

508 PRIVATE FIRE PROTECTION

508.1 DEFINITION OF PRIVATE FIRE PROTECTION SYSTEM

Private fire protection systems consist of a fire service connection to the Des Moines Water Works main and any or all of the following: standpipe(s), automatic sprinkler system(s), fire pump(s), or fire hydrant(s).

508.2 OPERATION OF PRIVATE FIRE PROTECTION SYSTEMS

Private fire protection systems are installed primarily for fire protection for the property on which they are installed and are not to be used for any other purpose without the express written permission of the Des Moines Water Works.

508.3 PERMIT FOR INSTALLATION OF PRIVATE FIRE PROTECTION SYSTEM

See Section 503.7.1.

508.4 DESIGN OF PRIVATE FIRE PROTECTION SYSTEMS

Fire service connections and fire lines shall comply with applicable portions of Sections 505.3, 505.4, and 505.5 of these Rules and Regulations.

508.5 COMBINATION SERVICE FROM FIRE LINE

A combination domestic and fire line as outlined in Section 505.7 of these Rules and Regulations may be installed if approved by the owner's fire underwriter. Domestic service branches and residential fire sprinkler branches shall be metered in accordance with Section 509 of these Rules and Regulations.

508.6 ALTERATIONS TO PRIVATE FIRE PROTECTION

When requested by the owner and approved by the Des Moines Water Works, a private fire system can be altered by a building owner who shall be responsible for any fees charged by the Des Moines Water Works.

508.7 PRIVATE FIRE HYDRANTS (Revised January 2024)

- 508.7.1 Fire hydrants located on privately owned property, or on streets not dedicated to public use, are the responsibility of the owner and are to be used for fire protection only. These hydrants are designated "private fire hydrants".

Where it is the owner's intention that these hydrants be used by the public fire department, these hydrants shall conform to the requirements of Section 507 of these Rules and Regulations and also to the Des Moines Water Works specifications with the exception of color. Private fire hydrants shall be red in color. Copies of the Des Moines Water Works hydrant specifications are on file at Des Moines Water Works, 2201 George Flagg Parkway, Des Moines, Iowa. (Figure 24)

- 508.7.2 Private hydrants installed at the owner's expense, in accordance with these Rules and Regulations, for use by public fire departments, must be reviewed by the Des Moines Water Works and the Fire Department. Replacement of obsolete hydrants and repair or replacement of hydrants, broken parts, or damage caused by physical abuse or improper operation will be done at the owner's expense. Standards are available upon request to Des Moines Water Works.

- 508.7.3 Each fire service connected to the Des Moines Water Works' owned and/or operated distribution system shall be charged at the rate established by the Board. For looped systems, an annual charge shall be collected for each connection to the Des Moines Water Works' owned and operated distribution system. (See Section 511.5)

508.8 PENALTIES FOR IMPROPER USE

When the owners or occupants of any premises are found to be using water from a private fire protection system for purposes other than fire protection, the Des Moines Water Works may discontinue fire service. The Des Moines Water Works also reserves the right to require the installation of an approved fire line meter, or an additional line and meter, at the owner's expense. A penalty may also be imposed against the property owner at a rate as established by the Board.

508.9 RESIDENTIAL FIRE SERVICES

- 508.9.1 No fire service shall be allowed on a water service line smaller than 1" in diameter.
- 508.9.2 A backflow device is required on all residential fire services except web fire sprinkler systems.
- 508.9.3 Unmetered residential fire services shall be subject to annual fire protection charges at a rate established by the Board (See Section 511.5)
- 508.9.4 Web fire sprinkler systems require a single UL listed and/or FM approved fire service/domestic meter for the combined domestic and fire sprinkler system (Figure 33B). The Web fire sprinkler system does not require a backflow device because the sprinkler system is intermingled with the home's cold-water plumbing system to provide water to the both the water fixtures and fire sprinklers.
- Web fire services can only be used on 1" through 2" diameter service lines. A web fire sprinkler system cannot be used if the fire service/domestic meter cannot accommodate the maximum required fire flow of the designed fire sprinkler system.
- 508.9.5 Dedicated fire services (Fire service only) are required to be metered with a UL listed and/or FM approved fire service meter unless the fire service meter cannot accommodate the maximum required fire flow of the designed fire sprinkler system (Figure 33A). Unmetered residential fire services shall be subject to annual fire protection charges.
- 508.9.6 Combination fire & domestic services are required to be metered with a UL listed and/or FM approved fire service meter unless the fire service meter cannot accommodate the maximum required fire flow of the designed fire sprinkler system. Unmetered residential fire services shall be subject to annual fire protection charges. A combination fire and domestic service shall split before the domestic meter (Figure 33).
- 508.9.7 Irrigation systems are not allowed to tap a residential fire sprinkler system.

508.10 COMMERCIAL FIRE SERVICES (Inside Building)

- 508.10.1 No fire service shall be allowed on a water service line smaller than 1" in diameter. Des Moines Water Works retains the discretion to approve any connection for commercial fire service based on the water pressure available at the location. Des Moines Water Works may refuse to permit a connection for commercial fire service if it determines that the available water pressure is insufficient. If available pressure is close to the threshold deemed advisable for commercial fire service, Des Moines Water Works may permit the installation of the fire service if the applicant executes a release and waiver of claims against Des Moines Water Works.
- 508.10.2 A combination fire and domestic service shall split before the domestic meter (Figures 20 & 20A).
- 508.10.3 A backflow device is required on all commercial fire services whether potable pipe or black iron pipe is used.
- 508.10.4 Each fire service connected to the Des Moines Water Works' owned and/or operated distribution system shall be charged at the rate established by the Board. For looped systems, an annual charge shall be collected for each connection to the Des Moines Water Works' owned and operated distribution system. (See Section 511.5)
- 508.10.5 Web fire sprinkler systems are not allowed for commercial properties.
- 508.10.6 Irrigation systems are not allowed to tap a commercial fire sprinkler system.