

**NFPA 13 Sprinkler System
General Design Plan Review Worksheet**

2006 IFC and 2007 NFPA 13

This worksheet is for jurisdictions that permit the use of the 2007 NFPA 13 in lieu of IFC's referenced 2002 NFPA 13.

Date of Review: _____ Permit Number: _____

Business/Building Name: _____ Address of Project: _____

Designer Name: _____ Designer's Phone: _____

Contractor: _____ Contractor's Phone: _____

No. of Sprinklers: _____ Occupancy Classification: _____

Reference numbers following worksheet statements represent an NFPA code section unless otherwise specified.

Worksheet Legend: ✓ or OK = acceptable N = need to provide NA = not applicable

1. _____ A minimum of three sets of drawings are provided.
2. _____ Equipment is listed for intended use and compatible with the system; specification data sheets are provided.

Drawings shall detail the following (22.1.3.1-22.1.3.46):

General:

3. _____ Type of system is noted; ___ hydraulic calc, ___ pipe schedule, ___ wet, ___ dry, ___ preaction, ___ deluge, ___ antifreeze. The plans declare the design standard is the 2007 edition year of NFPA 13.
4. _____ Scale: a common scale shall be used and plan information shall be legible.
5. _____ Plot plan details illustrate the fire protection water supply piping and pipe diameter supplying the building.
6. _____ The location of smoke or fire partitions, fire walls and building elevation views.
7. _____ Occupancy class and or use of each room or area, 5.1.1.
8. _____ Full height cross sectionals and include ceiling construction as needed for clarification.
9. _____ Total area protected by each system for each floor is provided.
10. _____ Dimensions for system piping, sprinkler spacing and branch line spacing, and elevation changes.
11. _____ Equipment symbol legend and the compass point are provided.
12. _____ Area limitations for hazard classification; 52,000 sq. ft. for light and ordinary hazard, 25,000 sq. ft. for extra hazard pipe schedule, 40,000 sq. ft. for extra hazard-hydraulic calculations, and 40,000 for high-piled storage, 8.2.1.
13. _____ Hydrant flow test determining water supply capacity at 20 PSI residual pressure is provided.
14. _____ Hydraulic calculations are provided with summary, detail worksheets, and graph sheet, except for permissible pipe schedule systems, 22.3.
15. _____ Dry pipe system capacity in gallons is provided _____ gal., not to be greater than 750 gal. unless the requirements of 7.2.3.2 or 7.2.3.3 are met, 7.2.3.
16. _____ All water supply valves and flow switches are supervised, IFC 903.4.
17. _____ Exterior flow alarm location is detailed and provided for systems exceeding 20 sprinklers, 8.17.1.1. Note: if electric, it shall be listed for outdoor use, IFC 904.3.2.
18. _____ If required, backflow prevention device pressure loss data is provided in the hydraulic calculations.

Sprinklers:

19. _____ Total number of each type of sprinkler is noted, ordinary temperature sprinklers are to be used, see other permitted temperature ratings from 8.3.2.2 to 8.3.2.5.
20. _____ If the hazard classification of the occupancy is changed, the temperature of rating of sprinklers shall be evaluated in accordance with Section 8.3.2.6..
21. _____ Light hazard occupancies shall have quick-response sprinklers unless residential sprinklers are required in accordance with, IFC 903.3.2 and NFPA 13: 8.3.3.1
22. _____ Sprinkler locations are correct, ceiling and roof cross sectional views are provided for clarification, 22.1.3(45).
23. _____ For each type of sprinkler the K factor, temperature rating, and orifice size are provided, 22.1.3(12).
24. _____ Each sprinkler coverage area is within its area of protection limitations or its listing, 8.6.2.2, Table 8.6.2.2.1 (a-c).

