FIRE RESCUE GUIDELINES

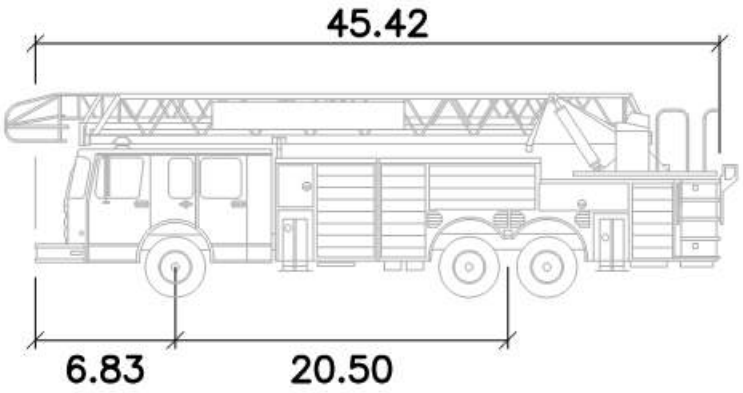
MULTI-FAMILY

IMPORTANT NOTE:
THIS IS A GUIDELINE BASED IN THE ORANGE COUNTY FIRE AUTHORITY (OCFA). MAKE SURE YOU CONFIRM THIS INFORMATION WITH YOUR PROJECT STATE, CITY OR JURISDICTION LOCATION.

ATTACHMENT 30

Apparatus Data for Swept Path Analysis

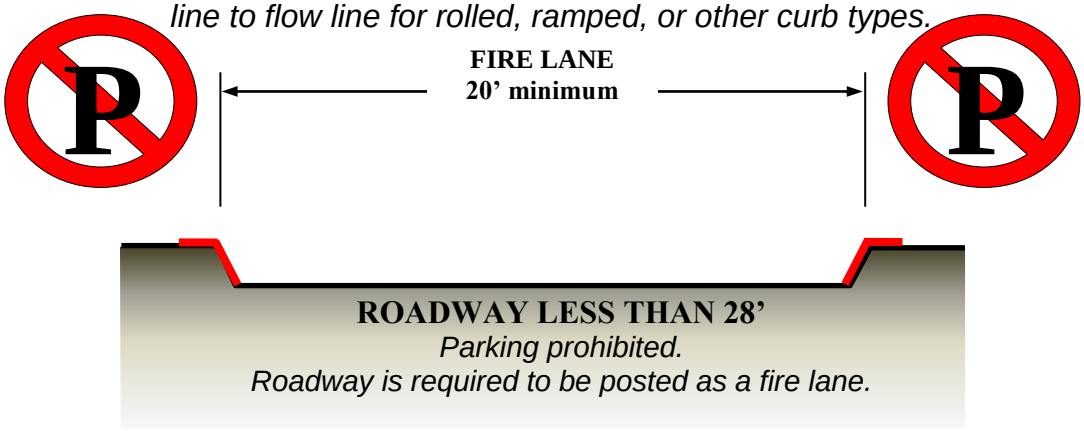
Use the following inputs for analyzing the swept path of a “typical” OCFA fire truck. To improve maneuverability for *all* OCFA apparatus, increase the speed of apparatus navigation through tight turns, and reduce the potential for property damage and resulting delays to emergency response, projections such as light poles, sign posts, mailboxes, planter walls, and vegetation shall not be placed near the edge of the fire lane where they can obstruct or be struck by portions of the vehicle that may overhang the curb.



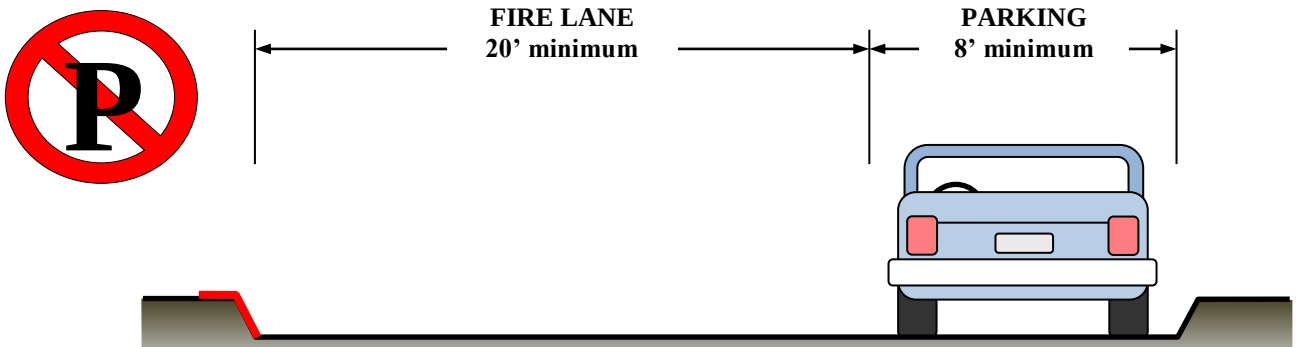
Width (cab)	**8.00 feet**
Width (mirror to mirror)	**9.50 feet**
Track (wheel)	**8.50 feet**
Lock to Lock Time	**6 seconds**
Steering Angle	**40 degrees**
Height Clearance	**13.50 feet**

