



**ARCADIA FIRE DEPARTMENT  
STANDARD OPERATING GUIDELINE**

**AUTOMATIC SPRINKLER SYSTEMS**

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**Approved:** \_\_\_\_\_  
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**PURPOSE**

The purpose of this document is to establish a guideline to assist fire department members when connecting to fire department sprinkler connections. A supplemental water supply should be utilized as soon as possible to insure that the fire does not overwhelm the system, and further aids in the extinguishment of the fire. In most cases, it is best to have the engine at a hydrant away from the risk of falling glass and debris, however, situations will vary and the company officer should use his/her best judgment when making their decision.

**RESPONSIBILITY**

It is the responsibility of company officers to insure that all members of their crew understand and follow the operational guideline when connecting to fire department sprinkler connections.

**PROCEDURE**

1. Identify sprinkler connection location.
2. If location is safe, connection may be supplied utilizing either a forward or reverse hose lay.
3. Unsafe location, sprinkler connection shall be supplied utilizing a reverse lay.
4. Reverse lay, shall be deployed utilizing 4" hose, tri-wye, 4" double male fitting and adequate 2 1/2" hose to make all connections at the FDC.
5. Forward lay, shall be deployed utilizing 4" hose and adequate 2 1/2" hose to make sprinkler connections at the FDC.
6. Pump 150 psi to the FDC.

**Buildings with Fire Pumps**

1. In buildings equipped with a fire pump, fire personnel must verify that buildings fire pump is operating. Verification of the buildings fire pump is a responsibility of Lobby Control.
2. If the buildings fire pump is operating, the operating pressure must be transmitted through Lobby Control to the Incident Commander or Operations if established.
3. The engineer supplying the fire sprinkler FDC should pump 10 psi less than the pressure being supplied by the buildings fire pump. For example, the buildings fire pump is operating at 125 psi the engine's discharge pressure should be 115 psi. In this situation the buildings fire pump will continue to pump the fire sprinkler system. The object is to allow the buildings fire pump to supply the water until the demand for water becomes greater than the fire pump can supply.

4. If the engineer supplying the fire sprinkler system is pumping 10 psi less than the pressure being supplied by the buildings fire pump and the engine discharge pressure drops, the engineer must increase the discharge pressure to the original buildings fire pump pressure. For example, the buildings fire pump is operating at 125 psi and the engine's discharge pressure was at 115 psi, but has now dropped to 85 psi, the engineer should increase pump discharge pressure to 125 psi. In this situation the engine is now pumping the fire sprinkler system.
5. During this pumping evolution, engineers should keep water flowing through the engines fire pump to keep the pump cool.

#### Buildings with Combination Systems

1. When pumping combination systems thought should be given whether to pump in volume vs. pressure due to the large volume of water that may be required.
2. Combination systems have a minimum capacity of 500 gpm's for the system. A general rule of thumb is that each standpipe outlet on an individual floor represents a 250 gpm flow. For example, three standpipe outlets on the floor would indicate the system is capable of supplying 750 gpm's.
3. Stairwell connections on combination systems have volume reducers, each outlet only allowing a specified pressure. This is very important to crews on Fire Attack as the fire flow required may not be the flow that is capable of being delivered from the standpipe outlet. To overcome this issue:
  - Remove the pressure regulating device located within the standpipe outlet if possible
  - Remove the adjustable tip from the Elkhart nozzle and utilize the interior smooth bore tip. This will reduce the nozzle pressure required, increasing discharge flow.

#### Residential Structures

1. Residential sprinkler systems are not pressure tested to the same level as commercial sprinkler systems. Therefore, residential sprinkler systems should not be pressurized more than the initial static pressure of the system.

#### Post Fire Operations

1. Automatic sprinklers should not be shut off until the fire has been extinguished.
2. Buildings with combination systems the use of sprinkler plugs may be necessary to keep standpipes charged for hose lines.
3. Assist occupant with restoring the automatic sprinkler system.
4. Notify the Fire Prevention Bureau in the event of automatic sprinkler activation.
5. Notify the Fire Prevention Bureau and the Arcadia Building Department if the automatic sprinkler system can not be restored.