



Fire Apparatus Access and Fire Hydrant Worksheet

The information contained in this worksheet is provided solely for the convenience of determining compliance of the rules and regulations as it relates to fire apparatus access lanes and fire hydrants which are specifically detailed within the Fire Code of New York State.

Project Information			Design Firm Information		
Project Name			Design Firm Name		
Project Address			Design Firm Address		
Contact Name			Contact Name		
City	State	Zip Code	City	State	Zip Code
Telephone			Telephone		

By affixing my signature and selecting the requirements of the New York State Uniform Fire Prevention and Building Code listed above,

I, , being duly sworn, deposes and states:

The property located at ,

As owner / agent of the above-referenced property, I hereby certify that the above fire apparatus access and fire hydrant information referenced above is accurate to the best of my knowledge and is hereby in compliance with the New York State Uniform Fire Prevention and Building Code.

This affidavit is submitted in accordance with New York State Executive Law Section 378, as modified by the current requirements of the New York State Uniform Fire Prevention and Building Code.

This information is based upon personal knowledge, information and belief. False statements made herein are punishable as a Class "A" Misdemeanor pursuant to section 210.45 of the New York State Penal Law.

Notary Public				Name Print
Sworn and subscribed to me before me this				Signature of Owner
Day of		20		Date

Section 1	Fire Apparatus Access Roads	\$FCNYS 503.1.1	Yes	No	N/A
	Is the building completely protected by an NFPA 13 or 13R automatic fire sprinkler system?				
	If <u>non-sprinklered</u> , fire lanes extend to within 150-feet of all portions of the exterior wall?				
	If sprinklered, fire lanes are within 300-feet of all portions of the exterior wall?				

Buildings and facilities. Approved fire apparatus access roads shall be provided for every facility, building or portion of a building hereafter constructed or moved into or within the jurisdiction. The fire apparatus access road shall comply with the requirements of this section and shall extend to within 150 feet (45 720 mm) 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.

