THE UNIVERSITY OF TEXAS AT DALLAS

Fire & Life Safety Department

FIRE LANES

This guide is intended to be a resource when a building, structure, or facility is required to be provided with fire apparatus access roads or emergency access easements, commonly referred to as a "Fire Lane" for Fire Department Access.

DEFINITION OF AN FIRE ACCESS ROAD

1. Fire apparatus access roads are defined as a road that provides fire apparatus access from a fire station to a facility, building, subdivision or portion thereof. This is a general term inclusive of all other terms such as fire lanes, Public Street, Private Street and access roadway.

FIRE ACCESS ROADS REQUIRED

2. Fire lanes are required when any portion of a building, structure or facility's first story exterior wall is located more than 150 ft. from a point of fire department access as measured by an approved route around the exterior of the building or structure.
    a. *The 150 ft. hose lay determination shall be measured from the location on the fire lane for which a fire apparatus shall be parked. Typically this is measured from the center of the fire lane.*
    b. *If the building is designed with overhanging upper floors, the measurement may be made from the center of the fire lane to the roofline.*
3. All structures and subdivisions shall provide two points of fire department access. The two points of access shall be a minimum of 140 feet apart as measured edge of pavement to edge of pavement.
4. More than one fire lane or approved access road may be required when deemed necessary, due to potential for impairment of a single road by vehicle congestion, terrain, climatic conditions or other factors.
5. Non-aerial apparatus fire lanes may be required to be located within 15 - 30 ft. of a building if deemed to be reasonably necessary by the Fire & Life Safety Department to enable proper protection of the building.
6. Fire lanes may be required through parking areas, to service entrances of buildings, loading areas and trash collection areas, and other areas deemed necessary to be available to fire and emergency vehicles.
7. Fire Lanes may be either continuous, such that they provide continuous and unobstructed access from at least 2 points of access from a qualifying street(s), or they may be single fire lanes which are dead-ended.

FIRE APPARATUS ACCESS ROADS DURING CONSTRUCTION

8. Fire apparatus access roads when required shall be installed and made serviceable prior to vertical construction, and shall remain serviceable during the time of construction.

SPECIFICATIONS

9. Fire lane width shall be measured face of curb to face of curb.
10. Fire lanes with a width of 24 ft. require a minimum turning radius of 30 ft.
11. Fire lanes with a width of 26 ft. require a minimum turning radius of 30 ft.
12. Fire lanes with a width of 30 ft. require a minimum turning radius of 20 ft.

13. ***Aerial Apparatus Access Roads:*** Buildings or portions of buildings exceeding 30 ft. in height above the lowest level of fire department vehicle access shall be provided with a 24 ft. wide fire lane. The fire lane shall be constructed a minimum of 15 ft. to a maximum of 30 ft. from the building and shall be positioned parallel to one entire long side of the building. When one entire side cannot be provided, designated zones are allowed.
14. Minimum clear vertical height of **14 ft**.
15. Provide an all-weather dust free driving surface.
16. Support a **80,000 lb**., two-axle fire apparatus.
17. Cannot exceed 6% in grade change, with grade transitions not exceeding 5%.
18. Cannot exceed 6% net grade change for hills and valleys.
19. The maximum angle of departure and angle of approach is 6%.
20. The maximum cross slope is 3%.
21. A 10 ft. wide level unobstructed pathway shall be provided through all barriers. A continuous row of parking between the fire lane and the structure shall be considered a barrier. Landscaping may be considered an obstruction based upon the type present and location.

CONSTRUCTION SPECIFICATIONS

22. Construction of all fire lanes shall be in accordance with specifications as described in the International fire Code and/or NFPA 1.

Fire lanes shall be constructed of concrete surface capable of supporting the imposed loads of a multi-axle, 80,000 lb. fire apparatus. The design shall be based on the geotechnical investigation of the site, but shall meet the stated minimums. The fire lane shall be constructed with a minimum 6 in. thick, 4000 PSI concrete with steel reinforcing of No. 4 bars spaced 24 in. on centers in each direction.

The base course thickness shall be a minimum of 6 in. in thickness and shall consist of lime or cement stabilization as recommended in the Geotechnical Report.

Where stabilization is not practical, the standard pavement thickness may be increased by 1 in. and a minimum of 6 in. flexible base course in lieu of treating the sub-grade with lime or cement. The base course shall consist of a minimum 6 in. flexible base course over a compacted sub-base to 95% Standard Proctor density, or 6in. of asphalt base as approved by the Fire & Life Safety Department.

