

**Development Guidelines**  
**FIRE PROTECTION WATER SUPPLY FOR BUILDINGS UNDER CONSTRUCTION**

2/26/2018

**APPLICABILITY:**

The following applies to all construction projects with permits issued under the International Building Code. Single family homes and townhouses are not included, but fall under separate requirements.

**REQUIREMENTS:**

- An approved water supply capable of supplying the required fire flow for fire protection (of sufficient volume, pressure, and duration to properly operate fire systems and equipment) shall be provided to all premises upon which facilities are constructed. (IFC 507)
- Fire hydrants shall be located at every intersection and between intersections so the distance between hydrants along the street does not exceed 400 feet.
  - Public fire hydrants shall be installed as approved on the site plan.
  - Private hydrants shall be installed in accordance with the approved fire protection contractor's shop drawings, which must match the approved site plan.
- Temporary or alternative fire protection water supplies, although rare, must be approved by the Fire Marshal, preferably at the Site Plan Approval stage of review.
- Public, private, and temporary water supplies shall be installed, completed, tested, and approved as soon as practicable. Both the Fire Department and governing water authority, to ensure proper TDEC guidelines are followed, will provide approvals as applicable.

**TIMING:**

The water supply for fire protection shall be in place and approved:

- Prior to vertical construction.
- Before combustible material arrives on the site (wood structural members and forms).
- Prior to the time of which construction has progressed beyond completion of the foundation of any structure.
  - Foundation work may be done simultaneously with installation of water supply for fire protection.

## **VOLUME OF WATER REQUIRED:**

- As a minimum, the water system should supply no less than the minimum volume required without adjustment for sprinklers when the project is completed.
- The minimum allowable fire flow is 1500 gallons per minute at 20 psi residual for all commercial projects or higher volume as required by the IFC Annex B. Table B105.1.
- Off-site hydrants may be credited temporarily when located less than 50 feet from a fire apparatus access road and within 500 feet of all points of the outside wall of the building(s) following the equipment route, and if it has the proper flow.

## **STANDPIPES:**

- Buildings four or more stories, or more than 35 feet in height above the lowest level of fire department access, shall be provided with not less than one functional temporary or permanent standpipe for use during construction.
- One functional temporary or permanent standpipe is required during construction when the fourth story roof decking is constructed and shall be located adjacent to usable stairs (IFC 3313).
- Standpipes shall be extended as construction progresses above the fourth story within one story of the highest level of decking.
- Standpipes shall be provided with fire department hose connections at accessible locations adjacent to usable stairs.
- Standpipes shall be maintained throughout construction so they are always ready for emergency use.
- Any impairment shall be managed by the fire protection contractor.

## **REQUIRED FIRE SPRINKLER PROTECTION:**

- If the facility being constructed includes the installation of automatic fire sprinkler protection, the installation shall closely follow the construction and be placed in service as soon as practical following completion of each story/floor of the building.