

APPENDIX D

FIRE APPARATUS ACCESS ROADS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION D101 GENERAL

D101.1 Scope. Fire apparatus access roads shall be in accordance with this appendix and all other applicable requirements of the *International Fire Code*.

SECTION D102 REQUIRED ACCESS

D102.1 Access and loading. Facilities, buildings or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an *approved* fire apparatus access road with an asphalt, concrete or other *approved* driving surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds (34 050 kg).

SECTION D103 MINIMUM SPECIFICATIONS

D103.1 Access road width with a hydrant. Where a fire hydrant is located on a fire apparatus access road, the minimum road width shall be 26 feet (7925 mm), exclusive of shoulders (see Figure D103.1).

D103.2 Grade. Fire apparatus access roads shall not exceed 10 percent in grade.

Exception: Grades steeper than 10 percent as *approved* by the fire chief.

D103.3 Turning radius. The minimum turning radius shall be determined by the *fire code official*.

D103.4 Dead ends. Dead-end fire apparatus access roads in excess of 150 feet (45 720 mm) shall be provided with width and turnaround provisions in accordance with Table D103.4.

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

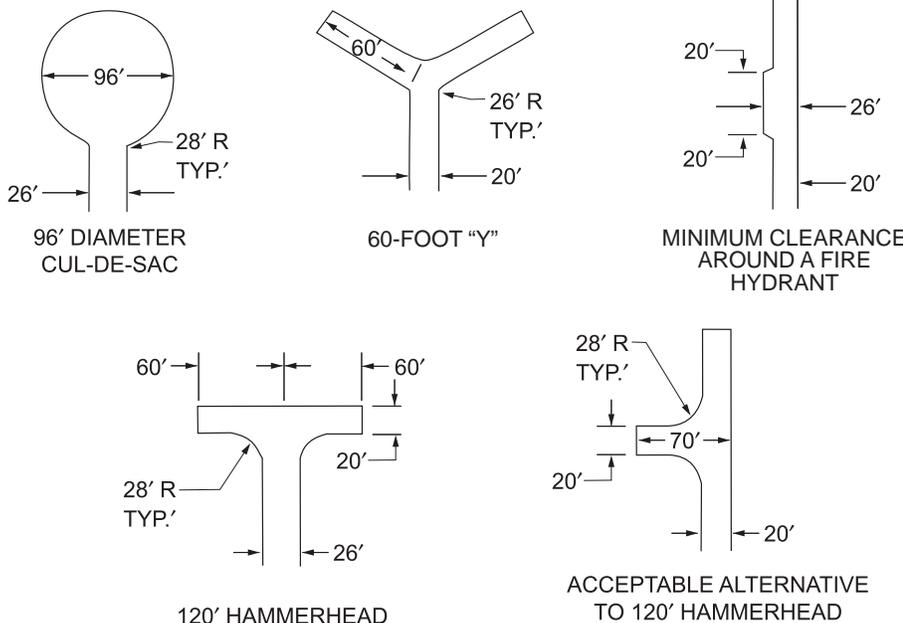
LENGTH (feet)	WIDTH (feet)	TURNAROUNDS REQUIRED
0-150	20	None required
151-500	20	120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1
501-750	26	120-foot Hammerhead, 60-foot "Y" or 96-foot diameter cul-de-sac in accordance with Figure D103.1
Over 750		Special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

For SI: 1 foot = 304.8 mm.

D103.5 Fire apparatus access road gates.

Gates securing the fire apparatus access roads shall comply with all of the following criteria:

1. Where a single gate is provided, the gate width shall be not less than 20 feet (6096 mm). Where a fire apparatus road consists of a divided roadway, the gate width shall be not less than 12 feet (3658 mm).
2. Gates shall be of the swinging or sliding type.



For SI: 1 foot = 304.8 mm.

**FIGURE D103.1
DEAD-END FIRE APPARATUS ACCESS ROAD TURNAROUND**

**NORTON SHORES CODE OF ORDINANCES – CHAPTER 16, ARTICLE II, SECTION 16-19,
CHAPTER 5 – FIRE SERVICE FEATURES**

FIRE SERVICE FEATURES

502 Definitions.

Emergency Vehicle Access. A passageway, as specified in Section 503.7 of this code, for fire apparatus and other emergency vehicles to access a street or property in the event of an emergency.

503.1 Where required. Fire apparatus access roads shall be provided and maintained in accordance with Sections 503.1.1 through 503.1.3 and in accordance with City of Norton Shores Development Standards.

