

**SECTION 200**

**DEFINITIONS**

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## SECTION 200

### DEFINITIONS

**AASHTO:** The American Association of State Highways and Transportation Officials.

**Acre-foot:** Quantity of water that would cover one acre, one foot deep. An acre-foot contains 43,560 cubic feet.

**Adequate channel:** A natural or man-made channel, or pipe which is capable of conveying the runoff from the applicable design storm (Section 702.03) without overtopping its banks or eroding, after development of the site in question.

**Administrative Review Plans:** A plan type where the proposed improvements are to a previously approved, closed plan and/or constitute minor development such as temporary activities, parking lot alterations, landscaping changes, storage tank replacements, etc. Administrative reviews shall not generally include (1) redesign of infrastructure, (2) revisions to the internal or external traffic patterns, (3) increases to the number of buildings, units and/or lots, or (4) increases to the amount of impervious surface or (5) modifications to approved proffers or special use conditions.

**ANSI:** The American National Standards Institute, Inc.

**Approach channel:** The reach of channel upstream from a dam, bridge, constriction, culvert, or other structures.

**Approach section:** A cross-section of a stream channel, normal to threat 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.

**Architect:** A person who, by reason of his/her knowledge of the mathematical and physical sciences, and the principles of architecture and architectural design, acquired by professional education, practical experience, or both, is qualified to engage in the practice of architecture as attested by the issuance to said person of a license as an architect by the Virginia State Board of Architects, Professional Engineers, Land Surveyors and Certified Landscape Architects.

**Area:** Area shown to the nearest whole square foot or to the nearest one hundred thousandth of an acre.

**ASCE:** The American Society of Civil Engineers.

**ASTM:** The American Society for Testing and Materials.

**AWWA:** The American Waterworks Association

**Backwater:** (a) In a general sense, a flow retarding influence due to a dam, other constrictions such as bridge or culvert, or another stream; (b) the increase in water surface elevation due to a bridge constriction above the normal unconstricted elevation, at an approach section located one bridge length upstream from the bridge constriction.

**Backwater curve:** A particular form of the surface curve of a stream or water which is concave upward. It is caused by an obstruction in the channel such as an overflow dam, the depth is greater at all points than Belanger's critical and normal depths, and the velocities diminish downstream. The term is used in a generic sense to denote all water surface curves.

**Base flow:** Runoff that occurs when there is a fairly steady flow from natural storage. The flow comes from lakes or swamps or from an aquifer replenished by infiltrated rainfall or surface runoff, or from bank storage which is supplied by infiltration into channel banks as the stream water level rises and which drains back into the stream as the water level falls.

**Berm:** The space left between the upper edge of a cut and toe of an embankment to break the continuity of an otherwise long slope.

**Blasting:** The use of an explosive to excavate.

**BMP:** Best Management Practices. An effective, practicable means of reducing the amount of pollution generated by nonpoint sources, which may be structural or nonstructural practices, or a combination of practices.

**BOCS:** The Prince William Board of County Supervisors.

**BPR:** The Bureau of Public Roads.

**Bridge:** A structure erected over a watercourse, depression, or obstacle (Webster's Collegiate Dictionary). As distinguished from a culvert, it is a large structure spanning a watercourse, the bed of which is left comparatively undisturbed. The opening width is generally large compared to length (in the direction of flow). The structure generally consists of a deck or superstructure supported on two or more abutments or piers.

**Buffer area:** A strip of land that contains landscaping, possibly with a man-made barrier, located along the common property line of two dissimilar abutting land uses or properties, between a storm water management facility and buildings, along the edge of a street in a Highway Corridor Overlay District, or where proffered.

**Certified landscape architect:** A person who, by reason of his/her special knowledge of natural, physical and mathematical sciences, and the principles and methodology of landscape architecture and landscape architectural design acquired by professional education, practical experience, or both, is qualified to engage in the practice of landscape architecture and whose competence has been attested through certification as a landscape architect by the Virginia State Board of Architects, Professional Engineers, Land Surveyors and Certified Landscape Architects.

**Channel:** An elongated open depression in which water may or does flow. An elongated depression, either naturally or artificially created and of appreciable size, which periodically or continuously contains moving water, or which forms a connecting link between two bodies of water. It must have a definite bed and bank which serve to confine the water.

**Channel coefficient:** A roughness factor in the Kutter, Manning, Hazen, and other formulas expressing the character of a channel as affecting the friction slope of water flowing therein. More specifically, the roughness factor in the Manning formula.