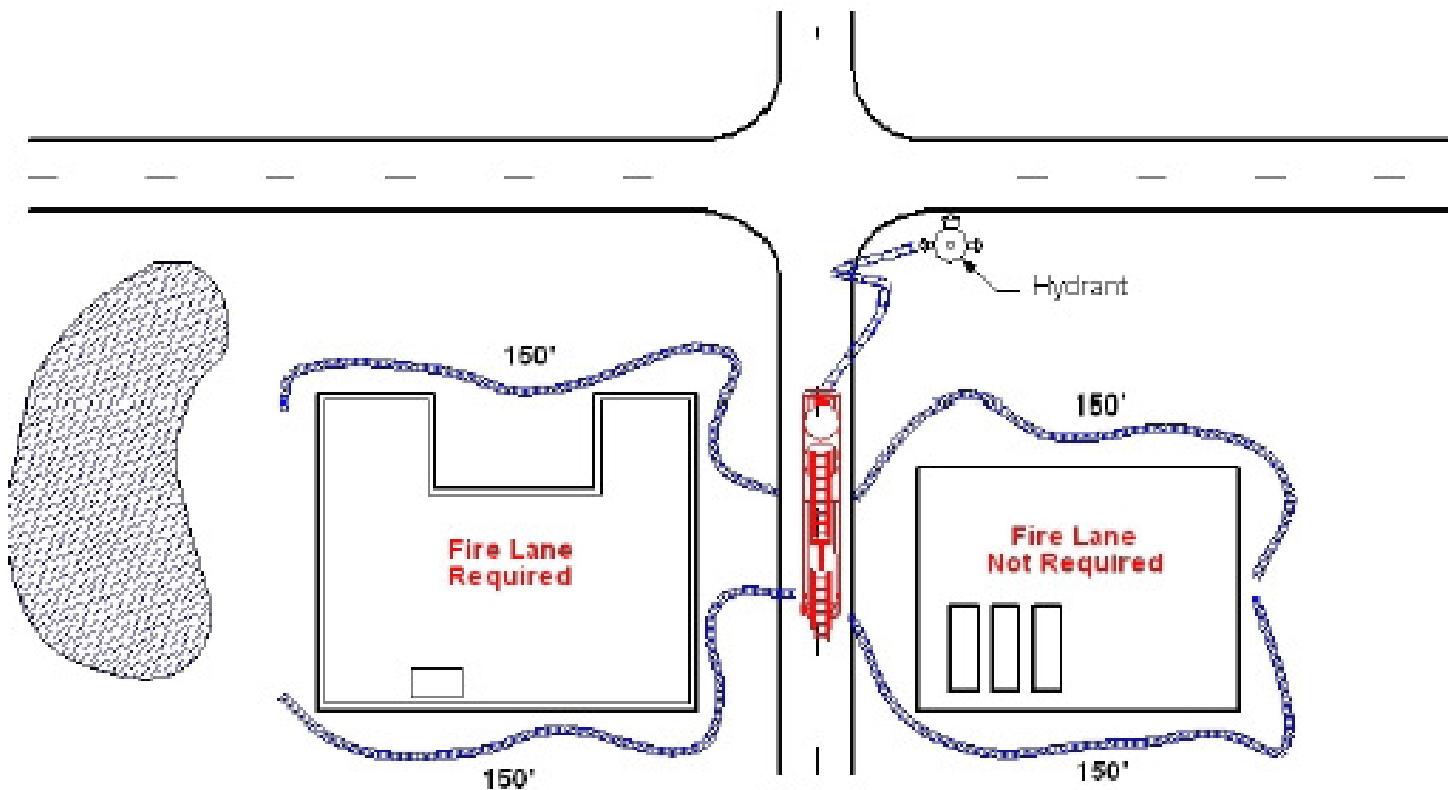
Fire department access roads are to extend to within 150 feet of ALL PORTIONS of every structure's exterior first floor constructed. The amount of pre-connected hose that the fire department carries on each apparatus is 200-ft. During a fire; this pre-connected hose is carried by the firefighters 150 feet around the structure.

Keep in mind that this measurement is how the hose will lay and not as how the crow flies. The remaining 50-ft of hose is used to actually enter the building and fight the fire. The 150-ft distance must be measured from an approved fire department apparatus access.

The fire code official has authorized an increase from 150 ft. to 300 ft. hose lay distance when the building is fully sprinklered in accordance with Fire Code of New York State Section 903.3.1.1, 903.3.1.2 or 903.3.1.3

150 ft. Rule Example

Below is a representative example of a method to determine if a fire lane is required based upon the 150 ft. rule determination methodology only.



Section 2 Commercial and Industrial Developments		(FCNYS - Appendix §FD104)	Yes	No	N/A
Is any part of the building greater than <u>3-stories or 30-feet</u> above the lowest level of fire apparatus access					
If yes	a) Buildings or facilities having a gross building area of more than 62,000 square feet (5760 m ²) shall be provided with two separate and approved fire apparatus access roads				
	b) Projects having a gross building area of up to 124,000 square feet (11 520 m ²) that have a single approved fire apparatus access road when all buildings are equipped throughout with approved automatic sprinkler systems.				
	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.				

Where buildings are very large in area, two separate fire apparatus access roads are required because a large building may be difficult to access rapidly and, if one of the access roads is blocked, there is a potential for a large fire loss. The exception acknowledges the ability of automatic sprinklers to prevent most fires from growing out of control quickly even when the building area is doubled and there is only a single, approved fire apparatus access road.

One of the primary reasons for multiple access roads is to ensure that if one access road is blocked or otherwise unavailable another will allow access to the fire department. Therefore, when more than one access road is required, they need to be separated by enough distance to avoid a situation where both would be blocked or unavailable simply because they are too close to one another.