MARKING

23. Striping – Fire apparatus access roads shall be marked by painted lines of red traffic paint 6 in. width to show the boundaries of the lane. The words “NO PARKING FIRE LANE” or “FIRE LANE NO PARKING” shall appear in 4 in. white letters at 25 ft. intervals on the red border markings along both sides of the fire lanes. Where a curb is available, the stripping shall be on both the vertical and horizontal faces of the curb.
24. Signs – Signs shall read “NO PARKING FIRE LANE” or “FIRE LANE NO PARKING” and shall be 12 in. wide and 18 in. high. Signs shall be painted on a white background with letters and borders in red, using not less than 2 in. lettering. Signs shall be permanently affixed to a stationary post and the bottom of the sign shall be 6’-6” in. above finished grade. Signs shall be spaced not more than 50 ft. apart. Signs may be installed on permanent buildings or walls or as approved by the Fire & Life Safety Department.

FIRE LANE TURNAROUNDS

25. Dead-end fire lanes that exceed 150 ft. in length, shall be provided with an approved hammerhead, “Y”, or circular turnaround. Parking, median islands, landscaping or other obstruction within the required turnarounds is prohibited.
26. All approved turnarounds shall be marked and platted as a fire lane easement.

27. Circular Turnaround: 50 ft. minimum radius (100 ft. diameter). Corner radius shall be per the fire lane width required.
28. Hammerhead: 60 ft. minimum legs along the "T" or "Y", as measured from centerline of the fire lane. Corner radius shall be per the fire lane width required.
29. Please see the *Approved Fire Lane Turnarounds* for representative graphics.

PLAN REVIEW

30. Plans for fire lanes must be submitted to the Fire & Life Safety Department for review and approval prior to construction.
31. Fire lanes and mutual access easements shall be provided to serve all buildings through parking areas, to service entrances of buildings, loading areas and trash collection areas, and other areas deemed necessary to be available to fire and emergency vehicles. The Fire & Life Safety Department is authorized to designate additional requirements for fire lanes and/or require fire lanes where it is reasonably necessary to provide access for fire and rescue personnel, or as required by other provisions of the Fire Code.

Hose Lay Extension

33. A hose lay extension of up to 200 feet may be granted on a case-by-case basis for buildings that are fully equipped with an automatic fire sprinkler system.

