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Fire Prevention Standard

Title: Fire Apparatus Access Roads			
Number: # FPS 06-05	Effective Date: 02-09-2007	Revised Date: 06-01-2011	
Code References: 2010 California Fire Code, Chapter 5, Section 503			
Note: <i>This guideline is a summary of Fire Department clarifications of County and State Codes. Information contained herein applies to typical circumstances and may not address all situations.</i>			
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Sign:		Sign: On File	02-09-07

Scope

This standard has been developed to assist development applicants, architects, and contractors in determining the minimum requirements for the design fire apparatus access roads for consistency with the best practices of the fire code in the interest of public safety. This standard is a foundation for applications related to all styles of development and design.

Codes and Standards

This standard is based upon the 2010 California Fire Code (CFC), Chapter 5, Sec. 503 for the *minimum* dimensions of fire apparatus access roads. Additional requirements have been established to facilitate the specific operational needs of the Riverside County Fire Department for conditions and circumstances not readily defined by the minimum provisions of the CFC and are further defined by the following facts and findings.

- **Facts and Findings**

The Riverside County Fire Department is continuing to re-evaluate standards for consistency within the development community and inter-departmental standards within Riverside County.

Examples:

1. *20 foot single drive lane each side of a center median equals 12 foot drive lane, 8 foot parking (incorporating the bike lane).*
2. *Alleys and parking lots – 12 foot opposing drive lanes equal 24 feet. Alleys are limited to 300 feet in length and connecting to a circulating road at both ends. The standard hose pull is 150 feet. This allows fire equipment to remain on the circulating road and address incidents in the alley.*

Historically, alleys have encouraged parking to the rear of the dwelling. In this situation the parking of vehicles would eliminate the possibility of concurrent opposing and/or adjacent traffic reducing a 24 foot access to approximately 16 feet. Fire equipment is 9 feet 10 inches wide and to safely navigate would require a minimum 12 foot drive lane.

Alleys greater than 300 feet in length shall be 30 feet wide with connection at each end to a circulating road.

The above standards for alleys are based on a two-story elevation. Three-story elevations shall require a minimum 30 foot width. Three-story elevations have an inherent rescue requirement that engages the use of an aerial apparatus. Aerial apparatus requires a minimum of 20 feet for operational set-up. This will also apply to commercial situations with buildings having exterior walls above 30 feet. This will accommodate the rooftop access capabilities and operational needs.

The standard width for access roads circulating or non-circulating allowing parking on both sides as outlined in the California Fire Code would require a 40 foot width. The Riverside County Fire Department has reduced this width to remain consistent with the transportation standards.

The development of "Walkable Communities" and "Context Sensitive Design" has created reduced lot frontages, increased vertical floor elevations, access difficulty, unique unfamiliar architectural features and increased compacted parking ratios, building exposure due to increased densities, etc. This creates an inherent difficulty with access and operational capability.

Plans Required

Detailed plans shall be submitted to the Riverside County Fire Department for review and approval prior to construction in accordance with CFC, Sec. 501.3.

Commercial - Specific Requirements

20 foot width – 2-way traffic with center median, one drive lane and ample width for vehicles to yield to emergency traffic. This area may contain a bike lane. (Commercial access - 20 feet each side of median)

24 foot width – Minimum width for parking lots, alleys no greater than 300 feet connecting at each end to a circulating standard width road. (2-story elevations only) Commercial/Industrial with walls less than 30 feet dependent on use and occupancy type.

30 foot width – Non-circulating roadways used for access to cluster development, minimum width for alleys with 3-story elevations and/or greater than 300 feet in length. Alleys with a minimum 20' deep x 16 feet wide driveways, for each residential unit, may reduce to 24 feet for 2-story product elevation only. This will allow alleys to be greater than 300 feet in length. Commercial /Industrial with exterior walls 30 feet or greater dependent on use and occupancy type.

36 foot width – Standard minimum width for circulating and non-circulating roads with parking allowed as defined in Riverside County Ordinance 460.

Additional requirements

Construction - Roads shall be designed, constructed and maintained to support the imposed load of Riverside County Fire Department fire apparatus with a total minimum weight of 60, 000 pounds over 2 axles. The surface shall be designed, constructed and maintained to provide all-weather driving capabilities. Turf Block is not allowed.

Vertical Clearance – Fire access roads shall have an unobstructed vertical clearance of not less than 13 feet 6 inches.

Road Grade – The grade of the access road shall not exceed 15% as per Ordinance

Secondary access - May be required to facilitate evacuation and emergency operations and, minimize the possibility of multiple access point being subject to congestion or obstruction during an emergency incident. Each secondary access will be review on a case by case basis.

Alleys – Alleys may be no greater than 300 feet in length, curb to curb, with connection at each end by a standard circulating road. Dead end alleys shall be 30 feet in width with an approved turn-a-round for alleys greater than 150 feet in length. No portion of any structure shall be more than 150 feet from an approved vehicular travel way. Dead end alleys 24 feet in width shall provide that no portion of any structure shall be more than 150 feet from the circulating road and alley access intersect.

