

CITY OF SPRINGFIELD FIRE DEPARTMENT

PRE-DEVELOPMENT FIRE CODE SUPPLEMENT

FIRST EDITION | JANUARY 2021



This document is being provided by the Springfield Fire Department in support of our community design and development partners to address areas of the Fire Code common to every community project. 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.

TABLE OF CONTENTS

Address..... 3

Landscaping Materials..... 3

Locks/Latches..... 3

Hydrants..... 3

FireFlow..... 4

Hazardous Materials..... 4

Fire Access Roads..... 4

Knox Boxes–Locks 5

Storage 5

Solar Panels..... 6

Hood Fire Suppression..... 6

Fire Department Connection (FDC)..... 6

Standpipes..... 6

Automatic Sprinklers..... 6

Fire Alarms..... 7

ADDRESS

- Address shall be at front and rear entry doors with numerals/letters at least 4 inches high with a 1/2-inch stroke width on contrasting background. They must be visible from the street. Numerals cannot be spelled out. (2018 IFC 505.1)

LANDSCAPING MATERIALS

- Use of viable & living grass / sod is allowed at any proximity to any commercial building. (2018 IFC amended 320.3)
- Combustible landscaping materials shall not be within 18 inches of any commercial building. Non-combustible landscaping materials can be at any proximity. (2018 IFC amended 320.4)
- Combustible landscaping materials shall not be within 18 inches radius around gas meters. Non-combustible landscaping materials can be at any proximity. (2018 IFC amended 320.4)
- Receptacles for discarded smoking materials shall be no closer than 18 inches to combustible landscape material / mulch and shall be emptied regularly. (2018 IFC amended 320.5)

LOCKS / LATCHES

- Manually operated flush bolts are not permitted on doors of egress. (2018 IFC 1010.1.9.5)
- Security bar locking devices may be allowed on certain exit doors upon approval by the fire code official. (2018 IFC amended 1010.1.4.6)

HYDRANTS

- Provide required fire load flow calculations for total fire area of the building based on structure building type and square footage. This information needs to include minimum GPM and required minimum number of hydrants. (2018 IFC 507.3) (Appendix tables B105.1 & C105.1)
- An approved water supply, either temporary or permanent shall be made available as soon as combustible material arrives on site. (2018 IFC 3312.1)
- Private fire service hydrants shall be red in color. The bonnet and caps shall be painted in accordance with NFPA 291. (2018 IFC amended 507.2.1.1)
- Private fire service mains & appurtenances shall be installed per NFPA 24 (2018 IFC Section 507.2.1).
- Fire hydrant is required within 400 feet around the exterior portions of the building from the fire apparatus access lane measured along apparatus travel route per 2018 IFC Section 507.5.1 (Increases to 600 feet if building is protected by a fire sprinkler system.)
- Make note of the spacing requirements of hydrants for a complex of buildings as required. (Appendix C of the 2018 IFC)
- The maximum distance from any point on the street to a hydrant is 250 ft. (Example: Two hydrants, spaced 500 ft apart (250 ft each way from the center point))

- Additional private fire hydrants may be required to meet IFC 2018 Appendix C105.
- Fire hydrants required to meet IFC 2018 Section 507 and Appendix C.
- Show the location of existing and proposed hydrants on site plan; ensure hydrants meet the minimum requirements for spacing of hydrants along apparatus access lanes/roads as well as maximum allowable distances to the structure. (2018 IFC Section 507 & Appendix C).

FIRE FLOW

- Provide available flow data for existing fire hydrants on plans. Hydraulic calculations may be used for new / proposed hydrants. (IFC 507.1) Raw flow data must be input into a hydraulic calculation formula to show maximum flow output at 20 psi residual pressure.
- A reduction of 75% of the required fire flow is allowed when the building is covered by an automatic sprinkler and an engineered sprinkler flow calculation is provided for the building. The minimum flow allowed is 1,500 gpm for the duration specified in B105. If no engineered sprinkler flow calculation is provided as described above, a maximum of a 50% reduction may be taken from the value in table B105.

