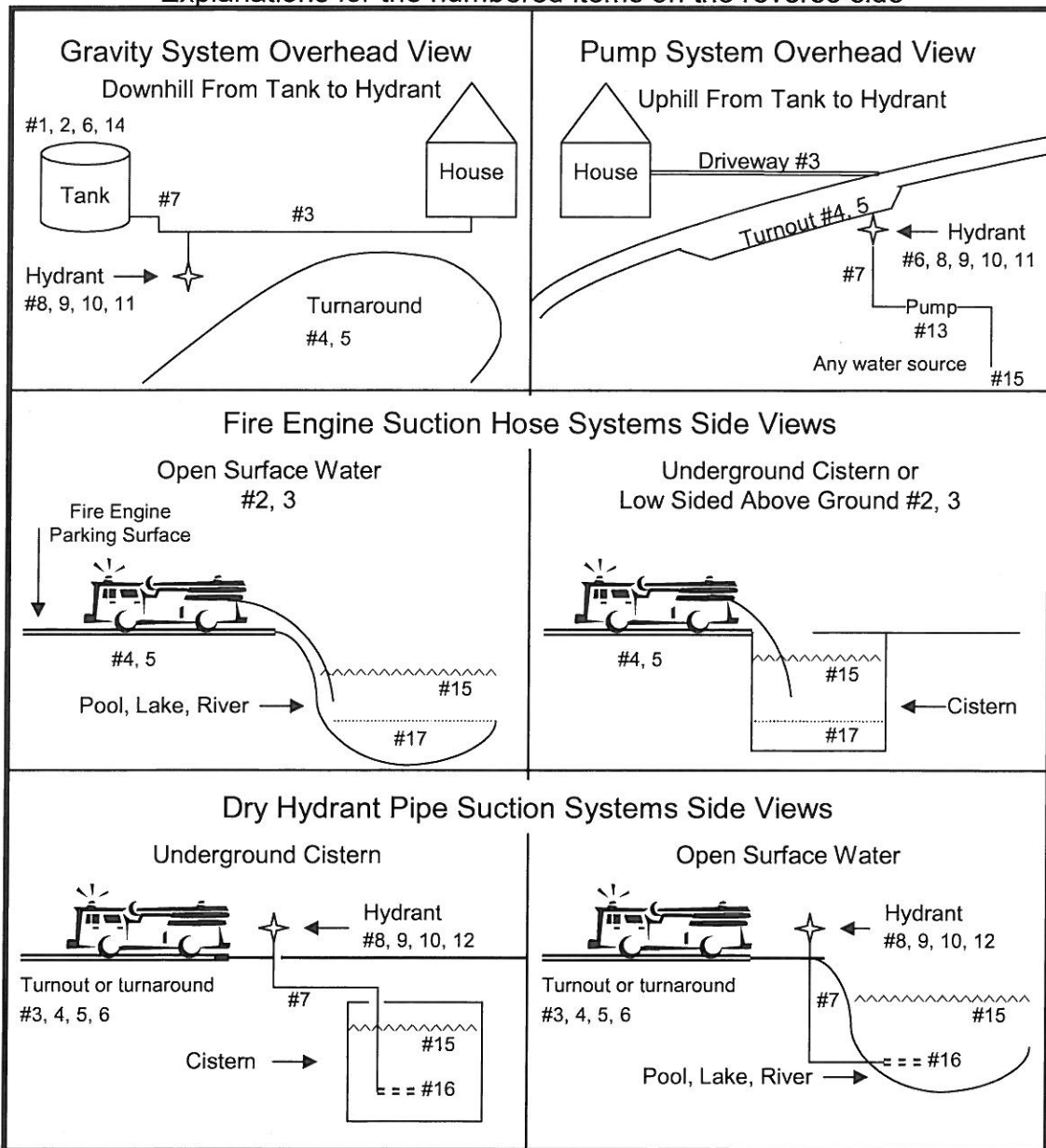


Domestic Emergency Water Supply Systems

1. The minimum emergency water storage volume of 2,500 gallons easily available for fire use.
2. The emergency supply may be separate from the domestic supply or it may be shared. When shared, and if the refilling supply source (well, etc.) cannot keep up with the daily domestic use; the amount stored should be increased so that 2,500 gallons are available for fire use any time of day.
3. The water hydrant or place for water suction must not be further than ½ mile from the dwelling, or closer than 50 feet to the dwelling using road measurements. Parcels 10 acres or less must have the hydrant/suction within 500 feet; and if this is physically impossible, within 1,000 feet.
4. All hydrant and water suction locations must provide a road standard turnout or turnaround.
5. All water supply hydrants and suction locations must be identified with a 3 inch reflectorized blue dot located 3 to 5 feet above the ground on a post that is within 3 feet of the hydrant. If located off a driveway, another blue dot must be attached to the driveway address sign. Road signs stating “fire water” are an acceptable alternative.
6. All exposed plumbing should have freeze protection and crash barriers as needed to prevent damage.
7. All pipes supplying water to hydrants must be at least 3 inches in diameter. Smaller designs must prove themselves able to provide a 200 GPM flow from the hydrant connection.
8. All hydrants must be 18 inches above ground, at least 8 feet from flammable vegetation, at least 4 feet from the parking surface where the fire equipment will be when using it and no more than 12 feet from the parking surface.
9. All hydrants must have a 2 ½ inch, make national hose connection with cap.
10. All hydrants/valves and connections must be made of brass or other corrosion resistant material.
11. A wet hydrant used with a gravity supply or pressure system must have a 2 ½ inch valve.
12. A dry hydrant used for water suction does not need a valve, but does require a strainer (perforated pipe length) at the end of the suction pipe. The strainer must be at least 3 feet long, (see note on bottom of other side).
13. Where a pump is relied upon to deliver water to the hydrant (not gravity and not suction); it must deliver 200 gallons per minute to the hydrant. If it is an electrically powered pump, it must have a fueled engine backup (or generator). Also, a strainer (see #12) is required.
