



FIRE PREVENTION CONSTRUCTION STANDARDS COMMERCIAL CIVIL ENGINEERING COMMENTS

Standard Number: FPCS-1015
Original Effective Date: 4/29/2020
Revision Date: 4/14/2022, 1/12/2024
Code Section: 2022 California Fire Code

PURPOSE AND SCOPE

1015.1 These comments are required to be reproduced on and included in the "General Notes" section at the front of each civil plan set.

APPLICATION

1015.2 Standard Comments

- a. Deviations from the approved plans will require a revised plan to be submitted to the Cosumnes Fire Department (CFD) for approval.
- b. As required by the fire department, a written fire safety plan during construction or demolition shall be developed, approved, and implemented prior to construction. The plan shall be consistent with the requirements of the California Fire Code (CFC).
- c. Required roadways, fire access lanes, street signs, and addresses shall be installed prior to combustible construction or on-site storage of combustible materials. Required roadways shall be capable of supporting 80,000 pounds gross vehicle weight in all weather conditions. All-weather is defined as at least one layer of asphalt or concrete that is designed to carry the imposed weight load of fire apparatus.
- d. Commercial buildings more than 10,000 square feet for a single building or 62,000 square feet aggregate for multi-building complexes shall provide two approved points of fire department access that meet the standards of the CFD.
- e. Water mains and fire hydrants designated for a project shall be installed, tested, flushed, inspected, and able to provide the required fire flow prior to combustible construction.



- f. Commercial developments more than 10,000 square feet (single building or the aggregate of multi-building complexes) require a minimum 10-inch looped fire main to supply on-site fire hydrants. Hydrants shall be spaced a maximum of 300 feet apart. This on-site fire main shall be connected to the municipal water supply at two approved, remotely located points of connection.
- g. Commercial developments are required to provide fire flow from a public water system that meet the fire flow requirements of the California Fire Code. For development in rural areas, an alternate means for water supply in accordance with National Fire Protection Association (NFPA) Standard 1142 may be submitted for review and approval.
- h. Hydrants shall be Clow 960, factory-painted white and installed in accordance with the local water purveyor standards. The 4½ inch pumper connection shall face the fire lane.
- i. When new water mains are extended along streets where hydrants are not needed for protection of structures, fire hydrants shall be provided at not less than 1,000-foot intervals and at each intersection for transportation hazards.
- j. The installation of on-site or off-site fire protection equipment including fire hydrants, water mains and underground piping installations shall meet the requirements and specifications of the Cosumnes Fire Department and the water purveyor having jurisdiction. Both the fire department and the water purveyor shall be notified 48 hours in advance of any shut down or interruption of normal service to fire hydrants or fire sprinklered buildings.
- k. Commercial project buildings 3,600 square feet or greater shall be equipped with a fire sprinkler system and fire sprinkler monitoring system or fire alarm system, whichever applies. Fire sprinkler systems for new buildings, buildings undergoing a change of occupancy or use, and speculation buildings or spaces, shall be designed and installed in accordance with the California Fire Code, NFPA 13 and the [Cosumnes Fire Department Fire Sprinkler Standard FPCS-1008](#).
- l. Commercial projects that contain a fire sprinkler system shall provide a designated and approved fire control room. Fire control rooms shall provide exterior access and be located within the building at an approved location. Fire control rooms shall contain the fire sprinkler system riser(s). Fire control rooms may be shared with electrical panels



provided there is adequate room for operations, required clearances, and maintenance needs.

- m. Fire department connections (FDC) shall be located on the project site at least 40 feet from the building that it serves and within 10 to 40 feet of a fire hydrant. Fire hydrant and FDC shall be located on the same side of the fire access route so that hoses do not obstruct incoming apparatus. Fire department connections shall serve only one building except residential apartment buildings and mini-storage facilities which may serve up to three buildings. However, shared fire department connections and fire protection systems shall not cross property lines. FDC's, PIV's and double-detector check valves (DDCV) shall be painted red and labeled with the building address utilizing a weatherproof, permanent method.
- n. Fire department access routes shall be constructed to a 20-foot minimum width with no parking on either side. Routes shall provide a minimum 13-foot 6-inch vertical clearance and turning radii of 25-feet inside and 50-feet outside. Or, alternatively, meet the requirements as shown in the turning performance analysis in the [Cosumnes Fire Department Fire Apparatus Access Standard FPCS-1004](#).