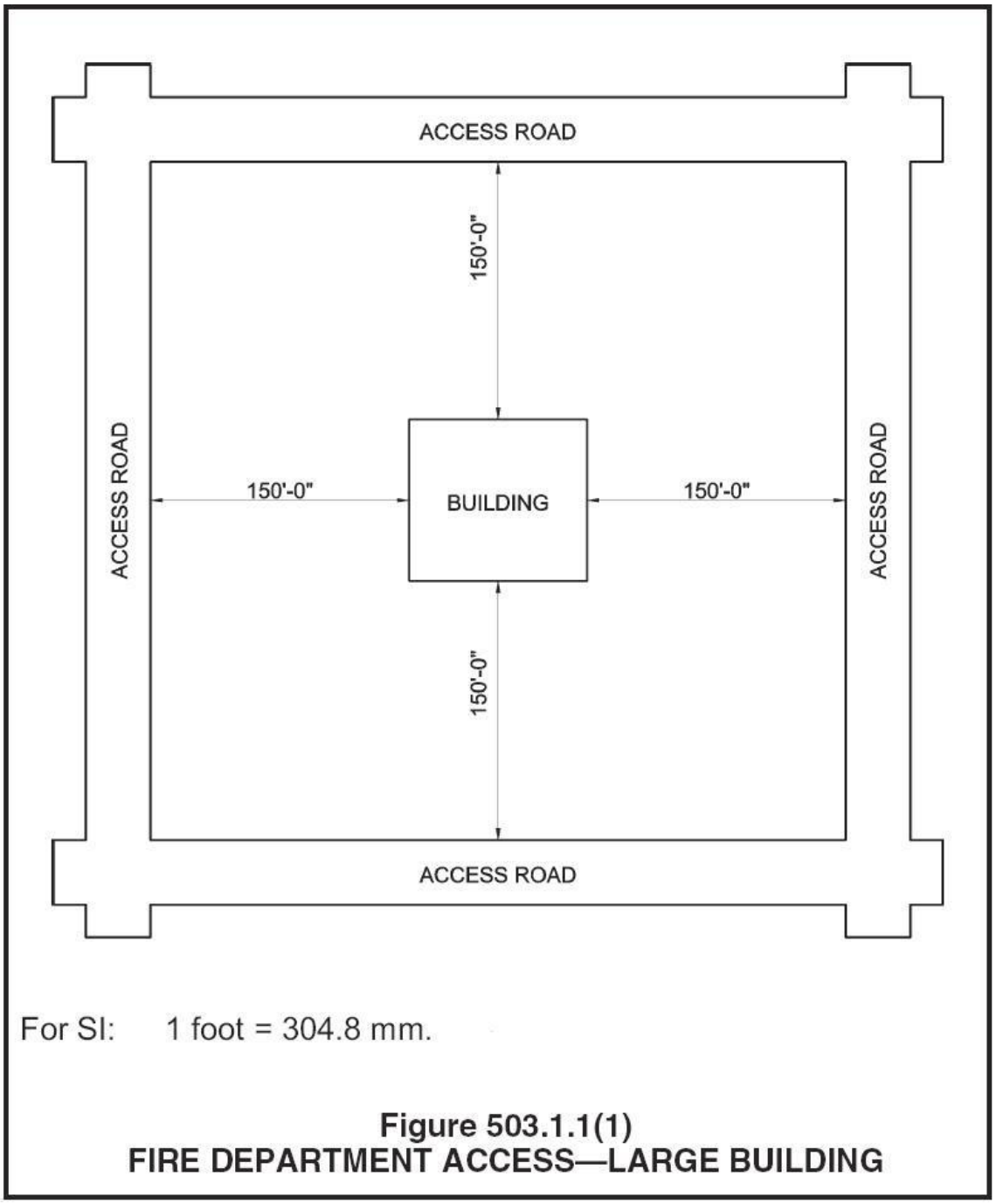
FIRE APPARATUS ACCESS ROADS DIAGRAMS

34. The following pages provide graphical guidance diagrams for the design of fire apparatus access roads. *Reference item 2.a above regarding hose lay measurement location.*

All fire lane criteria for the purposes of this guideline and any other guidelines or requirements shall conform to the 2021 International Fire Code and/or 2021 NFPA 1.

FIRE LANES
FIRE APPARATUS ACCESS ROADS DIAGRAMS

Figure 1, Large Building
IFC 503.1.1(1)



NOT TO SCALE

FIRE LANES
FIRE APPARATUS ACCESS ROADS DIAGRAMS

Figure 2, Two Sides
IFC 503.1.1(2)