Fire Plan Review and Inspection Guidelines

25. _____ Specialty sprinklers, extra coverage, early suppression fast response, large drop, sidewall, etc. comply with the standard and listing limitations, 6.1.1 and 8.4.1- 8.4.10.
26. _____ Maximum perpendicular distance to the walls is not greater than 1/2 of allowable distance between sprinklers, 8.6.3.2 and Tables 8.6.2.2.1(a through d), for sidewall sprinklers, 8.7.3.2 and Table 8.7.2.2.1. For irregular shaped or angled areas the sprinkler placement is in accordance with 8.6.3.2.3.
27. _____ Standard sprinkler spacing from vertical obstructions complies with Table 8.6.5.1.2 and for floor mounted obstructions, Table 8.6.5.2.2, 8.6.5.1.2 and 8.6.5.2.2.
28. _____ Sidewalls sprinkler spacing for a front obstruction refer to Table 8.7.5.1.3, for a side obstruction refer to Table 8.7.5.1.4, and for a floor mounted obstruction refer to Table 8.7.5.2.2.
29. _____ Extended coverage uprights and pendent spacing for ceiling or wall obstructions refer to Table 8.8.5.1.2 and for floor mounted obstructions refer to Table 8.8.5.2.2
30. _____ Extended coverage sidewall spacing for front obstructions refer to Table 8.9.5.1.3 and for floor mounted obstructions, Table 8.9.5.2.2.
31. _____ Residential upright and pendent sprinkler spacing from vertical obstructions complies with Table 8.10.6.1.2 and for floor mounted obstructions, Table 8.10.6.2.2.
32. _____ Residential sidewall sprinkler spacing from ceiling or hanging obstructions complies with Table 8.10.7.1.3 and for floor mounted obstructions, Table 8.10.7.2.2.
33. _____ Sprinkler coverage is provided under obstructions greater than 4 ft. wide, 8.5.5.3.1.
34. _____ Baffles are designed and provided for sprinklers less than 6 ft. apart in accordance with Section 8.6.3.4.2.
35. _____ Pilot line detector system design is in accordance with Section 8.14.
36. _____ Locations or conditions requiring special consideration, 8.15.
37. _____ A. concealed spaces, for the 15 omissions see 8.15.1.2.
38. _____ B. vertical shafts, 8.15.2.
39. _____ C. stairways, 8.15.3.
40. _____ D. vertical openings, 8.15.4.
41. _____ E. elevator hoistways and machine rooms, 8.15.5.
42. _____ F. spaces under ground floors, exterior docks, and platforms, 8.15.6.
43. _____ G. exterior roof and canopy, 8.15.7.
44. _____ H. dwelling unit, 8.15.8.
45. _____ I. library stack or medical record storage room, 8.15.9.
46. _____ J. electrical equipment, 8.15.10.
47. _____ K. duct protection, 8.15.12
48. _____ L. ceilings: open-grid, drop-out, 8.15.13 and 8.15.14.
49. _____ M. stages, 8.15.16.
50. _____ Sprinkler placement for the protection of a vertical shaft is in accordance with 8.15.2.1.
51. _____ Vertical shaft with combustible surfaces is protected in accordance with 8.15.2.2.
52. _____ Sprinklers are provided beneath combustible stairs, 8.15.3.1.
53. _____ Sprinklers are provided for stairways in accordance with 8.15.3. Refer to 8.15.3.2 for when there is storage use under the stair landing and 8.15.3.2.4 when a noncombustible construction exterior stair tower is 50 percent open.
54. _____ Closely spaced sprinklers with draft stops are provided around unenclosed floor openings except large openings like found in malls or atriums, and openings between floors of a common dwelling unit, 8.15.4.1 and 8.15.4.2.
55. _____ Elevator shaft has a sprinkler within 2 ft. of the shaft floor unless the shaft is noncombustible and there are no hydraulic fluids, 8.15.5.
56. _____ Ordinary or intermediate temperature sprinklers are in the elevator machine room or at the top of the elevator shaft, refer to exceptions, 8.15.5.1–8.15.5.5.
57. _____ Sprinklers are provided under combustible ground floor, exterior dock, and platforms, 8.15.6.
58. _____ Sprinklers are provided under roofs and canopies unless constructed of noncombustible or limited combustible materials, less than 4 ft. wide, and no storage, refer to exceptions 8.15.7.1 – 8.15.7.4.
59. _____ Sprinklers are not required in noncombustible dwelling unit bathrooms, less than 55 sq. ft. or limited combustible with a 15 minute thermal barrier, except in nursing homes, 8.15.8.1.
60. _____ Sprinklers are not required in hotel or motel dwelling unit clothes closet, pantries, or linen closets provided the closet area and its least dimension complies with 8.15.8.2.
61. _____ Sprinklers are provided in every aisle and at every tier stack, distance is not more than 12 ft. in library stack rooms, 8.15.9.

