



## Cherokee County Fire Marshal Requirements for Water Supply for Fire Suppression Systems.

Testing Company\_\_\_\_\_

Water Company and Representative Conducting Test\_\_\_\_\_

\_\_\_\_\_

Location of Test\_\_\_\_\_

Address of Building to be Protected\_\_\_\_\_

Date and Time of Test\_\_\_\_\_

Testing Company (Contractor or Engineer) email\_\_\_\_\_

Address\_\_\_\_\_ Phone\_\_\_\_\_

1. Provide the following information: Outline of water system, including the source and type of system. Reservoirs, gravity tanks, direct pump, etc. Clearly indicate site elevation of sprinklered building and elevation of test hydrant. Provide storage size for tanks and pumping capacities for pumps.

If direct pumps are part of the distribution system clearly indicate the pumping sequences, indicate if multiple pumps are operating during certain times. Testing with pumps must be conducted for the worst case scenario Example #1: The community has two 1,500 g.p.m. pumps operating during the hours of 8 a.m. to 10 p.m., after 10 p.m. one of the pumps is shut off until 8 a.m. Proper testing for sprinkler design criteria would require the shut down of one of the 1,500 g.p.m pumps during water flow testing. Example #2: The site is serviced by a 500,000 gallon elevated water storage tank. The tank full is at an elevation of 1,500 ft. the tank was at low level (requiring pumps to activate filling the tank) at 1,480 ft. To correctly adjust for worst case scenario a deduction of roughly 10 psi (difference of 20 ft. between full and low level tanks) from the flow pressure is required.

2. Where is the water source in relation to the testing hydrants (Example: two mile north of test hydrants)? This information is required to provide clarification on direction of water flow supplying the test hydrants. Examples: A 1,000,000 gallon elevated storage tank, with a full elevation of 1,500 ft. and fill point of 1,480 ft. is 2 miles north of the site.

Water Supply Test (Cont'd)

3. If the site is fed by direct pumps are the pumps provided with back up generators?

4. Provide coefficient of the fire hydrants 2 ½ -inch outlets. .9 etc.
5. Indicate the type of outlet (s) used for flow. It is required to flow at least one outlet, however recommended practices indicate the flowing of (2) 2 ½ inch outlets. The recommended drop in pressure when flowing is a minimum of a 10% drop.
6. Provide graph of water flow testing indicating the g.p.m. at 20 p.s.i. residual.
7. Provide site plans indicating the following information:
  - a. Location of flow hydrant and test hydrant. Note test hydrant should be the hydrant hydraulic the most remote from the water supply (tanks, pumps, etc) and the base of rise.
  - b. Provide elevation of test hydrant and building pad. Provide elevation or Full Water tank and low level water tank.
  - c. Provide type “cut” sheets on backflow preventer indicating friction loss and fire service listing.
  - d. Time and date of test and witnesses.
  - e. Indicate all valves and piping from test hydrant to base of rise in hydraulic calculations.
  - f. Provide location of PIV, FDC and hydrant closest to FDC. NOTE: All three devices are required to be a minimum of 40 ft. from the building(s). See NFPA 13 Section’s 8.15.1.3.
  - g. FDC shall be on the system side of the water supply check valve. (Wet Single Riser Systems)