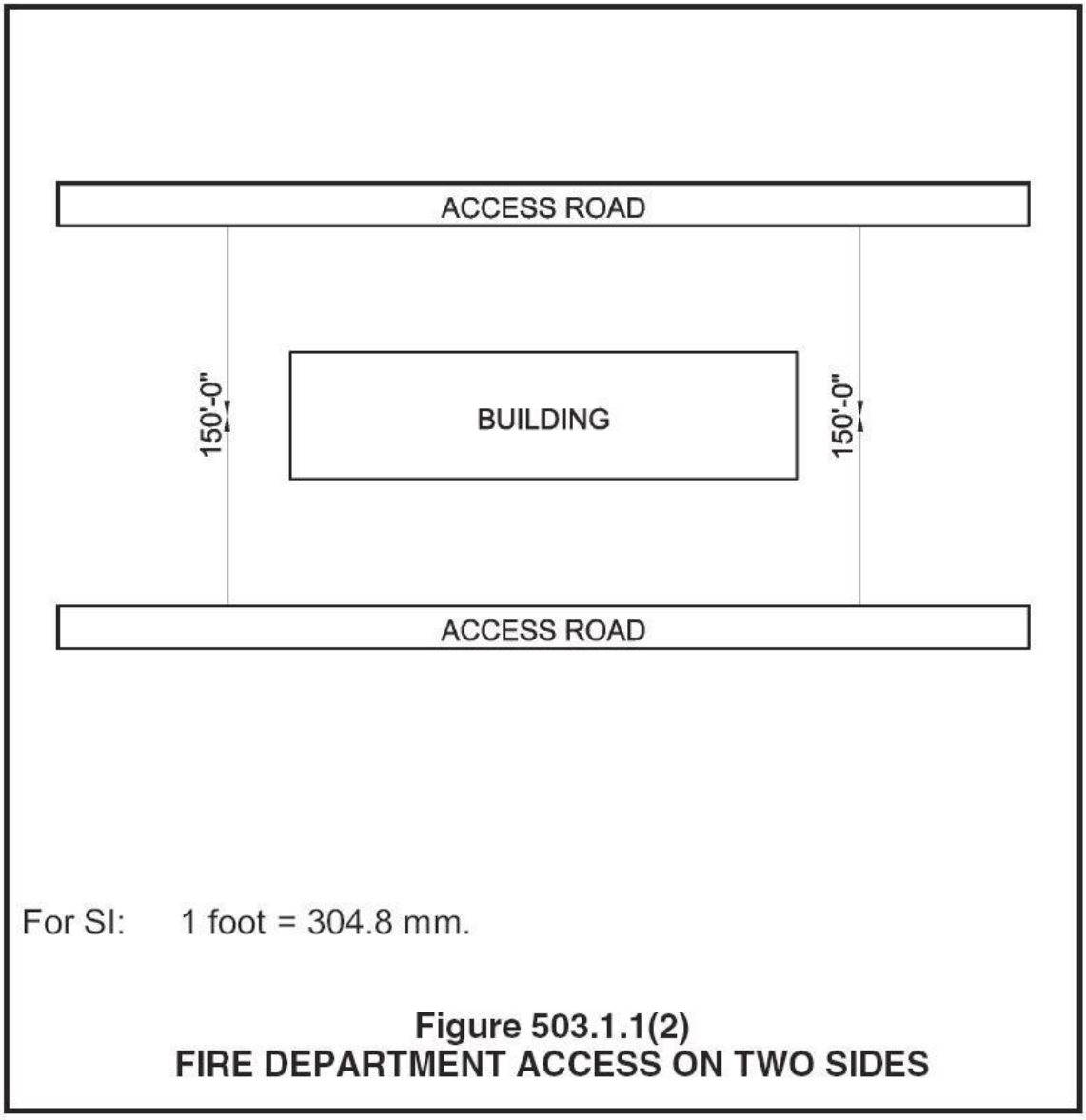
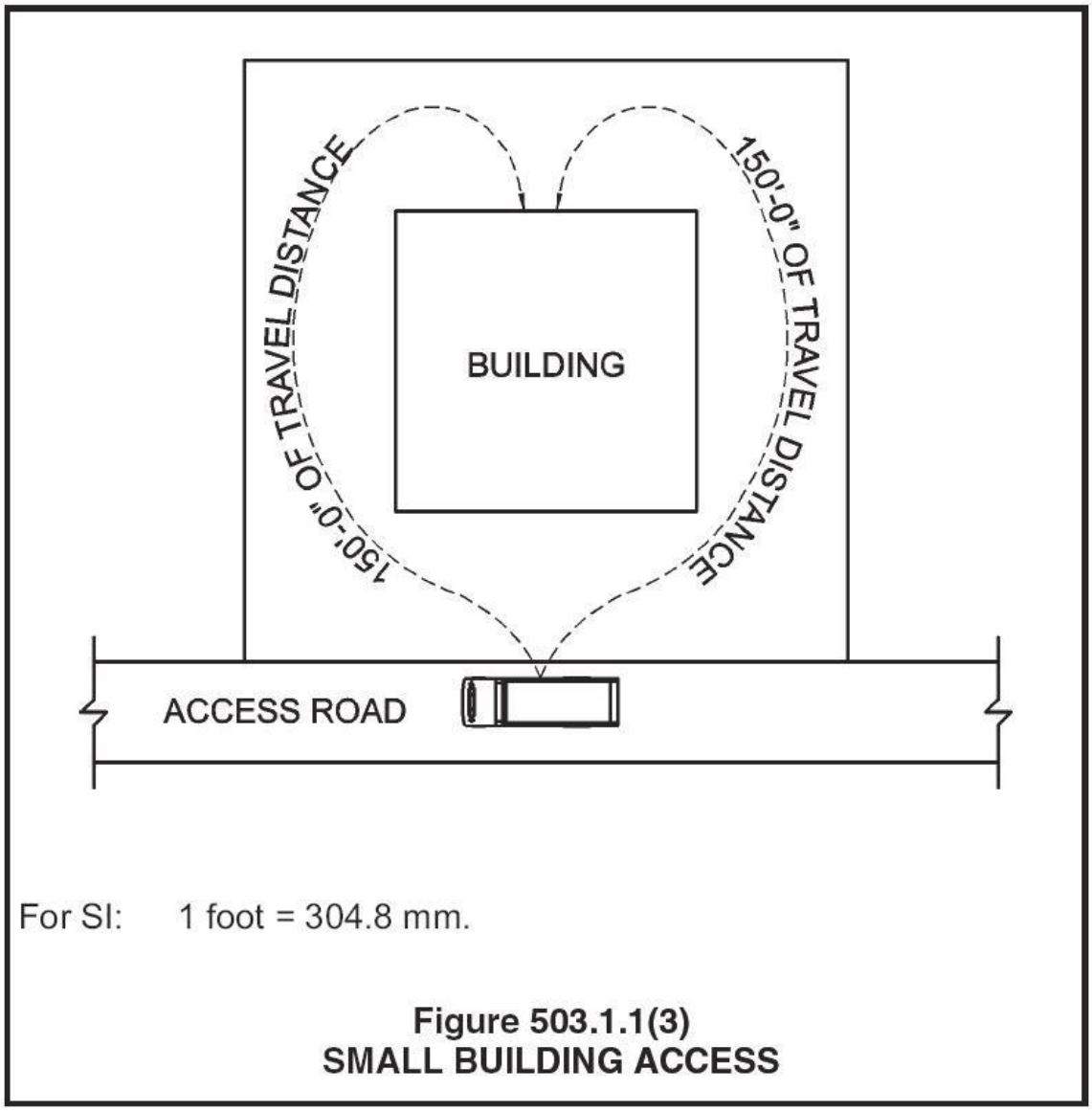