- 62. ___ Sprinklers are provided in electrical equipment rooms, exception: the room is dedicated use, has dry type equipment, 2 hour equipment enclosures, and no combustible storage, 8.14.10. Also consult the exceptions pertaining to spaces containing telecommunication equipment and associated power supplies as specified in IFC Section 903.2., 8.15.10.
- 63. ___ When required, ducts are protected in accordance with 8.15.12.1. Method of access for each sprinkler is detailed.
- 64. ___ Open grid ceilings shall not be installed under sprinklers, unless the grid opening and sprinkler placement criteria of Section 8.15.13 are met.
- 65. ___ Drop-out ceilings are installed under sprinklers in accordance with their listing, and sprinklers are not located below the ceilings, 8.15.14.
- 66. ___ Sprinklers for stages shall be provided in accordance with Section 8.15.16.
- 67. ___ Proscenium openings for stages shall be protected in accordance with Section 8.17.5.2.

Pipe Support and Hangers:

- 68. ___ Type and locations of hangers, sleeves, and braces are shown, 12.1.3(22). Nonlisted hangers shall meet 5 performance criterion and the design shall be sealed by a registered professional engineer, 9.1.1.2.
- 69. ___ If trapeze hangers are used, the locations are shown, a legend provides the span, size of pipe supported, angle and pipe used, and section modulus in accordance with Section 9.1.1.6.
- 70. ___ Pipe hanger spacing is in accordance with Table 9.2.2.1(a).
- 71. ___ Lightwall steel pipe hanger spacing is in accordance with Table 9.2.2.1(a).
- 72. ___ Branch lines show one hanger for each section of pipe, exceptions are listed, 9.2.3.2.
- 73. ___ Cross mains show one hanger between each branch lines or in compliance with Table 9.2.2.1(a), and for additional spacing variations refer to Section 9.2.4.
- 74. ___ Supports can be on the horizontal pipe section if within 24 in. of the vertical pipe centerline, 9.2.5.1.
- 75. ___ Risers in multi-story buildings show supports at the lowest level, each alternate level, below offsets, and at the top, 9.2.5.4.
- 76. ___ The distance between supports for a riser does not exceed the limit specified., 9.2.5.5.

Pipe and Valves:

- 77. ___ Main drain location and pipe diameter are detailed and complies with Section 8.16.2.4.
- 78. ___ Main drain routing is to the exterior or to an interior drain but ensure that the drain capacity is adequate, 8.16.2.4.4.
- 79. ___ Auxiliary drain location is detailed and its size is in accordance with Section 8.16.2.5.
- 80. ___ When required, the location of the listed backflow prevention device (can serve as a check valve) is detailed, 8.16.1.1.3.2.
- 81. ___ A listed control valve is provided on each side of the check valve, 8.16.1.1.4.1. Only one control valve on the system side of the check valve is necessary when the water supply is provided from the city connection, 8.16.1.1.4.3.
- 82. ___ The control valve locations are accessible, 8.16.1.1.7.
- 83. ___ If a pressure reducing valve is used, its location and installation criteria are detailed in accordance with Section 8.16.1.2.
- 84. ___ If used, outside post-indicator control valve (PIV) locations and installation criteria are detailed in accordance with Section 8.16.1.3.
- 85. ___ If PIVs are approved to be located in a pit, the pit construction, location, and marking are designed and detailed in accordance with Section 8.16.1.4.2.

Seismic Bracing:

- 86. ___ Flexible couplings may be used for pipe 2½ in. or larger in accordance with Sections 9.3.2.2 and 9.3.2.3.
- 87. ___ Flexible couplings are specified for drops to hose lines, rack sprinklers, and mezzanines, 9.3.2.4.
- 88. ___ A seismic separation assembly is provided and detailed at building seismic joints, 9.3.3.2 and 9.3.3.3.
- 89. ___ Proper pipe clearance is noted on the plans for pipe penetrations in walls, floors, platforms or foundations, 9.3.4. Minimum clearance is in accordance with Section 9.3.4.2 – 9.3.4.7.
- 90. ___ Lateral sway bracing is required at a maximum spacing of 40 ft. for all feed mains, cross mains, and branch lines 2½ in. and larger, 9.3.5.3.1.
- 91. ___ Lateral sway bracing is designed not to exceed the maximum zone of influence loading provided in Tables 9.3.5.3.2(a) and (b) for its spacing, 9.3.5.3.2.
- 92. ___ Bracing is provided for the last length of pipe of the end of a feed or cross main, 9.3.5.3.5.
- 93. ___ Bracing is required unless all the pipe is supported by rods less than 6 in. or by 30° wrap-around U-hooks for any size pipe, 9.3.5.3.8.

