

# **Fire Master Plans for Commercial and Residential Development**



**Form 5205-17**

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**Oceanside Fire Department  
300 N. Coast Highway  
Oceanside, CA 92054  
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# Fire Master Plans for Residential and Commercial Developments

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## Fire Master Plans for Residential and Commercial Developments

### I. Purpose

The purpose of the Fire Master Plan is to provide guidelines to ensure the proper design and installation of fire access roadways, water supplies, locations of hydrants, and building access. This document will address the minimum code requirements for the design of fire department access roadways, access walkways to and around buildings, and hydrant quantity and placement as required by the 2016 California Fire and Building Codes (CFC and CBC) as amended by the City of Oceanside Municipal Code, and the Engineers Design and Processing Manual.

### II. Scope

These guidelines apply to new, remodeled, reconstructed, or relocated residential or commercial structures and developments to which emergency response may be necessary. The information contained in this document is intended to assist the applicant in attaining compliance and to ensure that privately owned roadways necessary for emergency response purposes will be available for use at all times.

### III. Definitions

**Access Walkways** - An approved walking surface leading from fire access roadways to exterior doors, the areas beneath rescue windows, and other required openings in structures.

**Bollards** - Permanent or removable poles that are placed across a roadway for the purpose of restricting vehicular access to a portion of a site or to protect a piece of equipment from potential vehicular damage. Bollards are not permitted across a fire access roadway.

**Fire Apparatus Access Roads** - The means for emergency apparatus to access a facility or structure for emergency purposes. Roadways must extend to within 150 feet of all portions of the exterior of the first floor of any structure and must meet specified criteria for width, pavement characteristics, roadway gradient, turning radius, etc. Fire apparatus access roads are also referred to as Fire Lanes.

**Fire Lane Identification** - Signs or curb markings that allow fire apparatus access roads to be readily recognized so that they will remain unobstructed and available for emergency use at all times.

**Hose Pull** -- The effective distance (150 feet) that firefighters can drag a hose from the fire apparatus to attack a fire. Hose pull is measured along a simulated path of travel accounting for obstructions and not "as the crow flies."

**Rescue Openings** - Exterior doors or windows required in all sleeping rooms in R occupancies located below the fourth story of a building that allow rescue of trapped occupants (CFC Section 1030).

### IV. Plan Submittal Requirements

Provide plans to demonstrate compliance with all codes and other regulations governing water availability for firefighting and emergency access to sites and structures. In addition, changes to existing structures or sites shall be reviewed by The Oceanside Fire Department to ensure that the modifications do not affect water availability or access.

#### A. Submittals



1. Three plan sets shall be submitted to the Oceanside Fire Department; in addition, an approved plan in PDF electronic format may be requested. Fire Master Plans shall be submitted with all new developments, whether commercial or residential.
2. Sites and buildings that are being modified will be required to submit a Fire Master Plan when determined necessary by the Fire Department.
3. Construction plans for new developments, commercial or residential, which are submitted to the City of Oceanside Building Department for permit and review shall have a Fire Master Plan included in each set of plans submitted.

**B. Scope**

The plan shall clearly indicate the scope of work. A copy of the previously approved Fire Master Plan shall be submitted along with new plan sets for any revision.

**C. Building Data**

1. Information related to the building's location, use, and construction shall be clearly indicated on the plan.
2. Include the project's street address, tract number, and tentative tract; provide the identification that is most applicable at the time of submittal.
3. Indicate the types of occupancies use in the structure as listed in the CBC Section 302.
4. Indicate the building height on the plans. If the building height is greater than 35 feet please comply with the City of Oceanside Engineer's Design and Processing Manual regarding roadway width. If the building height is four stories or more, please comply with the City of Oceanside Municipal Code regarding Mid-Rise Structures.
5. Note the type of sprinkler system installed/proposed (e.g., NFPA 13, 13-R or 13D).

**D. Fire Master Plan Notes**

Include the Oceanside Fire Department Fire Master Plan Notes on the plan. See Attachment 1.

**E. Water Availability**

Current flow test, less than one year old, shall accompany all fire master plan submittals for projects where a new building is constructed or modification to an existing building increases the floor area of the structure. Water data may be requested for other conditions as determined necessary to ensure adequate fire protection.

**F. Fire Master Plan Submittal Checklist**

Complete a Fire Master Plan Submittal Checklist and verify that basic project information has been provided and that general access and water requirements have been addressed on the plan.

**G. Electronic Version of the Fire Master Plan**

If requested, submit an electronic copy of the fire master plan on a compact disk prior to or upon pick-up of approved plans.

1. Label the CD with project name, date, street address, and city. If the address is not available, provide the tract number or parcel map number and city. Provide in a .pdf format.



2. The following information shall be provided in the drawing:
  - a) Vicinity map including cross streets
  - b) Complete building address, apartment designators, suite numbers
  - c) Scaled site plan inclusive of detailed building footprint with all entrances identified, all on site access roadways, parking configuration, all on site walking paths around buildings, any barriers that affect movement on the property (walls, fences, gates, etc.) fire hydrant locations, Knox Box locations. Fire sprinkler/standpipe control valve locations, fire department connection location, fire alarm control panel location, and remote annunciator panel location, GPS coordinates for each corner of the property. Coordinates must be NAD83 Datum, California zone 6, with units represented in feet.

## V. Fire Access Roadways

Fire access roadways, commonly referred to as fire lanes, shall be provided for every facility or building when any portion of an exterior wall of the first story is located more than 150 feet from a public roadway, as measured along an approved route. CFC Section 503.1

### A. Fire Apparatus Access Road Design

Fire access roadways must be engineered to support emergency response apparatus. Roadways must be designed to facilitate turning radii of apparatus and meet requirements for gradient, height clearance, and width. Specific criteria pertaining to the design of fire access roadways are detailed below.

1. Fire access roadways shall be designed, constructed, and maintained to support imposed loads of a total weight of 78,000 pounds.
2. The surface must be paved and shall be designed, constructed, and maintained to provide all-weather driving capabilities. A letter or statement, wet-stamped and signed by a registered engineer, shall be provided on the plans certifying that any fire access roadway meets the 78,000 pound, all-weather requirement.
3. Paved surfaces shall be asphalt, concrete, or other approved materials.

### B. Number of Fire Apparatus Access Roads Required

1. One is required if any portion of an exterior wall of the first story of a building is located more than 150 feet from a fire access roadway. Access is measured by an approved route around the exterior of the building. See Section X. Access to Structures.
2. More than one road is required if it is determined that access by a single road may be insufficient due to terrain, location, travel distance, potential fire or life-safety hazards, or other factors that could limit access or impair the single entry point. Supplementary access points shall be located to facilitate evacuation and emergency operations and minimize the possibility of multiple access points being subject to congestion or obstruction during an emergency incident.

### C. Location of Fire Apparatus Access Roads



1. To protect fire apparatus, personnel, and equipment from damage and injury from falling debris, the edge of fire access roadways serving multi-story buildings should be located no closer than 10 to 30 feet from the building. Actual distance is a function of overall building height, with consideration given to building construction, presence of openings, and other potential hazards.
2. Distances greater than 40 feet inhibit the use of vehicle-mounted ladders while distances closer than 20 feet do not allow for a proper laddering angle
3. The edge of fire lanes serving structures four or more stories in height shall be located between 20 and 40 feet from the building. These distances are measured from the face of the building to the top edge of the curb face or rolled curb flow line nearest the structure.

D. Width of Fire Access Roads

The minimum width of a fire access roadway is 28 feet. If a center median is included, the required width shall be provided on both sides of the median. The width of fire department access roads is measured from top face of the curb to top face of the curb on streets with curbs and gutters, and from flow line to flow line on streets with rolled curbs. Flow line is the lowest continuous elevation on a rolled street curb. For buildings that are more than 35 feet in height, a 35 foot unobstructed fire lane shall be provided.

E. Width and Location of Fire Access Roads for Buildings Over 35 feet in Height

Fire apparatus access roads shall have an unobstructed width of not less than 35 feet when within laddering distance of buildings exceeding 35 feet in height. The access road shall be set back from buildings exceeding two stories in height such that the centerline of the fire access road shall be equal to 1/4 the difference in elevation from the fire access road to the roof. The building curbside access roads serving buildings over two stories in height but less than 44 feet in height shall be permitted to be up to 10 feet away from the building.

F. Parking Restrictions

No parking is permitted on streets narrower than 28 feet in width. Parking on one side is permitted on a roadway that is at least 32 feet but less than 36 feet in width. Parking on two sides is permitted on a roadway 36 feet or more in width.

G. Vertical Clearance

Fire access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches. If trees are located adjacent to the fire access roadway, place a note on the plans stating that all vegetation overhanging the fire access roadway shall be maintained to provide a clear height of 13 feet 6 inches at all times.

H. Fire Apparatus Access Road Grade

The grade for fire access roadways shall not exceed 12%.

I. Inside and Outside Turning Radii

The inside turning radius shall be 30 feet or greater. The outside turning radius shall be 50 feet or greater.

J. Bridges

When a bridge is required as part of an access road, it shall be in accordance with the Engineer's Design and Processing Manual and designed and constructed to accommodate a total weight of 78,000 pounds.

K. Dead-end Access Roadways



Dead-end roadways in excess of 150 feet shall be designed and constructed with approved turnarounds or hammerheads. Turnarounds shall meet the turning radius requirements identified above. Dead end streets shall not exceed 500 feet in length.

L. Fire Access Roadway Identification

Fire lane identification will be required when it is necessary to restrict parking of vehicles in order to maintain the required width of fire access roadways for emergency vehicle use. Refer to Attachment 9.

1. Areas designated by the Oceanside Fire Department as fire lanes must be marked with red curbs meeting the specifications in Attachment 9. Fire lane no parking signs meeting the specifications in Attachment 12 shall be posted immediately adjacent to each designated fire lane and at intervals not to exceed 50 feet.

VI. **Premises Identification**

New and existing buildings shall have approved address numbers in accordance with Section 505.1 and as revised by the Oceanside City Code Section 11.18

A. Visibility

All new and existing buildings shall display approved address identification numbers or letters on the street side of the building in such a position that the number is plainly visible to approaching emergency vehicles from the public way.

1. Exception: buildings located on the same lot with residential buildings, when approved by the fire code official.

B. Design

Address identification shall contrast with the background, and shall be illuminated by an approved internal or external source during hours of darkness. The following minimum standards apply to address identification, subject to change at the Fire Marshal's discretion:

1. One and two family residential buildings, and individual units of multi-family residential buildings shall be a minimum of four (4) inches in height with a minimum stroke of one-half (1/2) inch.
2. Commercial buildings and the primary building address/address range of multi-family residential buildings shall be a minimum of six (6) inches in height with a minimum stroke of one (1) inch.
3. Industrial building identification shall be a minimum of 12 inches in height with a one inch (1) stroke.

C. Multi-Unit Building

When a non-residential building contains multiple units, address numbers complying with Section 505.1 shall be placed immediately adjacent to the non-hinged side of exterior doors or above all exterior doors serving each individual unit. Interior door address identification shall be approved.