Routes shall be paved and capable of supporting at least 80,000 gross vehicle weight in all weather conditions. The slope for access roadways shall not exceed 10% for asphalt and 5% for concrete. The angle of approach and angle of departure shall not exceed eight degrees. The use of turf-block, grass-crete or similar alternate road surfaces is not approved for installation for fire apparatus access routes.

- o. Fire apparatus access roads for aerial fire apparatus shall be provided for all buildings exceeding 30 feet in height. Aerial apparatus access roads shall be provided on at least 2 intersecting building sides. Overhead utility and power lines shall not be located over aerial apparatus access roads or between the access road and the building. Shade trees shall not interfere with aerial operations. Underground vaults or utility boxes shall not be located within designated aerial operations areas to avoid conflict with outriggers. The unobstructed width of aerial apparatus roads shall not be less than 26 feet. Aerial apparatus access roads shall be located in relation to buildings as follows:
 - 1. Buildings up to 40-ft in height, located a minimum of 14-feet from building.



2. Buildings 41 to 50-ft in height, located a minimum of 20-feet from building.
3. Buildings 51 to 60-ft in height, located a minimum of 27-feet from building.
4. Buildings 61-ft in height and greater, located a minimum of 33-feet from building.

For the purposes of this section, building height shall be determined by the measurement to the eave of a pitched roof, the intersection of the roof to the exterior wall, or the top of parapet walls, whichever is greater.

- p. Bridges and culverts shall be designed in accordance with the California Fire Code, California Building Code, City/County standards, and the standards of the Cosumnes Fire Department.
- q. Dead-end streets, driveways, or fire department access routes more than 150 feet in length require an approved emergency vehicle turn-around.
- r. Gates obstructing fire access routes shall comply with the [Cosumnes Fire Department Emergency Access Gates and Barriers Standard FPCS-1003](#).
- s. Required traffic signaling installations erected or modified by this development shall be provided with traffic pre-emption devices of a type approved by CFD. These devices shall be installed and functioning prior to occupancy and at no cost to the Cosumnes Fire Department.
- t. The installation of traffic calming devices is subject to the standards of the CFD. All proposed traffic-mitigation plans shall be submitted to CFD for review and approval prior to installation. These devices shall be clearly designated on the civil plans.
- u. When required, "NO PARKING FIRE LANE" signs and/or red painted curbs shall be installed per CFD guidelines and the California Fire Code. All raised curbs in "NO PARKING FIRE LANE" areas shall be painted red with approved traffic grade paint. Lettering shall be white stencil, 3 inches tall with a $\frac{3}{4}$ inch stroke. Stenciling shall be located every 25 feet. Signs shall be posted every 50 feet. Fire lanes will be enforced during construction.



- v. Vehicle barriers shall be installed for the protection of fire equipment in accordance with the California Fire Code.
- w. Construction equipment, including portable restrooms, building materials, worker vehicles, delivery vehicles and the like shall not obstruct fire hydrants or the fire lane at any time.
- x. Landscaping shall provide a minimum of 3 feet of clearance (when fully grown) around fire protection equipment.
- y. Sound walls, masonry walls, or fencing shall not be erected without fire department approval as such walls and fencing can interfere with fire department access and fire hydrant requirements for the property.
- z. For projects along wetlands, riparian corridors, and open spaces the following requirements apply:
 - 1. Provide non-combustible fencing along all developed areas adjacent to wetlands, riparian corridors, creeks or open spaces.
 - 2. Provide fire department access to all wetlands, riparian corridors, creeks and open spaces at the end of cul-de-sacs or other approved location via rolled curbs.
 - 3. Gates or bollards limiting access shall be equipped with an approved method for rapid access.
 - 4. A turning radius of not less than 35 feet inside and 45 feet outside is required.
 - 5. Bike lanes adjacent to creeks shall be paved a minimum of 10 feet wide with 2 feet of all-weather material on each side.
 - 6. Fire access routes, bike paths, and bridges shall be capable of supporting 35,000 pounds gross vehicle weight.
 - 7. Provide a least ten (10) feet of greenbelt or other defensible space between noncombustible fences and the creek/wetlands area.

REFERENCES

- 1015.3 2022 California Fire Code (CFC)
- 1015.4 National Fire Protection Association (NFPA) Standard 1142



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- 1015.5 Cosumnes Fire Department Fire Sprinkler Standard FPCS-1008
 - 1016.6 Cosumnes Fire Department Fire Apparatus Access Standard FPCS-1004
 - 1016.7 California Building Code (CBC)
 - 1016.8 Cosumnes Fire Department Emergency Access Gates and Barriers Standard FPCS-1003