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WATER SUPPLY AND FIRE FLOW

5.01 ***General Specifications***

Ref.: IFC 508

- 5.01-1. Water mains shall be installed in accordance with the engineering specifications of the City of Bellevue or the water authority having jurisdiction and subject to such testing as specified by the City of Bellevue Utility Department or water authority having jurisdiction.
- 5.01-2. Fire Department hose connections and controlling valves used in connection with fire protection facilities shall be installed at locations and to specifications approved by the Fire Chief or his/her designate.
- 5.01-3. All required fire flow, either temporary or permanent, shall be available at a minimum residual pressure as designated by the City of Bellevue Utilities Department or water authority having jurisdiction.

5.02 ***Quantity***

Ref.: IFC 508

- 5.02-1. The required quantity of water (fire flow) shall be equal to the calculated fire flow for the greatest hazard or protected risk in the proposed development, and shall be determined by the Fire Chief or his/her designate based on a demand duration as determined by City of Bellevue Amended Table B105.1 Appendix B of the International Fire Code.
- 5.02-2. Where the existing fire flow on a system is inadequate, or a new system is proposed, engineering design calculations may be required to verify fire flow.
- 5.02-3. In those circumstances where the required fire flow exceeds the available fire flow, modifications based on the installation of automatic fire sprinkler and/or automatic smoke detection systems may be used in accordance with Chapters 5.03 and 5.04 of these Standards.

Note: Users should also refer to Section 6.03 for fire hydrant supply, distribution and spacing.

5.03 Credit for Automatic Sprinkler Systems

Ref.: IFC Appendix B

- 5.03-1. Fire flow credit for automatic sprinkler protection shall be granted only when the entire structure is protected by an approved automatic sprinkler system, designed in accordance with NFPA-13 or NFPA-13R, and for single family dwellings less than 3,600 sq. ft. in total area, designed in accordance with NFPA-13D.
- 5.03-2. Credit toward fire flow requirements shall be granted by the Fire Chief or his/her designate where sprinklers are installed:
- a. For the purposes of area or height increases as specified in the International Fire Code
 - b. For the purposes of one-hour fire resistive substitution as specified in the International Fire Code
 - c. In Group R occupancies as defined in the International Fire Code, or,
 - d. As a substitute for fire apparatus access.
- 5.03-3. There shall be no additional credit toward fire flow requirements by installing an automatic sprinkler system where the system is required by the International Building or Fire Codes to protect hazardous storage or processes, or in any Group H or I occupancy.

5.04 Fire Flow Calculations for Remodeled Buildings

Ref.: IFC Appendix B

- 5.04-1. Buildings undergoing remodeling where there is no building area added shall not be subject to fire flow calculations.
- 5.04-2. Buildings in which area is added shall have a fire flow figure based on the existing building and its fire protection features added to the fire flow calculations for the new area.