14. Where gravity is used to get the water to the hydrant, the source (tank) must at least be higher than the hydrant so that all 2,500 gallons can drain out without suction. Also, the tank should be no more than 600 feet above the hydrant; or have a pressure reducer restricting to 250 psi.
15. Where suction is needed to get the water up out of a source (by hose, dry hydrant or pump) from a natural pond, underground tank, swimming pool, etc., the end of the hose or dry hydrant pipe strainer must have 2 feet of water above it at all times to prevent cavitation (a vortex funnel that allows air to be sucked in). Also, the end of the suction hose or dry hydrant pipe strainer must be held 1 foot off the bottom of storage that can accumulate debris. This means that the bottom 3 feet of storage at the suction point is unusable and at least 2,500 gallons must be available 3 feet above the bottom when the water is at the lowest level of the year.
16. Where suction through a dry hydrant pipe is used to get water up to a fire engine, the level where the suction pipe strainer is must be no more than 15 feet lower than the hydrant connection.
17. Where a fire engine suction hose is needed to get water (no dry hydrant), the level where the strainer end of the suction hose must go can be no more than 10 feet lower than the surface where the engine parks. Also, the total reach from the edge of the parking surface to where the end of the suction hose must be can require no more than 15 feet of suction hose and no sharp bends. This means that a tank with no dry hydrant will have to be below the parking area, or have a low side wall, because it could take more than 15 feet of hose to reach up to the top of a tank and then back to the bottom; and could require a very sharp bend.

Single Family Dwelling Emergency Water Supply Systems

Explanations for the numbered items on the reverse side



A hydrant can also be described as a standpipe. A wet hydrant must have a valve; a dry hydrant used for suction does not. Using metal pipe for the pipe exposed above ground is desirable. Plastic pipe may work with support and ultra-violet protection.

=== A strainer can be as simple as capping the end of the pipe and drilling 3/8 inch holes spaced 2 inches apart in all directions on the last 3 feet of pipe. No foot valve is needed for fire engine use.