

# CITY OF SPRINGFIELD FIRE DEPARTMENT

## DEVELOPMENT & CONSTRUCTION INSPECTION SUPPLEMENT

JULY 2022



This document is being provided by the Springfield Fire Department in support of our community design and development partners. This document is provided to serve as a supplement to the adopted Fire Code and is not inclusive of all requirements contained within the Code. All projects must comply with the full provisions of the Fire Code as adopted.

The Community Risk Reduction Division (CRR) of the Springfield Fire Department is responsible for enforcement of the International Fire Code as adopted by the City of Springfield.

Questions may be directed to Division staff through the Administrative Assistant at 874-2349. Requests may also be submitted to [SFDcrr@springfieldmo.gov](mailto:SFDcrr@springfieldmo.gov).

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# FIRE SPRINKLER & PRIVATE HYDRANT UNDERGROUND INSPECTION REQUIREMENTS

## GENERAL SUBMITTAL REQUIREMENTS

- Plan submittal shall be done through City of Springfield Project Dox with the architect or engineer of record. Each plan sheet must be stamped by a licensed Missouri architect or engineer.
- Plans approved by the Fire Department Plans Reviewer gives authorization for installation once the permit has been paid for and issued by the City.
- Final approvals are subject to field verification. Any approval issued by the Fire Department Plans Reviewer does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
- All inspection cards and permits shall be kept on the job site until final inspection.
- All installations shall comply with the approved plans. Any deviation from the approved plans requires a resubmittal through Project Dox.

## INSPECTION STEPS

1. Visual “rough in” Inspection
2. Piping Flush
3. Hydrostatic Pressure Test
4. Final Inspection

## VISUAL INSPECTION

**NOTE:** All control valves on fire sprinkler water supply main (**including any backflow preventer**) must be listed indicating valves and have tamper switches, including waterflow switch, monitored by a fire alarm system. (2018 IFC 903.4 & 2016 NFPA 13)

- Visual inspection of the installation shall be performed **PRIOR TO** cover. Pipe may be center loaded.
- Partial installation inspections are allowed.
- All piping must be exposed, with all joints and thrust blocks exposed, and labeling of the pipe must be visible and turned upward.
- **If the piping and joints are completely covered, you shall be required to uncover the piping for inspection.**
- Depth of bury of the pipe shall be verified. A minimum of 42” to the top of the pipe is required.
- All ductile iron, retaining rods, and other non-plastic components shall be externally coated for corrosion and poly-wrapped.
- Embedment material shall be inspected and shall comply with the approved plans.

## PIPING FLUSH

- All underground piping shall be thoroughly flushed **PRIOR TO** connecting to the system risers or other aboveground piping system(s).
- City Utilities must be contacted to conduct the flush and documentation of flush must be retained by the General Contractor. Refer to City Utilities procedures for additional details.
- If the underground piping is connected to the system riser (“stacked”) before flush, both the overhead and underground piping may be required to be flushed in accordance with the requirements of NFPA 13 and NFPA 24.

## HYDROSTATIC PRESSURE TEST

- All new fire service mains shall be tested hydrostatically at not less than 200 psi pressure [but not to exceed 225 psi] for a minimum of two hours.
- Any pressure loss greater than 5psi will result in a failed inspection. Repairs shall be completed and another pressure test scheduled.
- Hydrostatic test shall be completed by the installing contractor and verified by the fire inspector.
- If a hydrostatic test is completed after the piping system is covered and fails, the piping will be required to be uncovered and repairs made, regardless of cover.

## FINAL INSPECTION

- As-Built plans, if necessary, shall be submitted and approved.
- Private hydrants will be Left Hand Open and Right Hand Close. Private hydrant barrels shall be painted red with bonnets and caps painted in accordance with 2016 NFPA 291. (Large outlet shall always be directed toward the fire lane.)”
- All inspections shall be 100% completed and passed.

# UNDERGROUND FIRE LINE PROCEDURES

The following is provided by City Utilities and the procedures outlined were implemented on October 1, 2018.