Figure 503.1.1(2)
FIRE DEPARTMENT ACCESS ON TWO SIDES

NOT TO SCALE

FIRE LANES
FIRE APPARATUS ACCESS ROADS DIAGRAMS

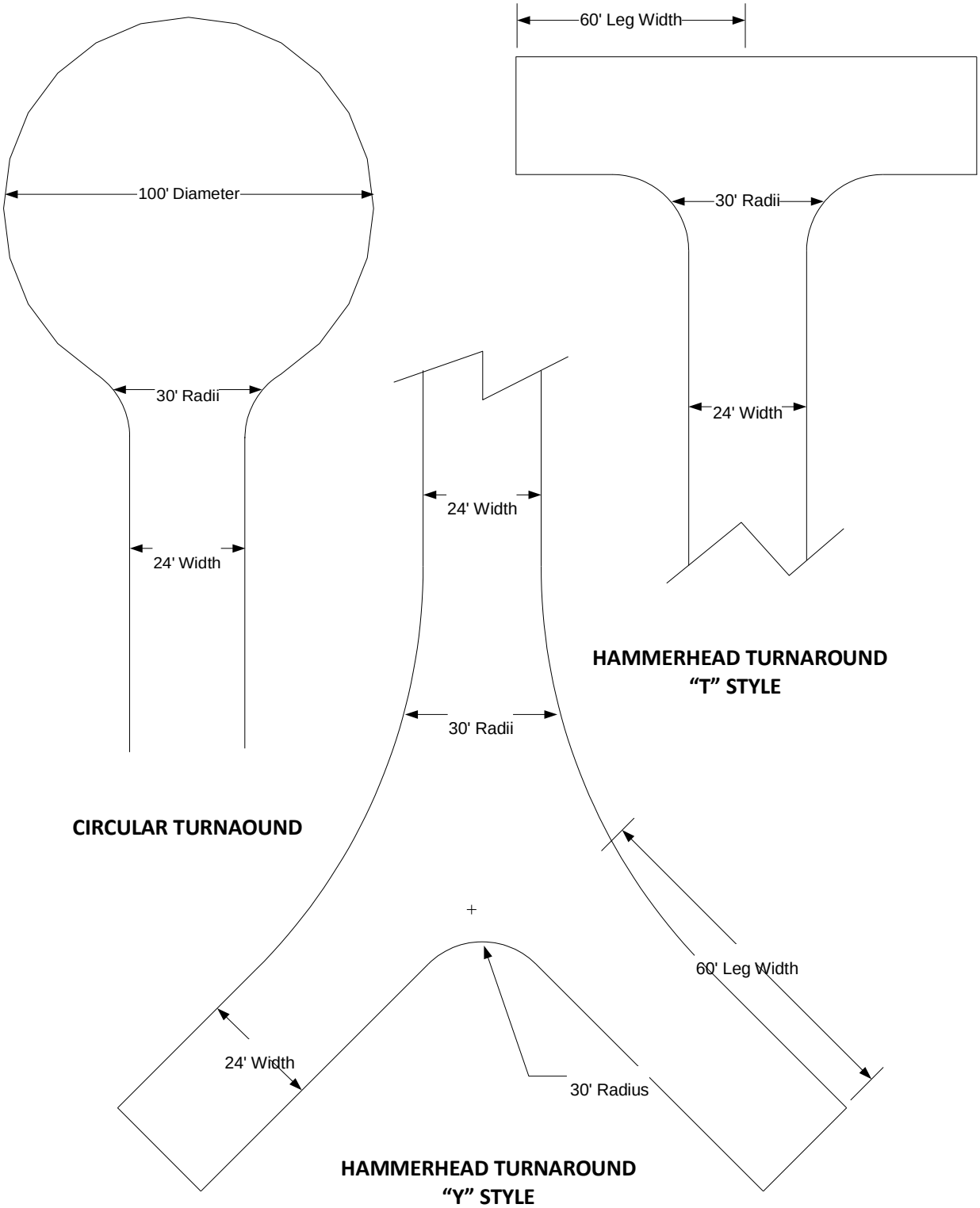
Figure 3, Small Building
IFC 503.1.1(3)



