# Submittal Requirements for All Sprinkler Plans

## Fire Sprinkler Permit Fees

Fire sprinkler permit fees are based on the scope of work and may vary depending on factors such as new construction or modifications to existing systems, as well as the number of risers, sprinkler heads, fire lines, private mains, remote FDCs, standpipes, and fire pumps. The permit fee includes the cost of plan review and acceptance testing. Additional fees may be assessed for reinspection's or repeat inspections due to non-compliance. Final fee amounts will be determined during the plan review process to ensure accurate assessment. Applicants are encouraged to review the current fee schedule, available at bryantx.gov/fire, prior to submittal.

### Phased Construction and Multiple System Permits

When a project includes multiple fire protection systems that will not be constructed and commissioned simultaneously, and/or when phased construction is approved, each system or phase may require a separate permit application. The need for separate permits shall be determined at the discretion of the Fire Code Official. Applicants are encouraged to coordinate early with the Fire Department to clarify permitting requirements for phased or multi-system projects.

## Code Adoption & Amendments

The 2021 edition of the International Fire Code, including appendix B, C, D, E, F, and G as published by the International Code Council, a copy of which is on file with the city secretary and the fire marshal, is adopted to the same extent as though such code were copied at length herein, subject however to the omissions, additions, supplements, and amendments contained in this article. City of Bryan Municode

### NFPA Adoptions

2021 IFC Chapter 80 should be consulted to find which NFPA edition is enforced in the City of Bryan.

## Required Documents

### Owner's Certificate

The design team, in cooperation with the building occupants and sprinkler contractor shall complete an Owner's Information Certificate as outlined in NFPA 13, Chapter 4.

### Protection of Piping Against Freezing Letter of Compliance

Letter of Compliance – A signed and sealed letter from a Professional Engineer (PE) licensed in the State of Texas, attesting that they have reviewed the fire sprinkler system piping design and the associated thermal insulation as incorporated into the building design. The letter shall confirm that the system has been designed and installed to prevent the freezing of fire sprinkler piping in accordance with all applicable codes and standards, including the International Code Council (ICC) codes and any local


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amendments as adopted by the City of Bryan, as well as all applicable National Fire Protection Association (NFPA) standards.

### Manufacture Specifications

All material submittals shall include all components specified in the product data section, as well as any additional items required to ensure a complete and code-compliant installation. Where multiple products are shown on a manufacturer's catalog sheet, the specific item(s) to be used shall be clearly identified. This may be accomplished by removing unrelated pages or by clearly marking the applicable products through circling or highlighting.

## Drawings

In addition to NFPA 13 Chapter 27- Submittal Requirements, plans shall include the elements as describe below in the Drawings & Documents Section.

Construction documents shall be prepared, signed, and sealed by a registered design professional when required by the statutes and regulations of the jurisdiction in which the project is located. All construction documents and supporting materials shall be submitted electronically through the City's online permit application system as part of the fire protection system review and approval process.

### Small Renovation Projects – Limited Scope Submittals

For renovation projects affecting fewer than 20 sprinkler heads, a detailed written scope of work and a clear sketch of the affected area may be submitted in lieu of full shop drawings. Hydrostatic testing shall be performed in accordance with NFPA 13 Section 29.7.1.1. The Fire Code Official reserves the right to require full shop drawings and/or hydrostatic testing at their discretion, even when fewer than 20 heads are involved, based on project complexity or field conditions.

### Building Design Components

#### Walls & Partitions

The locations of partitions and fire-rated walls shall be clearly identified on the drawings through the use of legends, callouts, or other methods approved by the Fire Code Official, to ensure accurate coordination with the fire protection system design.

#### Fire Stopping/ Caulking

Plans shall clearly identify the approved materials and methods to be used for firestopping and caulking, along with the specific locations where such protection is required. Additionally, notes shall designate the party responsible for the execution and completion of this work.