HAZARDOUS MATERIALS

- Fuel storage shall meet the requirements of 2018 IFC Sections 5004 and 5704.
- Motor fuel dispensing facility shall meet the requirements of 2018 IFC Chapter 23 & 50.

FIRE ACCESS ROADS

- Show on plans: During construction of buildings, temporary (or permanent) fire access lanes a minimum of 20 feet wide shall be provided to within 150 ft of all exterior portions of the building of the construction site capable of supporting fire apparatus 75,000 lb imposed load. (2018 IFC 3310.1)
- Stripe/stencil a Fire Access Lane that extends to within 150 feet of all exterior portions of the building. It shall be 20 feet or 26 feet in width as required by code. (IFC 2018 Section 503 & IFC 2018 Appendix D).
- Show on site plan the minimum Fire Department apparatus access requirements (including road width, proximity to structures, turn-around (if required), 28 ft. inside turning radii, required fire lane marking, 8% or less grade, & 75,000 lb imposed load. (IFC 2018 Section 503 & IFC 2018 Appendix D).
- Fire apparatus access lanes shall be marked with 4" red striping on either side of the fire lane along the entire length of the lane and "NO PARKING FIRE LANE" shall be stenciled in 12" letters every 50' in the center of the fire lane (perpendicular to traffic flow and in alternating directions). If a curb is present along one side of the lane the curb should be painted red in place of the 4" striping. (2018 IFC 503.3.)
- Where a fire hydrant is located on a fire lane, the minimum lane width shall be 26 feet for a distance of 10 ft. on either side of the hydrant. (2018 IFC Appendix D 103.1)

- Aerial Fire Apparatus – If building roof eave/parapet is greater than 30 feet above grade, fire lane width shall be 26 feet, not closer than 15 feet nor further than 30 feet from the building for a parallel apparatus position (IFC 2018 Appendix D)
- Dead end Fire Access Lane that exceeds 150 feet in length shall install a fire apparatus turn around (2018 IFC Section 503 & Appendix D)
- Two separate fire apparatus roads required with more than 100 dwelling units (2018 IFC Appendix D106.1) (Unless all buildings sprinklered on the property)
- Two separate fire apparatus roads required with more than 200 dwelling units per 2018 IFC Appendix D106.2. They shall be placed a distance apart not less than half of the length of the maximum overall diagonal dimension of the property to be served measured in a straight line between accesses. (2018 IFC Appendix D106.3)
- Fire access lane gates shall be 20 feet wide for single gates or not less than 12 feet wide if the roadway is divided. (2018 IFC D103.5)
- Gates on fire department access roads must be equipped with a Knox padlock on nonelectric gates or a Knox key switch on electric gates. Note on site plan. (2018 IFC D103.5).
- Provide a fire access road plan that supports fire apparatus 75,000 lb imposed load once above slab construction begins (2018 IFC Section 3310).
- Grass pavers use must be approved by the fire code official (2018 IFC Appendix D102.1.1)
- The following criteria must be met for marking grass paver FD access routes (2018 IFC Appendix D102.6.3)
 1. Must be reflective so the route is readily visible at night
 2. The marking system must be visible above the allowable 12” vegetation growth height
 3. The approved marking system must be placed on both sides of the FD access route at minimum intervals of 20’
 4. If a continuous curb type marking system is installed, then the curb would be allowed to be less than 12” in height. The curb must be maintained so it is visible at all times.

KNOX BOXES - LOCKS

- Install a Knox Key Box for the building in the immediate vicinity of the main entrance at 5’ above finish floor. Note on the site plan. (2018 IFC Section 506).
- To schedule a fire crew to lock the padlock / key box, contact the CRR Administrative Assistant at 417-874-2349 or email requests to SFDcrr@springfieldmo.gov

STORAGE

- Provide warehouse storage information: what will be stored, quantities, how it will be stored (piles or in racks), & height of storage.
- Provide documentation of compliance with 2018 IFC Chapter 32 – High Piled Combustible Storage.