D. Diagrams

Approved diagrammatic representations shall be positioned at all entrances to building complexes. The diagrammatic representations shall show the overall site, location of the viewer, buildings and units and the addresses or unit designations within the complex, and shall be internally or externally illuminated as approved



during hours of darkness. Buildings and multi-unit buildings within complexes shall be addressed as required by CFC Section 505.1 OCC 11.18 Section 505.1

## VII. Obstructions to Emergency Vehicle Access

### A. Obstruction of Fire Apparatus Access Roads

Fire apparatus access roads shall not be obstructed in any manner, including the parking of vehicles. The minimum widths and clearances shall be maintained at all times. Speed bumps, speed humps and all other traffic calming measures shall be reviewed and approved by the fire code official prior to installation.

### B. Security Gates

The installation of security gates across fire apparatus access roads shall be approved by the code official and must be shown on the plans. Information such as the location, type of gate (swinging, sliding), dimensions, and a method of operation (manual, electric) must also be provided. Where security gates are installed, each gate shall meet requirements of the Oceanside Fire Department, and shall be a minimum clear width of 14 feet. The security gates and the emergency operation shall be maintained operational at all times. All electrically operated vehicle access gates shall be equipped with an approved automatic opening device in addition to a key operated switch. For electrically operated gates the type of remote gate opening device that will be installed shall be noted on the plans. The remote opening system currently accepted by OFD is an optical controlled device. Optical systems work the same as the traffic signal preemption system by using the emergency vehicle's strobe light to open the gate. The gate control for electronic gates shall be operable by a Knox emergency override key switch (with dust cover). The Knox key switch shall be located on the left side of the gate. The key switch shall be placed between 42" and 48" above the roadway surface. The key switch shall be readily visible and unobstructed from the fire lane leading to the gate. The key switch shall be clearly labeled "FIRE DEPT."

1. Upon activation of the Key switch, the gate shall open and remain open until returned to normal operation by means of the key switch. Where a vehicle entry point consists of separate adjacent ingress and egress gates, the key switch shall operate both gates simultaneously. This requirement shall be noted on the plan.
2. In the event of a power failure, the gate shall be automatically transferred to a failsafe mode allowing the gate to be pushed open by a single firefighter without any other actions, knowledge, or manipulation of the operating mechanism being necessary and without the use of battery back-up power; this shall be noted on the plan. The manufacturer's specification sheet demonstrating compliance with this method of operation during power loss shall be provided or scanned directly onto the plan. Should the gate be too large or heavy for a single firefighter to open manually, a secondary source of power by means of an emergency generator or a capacitor with enough reserve to automatically and immediately open the gate upon loss of primary power shall be provided.
3. When Knox switches and pad locks are provided for vehicular and pedestrian gates the switches and pad locks shall be keyed to a sub-master to allow for police access.

### C. Knox Lock Systems

Padlocks, key switches and boxes are obtained at [www.KnoxBox.com](http://www.KnoxBox.com).

## VIII. Engineered Alternative Fire Apparatus Roadway Paving Systems



The following criteria will be used when evaluating an alternative engineered access surface material for a specific application. Prior to installation, the design professional must incorporate these criteria into a plan submittal subject to approval by the Fire Department, which reserves the right to limit the amount or extent of alternative surface serving as required fire department access to a structure or facility.

A. Certification

1. Calculations and a statement stamped and signed by a registered civil engineer or other qualified registered professional shall certify that the proposed surface and substrate meets the criteria of an all-weather driving surface and is capable of withstanding the minimum weight of 78,000 pounds imposed by fire apparatus.
2. The registered civil engineer's design shall be consistent with the manufacturer's recommendations and specifications.

B. Standards

1. Material shall only be installed on slopes of no more than one degree (1.75% grade), unless otherwise specified by the manufacturer, and drainage shall be provided as required to provide adequate traction for fire apparatus. Surfaces shall be crowned or sloped to one side to drain water away from the roadway; surfaces shall not have "V" or other configuration causing water to accumulate in the fire access roadway. This information shall be detailed on the plan.
2. The design shall include a curb cut that delineates entry onto the engineered fire access surface from a street. A 4 inch or lower curb cut or a rolled / ramped curb is acceptable. The curb cut must be shown on the plan. The entry to the area shall be clearly marked as a fire lane with a red curb and No Parking Fire Lane sign to prevent the entry from being blocked.
3. A minimum four-inch wide concrete strip around the perimeter of the designated area shall be specified on the plan to clearly delineate the extent of fire department access. If the area is accessible to or intended to be used by anyone other than emergency responders, the concrete curb shall be painted red and stenciled "Fire Lane-No Parking" every 30 feet or portion thereof. In areas where painting the curb is not feasible, alternative methods of delineating the extent of the fire access roadway, such as by stamping "Fire Lane-No Parking" into the concrete, posting of signs, or by the use of red reflectors will need to be proposed to the Fire Department for approval. A written request to use alternative methods will need to be made.

C. Requirements

1. Provide the following note on the plan: "Final approval is subject to actual field acceptance testing utilizing Oceanside Fire Apparatus."
2. A clause requiring the maintenance of all fire department access roadways designed and installed with engineered alternative pavement systems shall be placed in the CC&Rs, deeds, and similar documents.

**IX. Hydrant and Water Availability Requirements**

A. Fire Flow Design Criteria



Fire flow requirements for buildings or portions of buildings and facilities shall be determined per Appendix B of the California Fire Code, 2010 edition.

1. The minimum fire-flow and flow duration for buildings other than one-and two family dwellings shall be as specified in Table B105.1. (CFC B105.2)

Exception: A reduction in required fire-flow, as approved by the fire code official, is allowed when the building is provided with an approved automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. The resulting fire flow shall not be less than 1,500 gallons per minute (5678Umin) for the prescribed duration as specified in Tables B105.1(1), B105.1(2), and B105.2

#### B. Water Availability

1. Prior to issuance of a fire service (detector check), the required water supplies for hydrants and fire sprinkler systems shall be determined and the water supplies shall be approved by the Fire Department.
2. To facilitate the review process and avoid untimely delays, applicants are strongly encouraged to arrange a hydrant flow test. This shall be witnessed by an Oceanside Fire Department Inspector and approved by the City of Oceanside Water Department. To place a request for a flow test to be witnessed contact the Oceanside Fire Department's Fire Prevention Bureau at (760) 435-4101, Monday through Friday. Contact the City of Oceanside's Water Department for a map of water lines. The contractor conducting the hydrant flow shall bring the water map to the jobsite. The water map must show which hydrant was flowed and which hydrant was used as the residual hydrant.
3. In newly developed areas without water infrastructure, the Water Department will determine the expected amount of water that will be delivered once the water system is installed and operational.
4. If multiple hydrants are located within the maximum distance allowed by CFC Table C105.1, the amount of water available from each hydrant may be combined, provided that the hydrants are flowed simultaneously.
5. The following information shall be provided on the plan:
  - a) Static and residual pressure in psi and observed flow in gpm and calculated flow in gpm at 20 psi. (The minimum flow accepted for a hydrant is 1500 gpm at 20 psi.) The water map utilized during the hydrant flow must also be submitted with sprinkler plans including which hydrant was flowed and which hydrant was the residual hydrant, the address, date and time of the hydrant flow.
  - b) Scan the completed water company data sheets onto your plans or include the original with your plan submittal.

#### C. Hydrant Spacing

The location and spacing of fire hydrants shall not exceed that determined by the fire code official in consultation with the water department. Regardless of the average spacing, fire hydrants shall be located such that all required fire hydrants on streets and access roads adjacent to a building are within the distances listed in Table C105.1 of the California Fire Code, 2010 edition.

#### D. Hydrant Location



Hydrants must be located no more than three feet from the edge of a fire access roadway and cannot be located in areas where they will be visually or operationally obstructed (behind walls, fences, bushes, and behind parking spaces etc.).

E. Hydrant Clearance

A minimum of three feet of clearance shall be provided around the circumference of all fire hydrants. Where hydrants are located in landscaped areas, a 4'x4' concrete pad may be required to ensure that vegetation does not encroach into the required clear space.

F. Hydrant Requirements

1. The hydrant outlets must face the fire access roadway.
2. The hydrant and fire department connections (FDC) shall be located at least 40 feet from the building(s) it serves.

G. Hydrant/FDC Obstructions

1. Hydrants and fire department connections (FDC) shall be located so that a hose line running between the hydrant and the FDC does not cross driveways, obstruct roads or fire lanes, or otherwise interfere with emergency vehicle response and evacuation of a site. The FDC must be located within 40 feet of a fire hydrant.
2. Hydrants and FDCs shall not be located behind parking stalls or in other locations where they are likely to be blocked by vehicles or other objects.
3. Hydrants and FDCs should not be located where apparatus using these appurtenances would encroach on minimum fire apparatus turning radii unless alternative routes are available.

H. Hydrant Protection

1. Where hydrants are located such that they are exposed to potential damage from vehicular collision, they shall be protected by curbs or bollards.
2. If the vehicles can approach the hydrant from more than one direction, the hydrant shall be protected by four bollards of concrete-filled pipe four inches in diameter and mounted in concrete in a square around the hydrant. The bollards shall be spaced a minimum of three feet from the perimeter of the hydrant. The bollards must be placed so that their location does not impede access to or use of the hydrant. Two bollards may protect hydrants that can be approached from only one side.
3. Hydrants may not require protection by bollards if they are located such that the potential for collision is minimal or if they are sufficiently protected by a standard concrete curb at least six inches in height.

I. Hydrant Identification/Marking

1. Public hydrants shall be painted yellow and private hydrants shall be painted red.
2. Blue reflective pavement markers (blue dots) shall be used to identify fire hydrant locations. Blue reflective markers used for any other purpose shall be removed.



3. Two way streets and roads – hydrant markers shall be placed six inches from the edge of the painted centerline or from the approximate center of the streets without a painted centerline on the side nearest the hydrant. See attachment 19.

## X. Access to Structures

### A. Hose pull

The dimension of 150 feet when used in relation to fire department access is commonly referred to as "hose pull distance". This is the maximum distance that firefighters can effectively pull a fire hose or carry other equipment to combat a fire. The hose pull distance is set at 150 feet due to a variety of factors, including standard hose lengths, weight of equipment, hydraulic properties, and accepted operational procedures.

1. Hose pull is measured along a path that simulates the route a firefighter may take to access all portions of the exterior of a structure from the nearest public road or fire lane. Under most circumstances, hose pull will not be a straight-line distance and should not be measured "as the crow flies".
2. All obstructions such as fences, planters, vegetation, and other structures must be considered when determining whether a building is accessible from a particular location on the fire access roadway. Topography may also affect the potential access route and any significant changes in elevation must be accounted for when measuring hose pull distances.

### B. Access Walkways

CFC 504.1 requires the installation of approved access walkways from fire access roadways to exterior openings. The Oceanside Fire Department may require the construction of such walkways depending upon particular site conditions or project parameters. The conditions include, but are not limited to, building use or occupancy, topography, vegetation, and surface conditions. Design professionals must carefully consider these issues when developing a project site.