Fire Plan Review and Inspection Guidelines

94. ____ Longitudinal sway bracing has a maximum span of 80 ft. for mains and cross mains and within 40 ft. of the end of the line, 9.3.5.4.1 and .3.
95. ____ A four-way sway brace spacing on a riser does not exceed 25 ft. and a four-way sway brace is located at the top of the riser if the top of the riser exceeds 3 ft. in length, 9.3.5.5.
96. ____ Seismic bracing calculations and the zones of influence are detailed and provided for each brace to be used as shown in NFPA Figure A.9.3.5.6(e), 9.3.5.6 through 9.3.5.8. The calculations shall include the basis for the selection of the seismic coefficient from Table 9.3.5.6.2.
97. ____ Longitudinal and lateral bracing is provided for each run of pipe between the changes of direction unless the run is less than 12 ft. and supported by adjacent pipe run bracing, 9.3.5.11.2.
98. ____ Branch lines are restrained at the end sprinkler of each line and restrained against vertical and lateral movement, 9.3.6.3.
99. ____ Branch line method of restraint is in accordance with Section 9.3.6.1.
100. ____ Restraints for branch lines shall be at intervals not greater than specified in Table 9.3.6.4 and justification for selection of the seismic coefficient is provided, 9.3.6.4.
101. ____ Detailed are restraints for sprigs 4 ft. long or greater against lateral movement, 9.3.6.6.

Fire Department Connection (FDC):

102. ____ The FDC location is detailed on the street side or response side of building or as approved by the fire official, and when connected to the water supply it will not obstruct emergency vehicle access to the building, IFC 912.
103. ____ Local water flow alarm is provided when the sprinkler system exceeds 20 sprinklers and its location is detailed, 8.17.1.1.
104. ____ FDCs for fire engine or fire boat are sized and arranged in accordance with A.8.17.2, 8.17.2.3, and 8.17.2.4.
105. ____ The arrangement of the FDC piping supplying wet pipe, dry pipe, preaction or deluge sprinklers shall be in accordance with Section 8.16.2.4.2.

Hydraulic Calculations, 22.3:

106. ____ Specify the calculation method used, density/area or room design, 22.3.
107. ____ The summary sheet, water supply graph sheet, supply analysis, node analysis, and worksheets are provided for computer generated calculations, 22.3.5. The summary sheet, water supply graph sheet, and work sheets are provided for hand calculations.
108. ____ Reference points in the calculation worksheet match with points on the plans, and the occupancy hazard classifications are correct for the occupancy or use, 22.3, 11.2.1.2.3.
109. ____ If design area adjustments are made, the adjustment methodology is provided, 22.32, 22.3.5.2.
110. ____ The use of quick response sprinklers in a design area shall meet the specific requirements in Section 11.2.3.2.3.
111. ____ Pipe size and length references in the calculation worksheet match the plans.
112. ____ Sloped ceiling may require a 30 percent increase of design area, 11.2.3.2.4.
113. ____ Sprinkler data sheet matches information on the plans.
114. ____ Water flow information is provided with static PSI, residual PSI, and available GPM at 20 PSI residual with graphed results.
115. ____ Density and design areas information are provided and comply with the restrictions listed in Section 11.2.3.1.4, Fig 11.2.3.1.1.
116. ____ Calculations are correct: static PSI, pipe length, GPM, K factors for drops or branch lines, elevation data, hose allowance, friction loss, and equivalent pipe and fitting lengths, 22.3.
117. ____ For the room design method the design area includes the most demanding room and if any, adjacent communication compartments, 11.2.3.3, 22.4.4.1.2.
118. ____ A minimum of 2 summary calculations are provided for a grid system, refer to the one exception, 22.4.4.4.2.
119. ____ Additional calculations may be required by the fire code official if the building design and room uses do not make the most demanding area obvious.
120. ____ Legend for calculation abbreviations is provided.
121. ____ Calculations are also provided for extra hazard occupancies, deluge, and exposure systems.
122. ____ Dry pipe and double interlock preaction design areas are increased 30 percent but the density remains the same (11.2.3.2.5), use of high-temp sprinklers in extra hazard occupancies may reduce design area by 25 percent but not less than the area specified in 11.2.3.2.6.