Minimum Road Widths

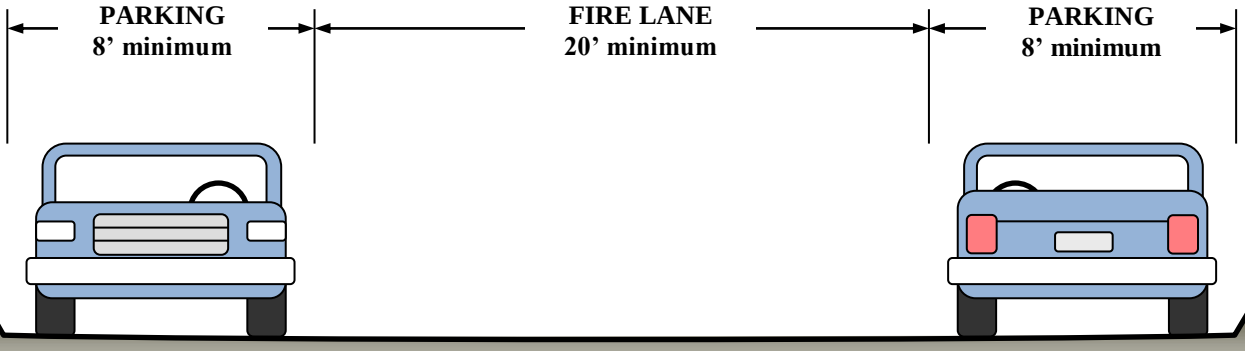
Measured from top face of curb to top face of curb for standard vertical curbs or flow line to flow line for rolled, ramped, or other curb types.



ROADWAY LESS THAN 28'
Parking prohibited.
Roadway is required to be posted as a fire lane.



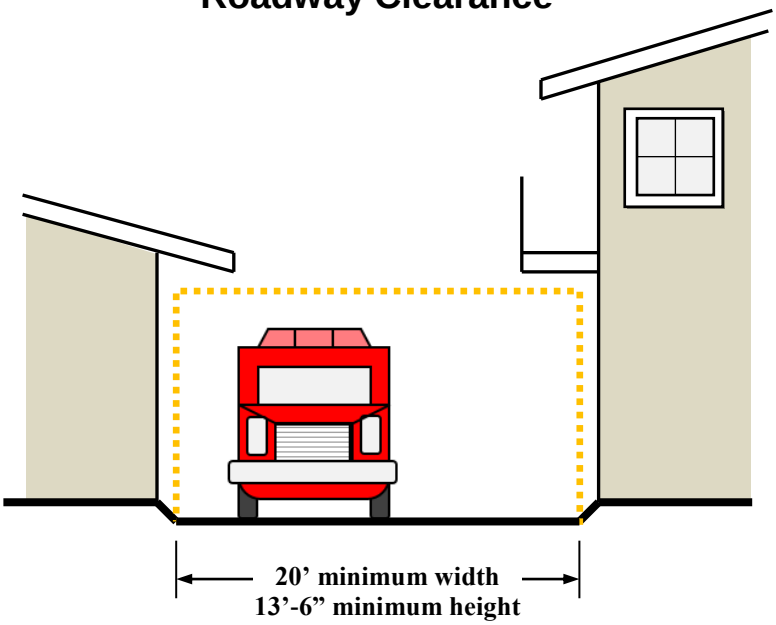
ROADWAY AT LEAST 28' BUT LESS THAN 36'
Parking permitted on one side only.
Roadway is required to be posted as a fire lane.



ROADWAY 36' OR WIDER
Parking permitted on both sides

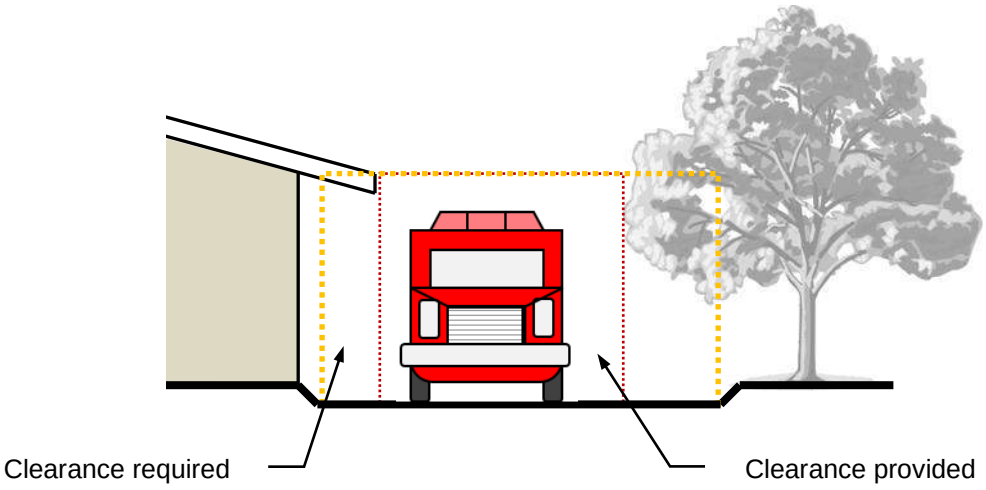
ATTACHMENT 5

Fire Apparatus Access Roadway Clearance



PROPER CLEARANCE PROVIDED

Eaves, balconies, and other obstructions do not encroach upon the 20’ wide by 13’-6” high fire access roadway envelope. As projections over the fire lane can interfere with firefighting and rescue operations, such obstructions shall be limited.

