



Black Forest Fire Rescue Protection District
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“Always Ready, Always Forward, Always Learning.”

Office of the Fire Marshal

Cistern and Dry-Hydrant Specifications

1. Location and Construction

- 1.1. Fire Protection Cisterns or natural water supplies shall be provided in; subdivisions of 5 or more lots, commercial/industrial developments where there is insufficient public and or private water supply to meet minimum fire flows required by NFPA 1141, 1142 and reference standards of those publications.
- 1.2. Cistern and Dry hydrants shall be **constructed and located** according to **NFPA 1141,1142 and reference standards of those publications.**
- 1.3. Cisterns and their appurtenances shall be buried and or protected, to prevent water within them from freezing.
- 1.4. Cisterns shall be a minimum of 30,000 usable gallons, but not less than the minimum as determined by NFPA 1141, 1142 or the current El Paso County Land Development Code and reference standards of those publications.
- 1.5. A cistern or dry hydrant required by this regulation shall be installed and operational prior to issuance of an occupancy permit for the first structure in any non-residential structure.
- 1.6. A cistern or dry hydrant required by this regulation shall be installed and operational in a residential project prior to issuance of an occupancy permit for the 3rd structure.
- 1.7. Cisterns will be fiberglass, concrete with liner or other non-permeable materials.
- 1.8. All fire protection water supplies shall be arranged so that the maximum lift is not over 12 feet.

2. Ventilation and Level Indication

- 2.1. Buried cisterns shall be provided with a vent to atmosphere that is a minimum of twenty-four (24) inches above grade, this vent shall have the capability of discharging the air that is displaced by the inflow of one thousand (1000) gallons per minute of fill flow water.
- 2.2. A mechanical water level indicator shall be provided for each cistern, this indicator shall plainly show the level of the cistern as; full, empty, ¼ full, ½ full and ¾ full, or a red/green indicator may be used with approval of the AHJ.
- 2.3. The water level indicator shall be no more than thirty (30) feet from the paved surface and not less than thirty-six (36) inches above grade.

3. Dry-Hydrant Connections

- 3.1. The dry-hydrant connection shall be constructed of a minimum of six (6) inch schedule 40 welded steel piping or any material (approved by the AHJ) that does not degrade in direct UV light, all welds shall be cleaned and painted.
- 3.2. The dry-hydrant connection and piping shall be capable of withstanding the forces applied by six (6) inch suction hose and adaptors flowing one thousand (1000) gallon per minute, without damage to the piping, tank, or other system appurtenances.
- 3.3. The fire department connection will be **6" NST/NH male threads** with cover & screen assembly. The cover shall be connected to the piping with a chain; the screen shall be commercially manufactured and field replaceable.
- 3.4. Dry hydrants installed in natural water sources shall have a PVC screen assembly or equal.

4. Protection

- 4.1. Two (2) bollards will be installed in locations to prevent mechanical damage to the dry-hydrant assembly, allowing sufficient working room to make or break connection to the dry hydrant.

5. Signage and painting

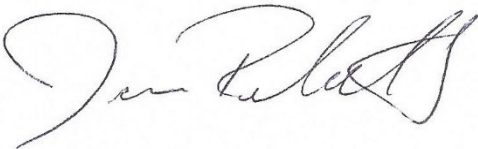
- 5.1. A permanent weatherproof sign shall be posted indicating a fire department water source. This sign will be made by the Fire Department and cost will be (approximately \$35.00) paid by the property owner. The sign is built to the specifications of the Black Forest Fire Rescue Protection District.
- 5.2. All steel piping or other materials above grade will be primed and painted bright red.
- 5.3. Reflective conspicuity tape shall be applied to the top eight (8) inches of all bollards.

6. Inspections

- 6.1. Black Forest Fire rescue will perform an operational test of the system prior to acceptance of the system.
- 6.2. Black Forest Fire will test the cistern/dry hydrant periodically to ensure operational readiness.
- 6.3. All repairs and maintenance of the cistern, dry hydrant or natural water source and grounds around the cistern or water source is the responsibility of the property owner or association.

If any additional information is required, please contact the Fire Marshal at firemarshal@bffire.org.

Respectfully,



James Rebitski
Deputy Fire Chief