



New Construction Water Supply & Fire Flow Calculation Requirements

NOTE:

Water models may be required for large fire flow requirements, systems that have long pipe runs, unusual or questionable layouts or as deemed necessary by this office. To help expedite your plans, engineers are encouraged to submit water models before formal requests are made by the fire marshal.

Florida Fire Prevention Code 5th edition NPFA 1

18.3 Water Supplies

18.3.1 an approved water supply capable of supplying the required fire flow for fire protection shall be provided to all premises upon which facilities, buildings, or portions of buildings are hereafter constructed or moved into the jurisdiction. The approved water supply shall be in accordance with section 18.4.

18.4 Fire Flow Calculations for buildings.

18.4. I*scope.

A.18.4.1 Section 18.4 and the associated tables are only applicable for determining minimum water supplies for manual fire suppression efforts. Water supplies for fire protection systems are not addressed by this section. It is not the Intent to add the minimum fire protection water supplies, such as for a fire sprinkler system, to the minimum fire flow for manual fire suppression purposes required by this section.

18.4.1.1*The procedure determining fire flow requirements for buildings hereafter constructed shall be in accordance with section 18.4.

A.18.4.1.1 For the purposes of this section, a building subdivided by firewalls constructed in accordance with the building code is considered to be a separate building.

18.4.1.2 Section 18.4 does not apply to structures other than buildings.

18.4.2 Definitions. See definitions 3.3.13.6 (Fire Flow Area) and 3.3.108 (Fire Flow).

3.3.13.6 Fire Flow Area. The floor area, in square feet, used to determine the required fire flow.

3.3.108. Fire Flow. The flow rate of a water supply, measured at 20psi (137.9 kPa) residual pressure, that is available for firefighting.

18.4.3 Modifications

18.4.3.1 Decreases. Fire Flow requirements shall be permitted to be modified downward by the AHJ for Isolated buildings or a group of buildings in rural areas or small communities where the development of **full** fire flow requirements is impractical.

18.4.3.2 [increases. Fire flow shall be the total floor area of all floor levels of a building except as modified in 18.4.4.1.1.

18.4.4 Fire Flow Area.

18.4.4 General. The fire flow area shall be the total floor area of all floor levels of a building except as modified in 18.4.4.1.1.

18.4.4.1 Type I (443), Type 1(332), and Type II (222) Construction. The fire flow area of a building constructed of Type I (443), Type I (332), and Type II (222) construction shall be the area of the three largest successive floors.

18.4.5 Fire Flow Requirements for Buildings. 18.4.5.1 One and Two-Family Dwellings.

18.4.5.1.1 The minimum fire flow and flow duration requirements for one and two-family dwellings having a fire flow area that does not exceed 5000 square feet shall be 1000 gpm for 1 hour.

18.4.5.1.1.1 A reduction in required fire flow of 50 percent shall be permitted when the building is provided with an approved automatic sprinkler system.

18.4.5.1.1.2 A reduction in the required fire flow of 25 percent shall be permitted when the building is separated from other buildings by a minimum of 30 feet.

18.4.5.1.1.3 The reduction in 18.4.5.1.1.1 and 18.4.5.1.1.2 shall not reduce the required fire flow to less than 500 gpm.

18.4.5.1.2 Fire flow and flow duration for dwellings having a fire flow area in excess of 5000 square feet shall not be less than that specified in table 18.4.5.1.2.

18.4.5.1.2.1 A reduction in required fire flow of 50 percent shall be permitted when the building is provided with an approved automatic sprinkler system.

18.4.5.2 Buildings Other Than One and Two-Family Dwellings. The minimum fire flow and flow duration for buildings other than one and two-family dwellings shall be as specified in Table 18.4.5.1.2. (See below).

18.4.5.2.1 A reduction in required fire flow of 75 percent shall be permitted when the building is protected throughout by an approved automatic sprinkler system. The resulting fire flow may not be less than 1000 gpm.

18.4.5.2.2 A reduction in required fire flow of 75 percent shall be permitted when the building is protected throughout by an approved automatic sprinkler system which utilizes quick response sprinklers throughout. The resulting fire flow shall not be less than 600 gpm.

EXPOSURES: DISTANCES

(ANY BUILDING WITHIN 150 FEET IS CONSIDERED AN EXPOSURE)

HAZARD CHARGE

0-10' = +25%

11-30' = +20%

31- 60' = +15%

61- 100' = +10%

101- 150' = + 5%

Add the percentage of all 4 side of the building for a total percentage.

Hazard Charge= Fire Flow using table 18.4.5.1.2 X Total Percentage
Minimum Fire Flow Fire Flow using table 18.4.5.1.2 + Hazard Charge

