

CITY UTILITIES DESIGN STANDARDS MANUAL

**Book 4
Water (W)
W9 Fire Services**

June 2015

W9.01 Purpose

The purpose of this Chapter is to provide general requirements and guidelines for fire protection and fire suppression service connections to the City of Fort Wayne water distribution system. Any variances from these requirements shall be approved in compliance with [Chapter GR3 - Variances](#).

This Chapter does not detail specific building requirements for fire protection or fire suppression systems. Building fire systems are privately owned arrangement of pipes, fixtures and devices designed for stand-by service from which water supply is taken from the water distribution system for the extinguishment of fires.

1. Codes

Fire systems shall be installed as required and in accordance with the Indiana Building Code (IBC), the Indiana Fire Code (IFC) and the National Fire Protection Association (NFPA). These codes shall be referenced directly for specific requirements. All fire services shall conform to the latest adopted version of these codes and to these standards, whichever is more restrictive.

2. Covered in this Chapter

- Submittals and Approvals
- General Requirements
- Service Line Separation
- Meters
- Appurtenances
- Installation and Inspection

3. Covered in Other Chapters

- [Chapter MA4 - Common Materials](#)
- [Chapter MA7 - Water Materials and Testing Requirements](#)
- [Chapter W5 - Water Main Design](#)
- [Chapter W6 - Building Services](#)
- [Chapter W8 - Backflow Prevention](#)

W9.02 Submittals and Approvals

All project submittals and approvals from the City Utilities for fire protection system service connections shall be per the requirements in [Chapter W4 - Plan Requirements and Submittals](#).

W9.03 General Requirements

Fire protection systems shall be adequately designed to provide fire suppression during fires. The type of fire suppression system (i.e. water, chemical) is subject to approval by state agencies, City Utilities and other local officials.

W9.04 Service Line Separation

The fire service and water service lines shall be separate water service lines with independent valves located outside of the facility served.

When two (2) or more piping systems are used for water in a building or industrial plant, extreme care should be taken not to interconnect the systems. There may be a potable water system and systems carrying lesser quality water such as fire protection. To help prevent the possibility of the separate systems being interconnected, pipes should be adequately identified by legends and color coding.

W9.05 Meters

All fire systems that are to be metered shall allow space for the meter to be located within the building. Any meter proposed to be located outside of the building shall be approved by City Utilities and shall be located within a meter pit or structure.

1. Meter Requirements
 - A. Meter sizing shall be based on the flow requirements of the building's fire protection system.
 - B. Meters shall meet the requirements as noted in [Chapter MA7 - Water Materials and Testing Requirements](#) and [Chapter W6 - Building Services](#).
 - C. Refer to [Exhibit W6-4](#) Fire Line Water Meter Spacing for spacing requirements during installation.
 - D. Meter pits shall be per the requirements as shown in Standard Drawing [Exhibit MA7-3](#), [MA7-4](#)
 - E. Remote capabilities as defined by City Utilities shall be required on water meters. City Utilities shall be consulted for remote capability requirements.
2. Bypass Requirements
 - A. A bypass around all meters shall be required on all fire protection service lines. The meter bypass may be one (1) pipe size smaller than the main fire service line. If the meter is located within a meter pit the bypass valves shall be located outside of the meter pit.
 - B. The bypass around the meter shall be furnished and installed by the utility customer according to the Utility's specifications.

W9.06 Appurtenances

1. General

Appurtenances used in conjunction with fire protection services must meet state and local requirements. Materials utilized on the public water supply side of the fire service line shall be consistent with the requirements of [Chapter W7 - Appurtenances](#) and [Chapter MA7 - Water Materials and Testing Requirements](#).

2. Backflow Prevention Device

A backflow prevention device must be present on all fire protection service lines. Backflow prevention shall be in accordance with [Chapter W8 - Backflow Prevention](#).

3. Post Indicator Valve

Post indicator valves are acceptable. Wall mounted indicator valves require prior approval from City Utilities prior to construction.

4. Fire Booster Pump

Wherever a fire suppression system has a booster pump installed only for fire suppression, it shall have a control valve installed on the booster pump discharge to automatically throttle the flow as necessary to maintain a minimum of twenty (20) psi gauge, pump suction pressure.

5. On-Site Water Storage

In some cases, on-site storage of water for firefighting purposes may be required. City Utilities shall coordinate with the facility requiring fire protection services to evaluate these storage requirements on a case-by-case basis.

W9.07 Installation and Inspection

1. Installation

- A. Refer to detail [W-40](#) Service Installations for fire service connection requirements to the water main.
- B. Refer to [Exhibit W9-1](#) Fire Services Riser Detail for schematic requirements for fire protection service installations.
- C. Fire services greater than two inches (2") in diameter shall be connected to the water main with a tee and independent valve. All service pipes shall be properly restrained.

2. Inspection

- A. The fire service connection shall be inspected upon installation.
- B. The connection of the fire protection system to the service including meters, backflow preventers, valves and any other required appurtenances shall be inspected upon installation.