SANTA CLARA COUNTY FIRE DEPARTMENT
1315 Dell Avenue, Campbell, CA 95008 | (408) 378-4010 | SCCFD.org

STANDARD DETAILS & SPECIFICATIONS	Spec No A-1
	Review Date
	Revis. Date 05.12.21
SUBJECT: Fire Department Apparatus Access	Eff. Date 01.23.97
	Approved By
	Page 1 of 7

SCOPE

Applicable to Fire Department apparatus access roadways serving commercial building and three or more single-family dwellings. Note that the specifications contained in this Standard apply only to properties located within the service area of the Santa Clara County Fire Department.

DEFINITIONS

Alternate Paving Material: Roadway construction materials, other than asphalt or concrete, such as pavers, block or other engineered surfaces.

Driveway: A vehicular access roadway less than 20 feet in width and serving no more than two, single-family dwellings.

Roadway: A vehicular access roadway greater than or equal to 20 feet in width.

Temporary Access Roadway: A temporary vehicular access roadway or driveway that is provided until such time that the permanent roadway or driveway is installed.

REQUIREMENTS

I. Where Required

Fire Department access roads shall extend within 150 feet of all portions of a facility and to within all portions of the exterior walls of the fire story of a building, as measured by an approved route around the building or the facility.

Note: The Fire Code Official may allow the 150-foot dimension to be increased (as allowed by the California Fire Code) up to 200 feet when the building(s) is equipped throughout with an approved automatic fire sprinkler system.

II. Road Design

A. Minimum Clear Width: The minimum clear width of the fire department access roads shall be 20 feet. Modifications to the design or width of a fire access road, or additional access road(s) may be required when the fire code official determines that access to the site or a portion thereof may become compromised due to emergency operations or nearby natural or manmade hazards (flood prone areas, railway crossings, bridge failures, hazardous material-related incidents, etc.). The width of the **secondary** access roads may be reduced to less than 20 feet provided turnouts are installed adjacent to the roadway every 500 feet with a minimum dimension of 10 feet wide and 75 feet long or as otherwise determined by the fire official code.

B. Access and Loading**:** Facilities, buildings, or portions of buildings hereafter constructed shall be accessible to fire department apparatus by way of an asphalt, concrete, or other approved drive surface capable of supporting the imposed load of fire apparatus weighing at least 75,000 pounds (34,050 kg) or as otherwise determined by the Fire Code Official.

C. Minimum Clear Height: Vertical clearance over required vehicular access roads and driveways shall be 13'6".

D. Grade: Maximum grade shall not exceed 15% (6.75 degrees).

E. Turn Radius (Circulating): The minimum outside turning radius is 42 feet for required, circulating, access roadways. A greater radius of up to 60 feet may be required where the Fire Code Official determines that ladder truck access is required (See AERIAL FIRE APPARATUS ACCESS ROADS).

*Circulating refers to travel along a roadway without dead ends.

F. Turning Radius (Cul-de-sacs): The minimum outside turning radius is 36 feet for cul-de-sacs. Use of cul-de-sacs is not acceptable where it is determined by the Fire Code Official that ladder truck access is required, unless greater turning radius is provided.

G. Turnarounds: Turnarounds are required for all dead-end roadways with a length in excess of 150 feet. The turnaround details show in this document are intended to provide a general design concept only. Modifications of variations of these designs may be approved by the Fire Code Official on a case-by-case basis. All turnaround designs submitted for fire department review shall meet all previously stated requirements. These details are applicable when a 36-foot minimum

turning radius for dead ends is specified. These details are not applicable where turning radius greater than 36 feet is specified or when a circulating radius is specified.

H. Dead Ends: Dead-end fire apparatus access roads in excess of 150 feet (45,720 mm) shall be provided with width and turnaround provisions as determined by the Fire Code Official.

