

Glossary of Terms used in the Stormwater Industry

Term	Code	Definition
u/s	Hyd	The abbreviation for upstream, any location or activity that exists within, or moves towards, the higher part of a channel or watercourse relative to a reference point within the channel or watercourse.
Unconfined sand filter	Sto	A sand filter constructed into a pervious media such as earth. Stormwater that has passed through the filter can percolate into the surrounding earth, or pass along the sand filter towards a formal outlet structure (if one exists).
Undular hydraulic jump	Hyd	A hydraulic jump characterised by steady stationary free-surface undulations downstream of the jump and by the absence of a formed roller. The undulations can extend far downstream of the jump with decaying wavelengths.
Ungauged catchment	Hyd	A drainage catchment that has insufficient stream gauging records to allow for reliable calibration or interpretation of its hydrologic characteristics.
Unified Soil Classification System (USCS)	Sol	A widely used soil classification system that groups soils according to particle size, grading, liquid limit and plasticity index.
Uniform flow	Hyd	A flow condition in which hydraulic conditions, such as depth and velocity, are the same at all locations along the flow field at a given instant.
Unit hydrograph	Hyd	The hydrograph resulting from a unit depth of surface runoff produced by a storm of uniform intensity and specified duration. The unit depth of surface runoff is ordinarily taken to be 1mm over the entire drainage basin.
Unit threshold flow rate	Hyd	The flow rate (L/s/km ²) of a sub-catchment determined by dividing the 10th percentile flow rate (L/s) for a surface water sub-catchment zone by the area of the surface water sub-catchment zone (km ²).
Univariate	Eco	Statistical analysis concerned with data collected on one dimension of the same organism.
Universal Soil Loss Equation (USLE)	Sol	<p>A soil loss estimation equation developed to predict the long-term, average annual soil loss resulting from sheet and rill erosion acting on a given soil area. The equation does not account for soil erosion occurring within drainage channels or resulting from gully erosion.</p> <p>The equation's soil loss output (A) has units of tonnes per hectare per year, and incorporates variables accounting for rainfall erosivity (R), soil erodibility (K), slope length and grade (SL), erosion control practices (P) and ground cover and management (C).</p> <p>USLE equation: $A = R.K.L.S.P.C$ [tonnes/ha/yr]</p>
Unsaturated zone	Sol	The zone within the earth between the land surface and the water table.
Unsteady flow	Hyd	A state of flow in which velocity varies in magnitude or direction at a point in the flow field with respect to time.

Upper regime flow	Wwy	A state of flow that typically causes significant changes in the surface form of sandy channel beds. Upper regime flow conditions usually result in the formation of waves on the surface of a sandy channel bed that are in phase with the water surface waves.
Up-slope	Hyd	Any location or activity that exists within, or moves towards, the higher part of a slope relative to a reference point on the slope. Usually used in reference to overland flow paths or other areas primarily subjected to sheet flow.
Upstream (u/s)	Hyd	Any location or activity that exists within, or moves towards, the higher part of a channel or watercourse relative to a reference point within the channel or watercourse.
Uptake	Eco	A process by which materials are absorbed and incorporated into a living organism.
Urban area	Gen	Land associated with, or part of, a gazetted city or town.
Urban capability mapping	Geo	A land mapping system that rates the suitability of a defined area for urban development. Usually used as a planning tool to assist in responsible planning and management of urban development.
Urban catchment	Hyd	A drainage catchment, or sub-catchment, primarily consisting of a range of urban land uses.
Urban waterway	Wwy	A waterway, whether natural or artificial, located within, or passing through, an urban area. Though strictly referring only to navigable channels and watercourses, it commonly refers to any urban watercourse.
USCS	Sol	The abbreviation for Unified Soil Classification System, a widely used soil classification system that groups soils according to particle size, grading, liquid limit and plasticity index.
USLE	Sol	The abbreviation for Universal Soil Loss Equation. A soil loss estimation equation developed to predict the long-term, average annual soil loss resulting from sheet and rill erosion acting on a given soil area.
V-notch weir	Hyd	A sharp-crested, V-shaped weir generally used to control and/or measure small flow rates; can also function well for reasonably large flows. Also known as a TRIANGULAR WEIR.
Vadose	Sol	Relating to water found above the watertable.
Vadose zone	Sol	The area between the land surface and the watertable. The pore spaces within this zone contain both water and gases.
Values	Gen	Any property of a thing that makes it esteemed, desirable, or useful, or the degree of worth (monetary or intangible) this property possesses.
Varied flow	Hyd	A state of flow in which, at a given instant, conditions vary significantly from point to point within the flow field. Varied flow includes the conditions of gradually varied flow and rapidly varied flow. Also known as NON-UNIFORM FLOW.