1. Access walkways must be provided to all required egress doors from a building, all firefighter access doorways in buildings with high-piled storage, and the area beneath each rescue window in "R" occupancies, at a minimum. Access walkways may be required around the entire perimeter of a structure to facilitate control of a fire through any other available openings.
2. Access walkways must be a minimum of five feet in width.
3. Access walkways shall consist of a surface that lends itself to safe use during building evacuation, firefighting, and rescue efforts. Solid surface walkways such as concrete or asphalt are preferable, though alternative surfaces such as permeable pavers are permissible under certain conditions. Groundcovers and shrubs that prevent or impede laddering of structures are not permitted to be planted on or adjacent to access walkways.
4. Where the grade itself presents a slip or fall hazard, an access walkway with a slip-resistant surface and / or stairway must be provided.
5. The type of material provided for the access walkway and / or other specifications shall be indicated on the fire master plan and are subject to approval.

### C. Path of Travel Obstructions



Firefighter access to and emergency egress from required openings must remain free and unobstructed at all times. Architects, landscape designers, and facility managers must take care to ensure that fences, planters, and vegetation will not interfere with access and egress routes.

1. Fences, walls, hedges, and similar obstructions may not be located within the area designated as an access walkway unless a gate through the obstruction equipped with an approved Knox padlock or Knox box has been provided for firefighters to access the perimeter of the structure.
2. Vegetation – Certain types of groundcover and low growing plants present an impediment to firefighting and rescue operations and are prohibited from being planted in the access walkway. In addition, taller vegetation such as shrubs and trees may not be located where they will, when planted or upon maturation, present an obstruction to accessing rescue windows. Raised planter areas are not allowed to be used as rescue ladder access points.
3. **Special Gates** – Pedestrian entries, pool gates, and areas where immediate emergency access is difficult shall be provided with a Knox box adjacent to the gate located 4 to 5 feet above grade. The key to unlock the gate shall be kept in the Knox box.
4. **Knox Boxes** and key switches shall be provided where necessary to ensure that immediate access for firefighting, rescue, and other emergency purposes is possible. They shall be securely mounted to a fence or wall at a height of four to five feet above ground in a location that is easily visible and accessible to firefighters and police officers.

## XI. Access and Water Supply During Construction

Access during construction shall comply with CFC Chapter 14 and the provisions listed in this section and, where applicable, elsewhere in this guide. Construction activities at job sites not complying with these requirements may be suspended at the discretion of the Oceanside Fire Department.

At no time shall construction projects impair or obstruct existing fire access roadways or access to and operation of existing hydrants serving other structures. Should existing roadways or hydrants need to be moved or otherwise altered during the course of construction, the developer shall provide alternative access routes and other mitigation features to ensure adequate fire and life-safety protection. Such alternatives and features shall be submitted to the Fire Department for review and approval prior to alteration of existing conditions.

### A. Lumber drop inspections

An inspection shall be scheduled with an Oceanside Fire Department's Inspector to verify that access roadways and operable hydrants have been provided for buildings under construction.

1. For Type IV, V-A, V-B (and non-combustible structures that may have a portion of the exterior walls, facade, or other building elements comprised of wood or other combustible material), a lumber drop inspection shall occur prior to bringing combustible building materials on site.
2. For other construction Type I, II, III with exterior walls built of noncombustible materials, an inspection shall occur prior to commencing interior construction involving combustible materials (e.g., wooden mezzanines or partition walls, carpet, cabinetry or other woodwork, furniture, etc.). In concrete tilt-up and masonry buildings, wooden panelized roofing systems are exempt from this requirement.
3. The street address of the site shall be prominently posted at each entrance.



4. Gates providing fire department access shall be equipped with a Knox padlock or Knox box approved by the fire department.
5. When required by the Fire Inspector, fire lanes shall be posted with "Fire Lane-No Parking" signs.
6. Provisions shall be made to ensure that hydrants are not blocked by vehicles or obstructed by construction material or debris. A three-foot clear space shall be provided around the perimeter of the hydrant and no parking shall be allowed along the adjacent road within 15 feet of either side of the hydrant. Inoperable hydrants shall be bagged.

**B. Temporary Fire Access Roads and Water Supply**

Temporary access roads (construction roads that do not match the final location and configuration of permanent roads as approved on a Fire Master Plan) and temporary hydrants may be permitted with the following conditions:

1. Plans for temporary access and water supply shall be submitted to the Fire Department for review and approval. Plans shall be drawn to scale and show permanent (existing) roadways, proposed temporary roadway locations, location of storage of construction equipment and materials.
2. Plans shall be stamped and signed by a licensed civil engineer stating that the temporary access road can support 78,000 pounds in all weather conditions.
3. Aboveground lines may be acceptable for temporary water supply.
  - a) Provide drawings detailing how the line will be secured in place and protected from vehicular damage.
  - b) A line may be run underground if the depth of bury can support the 78,000 pound weight of a fire apparatus.
  - c) The temporary water line must provide the required fire flow. Calculations may be required.
  - d) The pipe shall be listed for fire service.
  - e) Fire hydrants shall meet the City of Oceanside Engineers Design and Processing Manual.
4. All permanent fire access roadway and water supply requirements shall also apply to temporary installations. (e.g., width, turning radii and gates).
5. The approved plan for temporary access and water supply shall be available at the construction site.
6. An inspection by the Fire Department Inspector is required to verify adherence to the approved plan prior to delivery of combustible materials.

**C. Phased Access**

Incremental installation of permanent access roadways as shown on a fire master plan may be permissible. If phased installation is anticipated, a phasing plan shall be submitted for review and approval by the Fire Department.



1. Phased access plans may either be submitted as part of the original fire master plan submittal or as a revision to the approved fire master plan. Plans shall be drawn to scale. The review is to ensure that all access and water supply requirements are met during all phases of construction and that approval of one phase does not compromise or complicate completion of subsequent phases.
2. Plans shall show the following for each phase of construction:
  - a) The extent of building construction
  - b) Location of operable hydrants serving all buildings under construction
  - c) The location of construction fencing, barriers, and vehicle access gates
  - d) The location of all temporary or permanent "Fire Lane-No Parking" signs
  - e) Equipment/material staging locations
  - f) Worker parking areas
3. The phasing plan shall identify any anticipated areas where fire department access roadways may be temporarily inaccessible due to trenching, slurry coating, striping, or other construction activities. The plan shall indicate the anticipated period of impairment and include provisions for providing plating over trenches and alternative access routes, notification to the fire department, and / or forms of mitigation when such roadways are impaired.
4. Approved phasing plans shall be available at the construction site. A lumber drop inspection is required prior to commencement of each phase.



## ATTACHMENTS

### I. Attachment 1 - Fire Master Plan Notes

All of the notes listed in the INSPECTION REQUIREMENTS and GENERAL REQUIREMENTS sections shall be placed, verbatim, on the plan. Include individual notes, as applicable, from the PROJECT – SPECIFIC REQUIREMENTS section.

#### A. Inspection Requirements – Buildings Under Construction

1. Site inspections are required for this project. Please schedule all field inspections at least 24 hours in advance. Call the Oceanside Fire Prevention Bureau at (760) 435-4101, Monday through Friday.
2. A lumber drop inspection shall be performed prior to bringing combustible materials or combustible fixtures and finishes for structures of non-combustible construction onsite. All-weather access roads capable of supporting 78,000 lbs., topped with asphalt, concrete, or equivalent shall be in place and hydrants shall be operational at time of lumber drop inspection.
3. For projects in a wildland interface area, a vegetation clearance inspection is required prior to a lumber drop inspection.
4. An original approved, signed, wet-stamped fire master plan shall be available on-site at time of inspection.
5. Access roads and hydrants shall be maintained and remain clear of obstructions at all times during and after construction. Areas where parking is not permitted shall be clearly identified at all times.
6. Temporary fuel tanks of 60 or more gallons shall be reviewed, inspected, and permitted by the Fire Department prior to use.
7. The project address shall be clearly posted and visible from the public road during construction.
8. All gates in construction fencing shall be equipped with either a Knox or breakaway padlock.
9. Buildings of four or more stories shall be provided with stairs and a standpipe before reaching 35 feet in height.

#### B. General Requirements

1. Fire lane widths shall be measured from top face of the curb to top face of the curb for fire lanes with standard curbs and gutters, and from flow-line to flow-line for fire lanes with modified curb designs (e.g., rolled, ramped, etc.).
2. The developer is responsible to verify that all approved public works or grading department street improvement plans or precise grading plans conform to the minimum street width measurements per the approved fire master plan.
3. Fire lane signs and red curbs shall meet the Oceanside Fire Department Fire Lane Requirements. Additional fire lane markings may be required at the time of inspection depending on field conditions.



4. Address numbers shall be located and be of a color and size so as to be plainly visible and legible from the roadway from which the building is addressed. Address numbers shall be illuminated at night.
5. Access gates shall be approved prior to installation and shall be in compliance with Chapter 5 of the CFC and Oceanside Fire Department requirements.
6. Approved access walkways shall be provided to all required openings and all rescue windows.
7. Vegetation shall be selected and maintained in such a manner as to allow immediate access to all hydrants, valves, and fire department connections, pull stations, extinguishers, sprinkler risers, alarm control panels, rescue windows, and other devices or areas used for firefighting purposes. Vegetation or building features shall not obstruct address numbers or inhibit the functioning of alarm bells, horns, or strobes.
8. Dumpsters and trash containers larger than 1.5 cubic yards shall not be stored in buildings or placed within 10 feet of combustible walls, openings, or combustible roof eave lines unless protected by an approved sprinkler system.
9. Any future modification to the approved Fire Master Plan or approved site plan, including but not limited to road width, grade, speed humps, turning radii, gates or other obstructions, shall require review, inspection, and approval by the Fire Department.
10. This project may be subject to additional requirements not stated here-in upon examination of actual site and project conditions or disclosure of additional information.

C. Project – Specific Requirements

(Include only those notes that are applicable to the project as designed; some notes may need to be modified to address specific project conditions)

1. An automatic fire sprinkler system shall be installed in accordance with applicable codes and local ordinances, amendments, and guidelines. A separate plan submittal is required.
2. An underground piping plan is required for the installation of an automatic fire sprinkler system or for a private fire hydrant system. A separate plan submittal to the Fire Department is required.
3. A chemical classification and hazardous materials compliance plan shall be approved by the Oceanside Fire Department prior to any hazardous materials being stored or used on site. A separate plan submittal is required.
4. This property is located in or adjacent to a fuel modification area. Addition or alteration of structures or landscaping requires review and approval by the Oceanside Fire Department.



