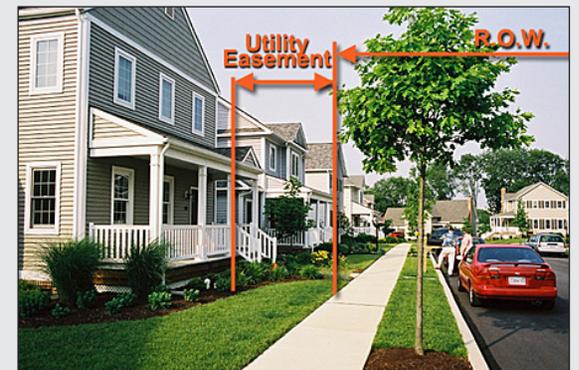


CHAPTER 8: OTHER UTILITIES



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Commentary

For communities that want long-lived and healthy street trees, determining the location of utilities must be an early part of the planning process for new developments. Both underground utilities and tree roots, as well as overhead utilities and tree height (and branching) are important considerations. Understanding and accommodating the needs of both utilities (access, etc.) and the needs of trees (root zone and mature height) will result in a better situation for both. The increasing interest in using alleys in development plans means that utilities can be located in the rear, which frees up the front for street trees.

Recommended Standards

8.0 INTRODUCTION

Utility trenches for electricity, cable TV, phone, etc., can take up a large amount of space in the road right-of-way and create conflicts with each other and the potable water, sanitary sewer, and storm sewer systems. A common or shared utility trench will reduce utility conflicts and excess costs by eliminating multiple trenches.

8.1 GENERAL

1. Where possible all electric, telephone and cable television utility lines shall be placed underground. All utilities shall be installed in a manner which will allow safe and ready access for the installation and maintenance of other utilities.
2. Lines connecting utility service to each lot shall be installed in accordance with the standards of the utility company providing such service.

8.1.1 Act 287: PA OneCall

In accordance with the provisions of Act 287, all developers, contractors, etc., will contact all applicable utilities and accurately determine that locations and depth of all underground utilities within the boundaries of the tract proposed for development, prior to excavation. A list of the applicable utilities and their phone numbers shall appear on the plans submitted to review and proof shall be presented to the Township prior to final plan approval.

8.2 LOCATION

Where practicable, all utilities, with the exception of on-site laterals, shall be located in public rights-of-way. Where this is not possible, utility easements shall be located on or adjacent to rear or side lot lines to the fullest extent possible. (See also section 8.4.)

8.3 TRENCHING AND BACKFILL STANDARDS

Where practicable, utility lines shall share a common utility easement and a common utility trench, as shown in Figure 8.1.