I. Parking: When parking is permitted on the streets, in both residential and commercial applications, it shall confirm the following:

1. Parking is permitted on both side of the street with street widths of 36 feet or more.

2. Parking is permitted on one side of the street with street widths of 28-35 feet.

3. No parking is permitted when street widths are less than 28 feet.

Note: Rolled curbs can be part of the curb/sidewalk and used to increase the roadway width with approval from the Fire Code Official. Additional requirements may apply for buildings exceeding 30 feet in height (See requirements under AERIAL FIRE APPARATUS ACCESS ROADS).

J. Access to Fire Hydrants: Fire hydrants located on a public or private street, or on-site, shall have an unobstructed clearance of not less than 30 feet (15 feet either side of hydrant), in accordance with California Vehicle Code 22514. Marking shall be per California Vehicle Code 22500.1.

K. Traffic Calming: The location of traffic calming devices (such as speed humps), and the design thereof, shall be approved by the Fire Code Official prior to installation.

L. Alternate Paving Material for Access Roads:

1. Alternate paving materials may be used for fire access roads when approved by the Fire Code Official. The plan submittal shall include the design criteria based upon the imposed load of fire apparatus as identified in Section II-B of this Standard, Access and Loading. Additionally, the alternate paving material roadway installation shall:

a. Be marked. The edges of the roadway shall be delineated with curing, lights, bollards, paint, contrasting material, etc., as approved by the Fire Code Official.

b. Be structurally sound to preclude movement or disbanding with soil movement.

c. Be field tested by the contractor in the presence of the Fire Code Official or his/her representative. Testing may include driving the fire access roadway by a weight verified vehicle.

d. Be certified by the engineer or record (civil or soils engineer) prior to fire department inspection/approval.

III. Fire Apparatus Roadway Marking

A. Where required by the Fire Code Official, fire apparatus access roads shall be designated and marked as a fire lane as set forth in Section 22500.1 of the California Vehicle Code. The marking shall be any one of the following methods or as specified by the Fire Code Official.

1. Red Curb Marking: Curb top and side shall be painted red, and the words “FIRE LANE,” in white, shall be stenciled on the top and side of all red curbs at a maximum interval of 30 feet. Letters shall be 3 inches in height with a minimum of ¾-inch stroke.

2. Roadway Surface Marking: Outlining or painting the fire lane area in red with the words “FIRE LANE,” in white, at intervals of not more than 50 feet or as otherwise directed by the fire department. Size of lettering shall be not less than 24-inches in height and 3-inch stroke.

3. Signage Marking**:**

   a. Signs shall be of metal construction, measuring 12 inches wide and 18 inches high, and of a reflective type. Plastic or wooden signs are not acceptable.

   b. Signs shall read: “NO STOPPING – FIRE LANE 22500.1 CVC.” Lettering shall be not less than 1 inch in height and clearly visible from a vehicle.

   c. Signs shall be in visible locations and mounted on galvanized metal poles at a height of 80 inches. Signs shall be maintained and unobstructed by foliage at all times.

d. The distance between signs posted along the fire lane shall not exceed 50 feet. Not less than two signs shall be posted in each block. If traffic flows in two directions, signs must be posted and readable from either direction.

IV. Number of Access Roads Required

A. Commercial and Industrial Developments

1. Buildings exceeding three stories or 30 feet in height: Buildings or facilities exceeding 30 feet (9,144 mm) or three stories in height shall have at least two separate means of fire apparatus access for each structure that comply with the requirements listed in this standard under; REQUIREMENTS FOR SECONDARY ACCESS ROADS – Separation of Access Roads.

2. Buildings exceeding 62,000 square feet in area: Buildings or facilities having a gross building area of more than 62,000 square feet (5,760 mm) shall be provided with two separate and approved fire apparatus access roads that comply with the requirements listed in this standard under; REQUIREMENTS FOR SECONDARY ACCESS ROADS - Separation of Access Roads.

   Exception: Projects having a gross building area of up to 124,000 square feet (11,520 mm) that have a single approved fire apparatus road when all buildings are equipped throughout with approved automatic sprinkler systems.