#### Key Box Requirements and Responsibility

Per the Fire Code Official, any commercial occupancy equipped with a monitored fire protection system shall be required to have a KNOX® key box installed.

- The location of the key box must be clearly identified on the fire life safety plan submitted with the permit application.
- Unless otherwise specified on the plans and approved by the Fire Code Official, the fire protection contractor shall be responsible for procuring and installing the KNOX® key box.

- Final acceptance testing will not be approved until all KNOX® key box requirements have been met, including installation and key placement.

All installations must comply with local standards and the approved product listing. For ordering information, visit www.knoxbox.com and select the appropriate jurisdiction.

## Key Box Location(s)

Key box locations shall be determined at the discretion of the Fire Code Official and must be clearly indicated on the fire life safety plan. At a minimum, key boxes shall be provided at the following locations:

- Primary Point of Entry – Typically located on the address side of the building or at the designated main entrance.
- Riser Rooms with Exterior Access – A separate key box shall be required unless the riser room is located within a reasonable distance of the primary key box. The determination of "reasonable distance" will be made by the Fire Code Official on a case-by-case basis. When in doubt, provide key boxes at both locations.
- Fire Service Elevators – Where fire service elevators are equipped with non-standardized keys, a dedicated key box shall be installed.
- Additional Locations – Based on building size, configuration, and specific hazards, additional key boxes may be required at the discretion of the Fire Code Official.

## Key Labeling Requirements for Fire Department Access

To ensure reliable emergency access, all keys and electronic access devices associated with fire protection systems shall comply with the following requirements:

### *Key Labeling*

- All keys shall be placed on a durable key ring no smaller than 1 inch in diameter.
- Keys must be labeled using water-resistant materials. Thermal tape labels are not permitted due to high temperatures inside key boxes that can render them illegible.
- Each key shall be labeled with the building address and a clear, descriptive identifier, such as "Master," "Riser Room," "Room #," or "Suite #."
- For larger buildings, multiple sets of keys may be required, as determined by the Fire Code Official.
- Labeling methods shall not interfere with key placement inside the key box. Larger boxes may be required to accommodate multiple sets.

### *Electrically Controlled Access Systems (Key Cards and Fobs)*

- If the access-controlled door has traditional keyed entry, a physical key shall be provided.
- If the door is electronically controlled and does not have traditional keyed access, a key card or fob shall be provided.
- All access devices must be clearly labeled and submitted with the key set.
- Instructions for use and contact information for programming or emergency override (if applicable) shall be included on the fire life safety plan.

All fire department access provisions are subject to review and approval by the Fire Code Official, and must be verified prior to issuance of the Certificate of Occupancy.

# Fire Sprinkler Permit Submital Requirements

## Sprinkler System Components & Hardware

### Underground Piping Plan Requirements

Underground piping plans shall include detailed graphics and clearly labeled callouts identifying the manufacturer's installation guidelines and protection requirements for all specified materials. All submitted information must be consistent with the manufacturer's specifications, applicable codes and standards, and the Bryan-College Station Unified Design Guidelines, available at www.bcsunited.net

*Plans shall also include:*

- Graphic details referencing the type and location of all required thrust blocks
- Locations and installation details for tracer wire and metal detector tape, as required for piping traceability and future utility locating

Failure to provide complete underground piping documentation may result in delays or rejection of permit approval or inspection scheduling.

### Protection of Risers Subject to Mechanical Damage

when required, plans shall display details and methods used to meet the requirements of IFC 507.5 and NFPA 16.5

### Brackets & Hangers

Plans shall include graphic details illustrating manufacturer specifications for the installation of all proposed hangers, sleeves, braces, and sprinkler support methods to be used on the project. These details must clearly depict the approved means of securing system components in accordance with applicable codes and manufacturer requirements.

### Sprinkler Legends

Sprinkler legends shall be limited to information specific to the components utilized in the proposed project. Inclusion of unrelated or unused system components is not permitted.