Recommended Standards

Commentary

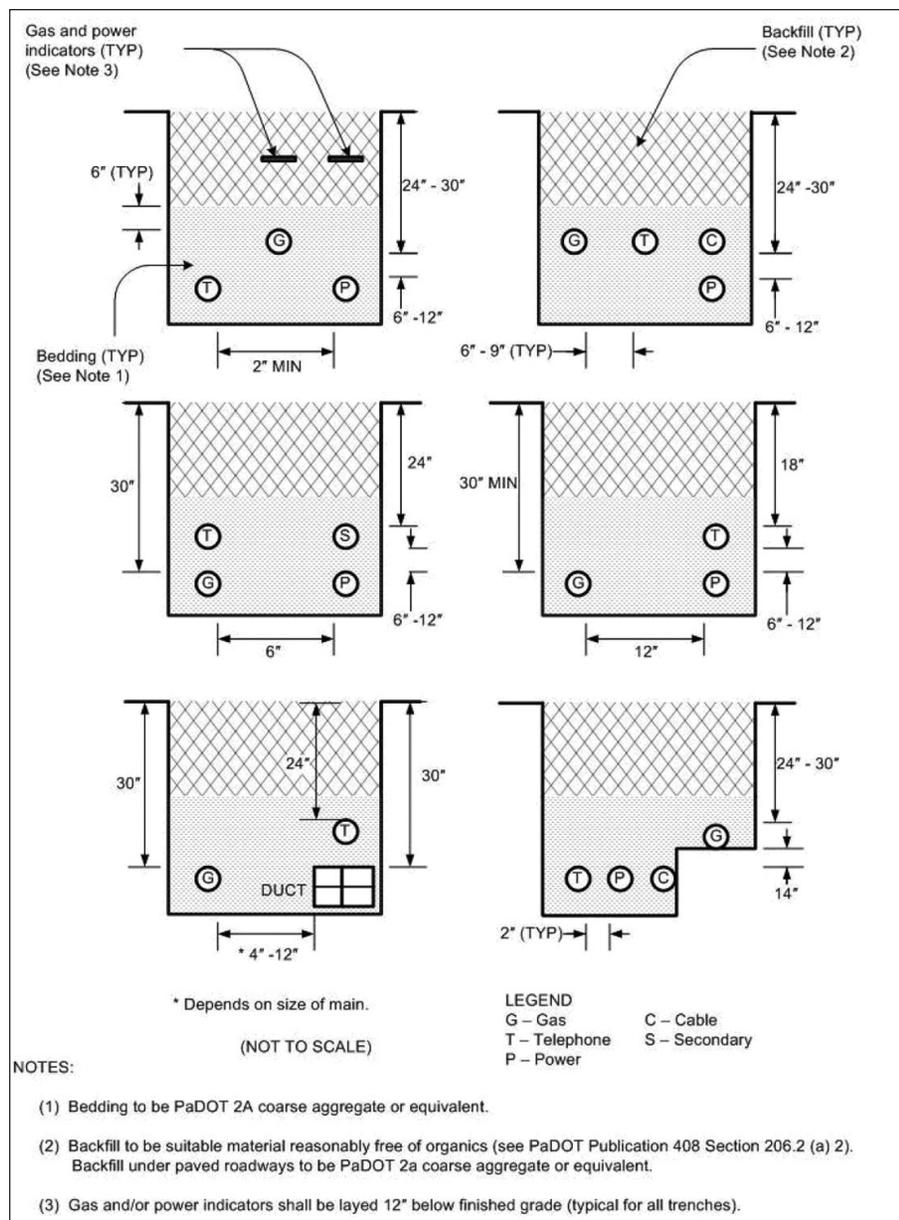


Figure 8.1. Common Utility Trench Configurations

Source: University Area Joint Authority, Ref. 2

Commentary

Utility easement width should be set to provide sufficient room to access the utility for maintenance and repair. Consideration should be given to both access and excavation needs.

Illustration 8-a. Utility easement adjacent to right of way



To aid in the development of healthy street trees, some communities require that utilities be located in an easement adjacent to the right-of-way. Conversely, the utilities could be located in a narrower strip between the street and sidewalk and there could be a requirement to plant street trees on the house side of the sidewalk.

Recommended Standards

8.4 EASEMENTS

1. To the fullest extent possible, easements shall be adjacent to property lines.
2. Utility easements outside street rights-of-way shall be a minimum of 10 feet in width or as otherwise determined by the appropriate utility company, except that easements lying parallel to and abutting street rights-of-way may be reduced to a minimum width of 5 feet. All other easements outside street rights-of-way shall be centered on or adjacent to rear or side lot lines where feasible.
3. Nothing shall be constructed, placed, or planted within the area of an easement that would adversely affect the function of the easement.

8.5 ALTERNATE FIRE PROTECTION SYSTEMS

1. When fire protection is not provided by a public water system, an alternate system consisting of underground or other water storage systems may be installed. When such a system is installed, it shall comply with the following standards.
 - a. Underground reservoirs shall be located in the public right-of-way or within easements on private lots. Said easements shall be approved by the Municipality. The Municipal Engineer and the Municipal Fire Marshall shall approve reservoir locations.

Recommended Standards

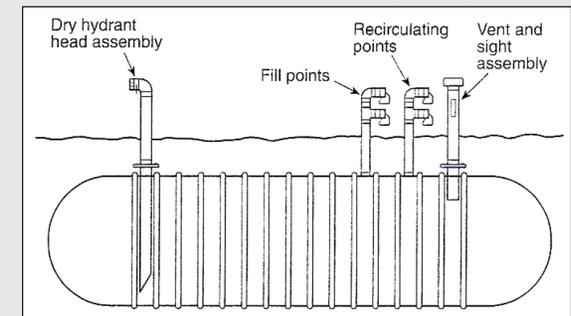
- b. Reservoirs shall be constructed to the standards required for underground, nonpotable water storage tanks. These storage tanks of NFPA 1142 (Ref. 1) shall also provide a suitable connection for coupling equipment currently in use by the fire company. The Municipal Engineer and Fire Marshal shall approve the design and installation of any underground nonpotable water storage tanks.
2. When a proposed subdivision includes an existing or proposed pond or wet stormwater basin, a dry hydrant system may be installed. These facilities must be provided with an all-weather access drive sufficient to permit ingress and egress of emergency vehicles to the drafting site.
3. Where any reservoir, dry hydrant, and/or associated equipment is located on private property, the final subdivision plan shall include appropriate easement provisions that assure access to the facility by the fire company and municipality for the purposes of operations, maintenance, and monitoring.
4. All dry hydrant systems shall be designed and constructed to provide a minimum flow of 1,000 gpm.
5. Dry hydrant connections shall conform to NFPA 1963, Standards for Fire Hose Connections.
6. If the water supply is located on private property, a water usage agreement shall be developed.

