Harris County Fire Code

Procedure Document

Fire Access Road / Fire Lane Layout Plan

What should my Fire Access Road / Fire Lane Layout Plan include?

- Location of the building on the site along with the length, width and height of building.
- Street locations.
- Private drives and any gates or barriers to traffic.
- Sidewalks and parking rows.
- Fire Department Connections and nearest public fire hydrants as well as hydrants on private property. (Hydrants and Fire Department connections should be highlighted)
- Show overhead structural extensions or obstructions that could affect Fire Lane placement.
- Show proposed fire department Access Roads/Fire Lanes, parking lot /curb striping or sign placements**
- (Cross hatch or otherwise distinguish fire access roads on plans.)
- All above should show size and relative distances from one another.

** Curbs located on either side of a fire lane shall be painted RED or a RED stripe shall be placed along the pavement where there is no curb. Where a fire lane passes between head-in parking spaces, the red stripe should be placed along the rear of these spaces clearly defining the fire lane. Painted curbs and fire lane stripes shall also be conspicuously and legibly marked with the warning “FIRE LANE – NO PARKING - TOW AWAY ZONE” in white letters at least three (3) inches in height, at intervals not exceeding (50) feet. Where fire lanes are clearly defined by curb/pavement striping, fire lane signs are not required. Fire lane signs should be placed every (75) feet along any fire lane where pavement or curb striping is not practical.

Any color other than red may be used in “NO PARKING” areas that are not approved Fire Lanes. RED colored curbs, pavement striping or wheel stops shall be used only to designate approved Fire Lanes.
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**General Code Requirements**

The Fire Lane shall:
- Extend to within one hundred fifty (150) feet of all portions of the facility and all portions of the exterior walls of the first story of the building as measured by an approved route around the exterior of the building or facility.  [Ref. IFC 2018 Section 503.1.1]
  - NOTE: For building(s) equipped with an approved automatic sprinkler system, this distance can be increased to two hundred (200) feet.  [Ref. HC Amendments to 503.1.1 Exception 1.1]
- Allow the nearest access possible to the main entrance of the building.
- Have a width of no less than twenty (20) feet (unobstructed).
- Have a turning radius of fifteen (15) feet maximum for, driveways entering property from a county road, and a minimum twenty-five (25) feet for turns inside the property.
- Have an unobstructed vertical clearance of at least thirteen and one-half (13.5) feet.
- Be all weather and support a fire apparatus weighing seventy-five thousand (75,000) pounds.
- When dead-end, and in excess of one hundred-fifty (150) feet in length provide an area for turning around the fire apparatus.  [Ref. IFC 2018 Appendix D Figure D103.1]

**Specific Code Requirements**

**Requirements for Large Area Buildings [Ref Section D104 of the 2018 IFC]:**

D104.1 Buildings exceeding three stories or 30 feet in height. Buildings or facilities exceeding 30 feet (9144 mm) or three stories in height shall have not fewer than two means of fire apparatus access for each structure.

D104.2 Buildings exceeding 62,000 square feet in area. Buildings or facilities having a gross building area of more than 62,000 square feet (5760 m2) shall be provided with two separate and approved fire apparatus access roads.

**Exception:** Projects having a gross building area of up to 124,000 square feet (11 520 m2) that have a single approved fire apparatus access road where all buildings are equipped throughout with approved automatic sprinkler systems.

D104.3 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one half of the length of the maximum overall diagonal dimension of the lot or area to be served, measured in a straight line between accesses.


**Requirements for Buildings Exceeding 30’ in Height [Ref Section D105 of the 2018 IFC]:**

**D105.1 Where required.** Where the vertical distance between the grade plane and the highest roof surface exceeds 30 feet (9144 mm), approved aerial fire apparatus access roads shall be provided. For purposes of this section, the highest roof surface shall be determined by measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

**D105.2 Width.** Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm), exclusive of shoulders, in the immediate vicinity of the building or portion thereof.

**D105.3 Proximity to building.** One or more of the required access routes meeting this condition shall be located not less than 15 feet (4572 mm) and not greater than 30 feet (9144 mm) from the building, and shall be positioned parallel to one entire side of the building. The side of the building on which the aerial fire apparatus access road is positioned shall be approved by the fire code official.

**D105.4 Obstructions.** Overhead utility and power lines shall not be located over the aerial fire apparatus access road or between the aerial fire apparatus road and the building. Other obstructions shall be permitted to be placed with the approval of the fire code official.

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**Requirements for Multi-Family Residential Developments [Ref Section D106 of the 2018 IFC]:**

**D106.1 Projects having more than 100 dwelling units.** Multiple-family residential projects having more than 100 dwelling units shall be equipped throughout with two separate and approved fire apparatus access roads.

**Exception:** Projects having up to 200 dwelling units shall have not fewer than one approved fire apparatus access road where all buildings, including nonresidential occupancies, are equipped throughout with approved automatic sprinkler systems installed in accordance with Section 903.3.1.1 or 903.3.1.2.

**D106.2 Projects having more than 200 dwelling units.** Multiple-family residential projects having more than 200 dwelling units shall be provided with two separate and approved fire apparatus access roads regardless of whether they are equipped with an approved automatic sprinkler system.

**D106.3 Remoteness.** Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.
D107.1 One- or two-family dwelling residential developments. Developments of one- or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads.

Exceptions:

1. Where there are more than 30 dwelling units on a single public or private fire apparatus access road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3, access from two directions shall not be required.

2. The number of dwelling units on a single fire apparatus access road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the fire code official.

D107.2 Remoteness. Where two fire apparatus access roads are required, they shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the property or area to be served, measured in a straight line between accesses.

Fire Lane Striping and Sign Requirements

Fire Lanes/Fire Apparatus Access Roads shall be marked on the curbs or pavement with a RED stripe 4” in height and stenciled every fifty feet in WHITE letters at least 3” in height with the words, “FIRE LANE – NO PARKING – TOW AWAY ZONE” so as to prevent parking in the area.

NOTE: Where striping is not practical an approved Fire Lane sign shall be placed every seventy-five (75) feet.