

## ARTICLE V

### STORM DRAINAGE SYSTEMS

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ARTICLE V  
STORM DRAINAGE SYSTEMS

501.00 SPECIAL DEFINITION OF ADEQUATE STORM DRAINAGE SYSTEMS

Adequate drainage systems are those which have the hydraulic characteristics to accommodate the maximum expected flow of storm waters for a given watershed or portion thereof for a specified duration and intensity of rainfall. Said systems (1) should be designed to account for both off-site and on-site storm waters, including storm waters coming onto a given tract of land from upstream, (2) should discharge said water into the natural drainageway, and (3) should carry said water to a point where it will flow by gravity downstream into a stream, channel, or drainageway, or where it can be connected into existing facilities of sufficient capacity as determined by the Director to receive the same. In general, drainage facilities should not be terminated short of the property line unless an adequate outfall exists there. Drainage structures should be constructed in such a manner that they can be maintained at reasonable cost. To facilitate design, construction, and maintenance, said systems should meet or conform to this Manual and Virginia Department of Transportation Standards.

Determination of the size and capacity of a drainage structure should take into account the ultimate planned development in the watershed or the affected portions thereof. The design should not adversely affect adjacent or neighboring properties.

502.00 GLOSSARY FOR HYDRAULICS AND DRAINAGE

(From Virginia Department of Transportation: the following were extracted from various publications or texts, having a more extensive glossary for the subjects of hydrology, and drainage)

ACRE-FOOT - Quantity of water that would cover 1 acre, 1 ft. deep. An acre-foot contains 43,560 cu. ft.

APPROACH CHANNEL - The reach of channel upstream from a dam, bridge, construction, culvert, or other structure.

APPROACH SECTION - A cross section of a stream channel, normal to thread of current, located in the approach channel.

APRON - A floor or lining of concrete to protect a surface from erosion, such as the pavement at the outlet of culverts or storm sewers.

BACKWATER - (A) In a general sense, a flow retarding influence due to a dam, other constriction such as a bridge or culvert, or another stream; (B) the