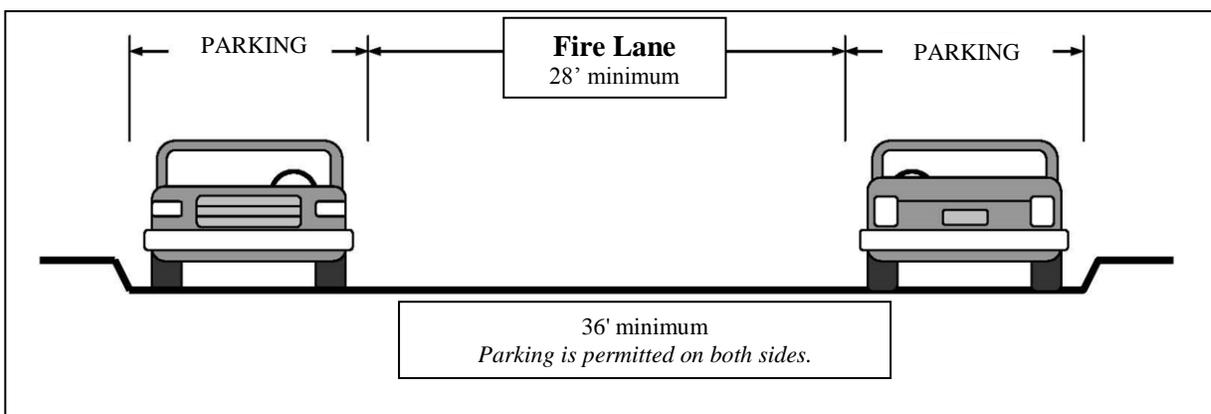
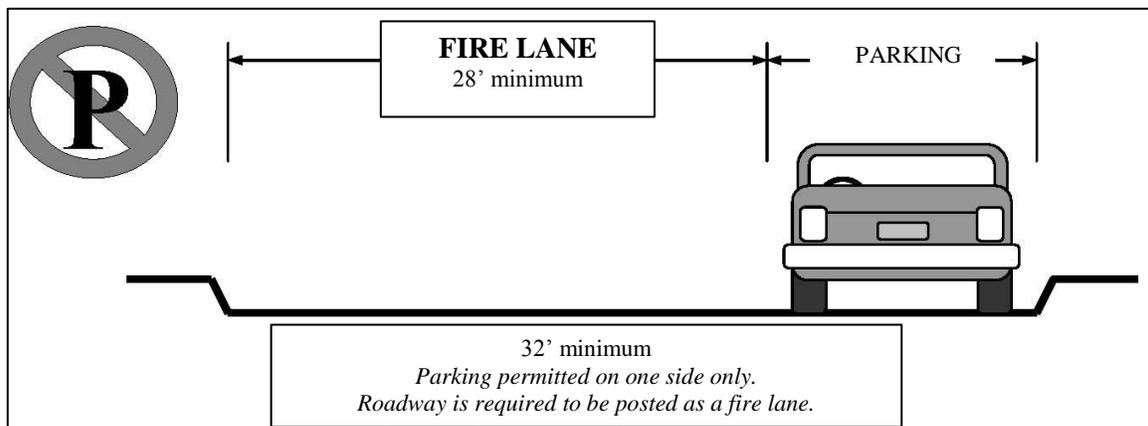
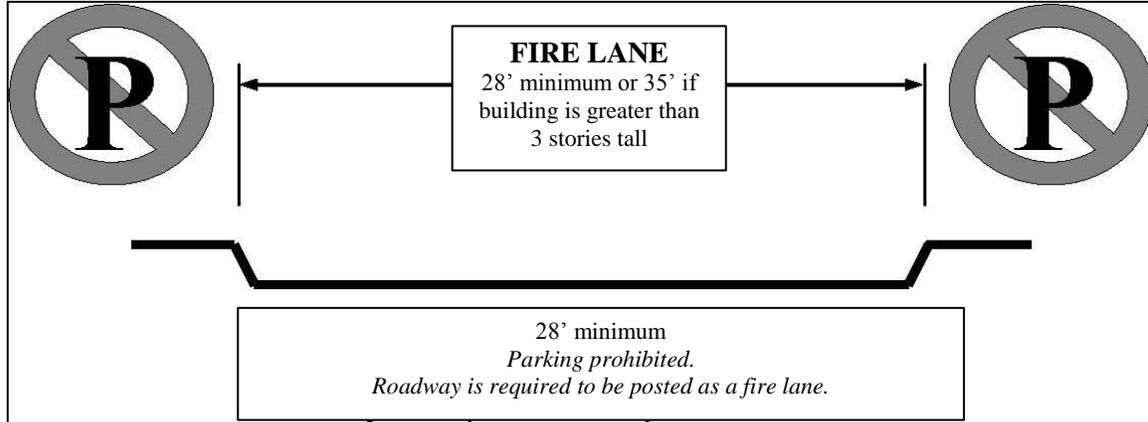
II. **Attachment 2 - Fire Master Plan Submittal Checklist**

<b>A. <u>Project Information</u></b>	<b>Yes</b>	<b>N/A</b>
Scope of project is clearly defined on the plan?	_____	_____
Tract/Tentative Tract/Parcel Map Number has been provided?	_____	_____
Standard fire master plan notes are included?	_____	_____
Building area, construction type, and occupancy noted on the plan?	_____	_____
Sprinklered buildings are identified?	_____	_____
Alternate methods and materials request letter copied onto plan?	_____	_____
Sheets not relevant to fire master plan removed from plan set?	_____	_____
Fire department connection, fire alarm panel, fire riser shown?	_____	_____
<b>B. <u>Water and Hydrants</u></b>	<b>Yes</b>	<b>N/A</b>
Water availability form completed and provided?	_____	_____
All hydrants within 400' of the site are shown on the plan?	_____	_____
Are hydrants provided/spaced per CFC Appendix C?	_____	_____
<b>C. <u>Access and Roadways</u></b>	<b>Yes</b>	<b>N/A</b>
Extent of the access roadway is clearly shown on the plan?	_____	_____
Turning radii and width are shown on the plan?	_____	_____
Exterior of all structures within 150' hose pull distance?	_____	_____
Engineer's certification provided for new paving?	_____	_____
Walkable surface provided to required openings	_____	_____
Road and walkway grades > 12% shown on plan?	_____	_____
<b>D. <u>Fire Lane Identification</u></b>	<b>Yes</b>	<b>N/A</b>
Red curbs are identified with bold or dashed lines?	_____	_____
Location of each "Fire Lane-No Parking" sign shown?	_____	_____
Fire lane entrance sign provided at each vehicle entrance?	_____	_____
Detail drawings of red curbs/ "No Parking" entrance signs shown?	_____	_____
<b>E. <u>Gates and Obstructions</u></b>	<b>Yes</b>	<b>N/A</b>
Are all gates, fences, and planters shown?	_____	_____
Are vehicle gates identified as manual or electric?	_____	_____
Manual vehicle gates have "No Parking" sign noted?	_____	_____
Knox boxes/locks/switches are noted on plans?	_____	_____
Gate specifications included on plan?	_____	_____
<b>F. <u>Other Requirements</u></b>	<b>Yes</b>	<b>N/A</b>
Premises ID/address monument location shown on plan?	_____	_____
Trash enclosures are located at least 5 ft. from combustible surfaces?	_____	_____
Two entry points provided for 150 or more residences?	_____	_____
Buildings 35 feet or more in height called out on the plans?	_____	_____
Access to rescue windows shown?	_____	_____



### III. Attachment 3 – Minimum Road Widths

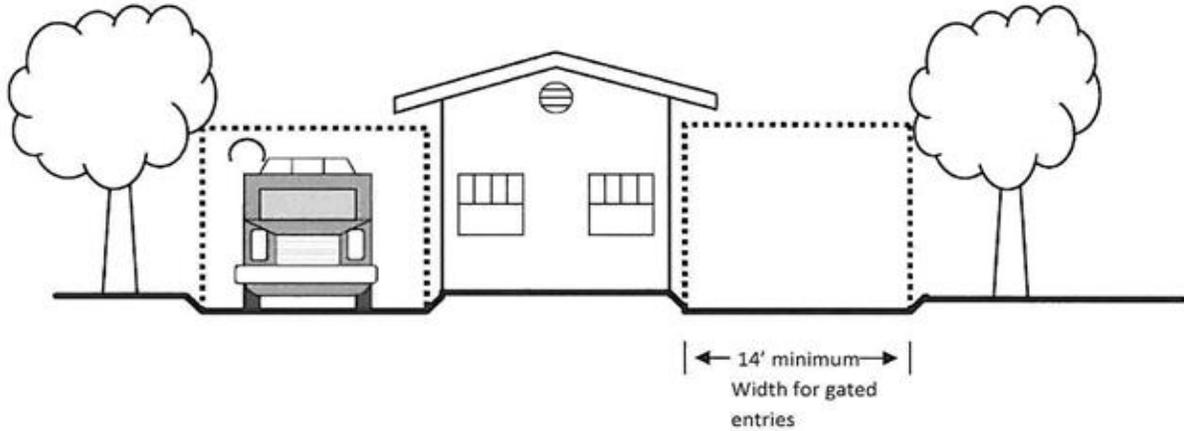
Measured from the top face of curb to top face of curb, or flow line to flow line.





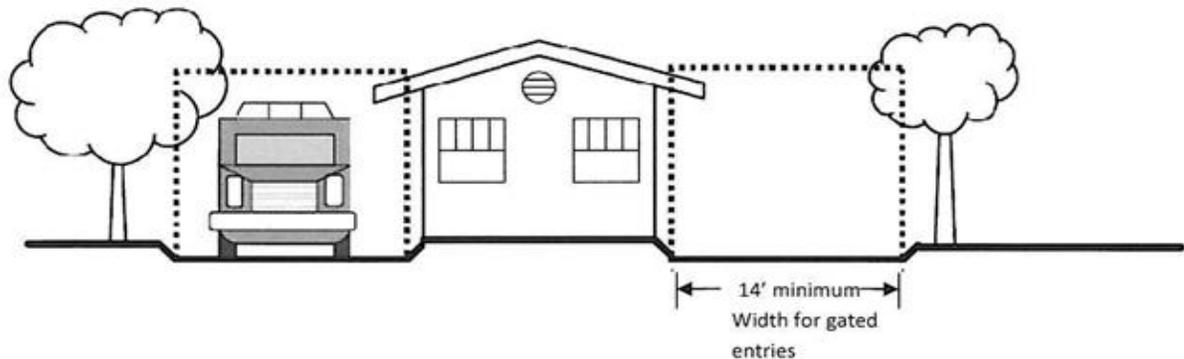
IV. **Attachment 4 - Fire Apparatus Access Roadway Clearance for a Typical Gated Community Guard House**

Fire lane width reductions detailed below are applicable only to the area immediately adjacent to the guard house or gates. Roads leading up to and beyond the guard house or gate shall meet standard fire lane width requirements.



**Proper Clearance Provided**

Eaves and vegetation do not encroach upon the 14'-wide by 13'6" high minimum dimensions allowed for the fire access roadway next to the guard house.

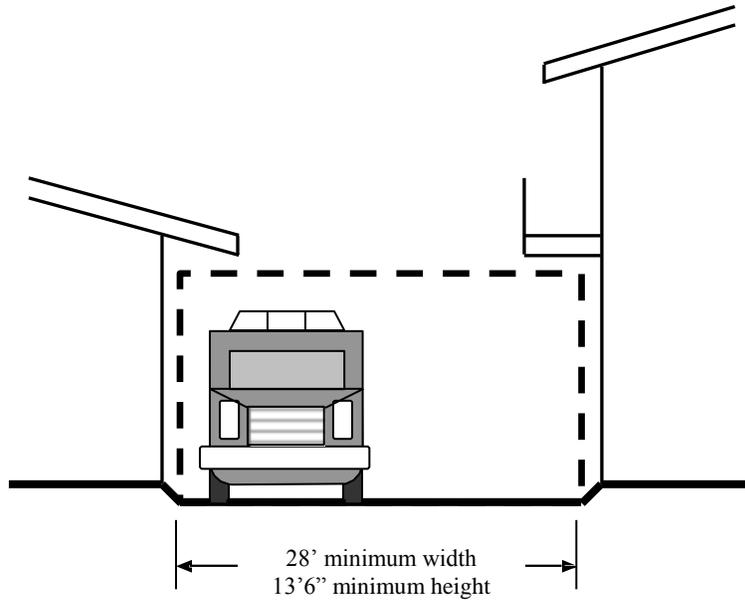


**Insufficient Clearance**

While a 14'-wide access roadway is provided next to the guard house, eaves and vegetation encroach upon the minimum clear height of the fire lane.