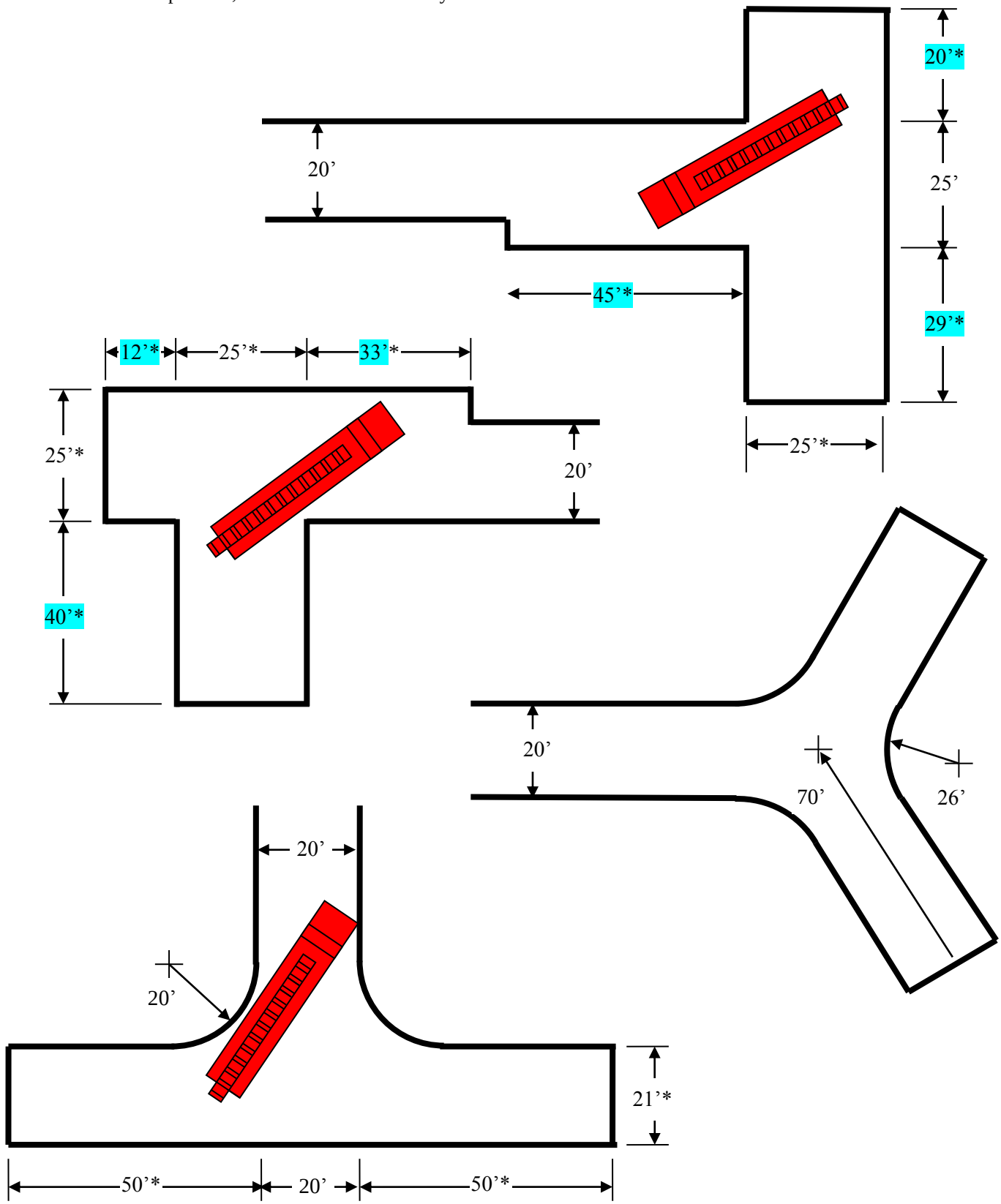


INSUFFICIENT CLEARANCE

A 20’-wide roadway has been provided, but eaves and vegetation effectively reduce the clear dimensions below required minimums.

NOTE: Parking is not permitted in any of these hammerheads at the dimensions shown.

