



Matt Jenkins, Fire Chief

• STANDARD 1 • WATER SUPPLY

SCOPE:

To identify minimum water supply requirements for fire fighting purposes relative to commercial, industrial or residential development. This Standard provides requirements for water from fire hydrants for the purpose of fire suppression activities.

DEFINITIONS:

CBC: California Building Code 2007, California Code of Regulations Title 24, Part 2

FLOOR AREA, GROSS: For the purpose of calculating square footage for the application of fire sprinkler requirements and for fire flow requirements, the floor area shall include all combustible areas attached to the structure, including garages, patio covers, overhangs, covered walkways, etc.

FIRE FLOW: The flow rate of a water supply, measured at 20 pounds per square inch (PSI) (137.9kPa) residual pressure that is available for firefighting. When water supply tanks are approved for use, the flow rate of a water supply may be at draft.

LOCAL ORDINANCE: Amendments to the CFC adopted by the County of San Luis Obispo, Avila Beach CSD, and Los Osos CSD.

NFPA 13: National Fire Protection Association, Standard for the Installation of Sprinkler Systems.

OCCUPANCY TYPE: The purpose for which a building or part thereof is used or intended to be used, as determined by Chapter 3, CBC.

SINGLE FAMILY DWELLING (SFD): One and two family dwellings, including attached or detached private garages.

TYPE OF CONSTRUCTION: Determined from Chapter 6 of the CBC.

CFC: California Fire Code

CFC Appendix B: Fire-Flow Requirements for Buildings.

WATER PURVEYOR: A public utility, a mutual water company, a governmental body, or other entity, owning and operating a water system and holding a valid permit from the State or County Health Department to purvey water.

GENERAL REQUIREMENTS:

Timing of Installation: Fire hydrants and required access roads shall be provided prior to the building of combustible construction.

AMOUNT OF WATER STORAGE REQUIRED:

This information is derived from the current adopted California Fire Code, Local Ordinances and NFPA.

- Subdividing parcels less than 2.5 acres are required to have a community water system that complies with Appendix B of the CFC.
- One- and Two-Family Dwellings:
 - ✓ One and two family dwellings not on a community water system are required to have a water storage tank, the capacity to be determined by using NFPA 1142 if sprinklers are not required or installed. No tank shall have a capacity of less than 2500 gallons . (See Exhibit 2). Draft hydrants with less than 20 psi must have caps that are painted black to indicate a draft hydrant.

Exception:

1. *Residences with less than 1000 square feet that are sprinklered shall provide no less than a 2,500 gallon water storage tank.*

- ✓ One and two family dwellings on a community water system shall have minimum fire-flow and duration requirements for one- and two-family dwellings and U-1 private garages shall be 1000 gallons per minute (gpm) at 20 – 150 psi for two hours.

Exceptions:

1. *Los Osos CSD: a reduction to 750 gpm is permitted in areas served by the water purveyors.*
2. *Summit Station Area within the Nipomo CSD: Secondary residences are allowed a reduced fire flow of 500 gpm with the additional requirement of residential sprinklers.*

- Buildings other than Single Family Dwellings:
 - ✓ The minimum fire-flow and flow duration for buildings other than one- and two-family dwellings shall be as specified in Appendix B, Table B105.1. Buildings over 100,000 square feet will require secondary power supply for the fire protection system pumps.

Exceptions:

1. *A reduction in fire-flow of up to 75 percent, as approved by the chief, is allowed when the building is provided with an approved automatic sprinkler system. The resulting fire-flow shall not be less than 1500 gallons per minute.*

2. *Buildings outside community water systems with less than 1,000 square feet will utilize the provisions of NFPA 1142.*
3. *In rural areas where there is no water purveyor and the building is protected by an approved automatic sprinkler system, the provisions in NFPA 13 for combined inside and outside hose lines may be utilized to determine fire-flow and duration. The water storage total quantity will be a combination of the sprinkler demand and the fire flow requirements. The location, connections and other appurtenances of tanks shall be approved by the fire department.*

Please note:

- When using this option, the resulting fire flow (hose demand) shall double for every 10,000 square feet of building area or portion thereof. The fire sprinkler demand only needs to be provided once per building. Use of this option is limited to up to 2 buildings on the same property and ownership.
 - Buildings classified as Group U, agricultural buildings designated “Ag Exempt”, agricultural buildings used as barns, storage structures, stables, poultry buildings and other similar uses with a total fire area of 3,000 square feet or less are not required to provide fire-flow.
 - Buildings classified as Group U, agricultural buildings used as greenhouses, horticultural structures, nurseries and similar uses may use NFPA 1142 provisions for water storage regardless of number of buildings of this type.
 - Buildings with a total floor area of 500 square feet or less are not required to provide fire-flow.
 - Domestic water demands shall be in addition to required fire water storage.
- Public Schools:
 - ✓ The State Fire Marshal (SFM) requires the Division of State Architect (DSA) to request water and access requirements and approval from the local jurisdiction. The minimum fire-flow and duration for public school buildings shall be as specified in Table B105.1 of the CFC.
- Note: A reduction in fire-flow of up to 75 percent, as approved by the chief, is allowed when the building is provided with an approved automatic sprinkler system.*
- Private Schools:
 - ✓ Private schools shall comply with all the requirements for an educational building. Local requirements are applicable to private schools.