B. Multi-family Residential Developments (R-1 & R-2 Occupancies): Multi-family residential projects having more than 100 dwelling units shall be provided with two separate and approved fire apparatus access roads that comply with the requirements listed in this standard under: REQUIREMENTS FOR SECONDARY ACCESS ROADS - Separation of Access Roads.

C. One-or-Two Family Residential Developments

1. Developments of one or two-family dwellings where the number of dwelling units exceeds 30 shall be provided with two separate and approved fire apparatus access roads that comply with the requirements listed in this standard under; REQUIREMENTS FOR SECONDARY ACCESS ROADS - Separation of Access Roads.

   Exception: When approved by the Fire Code Official, where there are not more than 60 dwelling units on a single public or private fire apparatus road and all dwelling units are equipped throughout with an approved automatic sprinkler system in accordance with California Fire Code Section 903.3.1.1, 903.3.1.2, or 903.3.1.3, access from two directions shall not be required.

2. The number of dwelling units on a single fire apparatus road shall not be increased unless fire apparatus access roads will connect with future development, as determined by the Fire Code Official.

V. Requirements for Secondary Access Roads

A. Separation of Access Roads: Where to 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 property or area to be served, measured in a straight line between accesses (from centerline to centerline).

B. Connection to Other Roads: Where a secondary access roadway connects to a public or private street there shall be either: no curb, a rolled curb, or a driveway cut as approved by the Fire Code Official.

C. Easements: Only lands owned or in control of the property owner, held in common with adjacent properties or publicly owned may be used for secondary access. Secondary access roadways shall not be located in easements through private property unless specifically approved by the Fire Code Official. When easements are required for secondary access roadways, they shall be recorded as Emergency Vehicle Access Easements (or equivalent) granted to the fire department.

D. Marking and Identification: When necessary, signs or other approved notices shall be posted at secondary access roadways to prevent obstruction by parked vehicles. Such signs or notices shall be in accordance with fire department standards.

E. Maintenance: Secondary access roadways shall be maintained at all times by the property owner. The roadway surface, gates/locks and vertical/horizontal clearances shall be maintained in serviceable condition. Maintenance of secondary access roadways on commonly held lands shall be clearly stated in the Covenant, Conditions, and Restrictions (CC&R) or Landscape Maintenance agreements of the development project. The CC&R's shall mandate that the owner's association retain professional management to oversee maintenance responsibilities.

VI. Aerial Fire Apparatus Access Roads

A. Where required: Buildings or portions of buildings or facilities exceeding 30 feet (9,144 mm) in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus. Overhead utility and power lines shall not be located within the aerial fire apparatus access roadway.

B. Width: Aerial fire apparatus roads shall have a minimum unobstructed width of 26 feet (7,925) in the immediate vicinity of any building, or portion of building, more than 30 feet (9,144 mm) in height.

C. Proximity to building: At least one of the required access routes meeting this condition shall be located within a minimum of 15 feet (4,572 mm) and a maximum of 30 feet (9,144 mm) from the building and shall be positioned parallel to one entire side of the building, as approved by the Fire Code Official.

VII. Temporary Access Roads

A. When approved by the Fire Code Official, a temporary access road may be installed for fire department access to buildings under construction until such time that the permanent road or driveway is in place. A written request along with detailed plans for the temporary access road shall be submitted to the Fire Code Official for review and approval prior to installation. The plan submittal shall also include proposed timelines for use of the temporary roadway and acknowledgement that the integrity of the roadway will be maintained at all times.

B. The width and turn radius dimensions of a temporary access road shall be the same as for the required permanent roadway. As a minimum, the roadway shall consist of a compacted sub base and six (6) inches of road base material (Class 2 aggregate base rock) both compacted to a minimum of 95%. The perimeter edges of the roadway shall be contained and delineated by curb and gutter or other approved method. Provisions for surface drainage shall also be provided where necessary.

Engineering certification of the temporary roadway construction shall be documented and submitted to the fire department prior to, or a the time of, the acceptance inspection of the roadway.