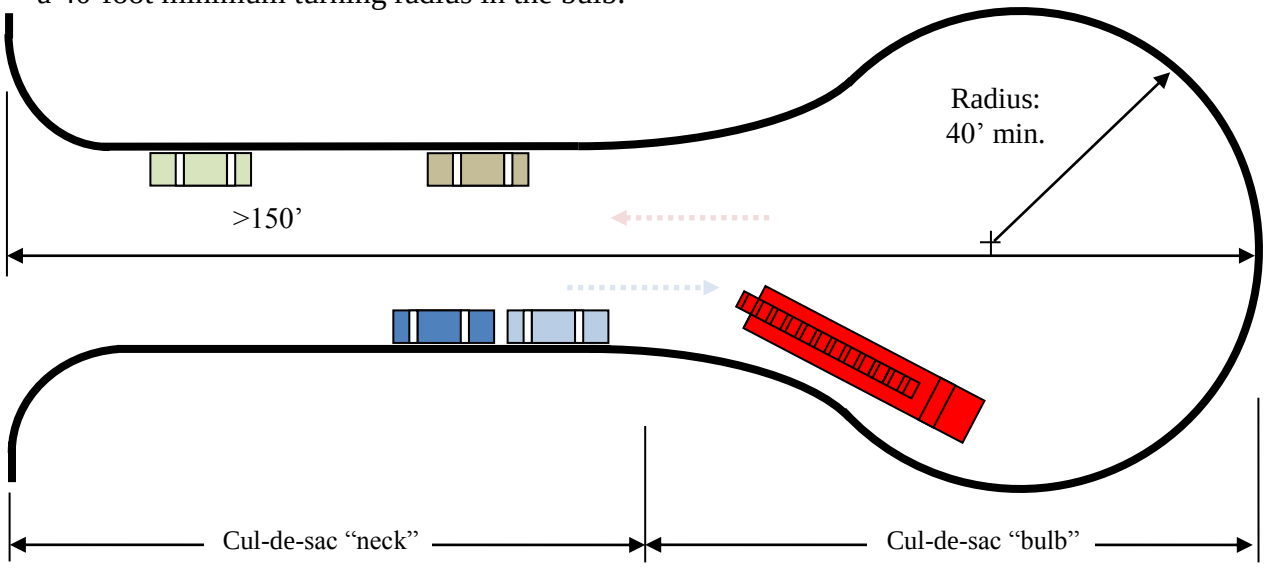
* Wherever possible, increase this dimension by five feet.



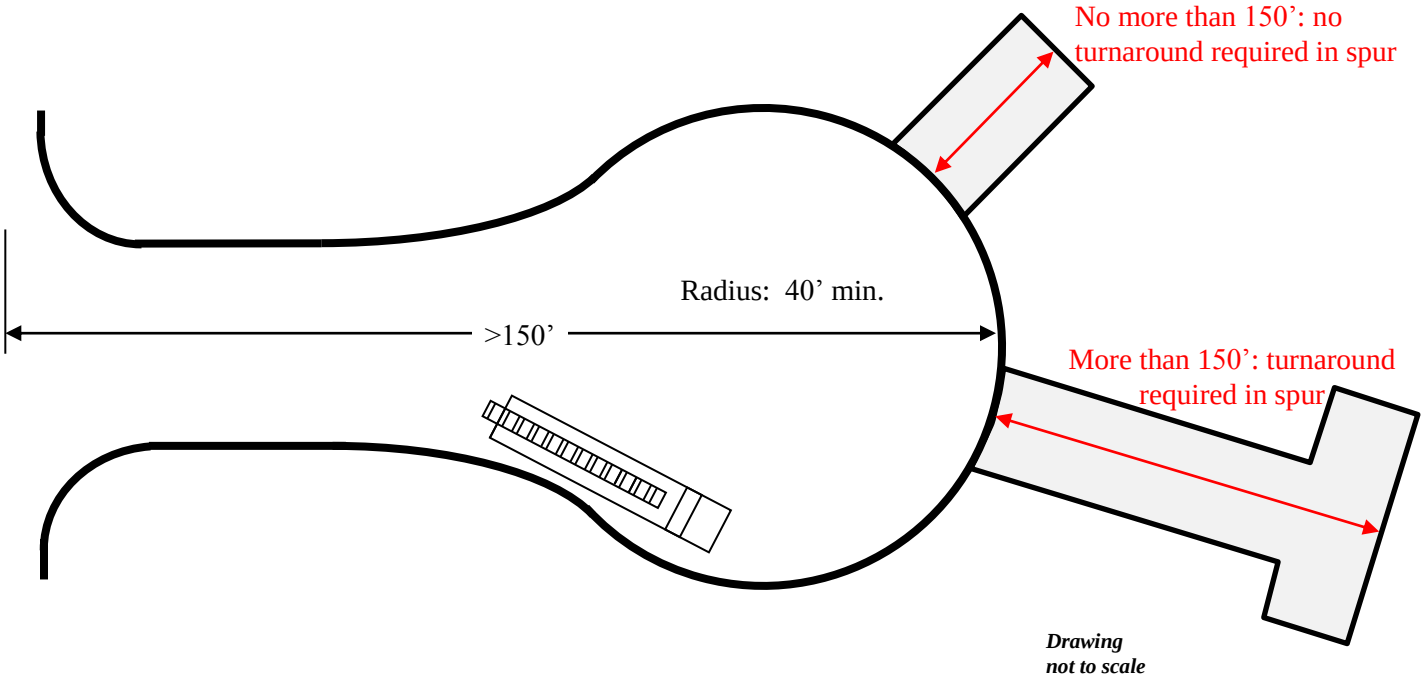
ATTACHMENT 17

Cul-de-sacs and Dead-end Roadways

1) Cul-de-sac streets greater than 150 feet in length that are required fire lanes shall be provided with a 40-foot minimum turning radius in the bulb.