### Sprinkler Head Details

Plans shall include graphic details referencing manufacturer installation specifications for each type and model of sprinkler head identified in the sprinkler legend. These details shall indicate all applicable minimum and maximum installation dimensions to ensure compliance with manufacturer requirements and applicable code provisions.

### Protection against Physical Damage to Aboveground Piping

Plans shall include graphic details and callouts clearly indicating the required method and specific locations of pipe protection within concealed spaces. Where non-metallic piping is installed through holes or notches in framing members (such as studs, joists, or rafters) and is located less than 1¼ inches from the nearest edge, steel shield plates shall be provided. These plates shall be a minimum of 0.0575 inches (16-gauge) in thickness, extend over the area of pipe penetration, and project no less than 2 inches above sole plates and below top plates. All protection methods shall be in accordance with 2021 IPC Section 305.6.

# Fire Sprinkler Permit Submital Requirements

## Valves & Connections

### Water Flow Switch & Alarm

A main water flow switch shall be installed at the main riser downstream of the backflow preventer. All sprinkler water flow switches should be set to operate between 30 and 90 seconds. Alarm Bells shall have specific details indicating compliance to COB Amendment to IFC 2021 903.4.2 . The alarm device required on the exterior of the building shall be a weatherproof horn/strobe notification appliance with a minimum 75 candela strobe rating, installed as close as practicable to the fire department connection.

### Control Valves

Where required, a floor control valve assembly and test drain assembly, including waterflow and tamper detection devices, shall be provided for each floor and/or zone of the building. All control, supply, and test valves shall be installed in readily accessible locations, with operating handles or wheels positioned no higher than 7 feet above the finished floor, in accordance with applicable codes and standards.

### Control, Drain, and Test Valve Signage

All control, drain, and test valves shall be clearly identified with durable signage indicating the valve type and the specific area of the building (e.g., floor or zone) it serves. Sign lettering shall be a minimum of ¼ inch in height. Proposed wording shall be submitted for approval (e.g., 'Control Valve – Fourth Floor North'). Signs shall be securely attached to the valve using a chain or other approved method. For hydraulically calculated systems, a hydraulic design information sign shall be provided in accordance with NFPA 13, and a scanned or printed copy shall be submitted for inclusion in the permanent project file. All valves and drains located above ceiling level shall be both accessible and labeled at the ceiling grid, with markings visible from the floor level.

### Concealed Valves & Gauges

All components required to be accessible for inspection, testing, and maintenance in accordance with NFPA 25, and which are located within valve pits, behind doors, or concealed by removable access panels, shall be clearly identified on the plans. Notes and/or graphic details shall indicate the exact locations and dimensions of required signage to ensure visibility and accessibility. All identification shall comply with the provisions of NFPA 13 Section 16.1.1.

### Test Connections

In accordance with NFPA 13, Section 7.2.5, any test connection provided shall be equipped with an orifice having a K-factor equal to or smaller than the smallest sprinkler K-factor installed in the system. Per Section 7.2.6, where a pressure-reducing or pressure-regulating valve is installed on a stand-alone system, a test connection with a K-factor equal to or greater than the smallest sprinkler K-factor on the system shall be provided downstream of the device. The use of bushings in drain lines is not permitted in new construction.

### Inspector Test & Drain

Main drains shall be sized to accommodate the full flow capacity of the sprinkler system in accordance with applicable standards. Plans shall verify that adequate floor drain capacity is provided to handle discharge during main drain testing. A minimum air gap of ½ inch shall be maintained between the drain piping and the floor drain or funnel to prevent cross-contamination and ensure proper drainage during operation.

# Fire Sprinkler Permit Submital Requirements

## FDC Requirements

All sprinkler systems with a supply line of 4 inches or greater shall be equipped with a 2½-inch Siamese fire department connection (FDC). For NFPA 13R systems, the fire department connection shall be a minimum of 1½ inches in size. All FDCs shall be installed in accordance with applicable codes, standards, and local jurisdictional requirements.