Section 3 Aerial Fire Apparatus Access Road		(FCNYS - Appendix §FD105)	Yes	No	N/A
Is any part of the building greater than <u>3-stories or 30-feet</u> above the lowest level of fire apparatus access					
If yes	a) Is the aerial apparatus fire lane parallel to one entire side of the building?				
	b) Is the near edge of the aerial apparatus fire lane between 15' and 30' from the building?				
	c) Are there any overhead power or utility lines located across the aerial apparatus fire lane?				
	d) Does the aerial apparatus fire lane have a minimum unobstructed width of 26-feet?				

[NY] 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.

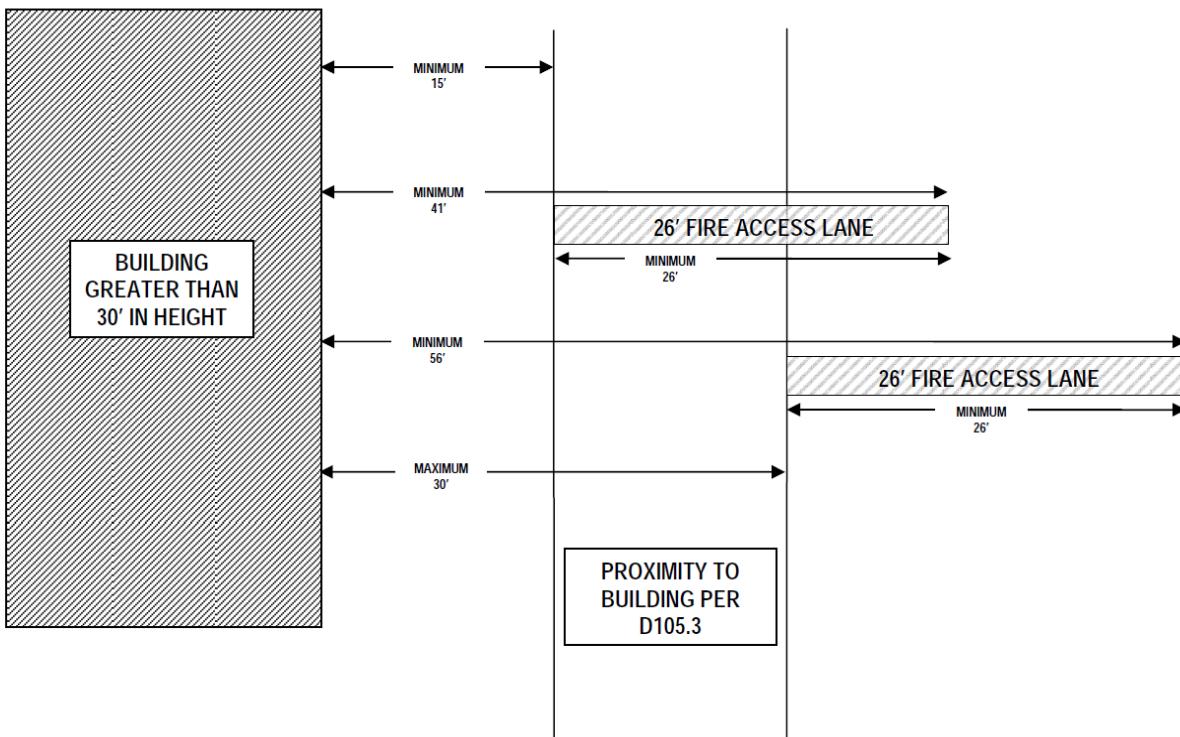
Exception: Where approved by the *fire code official*, buildings of Type IA, Type IB, or Type IIA Construction, equipped throughout with an automatic sprinkler system in accordance to Section 903.3.1.1; and having fire fighter access through an enclosed stairway with a Class I Standpipe, in conformance with NFPA 14, from the lowest level of fire department vehicle access to all roof surfaces.