2) Where a spur road or private driveway that is a required fire lane is accessed via the cul-de-sac road, the driveway or spur shall be no more than 150' in length unless an approved turnaround has been provided within 150' of the end of the spur or driveway.



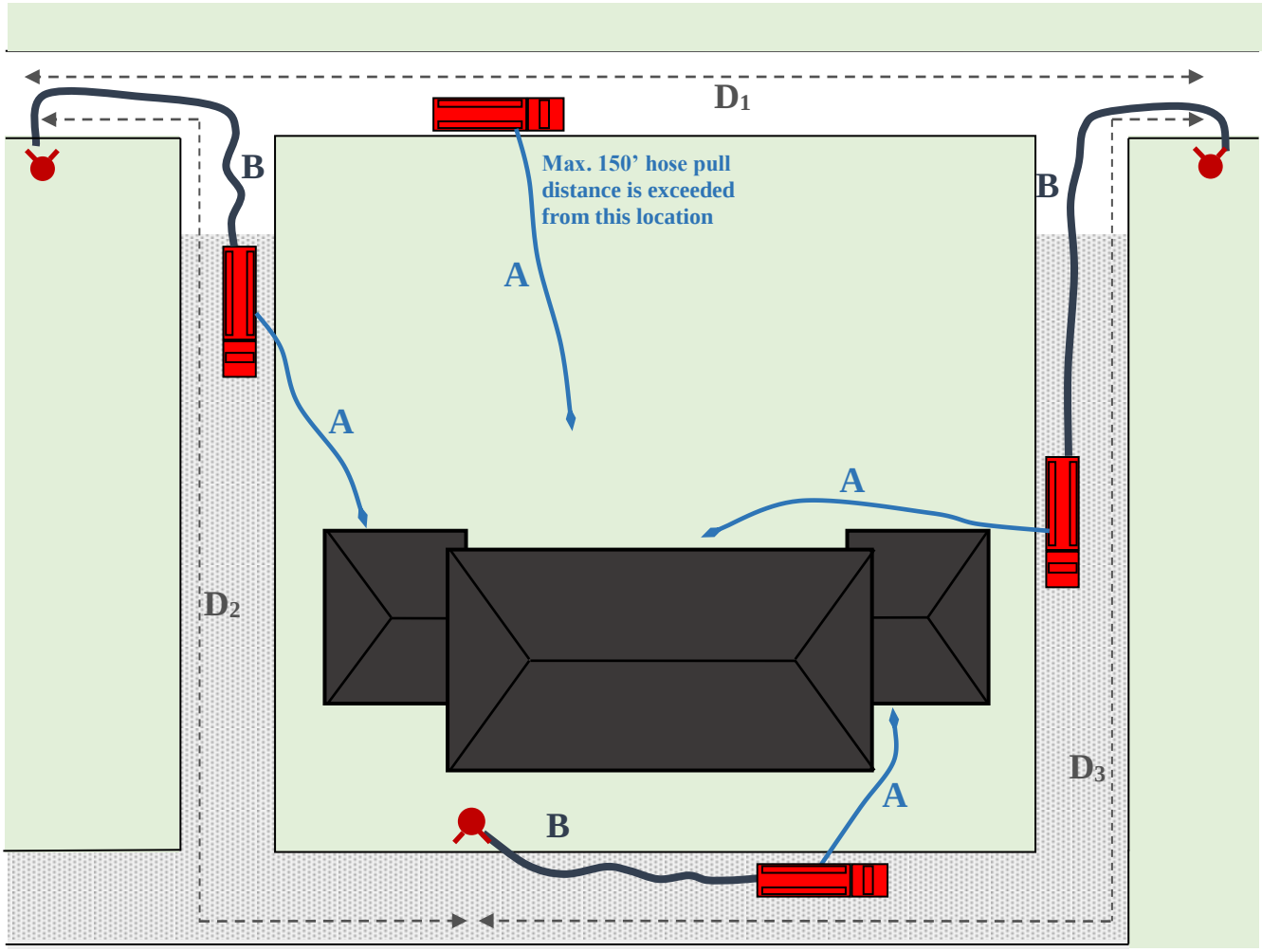
ATTACHMENT 29

Distance from Hydrant to Engine, Engine to Building, Between Hydrants

A: Hose Pull (Distance from Fire Engine to Building): Represents the amount of fire hose that firefighters must pull from the engine to reach the structure. Hose pull may not exceed 150' from the engine to the most remote point of the perimeter of the structure (for sprinklered detached single family homes and duplexes 300' to the front door). *Hose pull is measured along the firefighter path of travel, avoiding any obstacles, not "as the crow flies."* In the diagram below, firefighters would be able to reach the entire perimeter of the building by pulling no more than 150' of hose from one or more fire engines staged in the shaded portion of the fire lane; the engine in the unshaded roadway has a hose pull distance