SOLAR PANELS

- Show on plans a 36-inch access pathway on each roof plane and at the ridge where panels are installed capable of supporting roof work of firefighters (2018 IRC R324.6 and 2018 IFC 1204).
- Panels/modules shall not be placed below an emergency escape & rescue opening. (2018 IRC R324.6 and 2018 IFC 1204).

HOOD FIRE SUPPRESSION

- Provide detailed Type I hood and duct fire suppression system plan for review (2018 IFC - Sections 607 & 904.)
- All Type 1 hood and duct suppression systems shall have a current inspection tag.

FIRE DEPARTMENT CONNECTION (FDC)

- Fire sprinklered buildings shall locate the FDC on the address side of the structure. (2018 IFC 912.2.1)
- FDC shall be painted red in color.
- Specify FDC for sprinkler systems as 2-1/2" Siamese (13R systems require 2-1/2" connections as well). (2018 IFC amended 912.1.1).
- Provide Knox locking caps for the FDC (2018 IFC amended 912.3.1)
- Provide fire sprinkler water flow horn/strobe immediately above FDC- (2018 IFC 903.4.2)
- Immediate access to the fire department connection shall be maintained at all times without obstruction by fences, bushes, trees, or any other fixed or moveable object with a working space of 36 inches in width, 36 inches in depth, & 78 inches in height in front and to the sides of the FDC. (2018 IFC 912.4)

STANDPIPES

- Provide Class I standpipes in exit stairways. They shall be manual wet systems interconnected & installed with outlets on intermediate landings between floors (2018 IFC 905 & 2016 NFPA 14)
- Specify standpipes outlets as 2-1/2". (2018 IFC amended 912.1.1)

AUTOMATIC SPRINKLERS

- Provide fire alarm to monitor waterflow, tamper supervisory, & trouble signals (2018 IFC Section 903.4.1)
- NOTE on plans: All control valves on fire sprinkler water supply main (including any backflow preventer) must be listed indicating valves and have tamper switches monitored by a fire alarm system. (2018 IFC 903.4 & 2016 NFPA 13)
- Automatic Fire sprinkler systems shall have an approved current annual inspection tag. (2018 IFC Section 901 & 907)

- Fire sprinkler riser and/or pump room shall have signage on the door “FIRE RISER and/or PUMP ROOM”. Letters shall be a minimum of 2” in height and with a minimum stroke width of 3/8” in a contrasting color to the background. (2018 IFC 901.4.6.2)
- Sprinkler risers, not located in a room, must be protected from mechanical damage by steel posts, concrete barriers, or other approved means. (2016 NFPA 13 8.16.5)
- Fire pump shall be installed per 2018 IFC 913 & 2016 NFPA 20 & accessed through exterior door. Fire pump room shall have a floor drain & the floor be sloped away from critical equipment - controller, pump, & driver. Room shall be ventilated & have normal & emergency lighting with a minimum temperature of >40 degrees F.
- Private fire service mains can extend under the building no more than 10 ft. from outside edge. (2016 NFPA 16)
- Hydrant flow test for sprinkler system calculations must have been conducted within 12 months of plan submittal per NFPA 13 Chapter 23.2.1.1.
- Provide fire sprinkler plans (deferred submittal) for review (2018 IFC Chapter 9 and 2016 NFPA 13).
- Automatic sprinklers shall be installed under equipment that is greater than 4 feet in width. (2018 IFC 903.3.3)
- All exterior fire sprinkler system components must be compliant with regard to access and maintenance (2018 IFC Chapter 9 & Appendix I)
- All exterior fire sprinkler system components shall be painted red in color (2017 NFPA 25).

FIRE ALARMS

- Provide fire alarm plans (deferred submittal) for review (2018 IFC Chapter 9 and 2016 NFPA 72)
- Fire alarm systems shall have an approved current annual inspection tag.
- Provide fire alarm to monitor waterflow, tamper supervisory, & trouble signals (2018 IFC Section 903.4.1)