### *Remote FDC's*

The use of remote FDCs is generally discouraged due to increased installation complexity, higher potential for underground piping failures, greater exposure to damage or vandalism, and increased maintenance requirements. Remote FDCs often involve longer piping runs that are susceptible to corrosion, ground movement, and undetected leaks, and require additional flushing and hydrostatic testing efforts. They also depend heavily on proper signage for visibility, which, if obstructed or inadequately placed, can delay emergency response. Additionally, remote FDC installations typically involve higher costs related to trenching and site coordination. Building-mounted FDCs are preferred unless site conditions necessitate an alternative, in which case remote FDCs must be clearly justified and approved by the Fire Code Official.

### *FDC Locking Caps*

All sprinkler systems requiring a fire department connection (FDC) shall be equipped with Knox® FDC Caps with swivel guards, to be provided by the contractor unless otherwise approved by the Fire Code official. Plans shall clearly indicate this requirement and identify the party responsible for procuring and installing the FDC caps.

## Signage Requirements

### Durable Sign Materials

All required exterior signage shall be constructed from durable, weather- and UV-resistant materials such as aluminum, acrylic, Dibond, or Alumalite. Vinyl and PVC signs are not permitted for outdoor applications. Plan callouts shall clearly indicate the specific signage material to be used for each exterior sign.

### FDC Signs

The location of all Fire Department Connection (FDC) signs shall be carefully selected to ensure visibility and accessibility. Plans must account for potential obstructions, including but not limited to parked vehicles, fencing, and existing or future landscaping. When evaluating landscaping, the anticipated size of mature plantings shall be considered to ensure signage remains visible to first responders at all times.

All FDC sign locations are subject to approval by the Fire Code Official during plan review and field inspection.

### *FDC Signs Design & Materials*

Fire Department Connection (FDC) signs shall feature a red background with white lettering.

- Lettering shall not be less than 6 inches in height.
- Lettering and font size shall be proportioned to maximize the available sign space while maintaining clear legibility.
- *Signs shall be free of any proprietary information, including company names or contact details.*

### *FDC Sign Location(s) Requirements*

All Fire Department Connection (FDC) signs and shall be subject to approval by the Fire Code Official. Sign placement and design shall comply with the following criteria:

- **FDC on Address Side:** When the FDC is located on the address side of the building, the sign shall be mounted directly above the connection.
- **FDC Not on Address Side:** If the FDC is not located on the address side, directional signage with a clearly visible arrow shall be provided to indicate the route to the FDC.
- **Remote FDCs:** For remote-type FDCs, a sign shall be installed in a conspicuous location within 96 inches of the connection. The sign shall not obstruct access to or use of the FDC and must be readily visible from the approach side.
- **Multiple Roadway Access Points:** Buildings with multiple access points from public roadways may be required to provide additional signage to ensure FDC visibility. This determination shall be made by the Fire Code Official.
- **Additional Signage:** Based on FDC location, visibility, or accessibility concerns, the Fire Code Official may require additional signage to ensure clear identification and rapid response during emergency operations.

## Sprinkler System Zone Identification Signage for Multi-Zone Systems- Riser Rooms

For sprinkler systems consisting of multiple zones and control valves, a laminated zone map or riser diagram shall be prominently displayed within the main riser room. This diagram must clearly identify each zone using color coding to ensure quick recognition during emergency response and maintenance.

In addition to the required riser tag at each floor control valve, an additional map or diagram showing the corresponding zone location shall be installed adjacent to each valve. This ensures accurate identification of coverage areas throughout the building.

All maps and signage must be durable, legible, and securely mounted, and are subject to approval by the Fire Code Official during acceptance testing.