- **Flushing fire line will be done by City Utilities.**
  - Flush hose or pipe must be at least ½ the diameter of the pipe feeding the riser. (example 12 in. pipe requires 6 in. of line for flow)
  - Flush time will be determined by CU onsite.
  - Valves must be completely open during procedure.
- Private fire service plumbers may connect their customer’s private fire service line to CU’s solid sleeve at the property line during construction.
- If the private fire service line is already in place at or within reasonable distance of the property line when CU installs the fire service, CU will connect to the customer’s fire service line and notify the plumber.
- When the private line is ready to be filled and flushed, the plumber will contact Water Metering (831-8391) to request opening CU’s fire service valve.
- The plumber will NOT be allowed to operate the valve without prior approval from the Supervisor – Natural Gas & Water Metering
- Plumber/contractor to provide 24 hours’ notice to City Utilities.
- Business hours – 7:30am - 4pm.
- When scheduling an appointment to open a fire service valve, the plumber is to provide CU with the following:
  - Address of fire service
  - Fire service Permit Number
  - Plumbing Company/Contractor name
- CU will monitor the filling and flushing to ensure clear water is being flushed before closing the valve.
- After filling and flushing, the contractor will follow the normal procedure for pressure testing and receiving Fire Department approval for the fire service line.
- The plumber will NOT be allowed to operate the valve without prior approval from the Supervisor – Natural Gas & Water Metering.
- NOTE: IF PIPE HAS A LEAK AT CU VALVE CU MUST BE NOTIFIED FOR REPAIR.

# OVERHEAD FIRE SPRINKLER INSPECTION REQUIREMENTS

## GENERAL SUBMITTAL REQUIREMENTS

- Plan submittal shall be done through City of Springfield Project Dox with the architect or engineer of record. Each plan sheet must be stamped by a licensed Missouri architect or engineer.
- Plans approved by the Fire Department Plans Reviewer give authorization for installation once the permit has been paid for and issued.
- Final approvals are subject to field verification. Any approval issued by the Fire Department Plans Reviewer does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
- All inspection cards and permits shall be kept on the job site until final inspection.
- All installations shall comply with the approved plans. Any deviation from the approved plans requires a resubmittal through Project Dox.

## INSPECTION STEPS

1. Visual Overhead “rough in” Inspection
2. Hydrostatic Pressure Test
3. Final Inspection

## VISUAL OVERHEAD INSPECTION

**NOTE:** All control valves on fire sprinkler water supply main (**including any backflow preventer**) must be listed indicating valves and have tamper switches, including waterflow switch, monitored by a fire alarm system.

- Partial installation inspections are allowed.
- Fire sprinkler riser shall have sufficient room around it so that inspection, maintenance, and repair can be performed and be protected from accidental damage if not in a closet or room.
- Visual inspection of the overhead installation shall be performed **PRIOR TO** cover. All sprinkler piping, connections, and hangars must be exposed. **If the piping and hangars are completely covered, you shall be required to uncover as needed for inspection.**
- The Fire Department Connection (FDC) shall be installed on the address side of the structure with a water flow horn/strobe mounted above it. It shall be a Siamese with 2 ½ inch connections with locking Knox caps.

## HYDROSTATIC PRESSURE TEST

- All new fire sprinkler piping shall be tested hydrostatically at not less than 200 psi pressure for a minimum of two hours.
- Any pressure loss will result in a failed inspection. Repairs shall be made and a retest scheduled.
- Hydrostatic test shall be performed by the installing contractor and verified by the fire inspector.

## FINAL INSPECTION

- As-Built plans, if necessary, shall be submitted and approved.
- A fire sprinkler acceptance test per NFPA 13 or NFPA13R shall be scheduled to test monitoring of all valve tamper switches and water flow alarms.
- All sprinkler heads shall show no signs of paint, damage, or be covered. (Painted and damaged heads shall be replaced before final inspection.)
- Escutcheons shall be in place.
- Ceilings or drop ceilings with pendent sprinkler heads shall be 100% complete.
- All inspections shall be 100% completed and passed.

# COMMERCIAL KITCHEN HOOD SUPPRESSION SYSTEM INSPECTION REQUIREMENTS

## GENERAL SUBMITTAL REQUIREMENTS

- Plan submittal shall be done through City of Springfield Project Dox with the architect or engineer of record. Each plan sheet must be stamped by a licensed Missouri architect or engineer.
- Plans approved by the Fire Department Plans Reviewer give authorization for installation once the permit has been paid for and issued.
- Final approvals are subject to field verification. Any approval issued by the Fire Department Plans Reviewer does not release the contractor or property owner from the responsibility of full compliance with all applicable codes and ordinances.
- All inspection cards and permits shall be kept on the job site until final inspection.
- All installations shall comply with the approved plans. Any deviation from the approved plans requires a resubmittal through Project Dox.