greater than 150' and the building would be considered "out of access" from that point. For hydrant evaluation purposes, the shaded part of the fire lane is considered to serve the building and must meet hose lay requirements. See Attachment 27 for further information on hose pull measurement and access to structures.

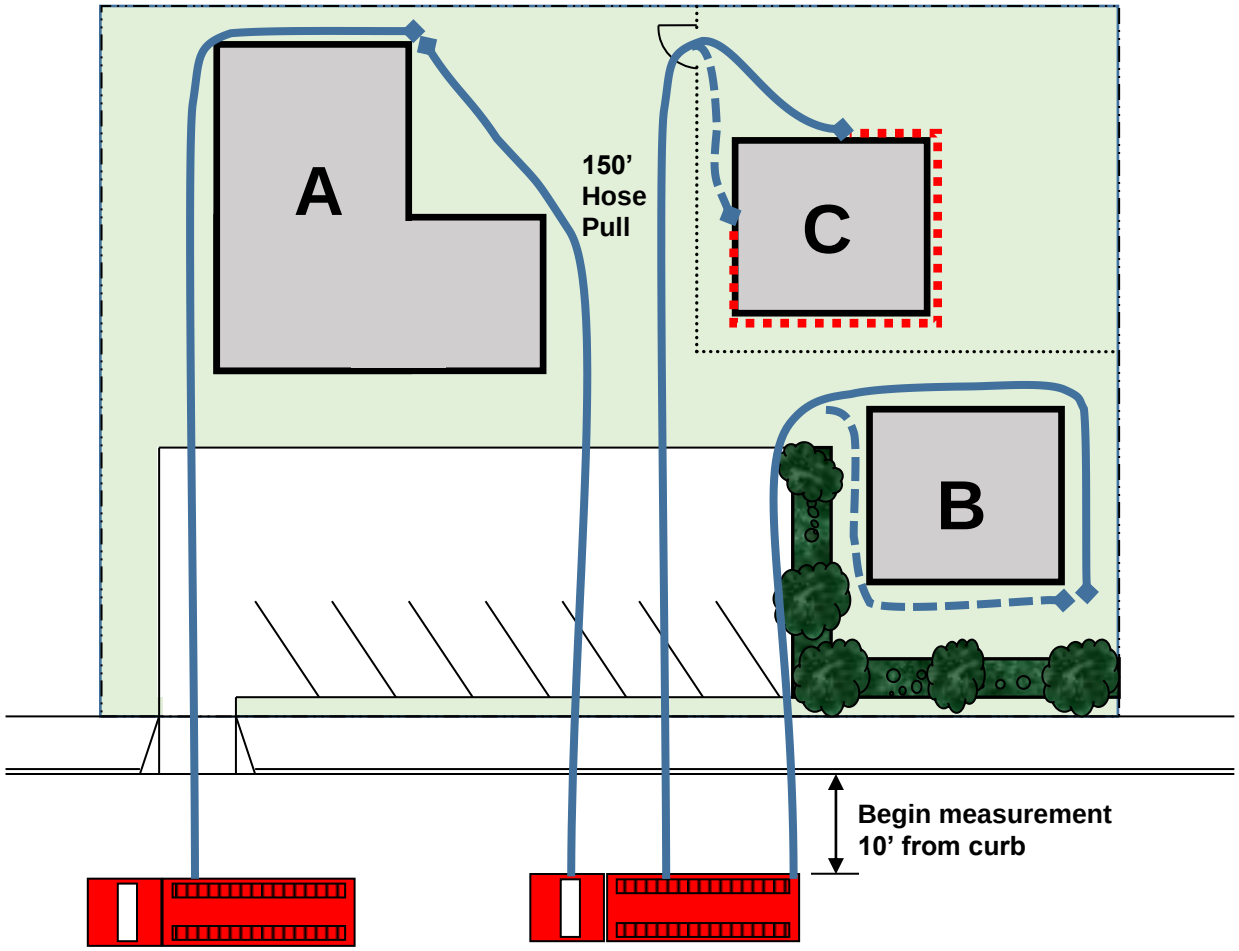
B: Hose Lay (Distance from Engine to a Hydrant): Represents the amount of hose that must be laid out of the engine to supply water from the hydrant to the engine. No point along the portion of the fire lane serving the structure (the shaded road) may be farther from a hydrant than the distance specified in CFC Table C102.1 (see Attachment 24). The hydrant may be located along portions of the fire lane that exceed the hose pull distance (unshaded roadway) provided that it is 1) on the same property, 2) on an adjacent property where an emergency access easement has been obtained, or 3) on a public road leading to the fire lane serving the property. *Hose lay is measured along the vehicle path of travel in the fire lane, not "as the crow flies."*