Residential Sprinklers in a 13 System:

123. ____ Calculations for a single and for a multiple sprinkler discharge are provided, 11.3.1.1.

- 124. ___ The calculation design is based on the number of sprinklers and at the flow specified in 11.3.1.2.
- 125. ___ Hose streams and water duration requirements are based on a light-hazard occupancy classification in accordance with Table 11.2.3.1.2, 11.3.1.5.

Special Design:

- 126. ___ Special design considerations for exposure protection, water curtain, and dry system are in accordance with 11.2.3.7–11.2.3.9, 22.7.

Pipe Schedule:

Note: For systems less than 5000 sq. ft. the minimum water flow is proven to be available in accordance with Table 11.2.2.1. Systems less than 5,000 sq. ft. shall have 50 PSI residual pressure and meet the requirements of Table 11.2.2.1.

- 127. ___ Only ½ in. orifice sprinklers (nominal K-factor of 5.3 to 5.8) shall be used, 22.5.1.2.
- 128. ___ Light Hazard: 8 sprinklers maximum for each branch line, 22.5.2.1.1, 9 and 10 permitted see 22.5.2.
- 129. ___ A. pipe diameter, pipe material and number of sprinklers are in accordance with Table 22.5.2.2.1.
- 130. ___ B. sprinklers above and below the ceiling are in accordance with Table 22.5.2.4.
- 131. ___ Ordinary Hazard: 8 sprinklers maximum for each branch line, 22.5.3.1, 9 and 10 permitted see 22.5.3.
- 132. ___ A. pipe size, pipe material and number of sprinklers are in accordance with Table 22.5.3.4.
- 133. ___ B. sprinklers greater than 12 ft. separations are in accordance with Table 22.5.3.5.
- 134. ___ C. sprinklers above and below the ceiling are in accordance with Table 22.5.3.7.
- 135. ___ Extra Hazard: not allowed, 22.5.4.

Wet System:

- 136. ___ Relief valve not less than ¼ in. is detailed for gridded system, 7.1.2.1.
- 137. ___ An alarm test connection location for the waterflow alarm is provided and in compliance with 8.17.4.2.

Dry System, 7.2:

- 138. ___ Only upright, listed dry sprinklers are used, see exceptions for return bends and sidewall sprinklers, 7.2.2.
- 139. ___ System capacity is provided and a quick opening device is provided when required by 7.2.3.2.
- 140. ___ System is designed to meet the water delivery times for the hazard classification in accordance with Table 7.2.3.6.1 and calculations are provided, 7.2.3.6.
- 141. ___ A trip test connection sized according to 8.16.4.3.1 is equipped with a shutoff valve and the test connection is located in the upper story at the most remote sprinkler, 8.17.4.3.
- 142. ___ Compressor capacity specification sheet is provided, restores system within 30 minutes, 7.2.6.2.2.
- 143. ___ Compressor piping system, air fill line not less than ½ in., and check-relief-shutoff valves are shown or noted, 7.2.6.3.
- 144. ___ Shown is the location for the quick opening device (QOD) for systems greater than 500 gallons, see exception in 7.2.34.3.
- 145. ___ Shown is the location of the check valve for QOD and the antiflooding device between the riser and the QOD, 7.2.4.5, 7.2.4.8.

Preaction or Deluge:

- 146. ___ System capacity is provided, 14.1.3(17).
- 147. ___ Pressure gauge locations are above and below the preaction valve and on the air supply, 7.3.1.3.
- 148. ___ Location and spacing of the detection devices are detailed, 7.3.1.7.
- 149. ___ The single and non-interlock preaction system is limited to 1,000 sprinklers, 7.3.2.2., 750 gallon limit for each valve.
- 150. ___ The double-interlock preaction system is based on water delivery of not exceeding 60 seconds but the water delivery time is also based on Table 7.2.3.6.1, 7.3.2.2.
- 151. ___ Preaction system is supervised in accordance with 7.3.2.4.
- 152. ___ Only upright, listed dry sprinklers are used, see exceptions for return bends and sidewall sprinklers, 7.3.2.5.
- 153. ___ Double interlock systems shall not be gridded, 7.3.2.6, and valve room is heated, 7.3.1.8.2.

