structure is changed per the IBC.
- e. Construction occurs, which alters the building construction type.
- f. Occupancy classification is changed as referenced in the NFPA 13 standard. (IFC 102)

Resubmittals

A minimum of (3) complete plan sets will be required when projects require resubmittals. All but one set of failed plans will be returned for required modifications to be provided by the submitter. (It is not our responsibility to package and re-bundle individual resubmittal sheets). All modifications shall be clouded and dated.

Minimum and Maximum Fire Sprinkler Plan Sets

The minimum number of plan sets for fire sprinklers (including water supply certificate, and fire sprinkler cover sheets), is 3 (three). The maximum is 5 (Five). Additional sets beyond 5 will be returned unstamped.

Underground Supply Permits, Design and Inspections

- a. The underground portion of fire sprinkler systems requires a plan review and a permit. Underground work may be done in conjunction with the overhead work in which case the permit and approved plans must include both.
- b. Calculations shall be provided, starting at the point of public (or private) water supply connection. All underground piping must be inspected for installation prior to covering.

Plan Check List

- a. The minimum information requirements included on plans is per the checklist outlined in NFPA 13-14.1 and 14.2, as regulated by IFC 105.4.1, 903.3.1.1, and as amended per attached. Minimum information and requirements for hydraulic calculations forms and work sheets shall be per NFPA 13-14.3.
- b. All calculations shall include a fire sprinkler head analysis sheet, which includes the following: numbering the operating sprinklers flowing, the elevation of each sprinkler, the K-factor and the pressure (in psi) and flow (in gpm) of each.

Water Supply Certification

The Architect of Record shall obtain a letter from the water purveyor indicating the static, residual and flow available for sprinkler design, at the point of connection where the sprinkler tap is or will be made, with date and address of the water supply information. The Architect of Record is required to provide the sprinkler water supply information to all bidding fire sprinkler contractors. A copy of the water purveyors letter must accompany all fire sprinkler permit submittals.

Pipe Scheduled Systems/Work

When a pipe schedule system design is used, it shall be proven with hydraulic calculations unless the water supply meets the minimum requirements of NFPA 13;11.2.2.

Safety Factors

- a. All hydraulic design areas shall have a safety margin of at least 5% (cushion) on the available residual pressure at the calculated flow.
- b. Where fire booster pumps are installed, the maximum design flow shall be available at not less than 5 psi at the pump suction, at 150% of rated pump capacity including any inside and outside hose or other required system demands.

Fire Sprinkler Heads

All submittal packages shall include manufacturer's specification sheets with each plan set, indicating the type and number of each on the plans, as required by NFPA 13. The Sprinkler Identification Number (SIN) must be provided and identified on the plan sprinkler legend. The submittal shall include the listed escutcheons to be installed with these sprinkler heads, as applicable.

"Spec" Warehouse Sprinkler Systems

Fire sprinkler systems for warehouse-type buildings (commonly referred to as "SPEC" warehouses), in which storage heights greater than 12'-0" are possible, AND specific commodity, height of storage and storage arrangement details are not known or determined, shall be designed and installed according to the following criteria:

- a. The minimum fire sprinkler system design shall be based on a Class IV commodity, to the maximum available height for storage of the building. Double-row pallet racks with in-rack sprinklers using High Temperature Sprinklers at the roof shall be assumed.
- b. It shall be the responsibility of the Fire Marshal to evaluate all requests for a design meeting the requirements for a lower hazard storage configuration.
- c. No tenant occupancy will be allowed until the actual commodity and storage arrangement details are submitted to the Fire Department and verified to be within the capability of the overhead sprinkler system, as required by Code.

Note: If the warehouse is used for a higher hazard commodity or storage arrangement, upgrades to the sprinkler system will be necessary as required by Code.

Medical Gas Storage Rooms

The following guidelines shall be used for installing fire sprinklers to protect medical gas storage rooms as required by IFC 3006.2 in buildings which otherwise do not have a fire sprinkler system. The intent of the code is not to mandate a full sprinkler system in a building due to the presence of medical gas storage.

- a. A Fire Sprinkler Permit is required.
- b. Work shall be performed by a licensed fire sprinkler contractor.
- c. The fire sprinklers may be installed on the domestic water supply using one of the two following design methods:
- d. The Pipe Schedule method of NFPA 13 may be used provided the sprinklers have a ½" orifice and the minimum pipe size specified in NFPA 13:14.5.2.2 is maintained back to the supply connection. The supply shall sustain a 15 psi residual to the system.
- e. The supply may be hydraulically calculated using a .10 density over the entire area of the room (room design method). For both methods described above there is no hose stream consideration or minimum riser flow.
- f. Backflow prevention devices will not be required to have a fire protection listing, but must meet EPA and AWWA requirements. Pipe, fittings and sprinkler heads shall be listed for fire protection service as established in NFPA 13. Separation must be provided so when the domestic water supply feeding the structure is disabled, the fire sprinkler protection will still be maintained. No flow or electronic valve tamper detection is required, but the valves shall be (breakable) locked in an open position.
- g. The sprinklers shall be located to cover the full area of the interior room in which medical gas bottles will be stored. NFPA 13-2002 Chapter 8, shall be the basis for evaluating the location of the sprinkler head in relation to obstructions to sprinkler discharge. If the room qualifies as an exterior room under IFC 3006, the sprinkler shall only be required to cover the area of the gas container storage and manifold.
- h. The fire sprinkler heads shall be of the Quick Response type.