C: Hydrant Spacing (Distance between Hydrants)—the distance between hydrants serving the building shall not exceed that listed in CFC Table C102.1, as measured along the fire lane. Hydrants located on portions of the fire lane that do not serve the building do not need to be evaluated for spacing relative to each other, only with respect to hydrants that do serve the structure. For example, when evaluating hydrant placement for the building shown in the diagram below, D_1 may exceed the hydrant spacing requirements, while D_2 and D_3 cannot. The "Average Spacing" from Table C102.1 shall be maintained to prevent multiple hydrants from being concentrated in only one portion of the fire lane.



ATTACHMENT 27

Hose Pull



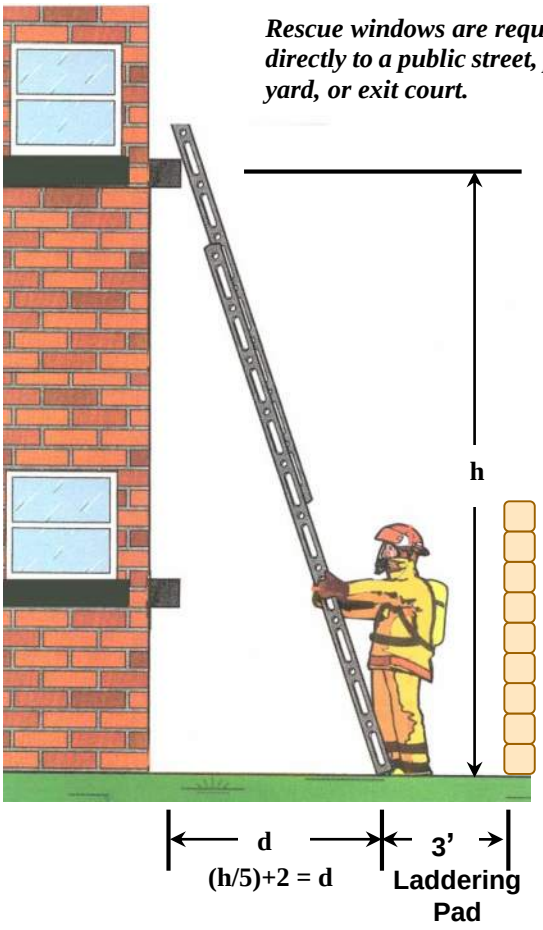
In the example above, assume that the parking lot is not accessible to fire apparatus due to turning radii and fire lane widths less than the required minimums.

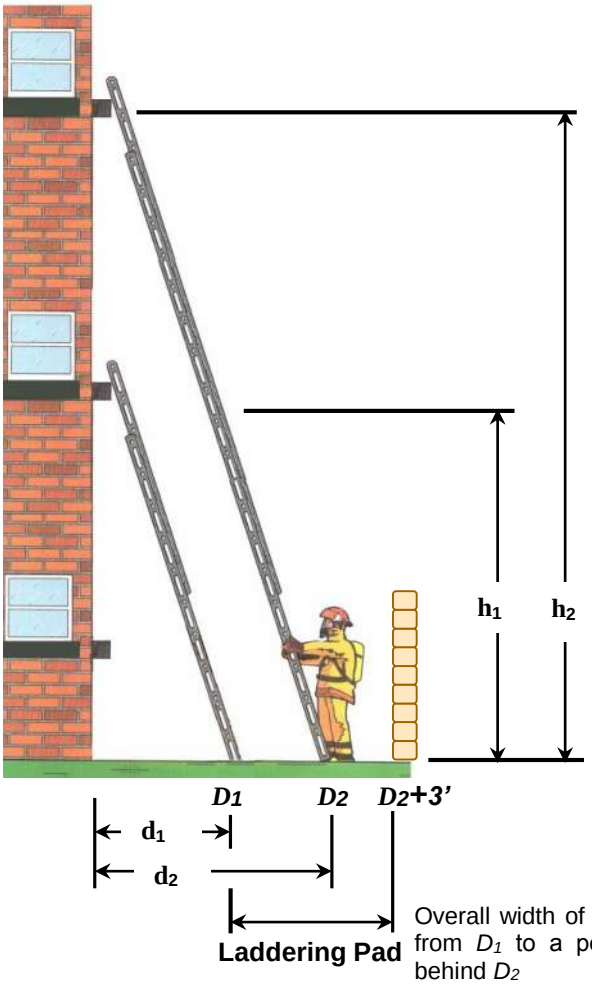
- All portions of building “A” are within 150’ feet of the public road as measured along the path of firefighter travel. This building is in access.

- Building “B” is also in access despite the obstruction presented by the planter and hedges due to its proximity to the road.

- Building “C” is out of access; the presence of a chainlink fence forces firefighters to backtrack once they pass through the gate, increasing their travel distance to the dashed part of the perimeter beyond 150’. On-site fire access roadways or a change in the location of the gate and would be necessary to provide access to Building “C”.

