

## SECTION 15300 - FIRE SUPPRESSION

### PART I - GENERAL

#### 1.01 DESCRIPTION

- A. Division 1, General Requirements, and Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.
- B. The fire suppression system work includes, but is not limited to, the following:
  - 1. Furnish and install complete, operable fire suppression system, with all related items. System shall be designed, fabricated and installed by a firm regularly engaged in this type of work and employing those skilled in the work involved
  - 2. Systems shall be in accordance with the applicable standards of the National Fire Protection Association (N.F.P.A.) and requirements of any authorities having jurisdiction.

#### 1.02 SUBMITTALS

- A. Submit for Walgreen approval, the Fire Suppression Plan FP1.1 prior to submitting any fire protection permit documents required by the authorities having jurisdiction. Submit to Walgreen Co. and the Architect/Engineer of Record, complete shop drawings of the entire Fire Protection System before starting work.

### PART II - PRODUCTS

#### 2.01 GENERAL

- A. All materials and devices essential to the successful operation of the Fire Suppression System shall be UL Listed with the exception of steel pipe. Steel pipe shall conform to NFPA 13 Table 6.3.1.1. Backflow preventers shall be either UL Listed or FM approval.

#### 2.02 FIRE DEPARTMENT CONNECTION

- A. Provide flush brass-bodied 2-way connection with hose threads, drain, brass inlet caps with chains as approved by local fire jurisdiction.

#### 2.03 AUTOMATIC SPRINKLERS

- A. Assemblies shall be as specified on Walgreen criteria drawing "Fire Suppression Plan" FP1.1 or Walgreen Co. written approved equals.
- B. The manufacturer shall warrant assemblies for ten (10) years against defects in material and workmanship. Temperature rating of sprinkler shall be based on the maximum ambient temperature of the environment in which it is installed.
- C. Listed corrosion-resistant sprinklers shall be installed in locations where chemicals, moisture or other corrosive vapors sufficient to cause corrosion of such devices exist.

#### 2.04 ACCESSORIES

- A. Provide alarm bells, valves, drains, flow switches, and all other items required for a complete system.

- B. Provide permanently marked, waterproof metal or rigid plastic identification signs or placards secured with corrosion-resistant chain at all valves.

### PART III - EXECUTION

#### 3.01 INSTALLATION

- A. General: Installation of the private service main shall conform to local requirements and shall be in accordance with requirements of Section 02190, Sitework/Excavation and Section 15400, Plumbing of the specifications.
- B. Protection: Underground piping cover shall be measured from top of pipe to finished grade with due consideration given to future or final grade and nature of soil. Top of pipe shall be no less than one foot below local frost line. Minimum cover shall be 3 feet below pavements. No piping shall run under buildings except for fire service main shall be permitted to enter the building adjacent to the foundation. Back filling which shall be tamped in layers to prevent lateral movement or settlement and shall contain no ashes, cinders, refuse, organic, corrosive, or frozen materials. In trenches cut through rock, tamped granular backfill shall be provided a minimum of 6 inches under and around piping with a minimum of 2 feet of granular cover.
- C. Contamination: All system components shall be free of rust and other contaminants and clean inside and out.
- D. System Entrance: Installation of the riser and trim for all its components shall be as compact as possible to conserve floor space.
- E. Fire Department Coordination: No exterior component of the Fire Suppression System shall be located within any fenced or walled area and shall be readily visible from the parking lot. Coordinate the locations of the fire department connection and exterior alarm device with the local fire jurisdiction and Architect of Record.
- F. Piping: Design layout shall allow for suitable venting and drainage. Installation shall be coordinated with all other items in the construction and shall not obstruct lights, air outlets, dampers, valves, access doors and other items requiring access. Piping in areas having ceilings shall be concealed. Piping may be exposed elsewhere but kept high as possible with all consideration for the Walgreen Co. plan layout. Piping passing through walls, floors and other building components must be sleeved. Piping penetrating finished spaces shall be fitted with chrome split-ring escutcheons. Sleeves shall be patched and sealed as required to maintain fire ratings where applicable. Install flow switches, tamper switches, alarms and any other required electrical components within the piping system. Coordinate with Architect of Record for locations of inspector's test and main drain discharge points to ensure visibility, access, and hard surface to receive and direct water to pavement for drainage.
- G. Cutting: All openings for piping should be anticipated and indicated on the approved shop drawings. Any additional cutting or openings must have the written approval of the Architect of Record.
- H. Access: Install hinged access panels for access to valves or similar operable components concealed in finished areas. Label panel door with identity of item concealed.

- I. Sprinklers: Installation and location of sprinklers shall be coordinated with all other items in the construction and shall not obstruct lights, air outlets, access doors and other items requiring access. Sprinklers at finished ceilings shall form a symmetrical pattern carefully integrated into the ceiling layout as shown on Walgreen approved drawings. Provide proper protection of automatic sprinklers. Sprinklers that have had paint applied to them, by other than the sprinkler manufacturer, or otherwise damaged, shall be replaced with new listed sprinklers of the same orifice size, thermal response, and water distribution. Furnish and install, in close proximity to system riser, an emergency cabinet containing a minimum of two sprinklers of all types and ratings used in the system and one head wrench for each head type. One spare Tyco Model DS-C dry pendent sprinkler and DS-B sprinkler boot within manufacturer's shipping containers shall be attached to the sprinkler riser by nylon zip ties.

### 3.02 TESTING, INSPECTION AND ACCEPTANCE

- A. Flushing: Underground, or other water supply piping, shall be completely flushed before connection is made to downstream fire suppression system piping. The flushing operation shall be continued for a sufficient time to ensure thorough cleaning. Minimum rate of flow shall be not less than the hydraulically calculated water demand rate of the system, including any hose requirements, the flow necessary to provide a velocity of 10 feet per second or the maximum flow rate available to the system under fire conditions.
- B. System test: Purge system of air prior to filling with supply water. After completion of the installation, the entire system shall be tested and inspected to meet the approval of the authorities having jurisdiction. A contractor's material and test certificate should be completed in accordance with NFPA 13.
- C. Fire Department Connection: Inspect for visibility and accessibility. Firmly secure caps to resist casual vandalism. Verify that swivels have freedom of movement, hose threads are clean and in good condition, and that the check valve in the connection piping is not obstructed or leaking.
- D. System drainage: Verify exterior discharge points of main drain and inspector's test station for visibility, access and hard surface for conveying discharge water to pavement for drainage.
- E. System documentation: Complete hydraulic design placard information and affix to system riser. Complete all component identification signage. Collect system documentation, including, but not limited to, approved shop drawings, hydraulic calculations, material and test certificates and acceptance letters. Insert all documents in holder.

END OF SECTION