NOT TO SCALE

FIRE LANES
APPROVED TURNAROUNDS

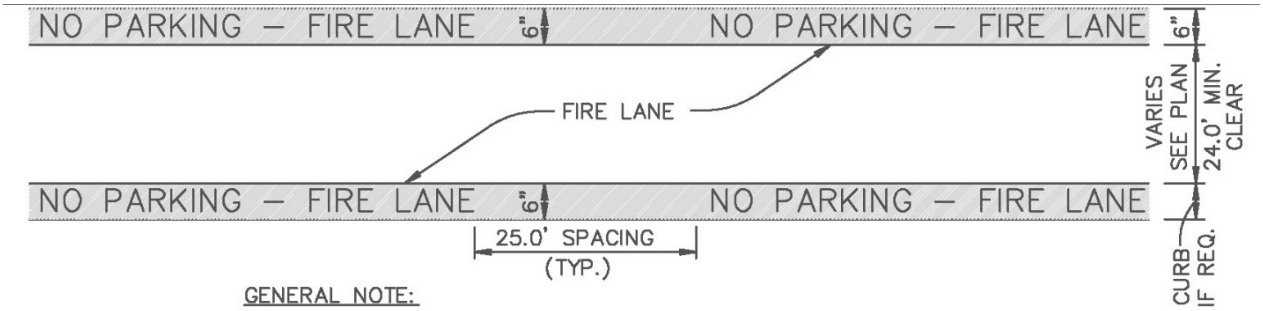
Figure 4



NOT TO SCALE

FIRE LANES
STRIPING DETAILS

Figure 5



GENERAL NOTE:

A. STRIPING TO BE DONE IN ACCORDANCE WITH CITY STANDARDS. THE PAVEMENT MARKINGS SHALL BE FROM THE TOP OF THE SEAM OF THE CURB TO A POINT EVEN WITH THE DRIVING SURFACE.

STRIPING DETAIL:

A. PAINT:
1. STRIPE SHALL BE SIX (6) INCHES WIDE PAINTED WITH AN EXTERIOR ACRYLIC LATEX PAINT.

   A. COLOR SHALL BE "TRAFFIC RED" GLIDDEN NO. 63251 OR EQUAL.

2. LETTERS SHALL BE FOUR (4) INCHES HIGH PAINTED WITH AN EXTERIOR ACRYLIC LATEX PAINT. LETTERS TO BE ONE (1) INCH STROKE.

   B. COLOR SHALL BE "TRAFFIC WHITE" GLIDDEN NO. 563245 OR EQUAL.

B. APPLICATION:
1. STRIPE MAY BE BRUSHED OR SPRAYED, ONE COAT TO FINISH.
2. LETTERS SHALL BE STENCIL FORMED, BRUSH APPLIED AND SPACED AS DETAILED ON THIS SHEET.

R.1 FIRE LANE STRIPING

NOT TO SCALE

NOT TO SCALE