

## SECTION 21 13 13

### FIRE PROTECTION WET & DRY STANDPIPE SYSTEM

#### PART 1 GENERAL

##### 1.01 SUMMARY

- A. Section includes wet-pipe and standpipe sprinkler system, system design, installation and certification at the Hall of Justice and Parking Structure as required by Code.
- B. Related Sections:
  - 1. Division 21 – Pre-Action Sprinkler Systems
  - 2. Division 21 – Fire Pumps
  - 3. Division 26 – Equipment Wiring Connections: Execution requirements for electric connections to equipment specified by this section.

##### 1.02 REFERENCES

- A. National Fire Protection Association:
  - 1. NFPA 13 – Installation of Sprinkler Systems.

##### 1.03 SYSTEM DESCRIPTION

- A. System to provide coverage for entire building and parking structure.
- B. Provide hydraulically designed system to NFPA 13 occupancy requirements.
  - 1. Light hazard entire building
  - 2. Ordinary hazard, Group 1, kitchen areas
  - 3. Ordinary hazard, Group 2, record storage, mechanical and laboratory.
  - 4. Extra hazard, central supply.
  - 5. Dry Standpipe.
  - 6. Water curtain.
  - 7. Secondary water storage.
- C. Developer Design/Builder to perform water flow testing or acquire present volume and pressure of incoming water supply from water flow test data within 90 days.
- D. Interface system with building control system and building fire and smoke alarm system.
- E. Provide detector check, fire department connections and yard service per city fire department standards in specifications and as indicated.
- F. Interface system with requirements: Grease duct and ventilation.

##### 1.04 SUBMITTALS

- A. Division 01 - Submittal Procedures: Submittal procedures.
- B. Shop Drawings: Signed and sealed by Professional Engineer licensed in state where project is located.
  - 1. Indicate site service including flow test data location, detector check, FDC and yard service.
  - 2. Indicate layout of finished ceiling areas indicating sprinkler locations coordinated with ceiling installation.

3. Indicate detailed pipe layout, seismic hangers and supports, sprinklers, components and accessories.
  4. Indicate system controls.
- C. Product Data:
1. Submit data on sprinklers, valves, and specialties, including manufacturers catalog information.
  2. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.
  3. Submit seismic manufacturer's system.
- D. Design Data: Submit design hydraulic calculations; signed and sealed by professional engineer.
- E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.
- 1.05 CLOSEOUT SUBMITTALS
- A. Division 01 - Execution and Closeout Requirements: Closeout procedures.
  - B. Project Record Documents: Record actual locations of sprinklers and piping. Indicate drain and test locations.
  - C. Operation and Maintenance Data: Submit components of system, servicing requirements, record drawings, inspection data, replacement part numbers and availability and location and numbers of service depot.
- 1.06 QUALITY ASSURANCE
- A. Perform Work in accordance with NFPA 13, Municipality of local area.
  - B. All materials shall be FM and UL approved.
  - C. Maintain one copy of each document on site.
- 1.07 QUALIFICATIONS
- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
  - B. Installer: Company specializing in performing Work of this section with minimum three years documented experience approved by manufacturer.
  - C. Design system under direct supervision of Professional Engineer experienced in design of this Work and licensed in the State where the Project is located.
- 1.08 PRE-INSTALLATION MEETINGS
- A. Division 01 - Administrative Requirements: Pre-installation meeting.
  - B. Convene minimum one week prior to commencing work of this section.
- 1.09 DELIVERY, STORAGE, AND HANDLING
- A. Division 01 - Product Requirements: Product storage and handling requirements.
  - B. Store products in shipping containers until installation.
  - C. Furnish piping with temporary inlet and outlet caps until installation.

## 1.10 WARRANTY

- A. Division 01 - Execution and Closeout Requirements: Product warranties and product bonds.
- B. Furnish five year manufacturer warranty for all materials and workmanship.

## 1.11 EXTRA MATERIALS

- A. Division 01 - Execution and Closeout Requirements: Spare parts and maintenance products.
- B. Furnish extra sprinklers under provisions of NFPA 13.
- C. Furnish suitable wrenches for each sprinkler type.
- D. Furnish metal storage cabinet in location designated.