503.2 Specifications. Fire apparatus access roads and emergency vehicle access shall be installed and arranged in accordance with section[s] 503.2.1 through 503.8.8.

Exception:

The fire chief or fire code official is authorized to modify the requirements found in IFC sections 503.2.1 through 503.8.8 where fire access roads cannot be installed because of location on property, topography, waterways, nonnegotiable grade, conflicts with rights of ownership or other similar conditions, and approved alternate fire protection is provided.

503.2.1 Dimensions. Fire apparatus access roads and fire lanes shall have an unobstructed width of not less than 20 feet, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 14 feet.

503.6 Security gates. The installation of security gates across a fire apparatus access road shall be approved by the fire code official. Where security gates are installed, they shall have an approved means of emergency operation. The security gates and the emergency operation shall be maintained operational at all times. Electric gate operators, where provided, shall be listed in accordance with UL 325. Gates intended for automatic operation shall be designed, constructed and installed to comply with the requirements of ASTM F 2200.

503.7 Emergency Vehicle Access. Emergency vehicle access (EVA) shall be determined and approved by the fire code official. Unless otherwise required, EVAs shall be of the following specifications:

- Minimum of 20 feet wide and not to exceed 10% grade.
- Surface capable of supporting the weight of fire apparatus up to 75,000 pounds GVW.
- Minimum grade changes to accommodate fire apparatus undercarriage ground clearances.
- Mountable curb at entrance/exit with adequate turning radii to and from the EVA.
- Standard "No Parking - Fire Lane" signage posted at entrance/exit to EVA.
- EVA signage posted at entrance/exit of EVA, on both sides of surface, every 75 feet for length Of EVA.
- EVA signage to withstand snow removal/landscape maintenance efforts.
- EVA to be kept clear of snow and vegetation.

503.8 Fire Department Review. All drives shall be submitted to the fire official for approval prior to the issuance of a building permit.

503.8.1 Single-Family Residential Fire Access. All residential driveways serving not more than one (1) residential structure shall comply with this rule.

503.8.2 *Timing of installation.* When driveways are in excess of 125 feet, the driveway shall be installed so as to provide serviceable fire department access prior to and during construction.

503.8.3 *Width.* The width of a drive servicing not more than one (1) single-family resident and less than 125 feet in length shall be no less than 15 feet. For drives in excess of 125 feet the width of the driveway entrance at the main drive shall be a minimum of 20 feet for a distance of 40 feet. The driveway shall continue up to the building at a width no less than 15 feet. The width of a drive shall not include the width of the gutters.

503.8.4 *Surface.* All driveways shall be constructed in such a manner as to support the weight of fire apparatus and be of a hard surface.

503.8.5 *Grade.* The grade of a residential driveway shall not exceed ten percent.

503.8.6 *Passing Lane.* Every driveway over 400 feet in length or those determined necessary by the fire official shall have a passing lane 20 feet wide, and 60 feet long. Any driveway over 600 feet in length shall have at least two such passing lanes. Driveways over 800 feet in length shall provide an adequate number of passing lanes, as determined by the fire official, so as to allow uninterrupted fire department operations. All passing lanes shall be located as prescribed by the fire official.

503.8.7 *Marking.* When it is deemed necessary, because of the distance from a water source or for efficiency of operations, to mark passing lanes, such lanes will be marked with a sign as required by the fire official.

503.8.8 *Vertical clearance.* All driveways will have a minimum vertical clearance of 14 feet.

507.3 *Fire flow.* Fire flow requirements for buildings or portions of buildings and facilities shall be determined in accordance with Appendix B. An appropriate pressure and flow margin of safety shall be provided with each fire sprinkler system as required by the code official.

507.5.5 *Clear space around hydrants.* A 3-foot clear zone shall be maintained to the rear and each side of the hydrant with the clear space sides extending out to the adjoining fire access road.

507.5.4.1 *Landscaping.* The hydrant shall be visible from all directions of travel on adjoining access roads and clear of all obstructions, including storage, vegetation, wintertime snow removal operations or any other item limiting access to the hydrant. Stone or similar material shall not be placed within the required clear zone of any fire hydrant. All landscaping within the utility or road right-of-way that impacts the accessibility or visibility of any fire hydrant shall be approved by the fire code official.

507.5.4.2 *Removal of obstructions.* If upon the expiration of the time mentioned in a notice of violation, obstructions or encroachments to a fire hydrant, or to other fire protection equipment, are not removed, the code official shall proceed to remove or have removed the same. The expense incurred shall be a debt to the City from the responsible person and shall be collected as any other debt to the City.