## INSPECTION STEPS

1. Final Visual Inspection with Acceptance test
2. Any failure in the visual inspection or acceptance test will cause the inspection to be rescheduled.

## VISUAL INSPECTION (PER APPROVED PLANS)

- Appliances shall be located inside the hood a minimum of 6 inches unless otherwise listed.
- The proper hangers, supports, and piping are installed per manufacturer's instructions and the approved plans.
- All nozzles are the correct distance above appliances and correctly positioned for coverage.
- Fusible links are proper temperature and positioned as indicated on approved plans.
- Deep fat fryers are a minimum of 16 inches away from an open flame -or- an 8-inch steel or tempered glass baffle is installed.
- The manual release device shall be located 42-48 inches above the floor, **AND** in the path of egress 10-feet to 20-feet from the kitchen exhaust system.
- A Type K fire extinguisher shall be installed within 10-30 feet from the commercial food heat processing equipment, as measured along an unobstructed path of travel.
- A placard shall be conspicuously placed near the Type K extinguisher that states that the fire protection system shall be activated prior to using the fire extinguisher.
- Audible / visual alarm shall be provided to indicate system operation where the system is not monitored by a fire alarm system or sprinkler monitoring system.
- The fire suppression system shall be interconnected to the building fire alarm system or sprinkler monitoring system where provided.

## ACCEPTANCE TEST

- **Manual release shall be pulled:**
  1. Audible/visual alarm shall activate. (If monitored by fire alarm, verification of activation)
  2. All sources of fuel and electric power that produces heat to appliances under the hood shall shut down.
  3. Air / inert gas (in lieu of extinguishing agent) shall blow off all nozzle caps.
  4. Make-up air shuts off / exhaust fan stays on.
- **Automatic activation (cutting test fusible link):**
  1. Audible/visual alarm shall activate. (If monitored by fire alarm, verification of activation)
  2. All sources of fuel and electric power that produces heat to appliances under the hood shall shut down.
  3. Make-up air shuts off / exhaust fan stays on.

# APPENDIX: FIRE RELATED PERMIT FEES

The FIS Plan Review Fee will be assessed for any new overhead fire sprinkler (Work Type = FISOVRNEW), or for any sprinkler modification which requires calculations (Work Type = FISOVRMCAL).

From page 60 of the City of Springfield General Ordinance 6572 Exhibit A: Evaluation of Charges for Municipal Services. The full document is available at [https://www1.springfieldmo.gov/bills\\_pdfs/ORD6572.pdf](https://www1.springfieldmo.gov/bills_pdfs/ORD6572.pdf)

<b>COMMERICAL EXHAUST HOOT PERMIT FEE</b>	<b>\$25.00</b>
<b>LOW VOLTAGE FIS FIRE ALARM PERMIT FEE</b>	<b>\$174.00</b>
<b>COMMERCIAL FIRE SPRINKLER SYSTEM WHEN CALCS ARE REQUIRED BY NFPA 13/13R OR DESIGNER OF RECORD:</b>	
<b>NEW OVERHEAD FIRE SPRINKLER SYSTEM FIS PERMIT FEE</b>	<b>\$174.00</b>
<b>MODIFICATIONS TO EXISTING OVERHEAD SYSTEM PERMIT FEE WHEN CALCS ARE REQUIRED</b>	<b>\$174.00</b>
<b>PLAN REVIEW FEE</b>	<b>\$242.00</b> (Applicable to Overhead only)
<b>TECHNOLOGY FEE</b>	<b>\$50.00</b> (Applicable to Overhead FIS not associated with Building Permit)
<b>NEW UNDERGROUND SYSTEM FIS PERMIT FEE</b>	<b>\$174.00</b>
<b>COMMERCIAL FIRE SPRINKLER ALTERATIONS/MODIFICATIONS WHEN NO CALCS ARE REQUIRED BY NFPA 13/13R OR DESIGNER OF RECORD.</b> (No Plan Review or Technology Fee will be applied)	
<b>MODIFICATIONS TO EXISTING OVERHEAD SYSTEM PERMIT FEE</b>	<b>\$25.00</b>
<b>KITCHEN HOOD SUPPRESSION FIS PERMIT FEE</b>	<b>\$25.00</b>