§FD105.2 Width. Fire apparatus access roads shall have a minimum unobstructed width of 26 feet (7925 mm) in the immediate vicinity of any building or portion of building more than 30 feet (9144 mm) in height.

This width allows for safe operation of the aerial equipment and apparatus outriggers to be set solidly on the surface of the road. This section makes it clear that any road shoulders are not to be included in the minimum fire apparatus access road width.

§FD105.3 Proximity to building. At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4572 mm) and a maximum of 30 feet (9144 mm) from the building and shall be positioned parallel to one entire side of the building.

STANDARD AERIAL FIRE APPARATUS ACCESS ROAD FOR BUILDINGS GREATER THAN 30' IN HEIGHT



Section 4 Specifications		(FCNYS - Appendix §FD-102)		
		Yes	No	N/A
	Is the fire lane constructed of concrete or asphalt, designed to support a minimum load of 75,000 lbs?			
If yes	a) Is the fire lane a minimum unobstructed width of at least 20-feet?			
	b) Is the fire lane unobstructed with a vertical clearance of at least 13½-feet?			
	c) Is the minimum inside turning radius of the fire lane at least 30-feet?			
	d) Is the grade of the fire lane not more than a slope of 10%?			
	e) Is the fire lane posted as fire lane?			
	<input type="checkbox"/> a. Is a detail of the signage included on the site plan?			
	f) Is a roll-able curb used as part of the fire lane?			
	<input type="checkbox"/> a. Is a detail of the curb included on the site plan?			
	g) Is part of a sidewalk used as part of the required fire lane?			
	<input type="checkbox"/> a. Is the sidewalk constructed to withstand 75,000-lbs?			

§FD102.1 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).

In Section 503, it simply states that the road must be able to withstand the loads and be of "all-weather driving capability." This section states that the surface be of asphalt, concrete or other approved material and be able to withstand a load of 75,000 pounds (34 050 kg).

503.2.1 Dimensions. Fire apparatus access roads shall have an unobstructed width of not less than 20 feet (6096 mm), exclusive of shoulders, except for approved security gates in accordance with Section 503.6, and an unobstructed vertical clearance of not less than 13 feet 6 inches (4115 mm).

The dimensions in this section are established to give fire apparatus continuous and unobstructed access to buildings and facilities. The intent of the minimum 20-foot (6096 mm) width is to provide space for fire apparatus to pass one another during fire-ground operations. The need to pass may occur when engines are parked for hydrant hook-up, laying hose or when trucks are performing aerial ladder operations.



The minimum width for fire lanes is 20 feet, unless otherwise approved. The theory behind why the 20-foot dimension is based on the width of fire apparatus and their operating space requirements. Typically, fire apparatus are between 9 and 11 feet in width. Therefore a 20-foot fire lane would generally allow apparatus to pass each other if needed.

Fire apparatus that utilize aerial devices require apparatus stabilization when the aerial device is deployed. The apparatus stabilization comes in the form of outriggers that extend out from the apparatus which provide a wider overall base in which to operate the aerial device. These outriggers, when fully extended, range between 16 and 19 feet. Because of these fire apparatus features, the minimum width of fire lanes is 20 feet.

This vertical clearance is the standard used for highway bridges and underpasses. This clearance pertains to anything and everything that overhangs the fire apparatus access road such as trees, signs, wires, etc.

§F503.2.4 Turning radius. The required turning radius of a fire apparatus access road shall be determined by the code enforcement official.

The turning radius of an access road should be based on the turning radius of the anticipated responding emergency vehicles and must be approved by the fire code official.

§F503.2.7 Grade. The grade of the fire apparatus access road shall be within the limits established by the code enforcement official or by §FD103.2, based on the fire department's apparatus.

Generally, any grade exceeding 10 percent [e.g., greater than a 10-foot (3048 mm) rise in a 100-foot (30 480 mm) length] is required to have the approval of the fire code official.