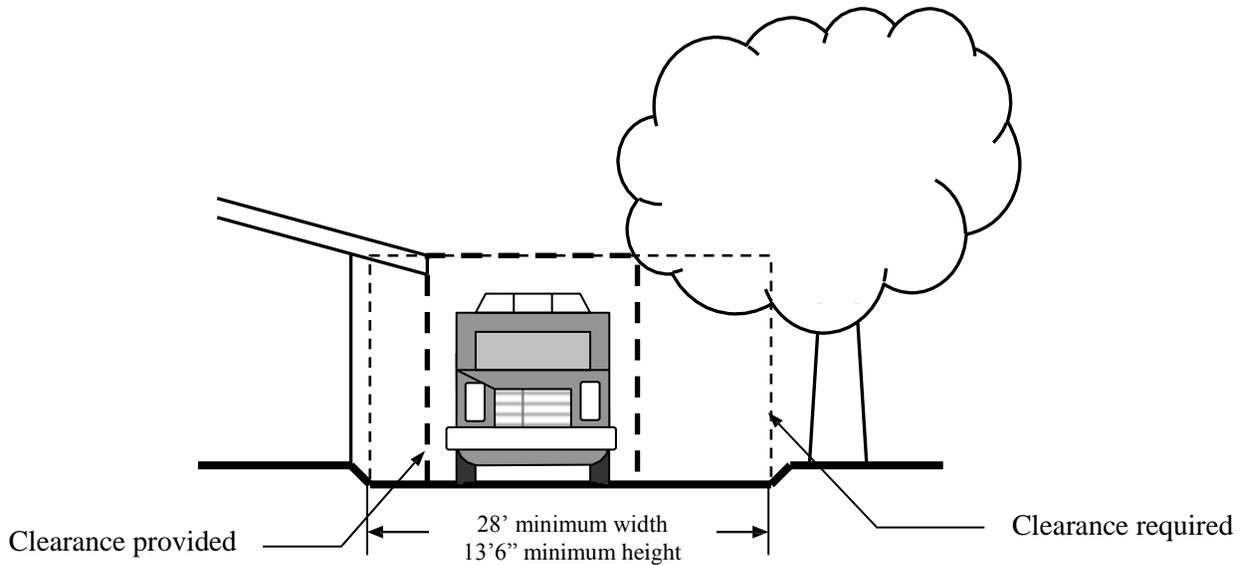


V. **Attachment 5 - Fire Apparatus Access Roadway Clearance**



**PROPER CLEARANCE PROVIDED**

Eaves, balconies, and other obstructions do not encroach upon the 28' wide by 13'6" high fire access roadway envelope.



**INSUFFICIENT CLEARANCE**

A 28' wide roadway has been provided, but eaves and vegetation reduced the clear dimensions below required minimum



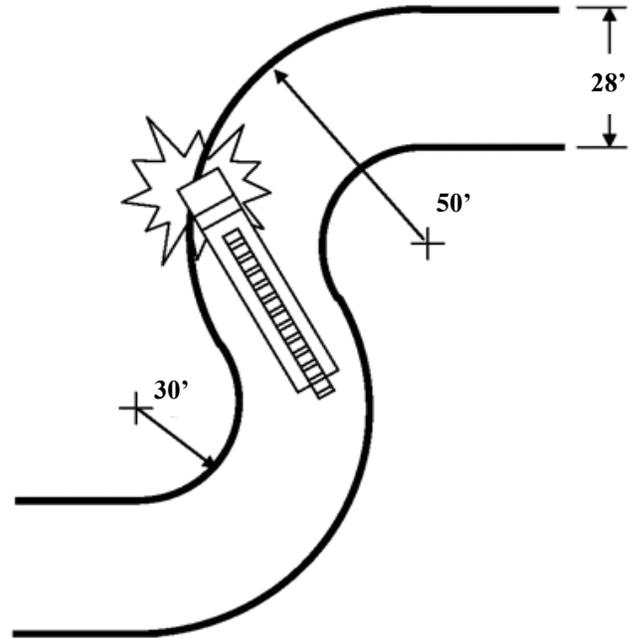
VI. Attachment 6 – Roadway and “S” Curves

**Not Permitted**

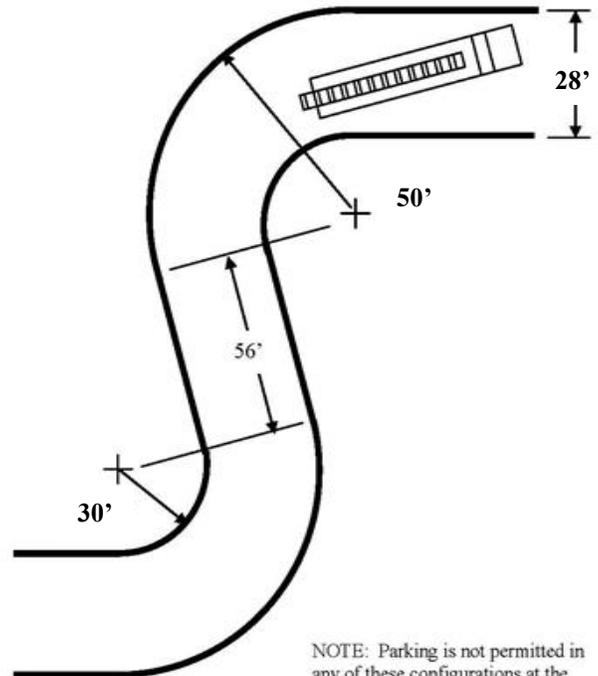
Oceanside Fire Department apparatus are unable to negotiate tight “S” curves, such as the one shown to the right.

A 56’ straight leg is required between the turns in a compound curve to provide sufficient recovery distance for the apparatus. Alternatively, the length of the straight leg may be reduced if the road width and/or turning radii are increased to allow for a wider turn. (See below)

NOT PERMITTED



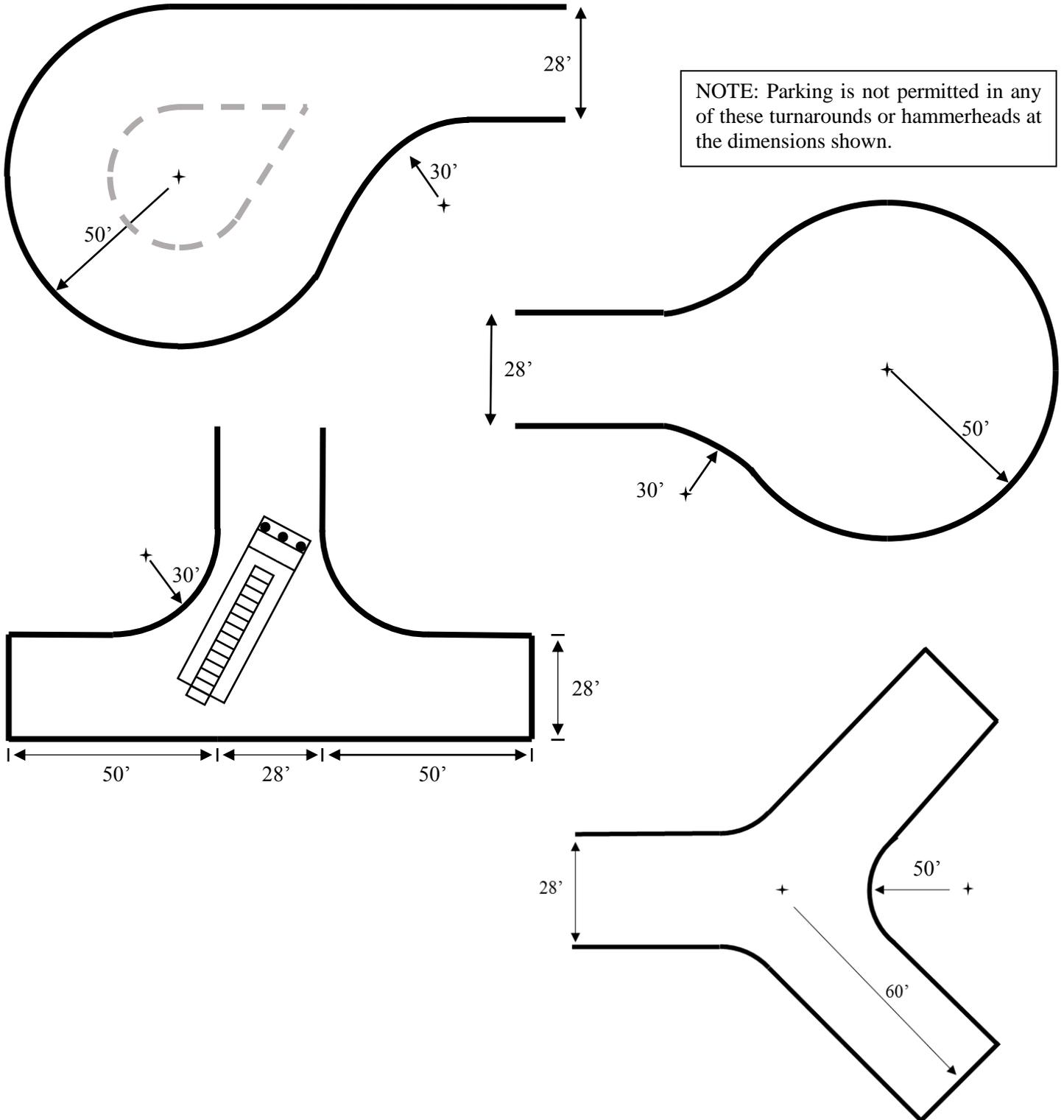
PERMITTED



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



VII. Attachment 7 – Minimum Turnaround and Hammerhead Dimensions





## VIII. Attachment 8 – Fire Lane Parking Violations

The California Fire Code (CFC) and California Vehicle Code (CVC) specify rules of the road for stopping, standing, and parking in fire lanes or near fire hydrants.

A. CVC Section 22500

States that no person shall stop, park, or leave standing any vehicle whether attended or unattended, in any location designated as a fire lane by the Fire Authority except when necessary to avoid conflict with other traffic or in compliance with the direction of a peace officer or official traffic control device. Vehicles illegally parked in a fire lane may be towed per CVC 22953(b).

B. CVC Section 22514

There shall be no parking of any vehicles other than fire department vehicles within 15 feet of either side of a fire hydrant in accordance with CVC 22514. Such vehicles may be towed per CVC 22651 (e).