Combined Dry Pipe and Preaction:

- 154. ___ System capacity is provided, 14.1.3(17).
- 155. ___ Dry pipe riser location is shown.
- 156. ___ Two 6 in. dry pipe valves are provided for systems greater than 600 sprinklers or greater than 275 sprinklers in a fire area, 7.4.3.1.
- 157. ___ Multidry pipe valves are interconnected with 1 in. pipe with shutoff valve for simultaneous tripping, 7.4.3.4.
- 158. ___ QOD is provided at the dry pipe valves, 7.4.3.8.
- 159. ___ A minimum 2 in. exhaust valve is shown at the end of the common feed main, 7.4.4.1.

Fire Plan Review and Inspection Guidelines

160. ____ Fire areas requiring greater than 275 sprinklers shall divide the system into sections of 275 sprinklers or less by the use of check valves, and a building with multifire areas shall limit 600 sprinklers per check valve, 7.4.5.
161. ____ The manual method of activating the detection system is within 200 ft. of travel, 7.4.2.3.
162. ____ Only upright, listed dry sprinklers are used, see exceptions for return bends and sidewall sprinklers, 7.4.2.5.

Valves:

163. ____ A check valve is at/near connection to water supply, 8.16.1, 8.16.1.1.3.5.
164. ____ All water supply control valves and water flow switches are electrically supervised in accordance with, IFC 903.4.
165. ____ Control valves are provided in accordance with 8.16.1.1.4.
166. ____ Water supply exceeding 175 PSI requires pressure reducing valves (PRVs), locations are detailed, 8.16.1.2.
167. ____ Gauges are on the inlet and outlet sides of PRVs and an indicating valve on the inlet side, 8.16.1.2.

General Storage Requirements:

168. ____ Ceiling slope is detailed, cross sectional view provided, and does not exceed a 2 in 12 slope, 12.1.2.
169. ____ Storage design requirements are based on the absence of draft curtains and roof vents, 12.1.
170. ____ If the building has two or more storage hazard areas nonseparated and an extended design area is provided in accordance with 12.3.
171. ____ Dry pipe and preaction system design areas are increased 30 percent but not to exceed the area specified in 12.5.2, 12.5.1.
172. ____ When adjustments are made to the design area, the designer provided a calculations explaining and showing how the adjustments were made, 12.7.7.
173. ____ Design for idle pallets is in accordance with 12.12.
174. ____ Densities up to 0.20 GPM/ft² are sprinklers with the minimum K-factor specified in 12.6.1.
175. ____ Densities 0.21 GPM/ft² to 0.34 GPM/ft² protecting rack storage, tire, roll paper, and baled cotton storage are protected with sprinklers with the minimum k-factor specified in 12.6.2.
176. ____ Densities greater than 0.34 GPM/ft² protecting rack storage, tire, roll paper, and baled cotton storage are protected with sprinklers with the minimum K-factors as specified in 12.6.3.
177. ____ If the design area is adjacent a combustible concealed space then the minimum design area is in compliance with 12.9.1 unless the concealed space meets the criteria of Sections 12.9.2 (1) – (9), 12.9.1.
178. ____ A general information sign that indicates the design capabilities and limitations of the automatic sprinkler system shall be provided at each system riser, antifreeze loop and auxiliary system control valve. The sign shall contain the required information specified in Section 24.6.2, 24.6.1

Miscellaneous Storage:

179. ____ Miscellaneous and Class I through IV and Group A plastic, tires storage up to 12 ft., and rolled paper up to 10 ft. high are designed in accordance with density curve Figure 13.2.1 and Table 13.2.1.
180. ____ Hazard classification when using the design/area method complies with Figure 13.2.1 and commodity protection complies with Table 13.2.1.
181. ____ In-rack sprinklers K-factors and the minimum design pressure complies with 13.3.2.
182. ____ In-rack sprinkler water demand is based on the number and the location of sprinklers specified in 13.3.3.

Miscellaneous:

183. ____ Flushing instructions and criteria are on the plans. Flushing requirements shall be 880 GPM for 6 in. pipe, 1,560 GPM for 8 in., 2,440 GPM for 10 in., 3,520 GPM for 12 in. pipe. The water flow should be measured to ensure the velocity is at least 10 ft/sec.

Antifreeze System:

Refer to 7.6

Protection against Exposure Fire:

Refer to 7.8

Refrigerated Areas:

Refer to 7.9

Commercial Cooking Equipment:

Refer to 7.10

Special Occupancy Requirements:

Refer to Chapter 21

Private Fire Service Water Mains: Refer to Chapter 10, NFPA 24, and the Plan Review Worksheet contained in this book.