## PART 2 PRODUCTS

### 2.01 SPRINKLERS

- A. Manufacturers:
  - 1. Grinnell Corp.
  - 2. Reliable Sprinkler Corp.
  - 3. Viking
  - 4. Substitutions: Not Permitted.
- B. Suspended Ceiling Type:
  - 1. Type: Concealed pendant type with matching push on escutcheon plate.
  - 2. Finish: Enamel, color to match ceiling.
  - 3. Escutcheon Plate Finish: Enamel, color to match walls.
  - 4. Fusible Link: Glass bulb type temperature rated for specific area hazard.
- C. Exposed Area Type:
  - 1. Type: Standard upright type with guard as required.
  - 2. Finish: Brass.
  - 3. Fusible Link: Glass bulb type temperature rated for specific area hazard.
- D. Side wall Type:
  - 1. Type: Semi-recessed matching escutcheon plate and guard.
  - 2. Finish: Enamel, color to match wall.
  - 3. Escutcheon Plate Finish: Enamel, color to match walls.
  - 4. Fusible Link: Glass bulb type temperature rated for specific area hazard.
- E. Walk-in freezer: ESFR dry pendant sprinkler.

### 2.02 PIPING SPECIALTIES

- A. Wet Pipe Sprinkler Alarm Valve: Check type valve with divided seat ring, rubber faced clapper to automatically actuate water motor alarm and electric alarm, with pressure retard chamber and variable pressure trim; with test and drain valve.
- B. Electric Alarm: Electrically operated red enameled gong with pressure alarm switch.

- C. Water Flow Switch: Vane type switch for mounting horizontal or vertical, with two contacts; rated 10 amp at 125 volt AC and 2.5 amp at 24 volt DC.
- D. Fire Department Connections:
  - 1. Type: Freestanding type or part of detector check with brass finish.
  - 2. Outlets: Four-way or as required with fire department thread size. Threaded dust-cap and chain of matching material and finish.
  - 3. Drain: 3/4 inch automatic drip, outside.
  - 4. Label: "Sprinkler - Fire Department Connection"

## 2.03 ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. Electrical Characteristics: In accordance with Division 26.
- B. Controls: Supervisory switches, Water Level Supervisory Switches, Tank Temperature Supervisory Switches, Room Temperature Supervisory Switches.
- C. Disconnect Switch: Factory mount in control panel.

## PART 3 EXECUTION

### 3.01 INSTALLATION

- A. Install in accordance with NFPA 13.
- B. Install Work in accordance with Municipality of area standards.
- C. Install buried shut-off valves in valve box. Furnish post indicator.
- D. Install approved detector check assembly at sprinkler system water source connection.
- E. Locate fire department connection with sufficient clearance from walls, obstructions, or adjacent Siamese connectors to allow full swing of fire department wrench handle.
- F. Locate outside alarm-gong on building wall.
- G. Place pipe runs to minimize obstruction to other work.
- H. Install piping in concealed spaces above finished ceilings.
- I. Center sprinklers in center of ceiling tile and as indicated.
- J. Install and connect to fire pump system in accordance with Division 21, NFPA 13.
- K. Install guards on sprinklers per NFPA 13.
- L. Hydrostatically test entire system.
- M. Require test be witnessed by Authority Having Jurisdiction.

### 3.02 INTERFACE WITH OTHER PRODUCTS

- A. Verify signal devices are installed and connected to fire alarm system.

3.03 CLEANING

- A. Division 01 - Execution and Closeout Requirements: Final cleaning.
- B. Flush entire piping system of foreign matter.

3.04 PROTECTION OF INSTALLED CONSTRUCTION

- A. Division 01 - Execution and Closeout Requirements: Protecting installed construction.
- B. Apply masking tape or paper cover to protect concealed sprinklers, cover plates, and sprinkler escutcheons not receiving field paint finish. Remove after painting. Replace painted sprinklers with new.

END OF SECTION