ATTACHMENT 5
Ladder Pad Setback at Rescue Openings





Placement of Ladders

Sill Height (h)	Distance (d)
35'	9'-0"
34'	8'-10"
33'	8'-7"
32'	8'-5"
31'	8'-2"
30'	8'-0"
29'	7'-10"
28'	7'-7"
27'	7'-5"
26'	7'-2"

Sill Height (h)	Distance (d)
25'	7'-0"
24'	6'-10"
23'	6'-7"
22'	6'-5"
21'	6'-2"
20'	6'-0"
19'	5'-10"
18'	5'-7"
17'	5'-5"
16'	5'-2"

Sill Height (h)	Distance (d)
15'	5'-0"
14'	4' to 5'
13'	4' to 5'
12'	3' to 5'
11'	3' to 4'
10'	2' to 4'
9'	2' to 4'
8'	2' to 3'
7'	1' to 3'
<7'	1' to 2'

ATTACHMENT 2
Fire Master Plan Submittal Checklist

PROJECT INFORMATION

Scope of project is clearly defined on the plan?	☐ Yes	
Conditional Use Permit conditions included with submittal?	☐ Yes	☐ N/A (CUP was not required by city/county)
Tract/Tentative Tract/Parcel Map Number has been provided?	☐ Yes	
Standard OCFA fire master plan notes are included?	☐ Yes	(Notes are tailored to this project, where applicable)
Building area, construction, occupancy, sprinkler type noted on plan?	☐ Yes	
Allowable area calculation provided on plan?	☐ Yes	☐ No (<6,000 sf unsprinklered; <18,000 w/ sprink.)
Sheets not relevant to fire master plan removed from plan set?	☐ Yes	
Access/hydrant phasing plan provided?	☐ Yes	☐ N/A (No phasing of access/hydrant installation)

WATER AND HYDRANTS

Water availability form completed and provided?	☐ Yes	☐ No (in progress) ☐ No (no change in demand)
All hydrants within 350' of the site are shown on plan?	☐ Yes	
Are hydrants provided/spaced per CFC Appendix C?	☐ Yes	

ACCESS AND ROADWAYS

Extent of the access roadway is clearly shown on the plan?	☐ Yes	
Turning radii and width (incl. road sections) shown on the plan?	☐ Yes	
Exterior of all structures within 150' hose pull distance?	☐ Yes	☐ No (AM&M proposed) ☐ No (sprinklered R-3)
Engineer's certification provided for new paving?	☐ Yes	☐ N/A (No new paving)
Walkable surface provided to required openings?	☐ Yes	
Road and walkway grades >10% (7% in Irvine) shown on plan?	☐ Yes	☐ N/A (Grade <10%, <7% in Irvine)

FIRE LANE IDENTIFICATION

Red curbs are identified on plan with bold, dashed, or red lines?	☐ Yes	☐ N/A ("Fire Lane—No Parking" signs provided)
Location of each "Fire Lane—No Parking" sign shown?	☐ Yes	☐ N/A (Red curbs provided)
Fire lane entrance sign provided at each vehicle entrance?	☐ Yes	☐ N/A (All roads at least 36 feet wide)
Drawings of red curbs/"No Parking"/entrance signs provided?	☐ Yes	☐ N/A (All roads at least 36 feet wide)

GATES AND OBSTRUCTIONS

Are all gates, fences, and planters shown?	☐ Yes	
Are vehicle gates identified as manual or electric?	☐ Yes	☐ N/A (No gates proposed)
Gate operator specs showing emergency operation provided?	☐ Yes	☐ N/A (No electric gates proposed)
Manual vehicle gates have "No Parking" sign noted?	☐ Yes	☐ N/A (No manual gates proposed)
Knox boxes/locks/switches are noted on plans?	☐ Yes	☐ N/A (No gates proposed)
OCFA gate notes/specifications included on plan?	☐ Yes	☐ N/A (No gates proposed)

OTHER REQUIREMENTS

AM&M request letter scanned onto plan?	☐ Yes	☐ N/A (No alternate methods proposed)
Premises ID/address monument location shown on plan?	☐ Yes	☐ N/A (Single family homes)
Trash enclosures are located at least 5' from buildings?	☐ Yes	☐ No (Enclosures are existing or sprinklered)
Two entry points provided for 150 or more residences?	☐ Yes	☐ N/A (Non-residential project)
Buildings >75' to highest occupiable floor called out?	☐ Yes	☐ N/A (No high-rise structures)
Parking enforcement letter provided?	☐ Yes	☐ N/A (Public streets only)
Project located in DOGGR area (portions of Yorba Linda, Buena Park, Placentia, Seal Beach, San Clemente, and Unincorp. OC)? See Guideline C-03.	☐ Yes	☐ No

ATTACHMENT 3

NOTE: *This is only a listing of basic fire master plan submittal requirements. Other information or requirements may be Necessary, depending on conditions specific to each project.*