



Fire Lane Site Development Checklist

Fire Lane:

- Dimensions (IFC 503.2.1)** Fire apparatus access roads shall have an unobstructed width of not less than **20** feet. (see examples on page 3)
- Fire apparatus access road to extend 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]

All-Weather Access Roads during Construction:

Access roads shall be in place prior to going vertical with combustibile construction or going vertical higher than 6 feet with non-combustible construction.

- Required Access (IFC 3310)** Approved vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions, and maintained until permanent fire apparatus access roads are available.

Fire Apparatus Access Roads:

(IFC Chapter 5 & Appendix D)

Fire Apparatus Access Road – A road that provides fire apparatus access from a fire station to a facility, building or portion thereof. This is a general term inclusive of all other terms such as *fire lane*, public street, private street, parking lot lane and access roadway.

- Dimensions (IFC 503.2.1)** Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (exception: width shall be 26 feet minimum when IFC Appendix D105.1 & D105.2 applies), exclusive of shoulders, except for approved security gates and an unobstructed vertical clearance of not less than 13 feet 6 inches.
- Turning Radius (IFC 503.2.4)** The required turning radius of a fire apparatus access road shall be designed to accommodate the following radiuses: Inside turning radius of 25 feet minimum & outside turning radius of 48 feet minimum. (see examples on page 3)
- Dead Ends (IFC 503.2.5)** Fire apparatus access roads that have a dead-end in excess of 150' in length shall be provided with an approved area for turning around fire apparatus per in accordance with IFC Appendix D, Figure D103.1 and Table D103.4. (See examples on page 3)
- Security Gates (IFC 503.6 and D103.5)** Security gates installed across a fire apparatus access road shall be provided with an approved means of emergency operation and be a minimum of 20 feet wide.

Site Access:

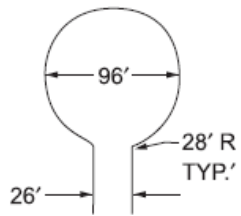
- Buildings exceeding three stories or 30 feet in height** (*IFC Appendix D104.1*) Buildings or facilities exceeding 30 feet or three stories in height shall have at least two means of fire apparatus access for each structure.
- Buildings exceeding 62,000 square feet in area** (*IFC Appendix D104.2*) Buildings or facilities having a gross building area of more than 62,000 square feet 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 may have a single approved fire apparatus access road, when all buildings are equipped throughout with approved automatic sprinkler systems.
- Projects having more than 100 dwelling units** (*IFC D106*) Multi-family residential projects having more than 100 dwelling units shall be equipped throughout with two (2) separate & approved fire apparatus access roads. *Exception:* Projects may have up to 200 dwelling units utilizing a single access road, if the project is protected throughout with a fire sprinkler system (including all non-residential occupancies).
- Remoteness** (*IFC Appendix D104.3*) 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.

Buildings exceeding 30 feet in height:

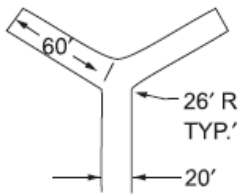
(*IFC Appendix D*)

- Provided** the maximum height of each building(s) shown on page _____
- Aerial Fire Apparatus Access Roads** (*IFC Appendix D105.1*) Where the vertical distance between the grade plane (Approved Fire Lane) and the highest roof surface exceeds 30 feet in height, an approved aerial fire access road shall be provided. *For the 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.*
- Width** (*IFC Appendix D105.2*) Aerial fire apparatus access roads shall have a minimum unobstructed width of 26 feet, exclusive of shoulders, in the immediate vicinity of the building or portion thereof.
- Proximity to building** (*IFC Appendix D105.3*) At least one of the required access routes meeting the condition of IFC Appendix D105.2 shall be located within a minimum of 15 feet and a maximum of 30 feet from the building, and shall be positioned parallel to one entire side of the building. This side of the building shall be approved by the Fire Code Official.

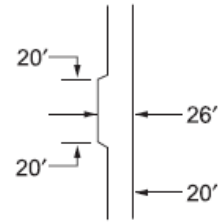
Dead-End Turnaround Examples



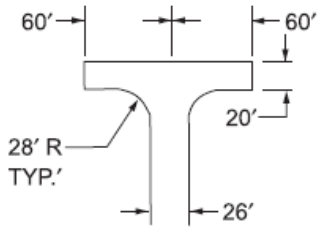
96' DIAMETER
CUL-DE-SAC



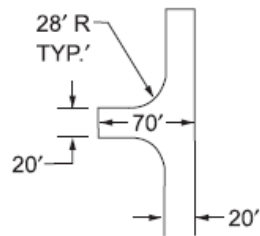
60-FOOT "Y"



MINIMUM CLEARANCE
AROUND A FIRE
HYDRANT



120' HAMMERHEAD



ACCEPTABLE ALTERNATIVE
TO 120' HAMMERHEAD

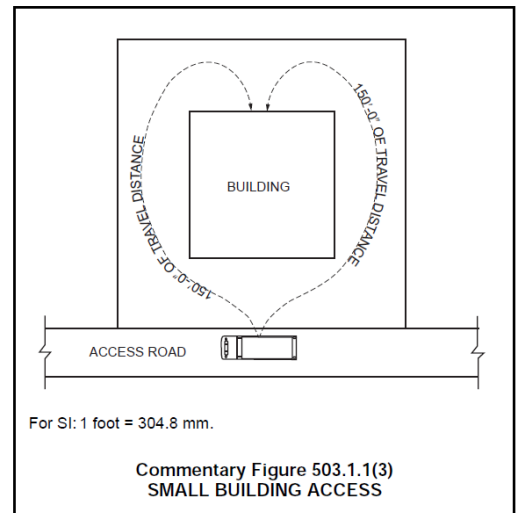
Fire Lane required widths and turnarounds

**TABLE D103.4
REQUIREMENTS FOR DEAD-END
FIRE APPARATUS ACCESS ROADS**

LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0-150	20	None required
151-500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1
501-750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1
Over 750		Special approval required

For SI: 1 foot = 304.8 mm.

Hose lay example





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.

Fire Access Road / Fire Lane Layout Plan

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]*
- 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.

Fire Access Road / Fire Lane Layout Plan

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.

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.

Fire Access Road / Fire Lane Layout Plan

Requirements for One- or Two-Family Residential Developments (Ref Section D107 of the 2018 IFC):

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.