C. CVC 22658 (a)

CVC 22658(a) permits the owner or person in lawful possession of any private property, subsequent to notifying local law enforcement, to cause the removal of a vehicle parked on such property to the nearest public garage, if:

1. A sign is displayed in plain view at all entrances to the property specifying:
  - a) The ordinance prohibiting public parking, and
  - b) A notation indicating that vehicles will be removed at the owner's expense, and
  - c) The telephone number of the local traffic law enforcement agency

~~-or-~~

2. The lot or parcel upon which the vehicle is parked has a single-family dwelling.

D. CFC 503.4

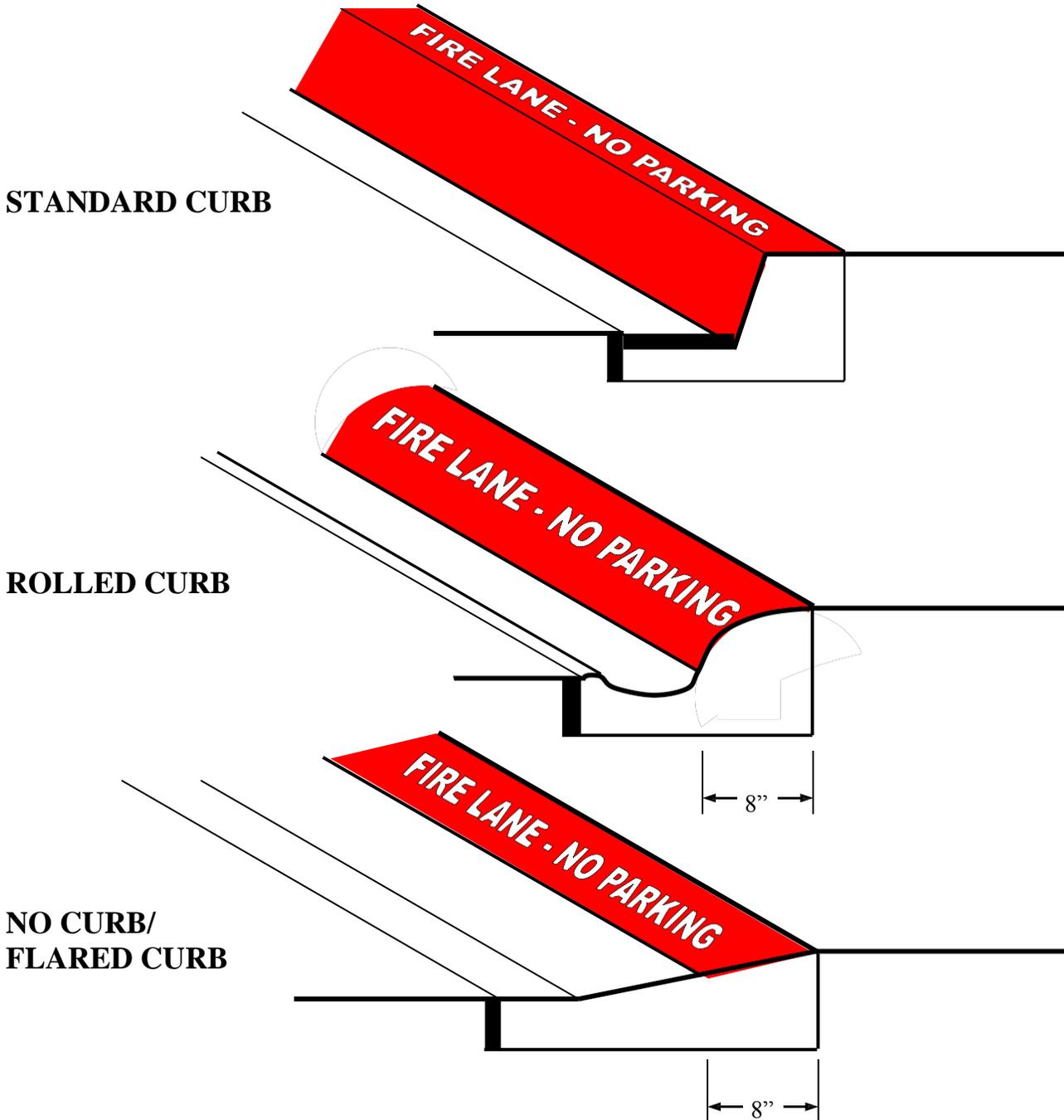
CFC 503.4 states that the required width of a fire apparatus access road shall not be obstructed in any manner, including parking of vehicles. Minimum required widths and clearances shall be maintained at all times.

E. CFC 508.5.4

CFC 508.5.4 states that vehicles and other obstructions 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 hydrants.



IX. Attachment 9 – Fire Lane Curb Identification



Requirements:

- Fire lane entrance sign(s) shall be provided per Attachment 10 or 11.
- Curbs shall be painted O.S.H.A. Safety Red.
- "FIRE LANE – NO PARKING" shall be painted on top of curb in 3" lettering at a spacing of 30' on center or portion thereof.



X. **Attachment 10 – Fire Lane Entrance Signs**

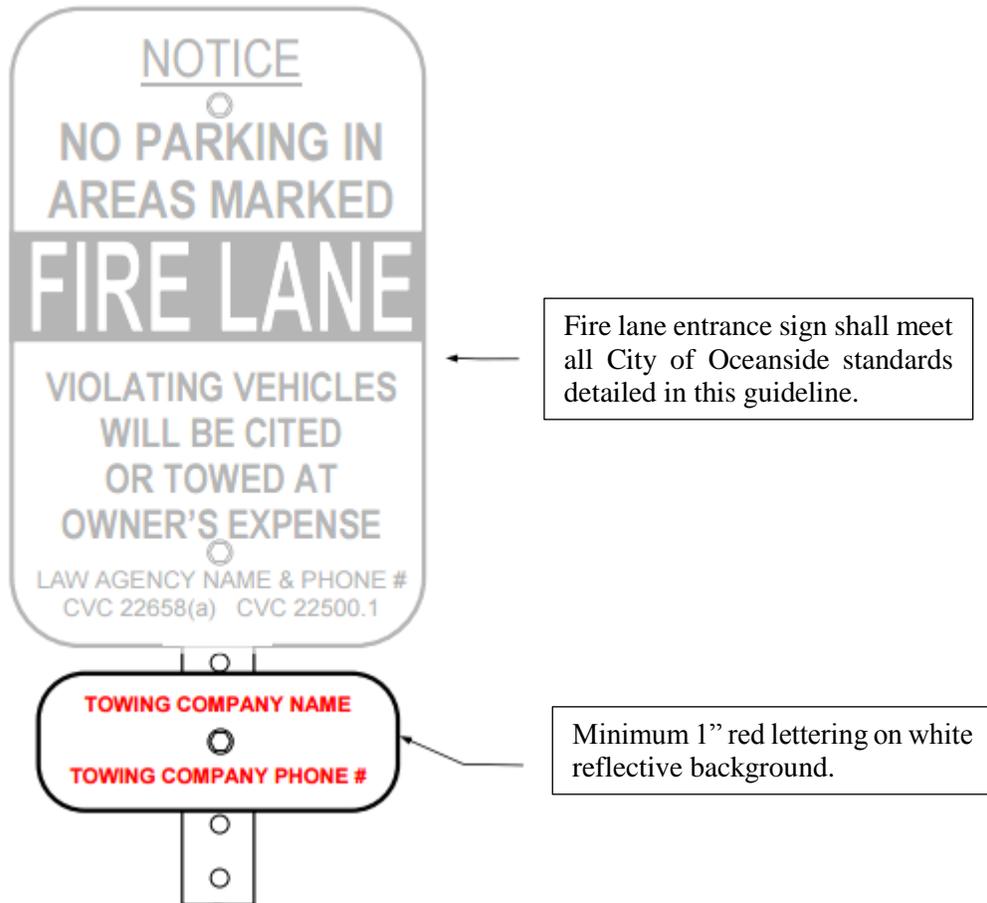
To be used only at vehicle entry points to areas that contain “Fire Lane – No Parking” signs or red curbs.



- All sign and lettering dimensions shown are minimum required.
- This sign shall be posted at all vehicle entrances to areas marked with either red curbs or fire lane “No Parking” signs.
- Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachment 13.
- Towing company contact information is required for all properties with a standing written agreement for services with a towing company, per the California Vehicle Code.



XI. Attachment 11 – Specifications for Alternate Location of Towing Company Information



- Towing company contact information is required for all properties with a standing written agreement for services with a towing company, per the California Vehicle Code.
- To facilitate periodic changes in towing company contracts, the towing company contact information may be posted on a separate sign mounted directly below the fire lane entrance sign instead of on the entrance sign itself. The method of attachment to the post shall not obscure the wording on either sign.



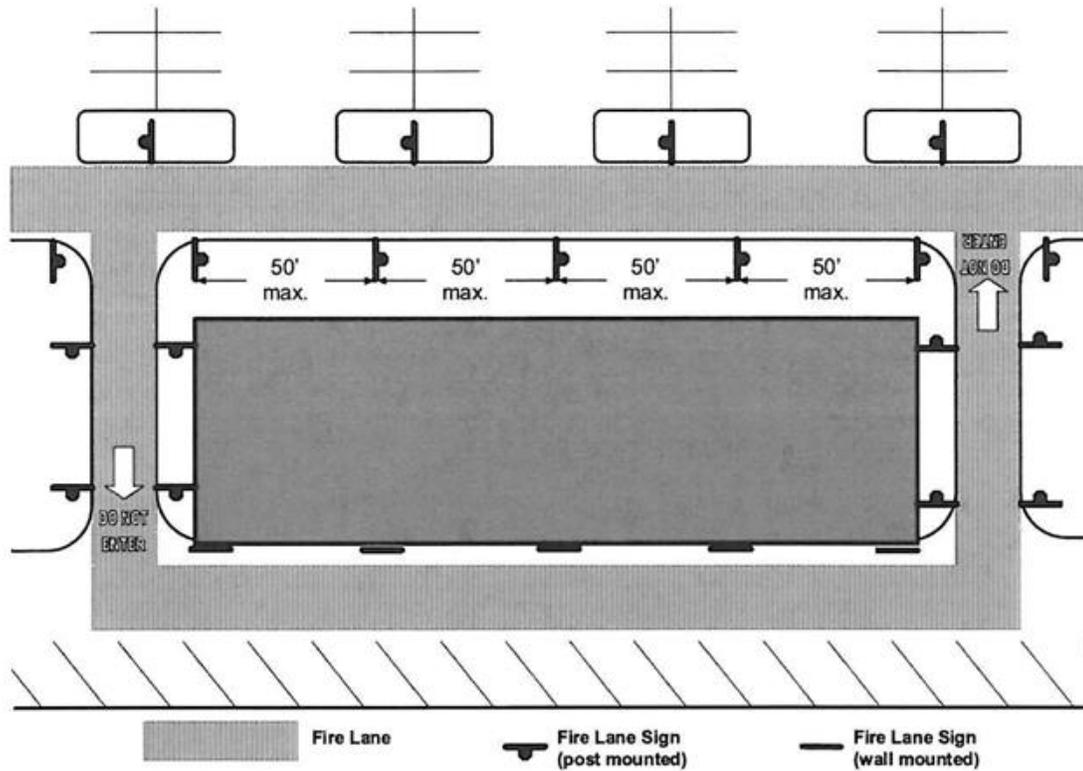
XII. Attachment 12 – Specifications for Fire Lane No Parking Sign



- All sign and lettering dimensions shown are minimums. "Arial Narrow" font is used in the example above though other legible sans-serif fonts may be acceptable.
- In areas where fire lane parking restrictions are enforced by the California Highway Patrol, "NO STOPPING – FIRE LANE" signs meeting Caltrans standards shall be used.
- Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachments 13 and 14.



