



CHELMSFORD FIRE DEPARTMENT
FIRE PREVENTION OFFICE

50 Billerica Road – Chelmsford, MA 01824
(978) 251-4288

"Smoke Detectors Save Lives"

Revision v3, 3/9/2020



SITE PLAN REVIEW AND APPARATUS ACCESS PLANS

Revision v3

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This document is not a complete list of requirements. Applicants are advised to review Chapter 18 of 527 CMR 1 and involve the Fire Prevention Office early in the planning process.

1. FIRE APPARATUS ROADWAY PLANS

- 1.1.** All plans that propose new or reconfigured apparatus access must include an analysis of fire apparatus maneuvers throughout the access roads created by swept path analysis and turn simulation software.
 - 1.1.1.** A scaled hard copy of the plan shall be submitted to the fire prevention office.
 - 1.1.2.** Plans must bear the seal of a registered engineer.
- 1.2.** Fire access roads and fire lanes shall be at minimum 20 feet wide.
- 1.3.** The use of the opposite travel lane is prohibited in the design of all new fire apparatus access roads.
- 1.4.** Roadway grade should not exceed 10% without prior approval by the Fire Prevention Office. In no event shall roadway grade exceed 12%
- 1.5.** Fire apparatus access roadways must have a maintained and unobstructed vertical clearance of 13'6". This shall include landscaping obstructions.
- 1.6.** Permeable driveway surfaces such as grass pavers require prior approval from the Fire Prevention Office.
- 1.7.** Dead ends greater than 150 feet shall be provided with a turnaround for fire apparatus.
 - 1.7.1.** No more than a three-point turn is acceptable.
- 1.8.** Roads shall be designed and maintained to support the weight of fire apparatus. Currently, our largest piece of apparatus weights 83,000 lbs. GVW. An all-weather driving surface is required.
- 1.9.** Gates may be installed with prior approval of the Chelmsford Fire Department.
 - 1.9.1.** Mechanically operated gates shall require the installation of a Knox Key Switch keyed to Chelmsford Fire Department specifications or other system deemed acceptable by Fire Prevention.
 - 1.9.2.** Manual gates shall require a Knox Padlock to be linked through for gate closure.
- 1.10.** Parking garages shall be provided with a Knox Key Switch keyed to Chelmsford Fire Department specifications for access.
- 1.11.** Bridges and culvert crossings shall meet the requirements of 527 CMR 1:18.2
- 1.12.** All fire apparatus roadways and fire lanes shall be marked by posted signage and pavement markings as determined by fire prevention

2. FIRE APPARATUS DIMENSIONS (2013 Spartan Smeal Aerial Platform)

- 2.1.1.** Turning Radius 48' 6" (180 deg.)
- 2.1.2.** Apparatus Width 10'
- 2.1.3.** Apparatus Length 49' 7"
- 2.1.4.** Apparatus Height 14'
- 2.1.5.** Apparatus Weight 42 Tons
- 2.1.6.** Wheel Base 20' 10"
- 2.1.7.** Rear Outrigger Spread 20'

- 2.2.** Aerial Platform extends 13' beyond the front axle. Please account for plantings, trees, and lights accordingly.

2.3. AASHTO BUS-45 template may be used as a substitute if Smeal template is unavailable.

3. FIRE DEPARTMENT WATER SUPPLY

3.1. Fire hydrant locations and water main layout, including size, must be submitted on a separate plan

3.2. One fire hydrant shall be located within 60 feet of each fire department connection (FDC).

3.3. At least one fire hydrant shall be located with within 500 feet of all points of the exterior of buildings for manual firefighting operations.

3.4. All hydrants shall be kept clear of obstructions according to the included hydrant placement requirements diagram.

3.5. Fire Department Connections

3.5.1. Fire department connections (FDCs) shall be 4" Storz. No other configuration shall be acceptable.

3.5.2. The FDC shall be located in an approved location and must have maintained paved access.

3.5.3. The fire department connection shall be kept free and clear of all landscaping and physical obstructions for the life of the facility.

3.5.4. The FDC shall remain plainly visible to responding fire apparatus.

3.5.5. Fire Department Connections shall be marked with approved signage per CFD Automatic Sprinkler System Requirements.

4. FIRE DEPARTMENT ACCESS

4.1. Knox Box key access boxes shall be required at locations approved by the Chelmsford Fire Department.

4.1.1. Buildings which use less than 10 keys shall be permitted to use the Knox Box 3200 series box.

4.1.2. If the use of key cards is proposed or greater than ten keys are used, the Knox Box 4400 series box shall be used.

4.1.3. Gates, chains, garage doors, or other access barricades shall require a preapproved method of entry by the Chelmsford Fire Department.

5. SITE AND BUILDING PLANNING

5.1. All exits from a building shall have continuous paved access to a public way.

5.2. Exterior fire protection equipment, not limited to fire department connections, fire alarm control panels, and Knox Box key boxes shall be provided with continuous paved access for firefighters to safely access it.

5.3. Snow removal areas shall not impede or restrict fire apparatus access.

5.4. No trash receptacle/container with a capacity of greater than 1.5 cu yards may be placed closer than 10 feet from any combustible building surfaces, openings, or roof eave line.

6. Refer to Chelmsford Fire Department guidelines on commercial plan submittal, construction site safety requirements, internal fire alarm requirements, emergency responder radio coverage, and sprinkler system requirements for further information on local fire protection requirements.

Hydrant Placement Requirements

There are to be no obstructions 4' behind and 6' to the left, right, and front of a hydrant.

Bollards, where required by 527 CMR 1:18, should be located as shown below.

All hydrant shall be provided with an unobstructed and direct path for firefighter access.