**Coefficient of roughness:** See **Channel coefficient**.

**Conduit:** A general term for any channel intended for the conveyance of water, whether open or closed; any container for flowing water.

**Contractor:** Any person, including a subcontractor, who contracts with an operator or property owner, public or private, for the purpose of engaging in, at least, excavation, demolition or blasting.

**Control:** A section or a reach of a conduit where conditions exist that make the water level a fairly stable index of discharge. A control may be partial or complete. A complete control is independent of downstream conditions and is effective at all stages. An overflow dam, a ledge of rock crossing a channel, a boulder-covered reach, an indurated bed, are examples. Controls may be either natural or artificial.

**County:** Prince William County.

**Crest:** (a) The top of a dam, dike, spillway, or weir; frequently restricted to the overflow portion; (b) the summit of a wave; peak of a flood.

**Critical depth:** A given quantity of water in an open conduit may flow at two depths having the same energy head. When these depths coincide, the energy head is a minimum and the corresponding depth is Belanger's critical depth. It is the depth at which, for any given energy content of the water in a channel, maximum discharge occurs; or the depth at which, in a given channel, a given quantity of water flows with minimum content of energy.

**Critical watersheds:** Those watersheds of the County, in which the effect of any increased runoff creates significant flooding and drainage problems.

**Culvert:** A culvert is a closed conduit of waterway carrying water through a highway or railroad embankment. Although there are borderline cases, a culvert is distinguished from a bridge by certain characteristics, such as (a) a culvert generally has the same material all around its perimeter and has a regular, symmetrical shape, where a bridge opening has not - in other words, a culvert is a large pipe; (b) a culvert usually has a large ratio of length to width.

**Curve data:** Delta, radius, arc, tangent, and chord bearing and length.

**Debris:** Any material, including floating trash, suspended sediment, or bed load, moved by a flowing stream; detritus. This term also includes those materials which may be disposed of in a debris landfill (see Zoning Ordinance).

**Demolition:** The razing of any structure above the existing grade or demolition of any structure below the existing grade.

**Dike:** An embankment to confine or control water, especially one built along the banks of a river to prevent overflow of lowlands; a levee.

**Discharge:** (a) The quantity of water, silt, or other mobile substances passing along a conduit per unit of time, rate of flow, cubic feet per second, liters per second, millions of gallons per day, etc.; (b) The act involved in water or other liquid passing through an opening or along a conduit or channel; (c) The water or other liquid which emerges from an opening or passes along a conduit of channel.

**Ditch:** An artificial channel, usually distinguished from a canal by its smaller size.

**DPW:** The Department of Public Works.

**Drainage area:** The drainage area of a stream at a specified location, measured in a horizontal plane, which is enclosed by a topographic divide such that direct surface runoff from precipitation normally would drain by gravity into the river basin above the specified point.

**Drop:** (a) A structure for dropping the water in a conduit to a lower level and dissipating its surplus energy. A drop may be vertical or inclined; the latter is called a chute; (b) A fall. Also, the drop or fall in water surface elevation between the upstream and downstream (between headwater and tail water) sides of a bridge construction or submerged culvert, or between two sections of a slope reach.

**Easements:** The granting or conveyance of a right or interest in real property to a person(s), organization or other entity, for a specific purpose such as but not limited to conservation, ingress/egress or utility.

**Emergency:** Any condition which may cause an interruption of essential services resulting from the destruction of, disruption of, or damage to underground utility lines. (Emergency is classified as less severe than hazardous.)

**Energy:** The capacity to perform work; kinetic energy is that due to motion; and potential energy is that due to position. In a stream, the total energy at any section is represented by the sum of its potential and kinetic energies.

**Entrance loss:** The head lost in eddies and friction at the inlet to a conduit or structure.

**Excavate:** The movement or removal of earth, using mechanized equipment of blasting, which includes auguring, backfilling, digging, ditching, drilling, grading, plowing-in, pulling-in, ripping, scraping, trenching and tunneling, except for agricultural purposes on land containing no underground gas utility lines.

**FHA:** The Federal Housing Administration.

**Flood hazard area (flood hazard district):** Any normally dry area that is susceptible to being inundated by water. The flood hazard areas include, but are not limited to, the land subject to the one hundred (100) year flood.

**Flood peak:** The maximum discharge of a particular flood at a given point along a stream.

**Floodplain:** Any plain which borders a stream channel and is covered by its water in time of flood; stream bed areas subject to recurrent overflow, or inundation.