## Zone Sign(s) at FDC's Required

Fire Department Connection (FDC) Zone Identification Signage – IFC 2021 Section 912.5

Where multiple, non-interconnected FDCs are provided and/or where the building is only partially sprinklered, signage shall be installed to clearly indicate the specific portions of the building served by each FDC. The following requirements apply:

- A zone map sign shall be provided for each applicable FDC, with minimum dimensions of 6" x 9".
- Each sign shall include a color-coded diagram or map identifying the zones or areas served.
- Sign design and layout shall be submitted for approval by the Fire Code Official.
- Signs shall be mounted in a conspicuous and readily visible location near the FDC that does not obstruct access or operation.

All signs shall be fabricated using approved weather- and UV-resistant materials in accordance with the “FDC Sign Design Requirements” section of this document.

## Sprinkler Riser Room Door Signage

### *Exterior Doors*

Exterior access doors to automatic sprinkler system riser rooms and fire pump rooms shall be clearly labeled with an approved sign that complies with the following requirements:

- Signs shall have a red background with white lettering.
- Lettering shall be a minimum of 3 inches (51 mm) in height with a minimum stroke width of 1/2 inch (13 mm).
- Signs shall be mounted at a height of 60 inches above the finished floor or ground, measured to the centerline of the sign.
- Signage must be durable, weather-resistant, and securely affixed to the door.

Sign design and wording are subject to approval by the Fire Code Official.

### *Interior Doors*

Where interior doors provide access to fire sprinkler system components (e.g., riser rooms, control valves, fire pump rooms), all associated signage shall meet the following requirements:

- Red background with white lettering
- Minimum letter height of 2 inches to ensure visibility
- Signs must be made from durable materials suitable for interior environments
- Signs shall be mounted at 60 inches above the finished floor, either on the door or immediately adjacent to it

All required signage shall be clearly shown and labeled on the submitted plans and is subject to review and approval by the Fire Code Official.

# Fire Sprinkler Acceptance Testing

## Requesting Acceptance Testing

The inspection and testing process for fire sprinkler systems is divided into five key components:

- Underground Piping – Cover Inspection
- Underground Piping – Hydrostatic Testing
- Aboveground Piping – Cover Inspection
- Aboveground Piping – Pressure Testing
- System Operational Testing

Each of these inspections must be scheduled as needed based on the construction phase. The permit holder is responsible for requesting the appropriate inspection(s).

## Inspection Readiness and Scheduling Policy

To ensure timely and efficient service for all customers, acceptance testing inspections shall not be scheduled until all associated work has been completed and verified as code-compliant by the contractor. By requesting an inspection, the applicant affirms that all components related to the inspection are fully installed, functional, and ready for review at the scheduled time.

# Fire Sprinkler Permit Submital Requirements

If the work is found to be incomplete, the inspection may be immediately terminated, and a reinspection fee will be assessed. Rescheduling will be based on Fire Marshal's Office availability and may result in significant project delays.

Additionally, appointment cancellations made with less than one full business day notice may be subject to additional fees.

## Required Acceptance Testing Documents - Underground Piping

At the time of the scheduled underground piping inspection(s), the RME-U of record shall have the Texas State Fire Marshal's Office Form SF042 – "Contractor's Material and Test Certificate for Underground Piping" readily available and completed to the appropriate level based on the phase of testing.

Final approval of the underground piping will not be granted until the fully completed and signed SF042 form has been uploaded to the City's online permit portal. Failure to provide and submit this form will result in denial of aboveground piping inspection requests, and may ultimately result in denial of the Certificate of Occupancy for the building until the requirement is satisfied.

## Required Acceptance Testing Documents - Aboveground Piping

At the time of the scheduled aboveground piping inspection(s), the RME-G of record shall have the Texas State Fire Marshal's Office Form SF041 – "Contractor's Material and Test Certificate for Aboveground Piping" readily available and completed to the appropriate level based on the phase of testing.

Final approval of the aboveground piping will not be granted until the fully completed and signed SF041 form has been submitted. Failure to provide and submit this form may ultimately result in denial of the Certificate of Occupancy for the building until the requirement is satisfied.

If you have any questions, please call our office at 979.220.5960 Ext. 1