

# Element D Services

Plumbing

## D4000 Fire Protection General Design Guidelines

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### PART 1 - GENERAL

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#### 1.01 OVERVIEW

- A. Fire protection systems design shall be performed by individual(s) licensed in the State of Texas and having minimum five years design experience related to the types of systems included within this Project.
- B. Where it is considered by the A/E that proposed systems design cannot comply with the requirements stated and referenced herein, the consultant shall communicate such concerns to the Owner's Project Manager in writing and resolve non-compliance in sufficient time during the design phase of the Project to meet Contract schedule obligations.

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### PART 2 - DESIGN CRITERIA

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#### 2.01 GENERAL

- A. Refer to Design Guideline Element Z2005 for Codes and Applicable Regulatory Agencies.
- B. Fire Sprinkler Systems shall be designed to meet requirements for 100% sprinklered building.
- C. The A/E is required to make themselves aware of all applicable codes and ordinances and assure compliance thereto.
- D. Where provisions for building expansion are required, systems equipment capacity, pipe sizing and arrangement shall accommodate proposed demand.
- E. The building fire protection water supply systems shall be metered and isolated from the municipal water supply in accordance with the Municipality's requirements.

#### 2.02 ELEVATOR SPRINKLER PROTECTION

- A. Elevator fire protection shall comply with NFPA 13, NFPA 70, NFPA 72, and ANSI/ASME A17.1 or A17.3 as applicable.

#### 2.03 RENOVATION WORK

- A. Owner normally requires the installation of wet-pipe sprinkler systems in existing buildings undergoing major infrastructure upgrade that are not presently fully protected by 100% fire sprinkler systems.
- B. Any additions, deletions and/or changes shall not compromise the integrity of existing systems.
- C. Existing water supply shall be tested and improved as required to meet requirements of NFPA and Owner's Standards.

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- D. Existing fire detection (fire alarm) and fire protection (fire sprinkler systems) shall be maintained and remain code complaint throughout project lifespan.
- E. In support of maintaining NFPA compliant systems, ILSMs (Interim Life Measures) shall be enacted that may direct system reconfigurations (for example installing a temporary fire alarm system or turning sprinkler heads up to deck).
- F. Communications concerning strategies to maintain NFPA compliant fire detection and fire protection systems during construction shall occur as soon as project scope is determined.
- G. Strategies to maintain fire detection and fire protection systems NFPA code compliance shall be documented in project drawings and ILSM documentation.

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### PART 3 - SPECIAL CONTRACT DOCUMENT REQUIREMENTS

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#### 3.01 GENERAL

- A. Develop plans, schedules, system schematic and details indicating all information required to clearly illustrate the intent of system design, including but not limited to, location and size of In-coming water supply, building fire department connection(s), Fire pump and controller, jockey pump, test header, test loop, risers, standpipes, standpipe mains, zone control valves, water flow switches, drain discharge locations, fire department valves and fire hose cabinets.
- B. Room names and numbers, and column lines and designations shall appear on all floor and partial floor plans as they appear on Architectural sheets.
- C. Floor and partial plans shall include finished floor elevations, graphic scales and north arrows.
- D. Floor plans shall show fire piping, piping mains (non-sprinkler piping), valves, equipment, etc. on the floor that they are to be installed. Sprinkler head locations and sprinkler piping sizes are not intended to be shown on the design drawings, they are to be provided on the shop drawings in the submittal process for review by the A/E team.
- E. A roof plan shall be included for projects having components located on, in or penetrating through roofs, such as roof manifolds, penthouses, etc.
- F. The A/E shall be specific and precisely show all points of connection for utilities.
- G. Performance data schedules for all equipment shall be shown in schedules on the Drawings.
- H. All construction details shall be shown on the Drawings and shall not be bound in the Specifications.
- I. All equipment and material specifications shall be bound in the Specifications.
- J. Plans shall clearly indicate location and ratings of all fire and smoke partitions, barriers, walls, and horizontal exits.

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### PART 4 - PRODUCTS

#### 4.01 GENERAL

- A. Refer to Owner's Master Construction Specifications. These are available on the Owner's Design Guidelines website: <http://www2.mdanderson.org/depts/cpm/standards/specs.html>
- B. System design and piping specified for renovation of existing facilities shall be compatible with existing installation.

### PART 5 - DOCUMENT REVISION HISTORY

Issue	Date	Revision Description	Reviser
	201903-1	Original Issuance	

END OF ELEMENT D4000