SF503.3 Markings. Where required by the code enforcement official, approved signs or other approved notices shall be provided for fire apparatus access roads to identify such roads or prohibit the obstruction thereof. Signs or notices shall be maintained in a clean and legible condition at all times and be replaced or repaired when necessary to provide adequate visibility.

Fire department access roads are normally designated on private property to provide fire service access; therefore, maintenance of the access roads, signage and any supplementary markings (pavement marking, curbs markings, etc.) are the responsibility of the owner of the property on which the fire apparatus road is located.

Section 5 Secured gates and barricades		Yes	No	N/A
Is the fire lane obstructed by security gates or barricades?				
If yes	a) Is the gate a minimum of 20-feet clear opening?			
	b) Is an approved means of emergency operations installed, key vault, padlock or key switch?			

Gates shall not be installed across fire department access roads unless the following conditions can be met:

Exception: Access roads less than 150' in length serving one single family residence.

1. A permit is required to install gated access to property or an electronically controlled access gate(s) which obstructs a fire department access road.
2. Plans and specification for access gates shall be submitted to the Office of the Fire Marshal for review and approval prior to construction.
3. The electronically controlled gate shall have a minimum clear width of 20 feet when fully open and a minimum vertical clearance of 13 feet 6 inches.
4. The gate shall be set back a minimum of 30 feet from the access roadway edge of pavement, or from the back of sidewalk where a sidewalk exists.
5. Manually locked gates shall use chains or locks that can be cut with normal bolt cutters or have a Knox Box at an approved location near the gate with the key.
6. Electronically controlled gates shall be provided with an approved Knox Key switch or an approved vehicle detector-receiver system. When operated by the Fire Department the gate shall remain in the full open position until the Fire Department has left the property.

Exception: A Knox switch and/or an approved vehicle detector-receiver system is not required for gates that are staffed 24 hours a day, 7 days a week.

