

**SECTION 21 13 00
FIRE SUPPRESSION SPRINKLER SYSTEMS**

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

- A. provide automatic sprinkler system as specified herein, as shown on the

SCOPE OF WORK

WORK SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING. THIS LIST IS NOT INTENDED TO BE COMPREHENSIVE. REFER TO THE SPECIFICATIONS AND RELATED CONTRACT DOCUMENTS FOR THE FULL SCOPE OF WORK.

1. Provide new water service connection for fire sprinkler service from main city water inside Hammel complex property to existing Building 6 (New Queensborough Management Offices).
2. Provide new underground sprinkler piping, along with RPDA preventers and related valves.
3. Provide backflow prevention valve 3" reduced pressure detector assembly (RPDA)
4. Provide a new complete, designed sprinkler system to entire new offices indicating all required sprinkler heads, runouts, mains, pipe sizes, appurtences, and hydraulic calculations. shop drawings indicating all design, all work coordination with all other trades shall be provided for approval by the engineer. Shop drawings shall conform to the requirements of NFPA 13. OF NFPA 13.
5. The system shown is based on light hazard occupancy. in accordance with the following criteria & densities.
 - a. Wet System.
 - b. Light hazzard, 0.010 gpm/sq. ft. over 1500 sq. ft. & all storage areas.
6. Fire service water demand requirements:
 - a. Minimum branch lines to be 1".
7. Sprinkler heads: general-semi recessed pendant, 155°F, quick response.
8. Pipe 2" and smaller may be CPVC plastic pipe or schedule 40 black steel. pipe 2 1/2" and larger shall be schedule 10 black steel.
9. Provide auxiliary drains for all test connections and devices requiring same.
10. System shall be hydrostatically tested at completion of installation. all NFPA reports shall be provided to the owner's representative.

SECTION INCLUDES

- A. Wet-pipe sprinkler system.
- B. System design, installation and certification.

2.01 RELATED REQUIREMENTS

- A. Section 07 08400 - Firestopping.
- B. Section 21 0500 - Common Work Results for Fire Suppression: Pipe and Fittings.

2.02 REFERENCE STANDARDS

- A. FM (AG)- FM Approval Guide; current edition.
- B. NFPA 13 - Standard for the Installation of Sprinkler Systems; 2015, with Errata (2017).

2.03 SUBMITTALS

- A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on sprinklers, valves, and specialties, including manufacturers catalog information. Submit performance ratings, rough-in details, weights, support requirements, and piping connections.
- C. Shop Drawings:
 - 1. Submit preliminary layout of finished ceiling areas indicating only sprinkler locations coordinated with ceiling installation.
 - 2. Indicate hydraulic calculations, detailed pipe layout, hangers and supports, sprinklers, components and accessories. Indicate system controls.
 - 3. Submit shop drawings to Authorities Having Jurisdiction for approval. Submit proof of approval to Architect.
- D. Project Record Documents: Record actual locations of sprinklers and deviation of piping from drawings. Indicate drain and test locations.

2.04 QUALITY ASSURANCE

- A. Maintain one copy of referenced design and installation standard on site.
- B. Conform to FM (AG) requirements.
- C. Designer Qualifications: Design system under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State in which the Project is located.
- D. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience.
- E. Installer Qualifications: Company specializing in performing the work of this section with minimum 5 years experience and approved by manufacturer.

2.05 DELIVERY, STORAGE, AND HANDLING

- A. Store products in shipping containers and maintain in place until installation. Provide temporary inlet and outlet caps. Maintain caps in place until installation.

PART 2 PRODUCTS

3.01 MANUFACTURERS

- A. Sprinklers, Valves, and Equipment:

TYCO FIRE PROTECTION PRODUCTS.

- 1. Viking Corporation.
- 2. Reliable Sprinkler Company.
- 3. Substitutions: See Section 01 60 00 - Product Requirements.

4.02 SPRINKLERS

- A. Exposed Area Type: Pendant type with guard.
 - 1. Response Type: Quick.
 - 2. Coverage Type: Standard.
 - 3. Finish: Brass.
 - 4. Fusible Link: Fusible solder link type temperature rated for specific area hazard.
 - 5. Manufacturers: Or approve equal

PART 3 EXECUTION

5.01 INSTALLATION

- A. Install in accordance with referenced NFPA design and installation standard.

- B. Install equipment in accordance with manufacturer's instructions.
- C. Place pipe runs to minimize obstruction to other work.
- D. Place piping in concealed spaces above finished ceilings.
- E. Apply masking tape or paper cover to ensure concealed sprinklers, cover plates, and sprinkler escutcheons do not receive field paint finish. Remove after painting. Replace painted sprinklers.
- F. Flush entire piping system of foreign matter.
- G. Hydrostatically test entire system.
- H. Require test be witnessed by Fire Marshal.

END OF SECTION 21 13 00

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