



FIRE PREVENTION MANUAL

FIRE EXTINGUISHING SYSTEMS

405.008 FIRE PUMP INSTALLATION LOCATIONS

EFFECTIVE: OCTOBER 2000

SCOPE

This policy clarifies the Fresno Fire Department's (FFD or Department) requirements for the location of fire pumps inside buildings (pump rooms), detached pump houses, or exterior installations.

PURPOSE

This policy has been established to provide direction for acceptable installation requirements which address the following items: vandalism, fire exposure, environmental exposure, and pump access for firefighting personnel.

Design professionals should familiarize themselves with this policy as it also addresses acceptable fire pump installation locations, and when followed, may reduce plan review time.

BACKGROUND

This policy is based on the requirements found in *California Fire Code (CFC)*, the *National Fire Protection Association (NFPA) 20: Standard for the Installation of Centrifugal Fire Pumps*, as well as the practical experience of the Department with fire pump installations.

REQUIREMENTS

1. Fire pumps shall be located in an enclosed pump room within a building, or a detached/attached fire pump house directly adjacent to the building(s) served by the pump. The fire pump enclosure may be of any type of construction permitted for the protected premises as found in the currently adopted *California Building Code (CBC)*. A building permit is required for a fire pump room.
2. The fire pump room or house shall have a minimum ceiling height of seven feet. The room shall be sized to provide a minimum of three feet of working space adjacent to the fire pump, fire pump controller, and all associated equipment. Exiting shall comply with the currently adopted *CBC*. A minimum

door width of four feet or double doors which together measure four feet or wider may be installed.

3. The fire pump room or house must be separated from the protected building by a minimum of one-hour, fire-resistance rated construction. A two-hour fire resistance rated separation is required for high-rise building installation.
4. Cables used for survivability of circuit supplying fire pumps shall be listed in accordance with UL 2196.
5. Fire pumps shall be located in a dedicated fire pump room. Equipment related to domestic water distribution (pumps) may be permitted within the fire pump room at the discretion of the Fire Marshal (or designee). No other electrical, mechanical, or fuel-fired equipment is permitted.
6. A fire pump room shall have a door leading directly to the exterior of the building, or be readily accessible through a fire-resistance rated corridor or passageway. Retrofit fire pump installations may use alternate, equivalent designs which are approved by the Fire Marshal (or designee).
7. Fire pump rooms or houses shall have approved fire sprinkler protection.
8. Approved lighting and fixed emergency lighting shall be provided.
9. The floor of a fire pump room or house shall be sloped to a floor drain piped to the exterior of the building.
10. Means shall be provided to maintain a minimum temperature of 40 degrees Fahrenheit.
11. Means shall be provided for ventilation of the fire pump room or house to inhibit condensation. **Note:** For diesel fire pumps, consult *NFPA 20* for ventilation and combustion air requirements.
12. An approved lock box with keys to access to the fire pump room or house shall be provided at an approved location.
13. Means shall be provided within the fire pump room or house to test fire pump pressure switch settings by a valve with a pressure gauge installed on the discharge side of the fire pump, after the check valve piped to drain.
14. No storage is permitted in a fire pump room or house.
15. A minimum 2A:10B:C portable fire extinguisher for each electric fire pump, or a minimum 4A:40B:C extinguisher for each diesel fire pump installation, shall be maintained within the fire pump room or house.

16. While not recommended due to long-term maintenance issues, Underwriters Laboratory (UL)/Factory Mutual (FM) fire pumps and controllers listed for exterior use may be installed subject to the following restrictions:
 - a. The installation shall be located a minimum of 50 feet from all buildings, exterior storage, or other fire exposures.
 - b. A metal canopy shall be provided over the pump and controller which extends a minimum of five feet beyond all portions of the equipment, with a minimum clear height of seven feet above grade.
 - c. A concrete pad extending to the perimeter of the canopy shall be provided.
 - d. Bollard protection shall be provided where the installation is subject to routine vehicular traffic.
 - e. The canopy shall be fenced to a minimum height of six feet and be provided with a minimum four foot wide gate with Fire/Police padlock installed in series with the owner's padlock.
 - f. All pressure-sensing lines and other related pipe two inches or less in diameter shall be insulated or provided with UL/FM fire protection listed heat tape.
 - g. Aboveground steel pipe shall be galvanized or primed and painted.
 - h. Fire sprinklers may be required by the Fire Marshal (or designee).

CROSS REFERENCES

California Fire Code

NFPA 20

Standard for the Installation of Centrifugal Fire Pumps

California Building Code