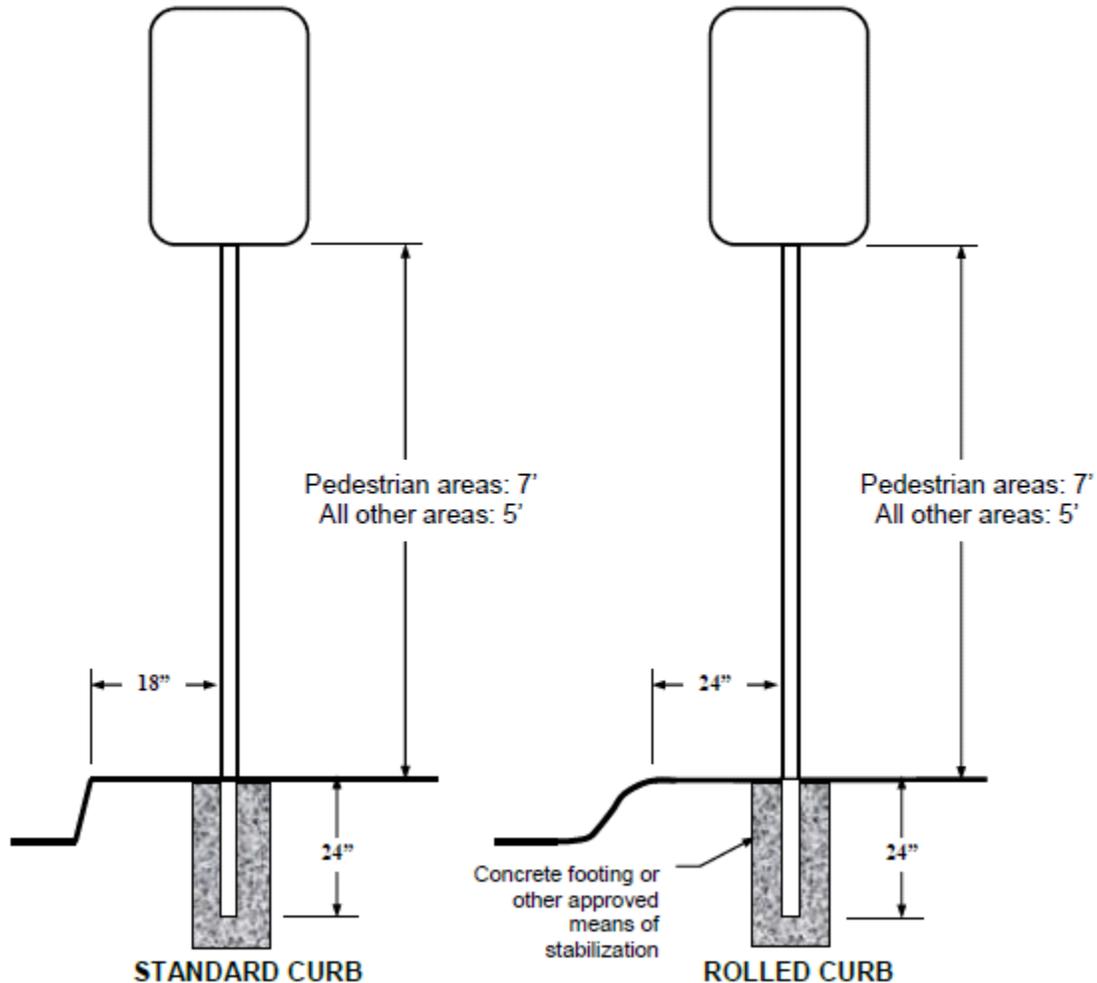
XIII. Attachment 13 – Fire Lane No Parking Sign Locations



- Signs are required within 3' of the end of each designated fire lane and spaced a maximum of 50' along the entire designated lane. One sign is required for each island adjacent to the fire lane.
- Signs shall be securely mounted facing the direction of travel and clearly visible to oncoming traffic entering the designated area. Signs shall be made of durable material and installed per Attachment 14. Where sign posts are not practical, signs may be mounted on a wall or fence. OFD inspectors will determine if additional signs or sign locations are required.



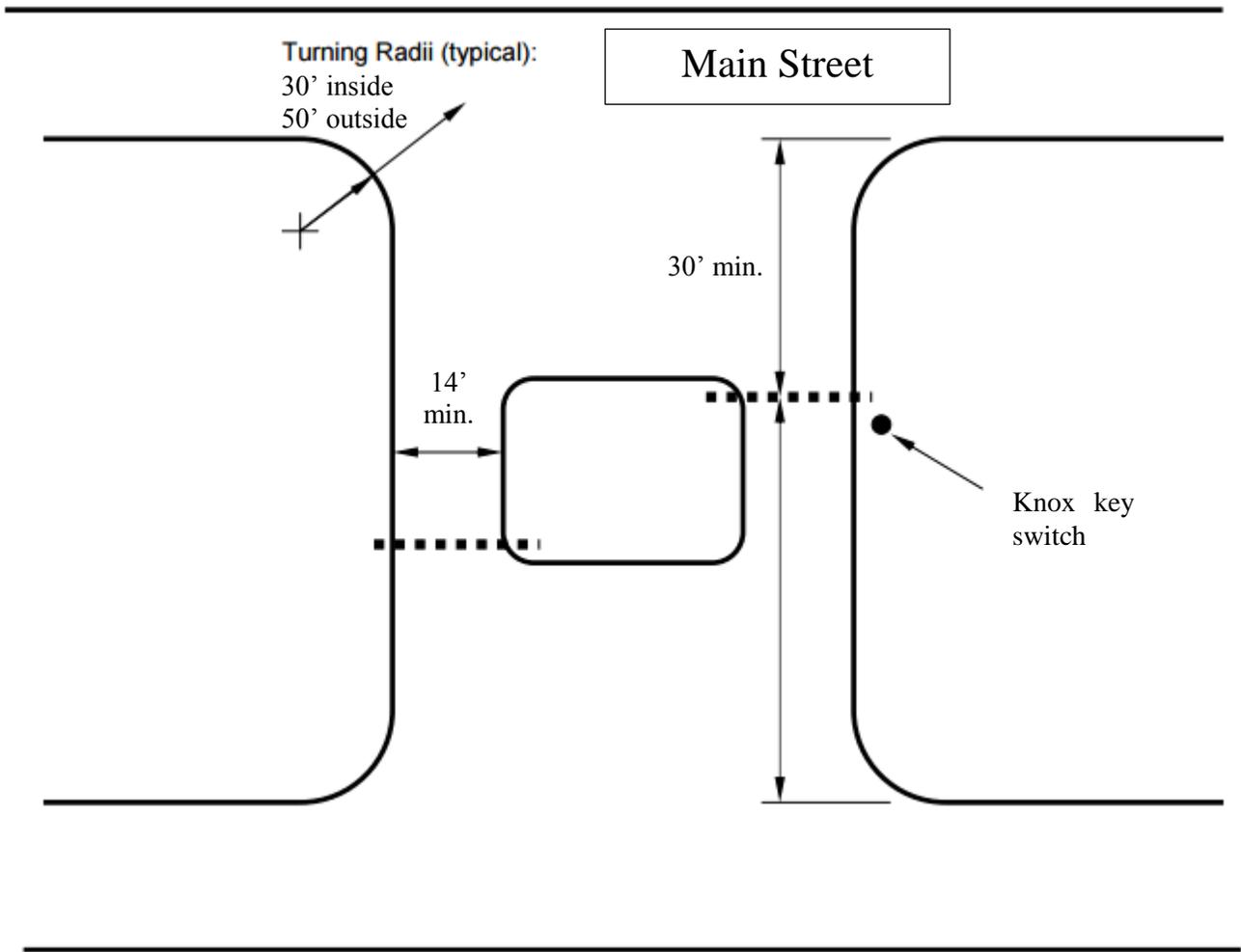
XIV. Attachment 14 – Mounting Specifications for Fire Lane Entrance and No Parking Signs



- Signs shall be mounted facing the direction of vehicular travel.
- Signs may be mounted on existing posts or buildings where the centerline of the sign is no more than 24” from the edge of the roadway.
- Depth of bury shall be a minimum of 24” and rebar, a concrete footing or another method to prevent removal of the sign is recommended. Footings for signs located in the public right-of-way shall be per City of Oceanside requirements.



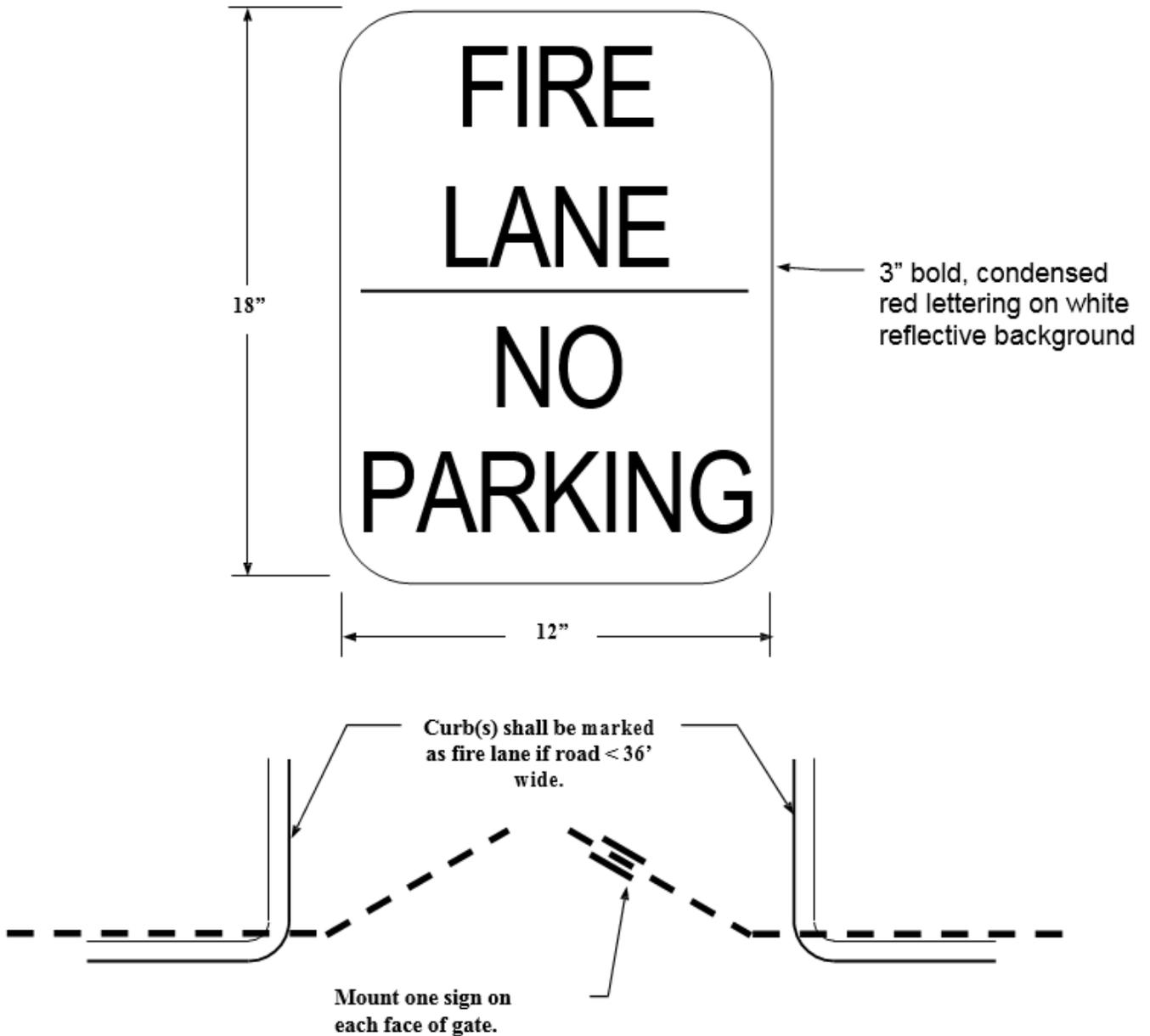
XV. Attachment 15 – Minimum Gate Setbacks



Drawing not to scale.