**Flood routing:** (Reservoir routing) Determination of the hydrography for a particular site in a surface channel on the basis of hydrography data for another site some distance up or downstream.

Note: Flood routing is generally used to determine changes made in flood hydrography by the floods passing through a stream reach or reservoir.

**Floodway:** The channel of a river, stream or other watercourse and the adjacent land area that must be reserved to discharge the 100-year flood without cumulatively increasing the water surface elevation more than one foot at any point.

**fps:** Feet per second.

**Friction loss (or head):** The head or energy loss as the result of disturbances set up by the contact between a moving stream of water and its containing conduit. For convenience, friction losses are best distinguished from losses due to bends, expansions, obstruction, impacts, etc., but there is no recognized line of demarcation between them, and all such losses are often included in the term "friction loss."

**General development plan:** A schematic plan (any portion of which was/is proffered or conditioned) that was attached and presented in conjunction with a rezoning or special use permit application.

**gph:** Gallons per hour.

**gpm:** Gallons per minute.

**GPIN:** Geographic parcel identification number. A unique parcel identifier that is based on the coordinate location of a parcel's centroid, and is used to index all records associated with a parcel. Example, 8193-02-1251.

**Hazardous:** Any condition which may cause an interruption of essential services and, in addition, may result in death or injury to persons or property due to destruction of, disruption of, or damage to underground utility lines. (Hazardous is classified as more severe than emergency.)

**Head:** The height of water above any point or plane of reference. Used also in various compounds, such as energy head, entrance head, friction head, static head, pressure head, lost head, etc.

**Headwater:** (a) The water upstream from a structure; (b) The source of a stream.

**Hydraulic grade line:** In a closed conduit, a line joining the elevation to which water could stand in risers. In an open conduit, the hydraulic grade line is the water surface, piezometric head line.

**Hydraulic gradient:** The slope of the hydraulic grade line; the slope of the water surface in uniform, open-channel flow.

**Hydrology:** The science dealing with the waters of the earth in their various forms; precipitation, evaporation, runoff, and groundwater.

**Imperviousness:** That quality or condition of a material that minimizes percolation.

**Invert:** The floor, bottom, or lowest part of the internal cross-section of conduit.

**Land surveyor:** A person who, by reason of his/her knowledge of the several sciences and of the principles of land surveying, and of the planning and design of land developments acquired by practical experience and formal education, is qualified to engage in the practice of land surveying, as attested by the issuance to said person of a license as land surveyor by the Virginia State Board of Architects, Professional Engineers, Land Surveyors and Landscape Architects.

**Long line:** An unconnected water line more than one hundred (100) feet in length.

**Lot:** A parcel of land, upon which a habitable structure may be built, which is the result of subdivision in accordance with Chapter 25 of the County Code, the subdivision ordinance.

**Manual:** Prince William County Design and Construction Standards Manual.

**MUTCD:** The Manual of Uniform Traffic Control Devices.

**Mechanized equipment:** Powered equipment used to excavate, and equipment used for plowing-in or pulling-in cable or pipe.

**Open-channel flow:** Flow in any open or closed conduit where the water surface is free, that is, where the water surface is at atmospheric pressure.

**Person:** Any individual, partnership, association, corporation, state, subdivision or instrumentality of a state, or the legal representative thereof.

**ppm:** parts per million.

**Precipitation:** The total measurable supply of water received directly from the clouds, as rain, snow, and hail; usually expressed as depth in a day, month, or year, and designated as daily, monthly, or annual precipitation.

**Preliminary plan:** A substantive engineering drawing prepared by a registered/certified professional engineer, land surveyor, and/or architect which illustrates the overall proposed site layout and design of a legally defined land area and that area's physical relationship to adjacent/contiguous development (existing and proposed).

**Professional engineer:** A person who is qualified to practice engineering by reason of his/her special knowledge and use of mathematical, physical and engineering sciences and the principles and methods of engineering analysis and design acquired by engineering education and experience; and who has complied with the requirements of the Virginia State Board of Architects, Professional Engineers, Land Surveyors and Landscape Architects for licensing as a professional engineer.

**Property owner:** Any person who owns fee title to a given area of land, excluding, however, any recorded easement or right-of-way.

**psi:** Pounds per square inch.

**Public improvement plan:** A site development plan showing a major public project or improvement that is ultimately dedicated to public use such as a road, sewer outfall, pump station, etc.