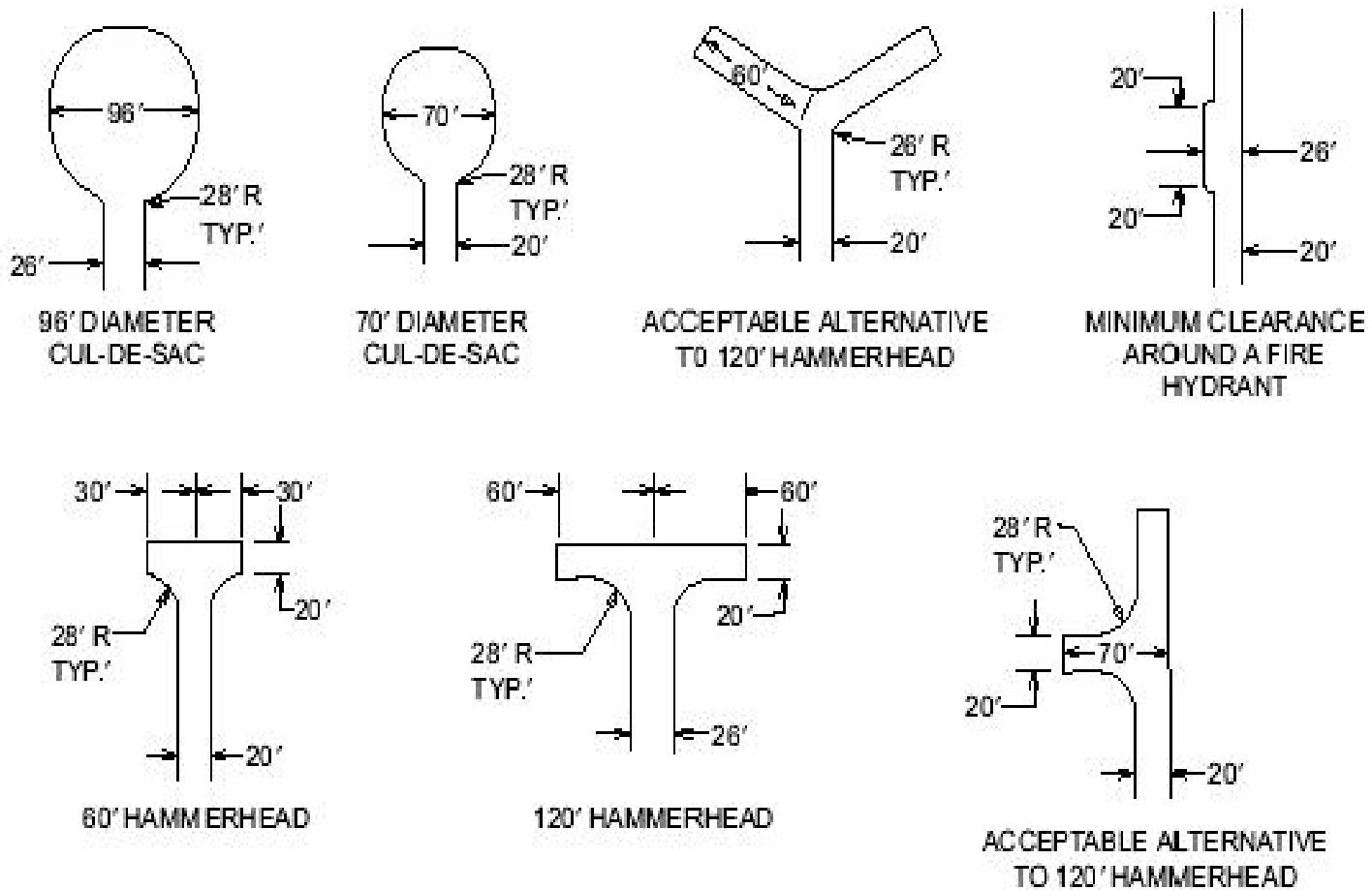
7. Provide a backup power supply to operate the electronically operated gate in the event of a power outage. Provide information on the number of times the gate can be operated with the backup power supply.
8. On electronic gates an alternative to the backup power supply is to have the gate fail in the full open position when the normal power is off. The gate shall remain in the full open position until the normal power is restored.
9. On electronic gates a means shall be provided to remove the controlling arm/mechanism for the gate without the use of any tools, in the event the backup up power supply is not operating.
10. If a fence is located on each side of the gate a man door shall be provided at an approved location with a Knox Key for access to the man door.
11. Electronically controlled gates shall be maintained operational at all times. When the gate, locks or other parts are out of service it shall be secured in the full open position until repaired. Repairs shall be in accordance with original specifications.
12. A contact person shall be listed on each gate and shall include the person, company and phone number.
13. The use of directional-limiting devices (tire spikes) shall be prohibited.
14. An operational test shall be requested by the installer and witnessed by the fire department prior to placing the system in service.

Section 5 Dead ends		(§FD103.4)	Yes	No	N/A
Is the Fire lane dead-ended with a length greater than 150-feet?					
If yes	Is the area for turning around fire apparatus provided by:				
	a) A cul-de-sac with a minimum inside diameter of 70-feet?				
	b) A 45-degree wye with a minimum length of 60-feet per side?				
c) A 90-degree tee with a minimum length of 60-feet per side?					