Commentary

There are many different options for providing nonpotable water for fire protection. These facilities are auxiliary to standard fire fighting equipment and typically not to be designed to be the sole source of water. Underground tanks are typically 2,000 to 3,000-gallon tanks providing the first attack of fire fighting. Underground tanks are sized to the average house size. Refer to Reference 1 for sizing criteria.

Dry hydrants within a development can allow for decreased road widths because of the reduced need for tanker trucks during a fire.

Illustration 8-b. Typical Underground Storage Tank for Fire Protection (Ref. 1)



Commentary

Illustration 8-c. Typical Fill and Vent Pipes for an Underground Storage Tank as Shown in Illustration 8-b (Ref. 1)

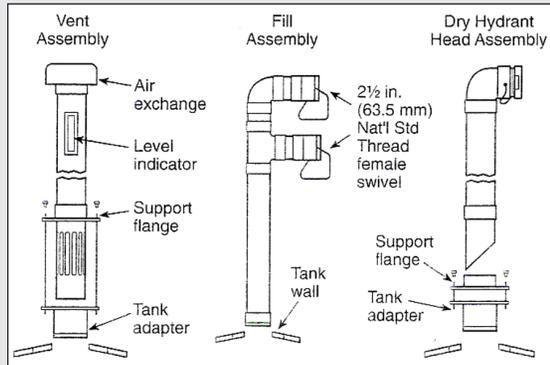


Illustration 8-d. Typical Above Ground Water Storage Tank (Ref. 1)

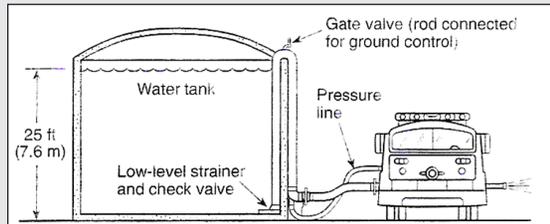
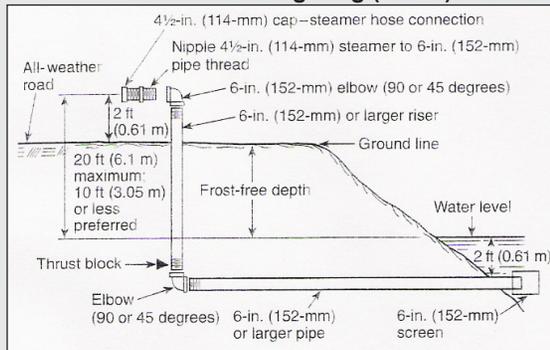


Illustration 8-e. A Dry Hydrant can be Attached to Reservoir or Pond to Provide Non-potable Water for Fire Fighting (Ref. 1)



Recommended Standards

Recommended Standards

Commentary

Illustration 8-f. Freeze Protection for a Dry Hydrant May be Needed to Prevent Damage and Maintain Water Access (Ref 1)

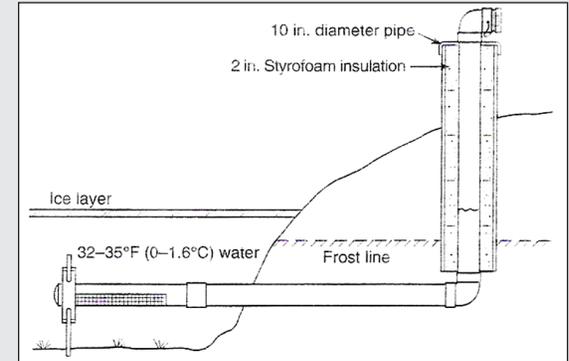
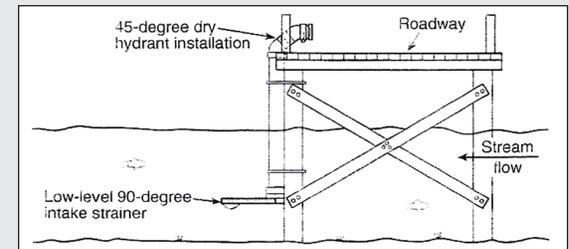


Illustration 8-g. A Dry Hydrant can be Installed in a River or Stream with Access from a Bridge (Ref. 1)



References

References

1. National Fire Protection 1142, Standard on Water Supplies for Suburban and Rural Fire Fighting, Chapter 9, Dry Hydrants.
2. Standards document, University Area Joint Authority, State College, PA.