**PWC:** Prince William County.

**PWCSA:** The Prince William County Service Authority.

**Reach:** A comparatively short length of a stream or channel.

**Residue:** The resultant portion, containing ten (10) acres or greater, of the subdivision of a recorded parcel.

**Resubdivision:** A boundary adjustment that does not result in the creation of additional lots or parcels.

**Runoff coefficient:** The rate of runoff to precipitation.

**Runoff curve number (RCN):** An index developed by the United States Soil Conservation Service which represents the combined hydrologic condition, and antecedent soil moisture.

**SCS:** The Soil Conservation Service.

**Screening:** An opaque visual barrier for loading areas, trash receptacles, maintenance and storage areas, mechanical equipment, and similar features

**Second-foot:** A cubic foot per second; optional usage, cu. ft. per sec.; cfs.

**Site development plan:** A detailed engineering drawing showing the proposed improvements required in the development of a given parcel, and demonstrating compliance with the requirements of this manual and other law, prepared by a qualified professional who is licensed to prepare such, in accordance with the Code of Virginia and the regulations of the State Board of Architects, Professional Engineers, Land Surveyors and Landscape Architects. A site development plan could be either a subdivision plan or a site plan.

**Site plan:** A site development plan submitted in conjunction with a proposed development of non-residential use or a multi-family development.

**Site plan, minor:** A nonengineered, schematic drawing showing the site design and improvements proposed, and any possible required improvements to be made, demonstrating compliance with the Zoning Ordinance and relevant portions of this manual.

**Sketch plan:** A schematic drawing, requiring minimal engineering detail, designed to produce general agreement and consensus on the, size, access, layout, extent, location and degree of improvements necessary or proposed with a development.

**Specific energy:** The energy of a stream referred to its bed; namely, depth plus velocity head of mean velocity.

**Storm drainage system:** Any structure used principally to retain, detain, collect, direct, transfer, transport, carry, convey, distribute, or treat, singly or in any combination, storm water or other surface water, including, but not limited to aprons, basins, berms, BMP facilities, catchments, conduits, culverts, dams, dikes, ditches, drains, drops, filters, grates, infiltration devices, inlets, manholes, man-made channels, outlets, pipes, ponds, rip-rap, risers, spillways, storm sewers, swales and trenches; and also including any maintenance areas needed for such structures.

**Subdivision plan:** A site development plan submitted in conjunction with the division or redivision of a parcel of land. Also see Site development plan definition.

**Subdivision plat:** A legal document, prepared by a qualified professional, who is licensed to prepare such, in accordance with the Code of Virginia and regulations of the State Board of Architects, Professional Engineers, Land Surveyors and Certified Landscape Architects; in accordance with this manual and Chapter 25 of the Code of the County of Prince William, Virginia, for the legal division or redivision of a parcel of land into lots or parcels, for the purpose of transfer of ownership or site development.

**SWCB:** The State Water Control Board.

**SWM:** Storm Water Management.

**SWM facility:** Any storm drainage facility that is designed or otherwise intended to, or that actually does, detain or retain storm water or other surface water. When this term is used in the text of this chapter, all portions of such a facility shall be considered as included.

**Tailwater:** The water just downstream from a structure.

**Time of concentration:** The time it takes for runoff to travel from the hydraulically most distant part of the watershed to the point of reference. In hydrography analysis, it is the time from the end of excessive rainfall to the point of inflection on the falling limb of the hydrography.

**Traffic study:** A study conducted to assess the impact of traffic generated by a new use or change in use on existing or future road network, and to obtain the required information in evaluating any potential road network improvements.

**Use group:** The classification of a building or structure based on the purpose for which it is used, as listed in the Virginia Uniform Statewide Building Code.

**Utility line:** Any underground conduit and its related facilities including pipe or cable, by which an operator furnishes or transports material or services.

**VCS 1983:** The Virginia Coordinate System of 1983, as established by the Code of Virginia, Section 55-287 et seq.

**Velocity head:** The distance a body must fall freely under the force of gravity to acquire the velocity it possesses; the kinetic energy, in feet of head, possessed by a given velocity.

**VDOT:** The Virginia Department of Transportation.

**vpd:** Vehicles per day.

**VUSBC:** The current edition of the Virginia Uniform Statewide Building Code.

**Water supply:** Water that shall have been taken into waterworks from all wells, streams, springs, lakes, and other bodies of surface waters (natural or impounded), and the tributaries thereto, and all impounded groundwater, but the term "water supply" shall not include any waters above the point of intake of such waterworks (see Appendix A for Title 32.1, Article 2, Code of Virginia 1950, as amended).

**Working days:** Monday through Friday, excluding, however, any public and legal holidays.