Center Median – When access across a center median is unduly difficult, a median crossover may be required per transportation standards. Median crossovers shall be installed to allow access to driveways and every 500 feet or as determined by the Fire Chief.

Pop-outs (Landscape and Architectural) – Pop-outs may not intrude on the required unobstructed width of roadways. Intrusion on required access width will create stacking and chokers.

Roundabouts – Roundabouts may be accepted interior of developments on roadways with speeds no greater than 25 miles per hour. Roundabouts shall meet the inside and outside radii of fire department apparatus. This application will be addressed on a case-by-case basis.

Residential – Specific Requirements

Driveways exceeding 150 feet in length, but less than 800 feet in length if less than 20 feet width shall provide a turnout near the mid-point of the driveway. Where the driveway exceeds 800 feet, turnouts shall be provided no more than 400 feet apart

Turnout shall be a minimum of 10 feet wide and 30 feet in length, with a minimum 25 feet taper on each end.

An approved turnaround shall be provided at all building sites on driveways over 150 feet in length, and shall be within 50 feet of the building.

Access will not have a grade of more than 15%. Access will not be less than 16 feet in width with approved turnouts or 20 feet without turnouts and will have a vertical clearance of 13 feet 6 inches. Access will be designed to withstand the weight of 60,000 pounds over 2 axles.

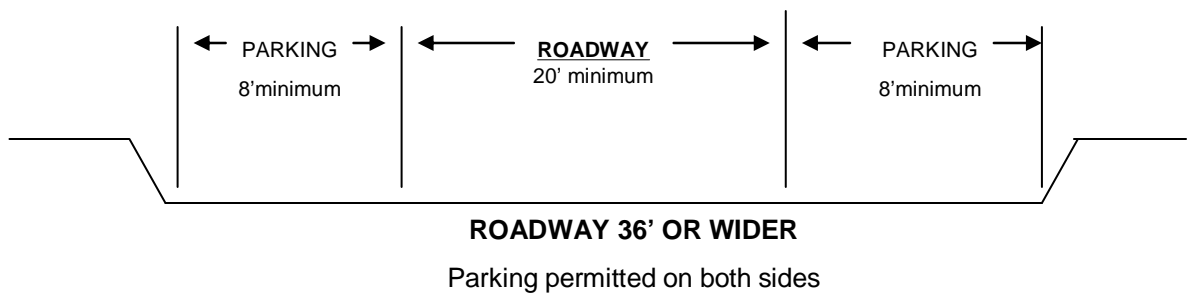
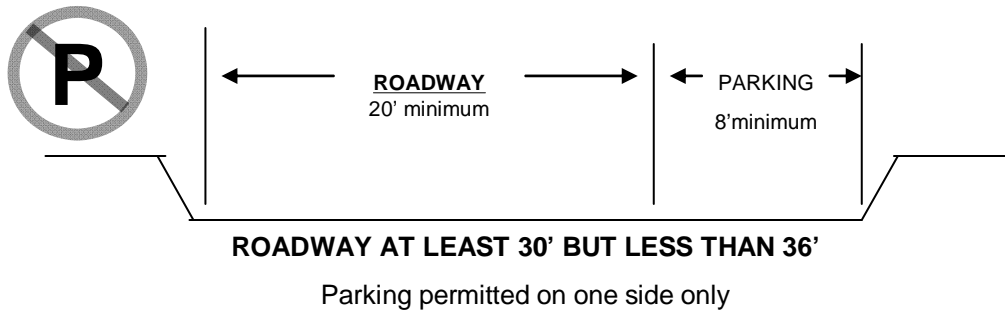
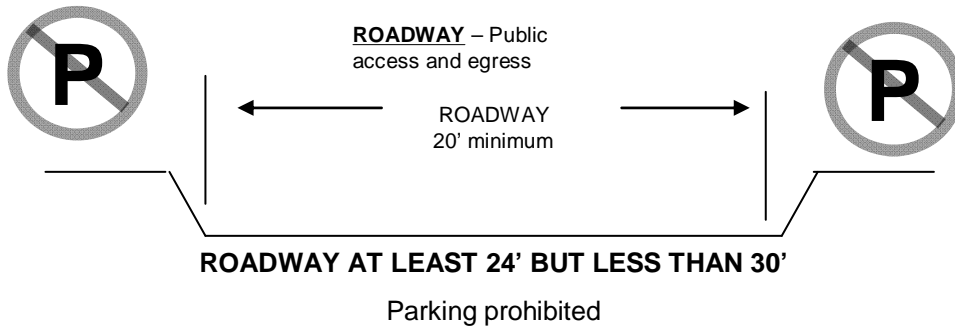
For residents in High Fire Areas, please see Information Bulletin 06-06.

Additional information:

	Knox Application
Form 11	Fire Lanes Requirements
Form 7	Hydrant Verification of Single Family Residential

MINIMUM ROAD WIDTH AND TURNOUT

Measured from top face of curb to top face of curb or flow line to flow line



Residential Turnout