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

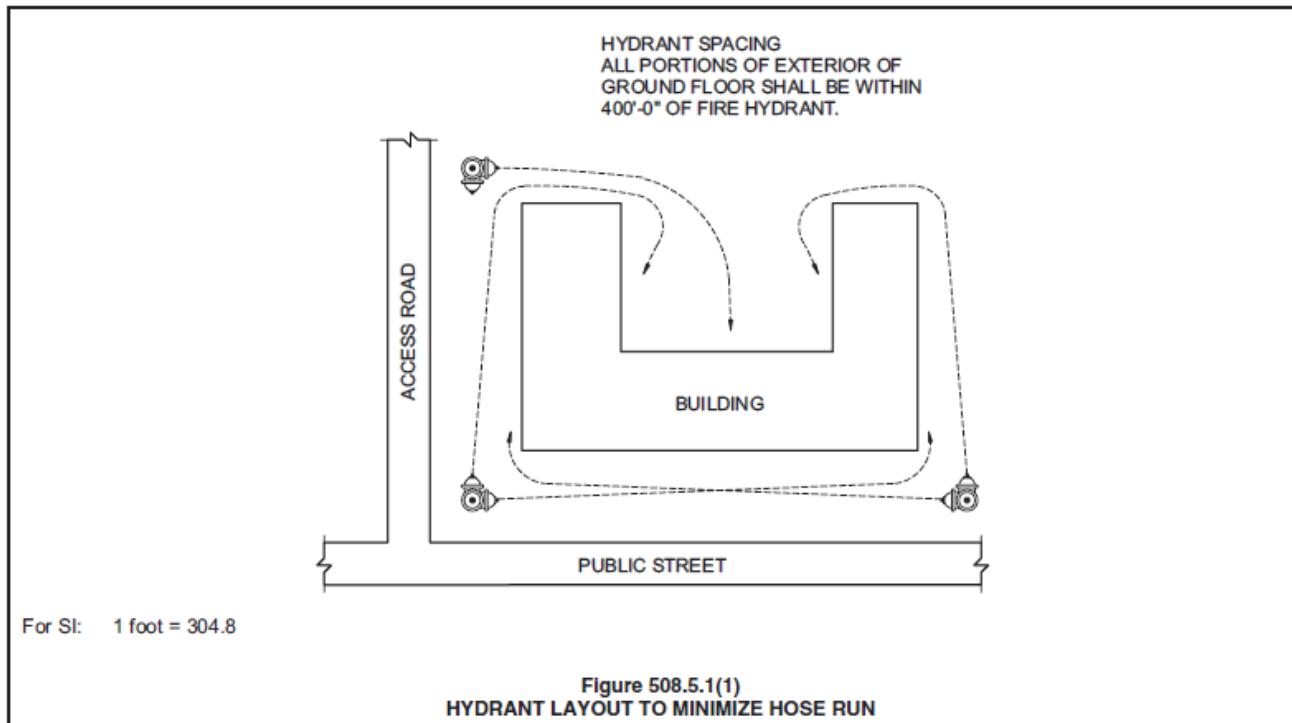
For SI: 1 foot = 304.8 mm.



Section 6 High Piled Combustible Storage		Yes	No	N/A
Is any portion of the building to be used for high-piled storage in accordance with FCNYS Chapter 32?				
If yes	See FCNYS 3206.6 for further requirements			

Section 7 Fire hydrant systems		(\$F507.5)	Yes	No	N/A
Is the newly constructed fire apparatus access road more than 400 feet (122 m) from a hydrant on a fire apparatus access road or public street, as measured by an approved route around the exterior of the facility or building?					
If yes	For buildings equipped throughout with an approved automatic sprinkler system installed in accordance with §F903.3.1.1 or §F903.3.1.2, the distance requirement shall be 600 feet (183 m).				
Posts, fences, vehicles, growth, trash, storage and other materials or objects shall not be placed or kept near fire hydrants, fire department inlet connections or fire protection system control valves in a manner that would prevent such equipment or fire hydrants from being immediately discernible. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants.					
Are there no obstructions, including but not limited to: power poles, trees, bushes, fences, posts located, or grade changes exceeding 1½-feet, within 5-feet of a fire hydrant?					

Note: Hydrants shall be installed and in-service prior to combustible construction on the project site.



The intent of this section is that not more than 400 feet (122 m) of hose will have to be laid out to reach all portions of the exterior grade level of the building. Each hydrant must be accessible to fire apparatus and the 400-foot (122 m) distance should be measured from the hydrant(s) to all portions of the exterior at ground level.