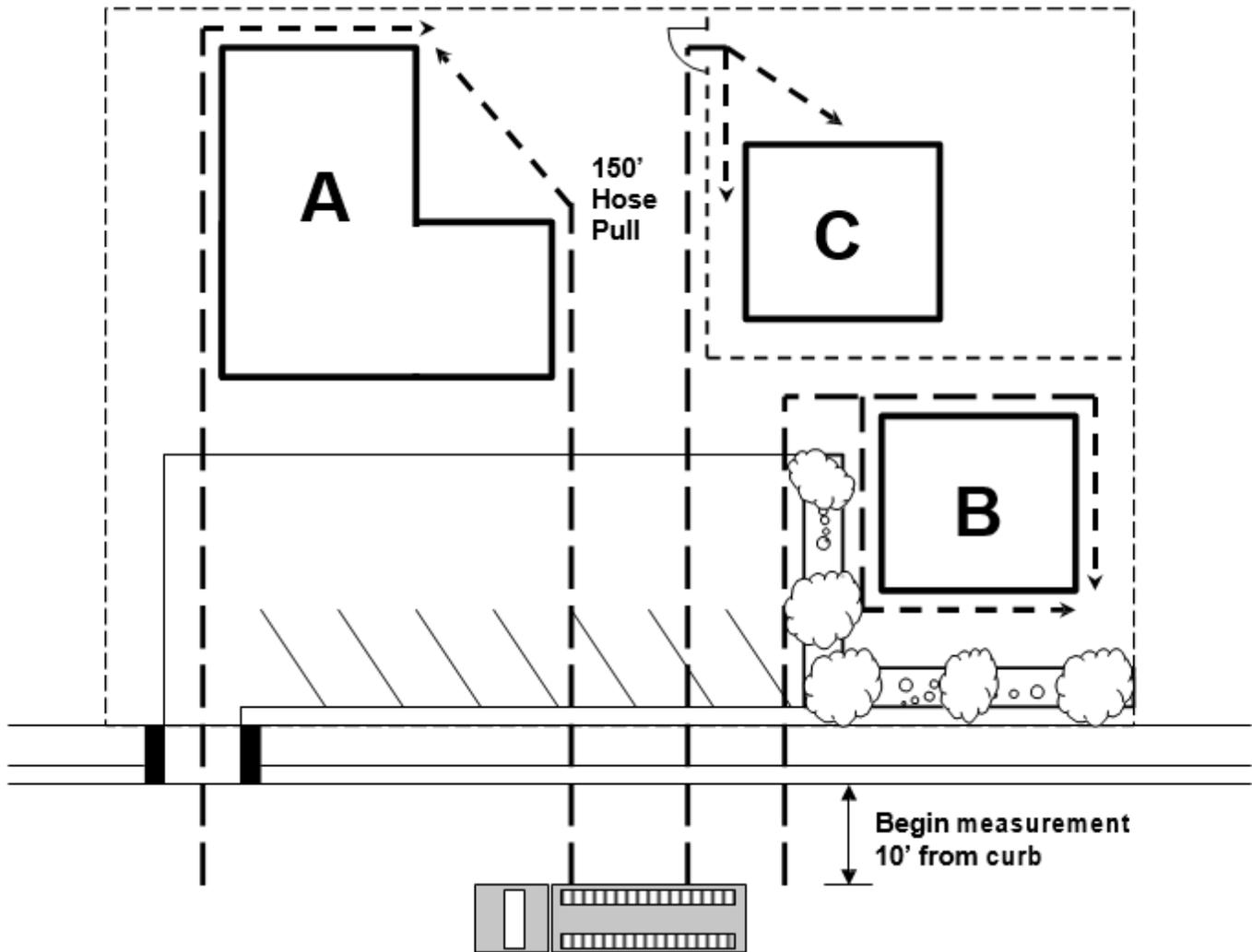
XVI. Attachment 16 – Specifications for Fire Lane – No Parking Signs for Manually Operated Gates and Barriers



- All sign and lettering dimensions shown are minimums. Arial Narrow font is used in the sample above, although other legible san-serif fonts may be acceptable.
- Signs shall be securely mounted on the front and back face of the gate, clearly visible to traffic entering the designated area. Signs shall be made of a durable material.



XVII. Attachment 17 – 150' Hose Pull



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' of the public road as measured along the path of firefighter travel.
- Building B **is** also accessible despite the obstruction presented by the planer and hedges.
- Building C **is not** accessible; the presence of a chain-link fence forces firefighters to backtrack once they pass through the gate, increasing their travel distance 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".



## XVIII. Attachment 18 – Emergency Access Walkways and Ladder Access to Emergency Escape and Rescue Doors and Windows

California Fire Code Section 504.1 states: “An approved access walkway leading from fire apparatus access roads to exterior openings shall be provided when required by the Fire Code Official.”

### A. Emergency Access Walkway Specifications:

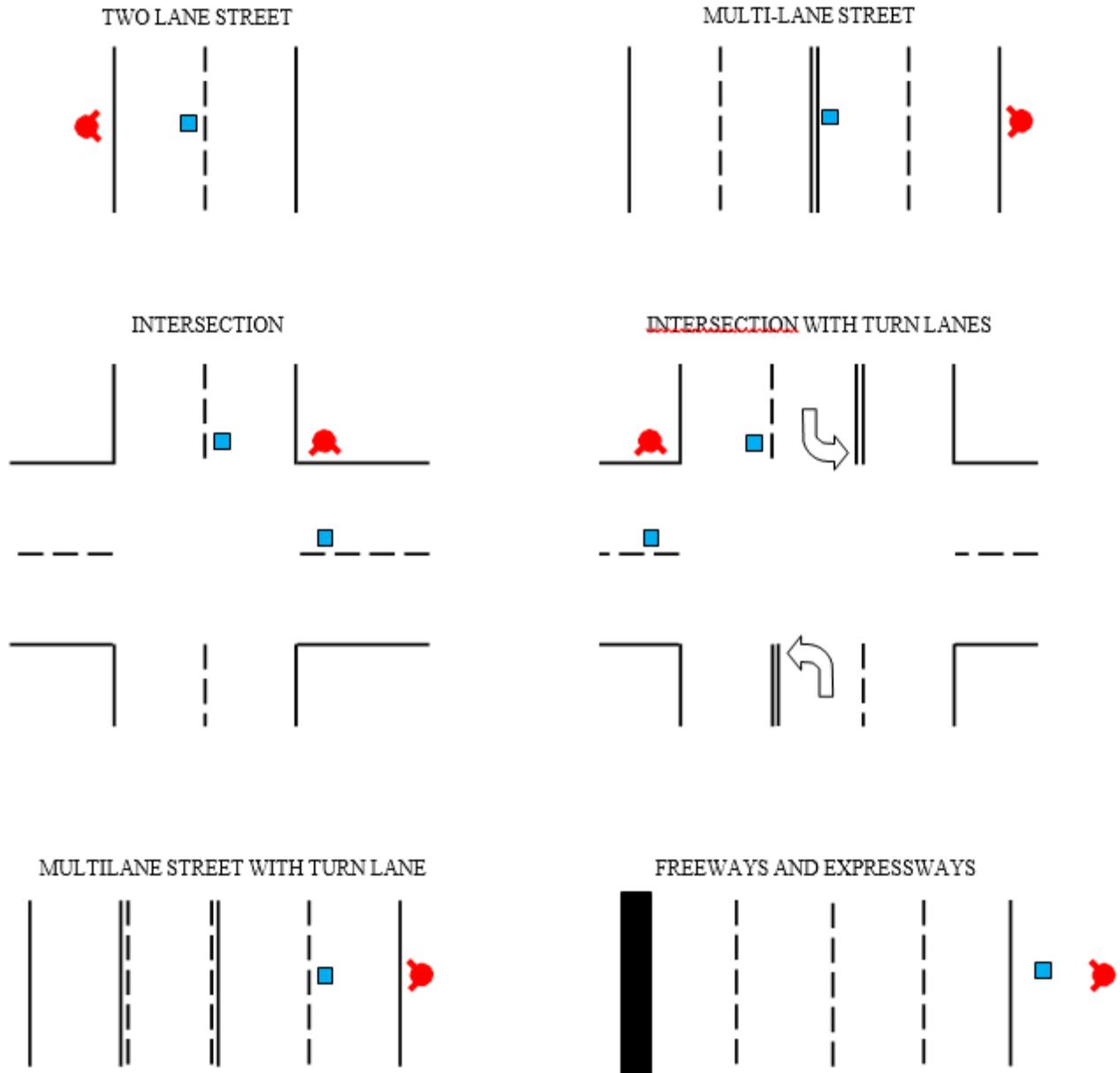
1. Surface – All-Weather
2. Width – 5 feet minimum
3. Location – approved route between the fire access lane and all portions of the exterior of the first story of a building as required by the Chief.
4. Ladder Accommodation – a rectangle, 5' wide by 24' long, must be able to navigate the walkway.

### B. Ladder Access Specifications:

1. Base placement for the ladder should be 1/4 the working length of the ladder away from the building and the door or window being laddered, directly below the door or window being laddered.
2. A rectangular area, 5' x 24' in length, shall be provided for raising the ladder from the horizontal position (i.e. on the ground) to the building. One end of the rectangle shall rest at the butt placement location.
3. The space between the tip of the ladder and the door or window being laddered should be clear, allowing for the area of travel of the tip of the ladder as it is being raised.
4. A 2' x 2' “ladder access area”, directly in front of the ladder foot as it rests against the building in the laddered position, and as one faces the building, should be provided.
5. A column extending 7' vertically from the “ladder access area” and extending up the ladder to the window or door being laddered should be provided to allow clearance for the firefighters climbing the ladder.



**XIX. Attachment 19 – Blue Dot Hydrant Marker Location**



The developer may contact the local water company to arrange the installation of the blue dots. If the water agency does not participate in the blue dot program, the developer is still responsible for the installation of dots in an approved manner.