Vectors	Eco	Any agent that acts as an intermediate carrier or an alternative host for a pathogenic organism and transmits it to a susceptible host.
Vegetated channel	Wwy	A channel primarily lined with vegetation other than grasses. Vegetated channels typically incorporate vegetation from the four main groups: aquatic plants, ground covers (including grasses), understory plants (including shrubs and small trees) and upper storey (canopy cover) trees.
Vegetated swale	Sto	A shallow, low-gradient, vegetated drainage channel designed to convey and treat shallow, concentrated stormwater runoff. Vegetation usually consists of grasses, herbaceous plants and shrubs. The swale may or may not contain a sub-soil drainage system depending on the soil conditions and treatment requirements. Also known also as a VEGETATIVE SWALE.
Vegetated waterway	Wwy	A natural or constructed waterway primarily lined with vegetation other than grasses.
Vegetative cover	Esc	A type of ground cover or soil stabilisation primarily consisting of living vegetation.
Vegetative protection	Esc	The process of stabilising erodible areas by establishing living vegetation.
Vegetative roughness	Hyd	That component of hydraulic roughness directly associated with the interaction between vegetation and fluid flow.
Vegetative swale	Sto	A shallow, low-gradient, vegetated drainage channel designed to convey and treat shallow, concentrated stormwater runoff. Vegetation usually consists of grasses, herbaceous plants and shrubs. The swale may or may not contain a sub-soil drainage system depending on the soil conditions and treatment requirements. Also known also as a VEGETATED SWALE.
Velocity	Hyd	The rate of movement of water flowing past a point in a specific direction.
Velocity head	Hyd	A measure of the kinetic energy of flow in a pipe or channel obtained by dividing the square of the velocity by twice the acceleration of gravity. Velocity head at a point along a streamline is determined using the flow velocity at that point. Velocity head at a flow cross section is ordinarily determined using the average flow velocity of the cross section, and as such, may require use of a velocity head coefficient to determine a true representation of the velocity head.
Velocity head coefficient	Hyd	A coefficient (") used in the determination of the velocity head and Froude number for open channel flow that compensates for the effects of variations in flow velocity throughout the width and depth of the cross section. The velocity head coefficient of unity (1.0) is commonly assumed for channels of simple rectangular, circular or trapezoidal cross section (i.e. channels without overbank flow areas).

Venturi meter	Hyd	A device that measures the rate of flow of fluids, consisting of a narrow tube containing a well-defined constriction. The static pressure change between the constricted and unconstricted flow is directly related to the rate of fluid flow.
Verification	Hyd	The act of independently comparing model and field results to verify the adequacy of the model representation.
Violent rainfall		See SEVERE RAINFALL.
Visual amenity	Gen	Aspects of the landscape that provide an interesting, agreeable or pleasing view.
Volatile	Eco	Relating to a low boiling or subliming pressure (i.e. a high vapour pressure).
Volatilisation	Sto	The process of converting a chemical substance from a liquid or solid to a gaseous or vapour state. Typical stormwater pollutants treated by volatilisation include hydrocarbons and mercury.
Volumetric flow rate	Hyd	Instantaneous discharge measured in units of displacement volume per unit time.
Volumetric runoff coefficient	Hyd	The ratio of the volume of stormwater runoff to the volume of rainfall that produced the runoff. Different coefficients will be obtained when analysing single storm events compared to the assessment of the average annual runoff (average annual volumetric runoff coefficient).