GLOSSARY

Term	Definition
Absorption	A process by which substances in gaseous, or solid form dissolve or mix with other substances.
Access Holes	Access structures and alignment control points in a storm drainage system.
Adsorption	Adherence of gas molecules, ions or molecules to solid surfaces.
Aeration	A process where a substance becomes permeated with air or another gas. The term is usually applied to aqueous liquids being brought into close contact with air by spraying, bubbling or agitating.
Aesthetic	The aspects of water that are perceivable by the senses (such as vision, smell, etc.).
Algae	Comparatively simple chlorophyll-bearing plants, most of which are aquatic and microscopic in size.
Ambient	The natural conditions that would be expected to occur in waters not influenced by man. For stream sampling purposes, those periods of streamflow are not influenced by recent storm events.
Annual Exceedance Probability (AEP)	Refers to the probability or risk of a natural event with a given size occurring or being exceeded in any given year. A 90% AEP event represents a high probability of flood occurring or being exceeded; meaning it would occur quite often and would be relatively small. On the other hand, a 1% AEP event has a low probability of occurrence or being exceeded; therefore it would be fairly rare but it would be relatively large.
Antecedent Moisture Condition (AMC)	A qualitative indication of the moisture content of surficial soils at the beginning of a storm event.
Anti-Seep Collar	A device installed around a culvert, pipe or conduit through an embankment, which lengthens the path of seepage along the exterior of the conduit.
Aquatics	Plants that grow either partly or completely submerged in water.
Average Recurrence Interval (ARI)	The average elapsed time in years between floods of a given size occurring. For example a 1 year flood occurs on average once every year, therefore the ARI value would be relatively small. Contrast to that, a 100 year ARI flood (i.e. occurs on average once every one hundred years and fairly rare) would have a relatively large ARI value.
Bankfull Discharge	A condition where flow from a stream completely fills the stream channel up to the top of the bank. In disturbed watersheds, the discharge condition occurs on average every 1.5 to 2 years and this controls the slope and form of the natural channels.
Barrel	A closed conduit used to convey water under or through an embankment, which is a part of the principal spillway.
Baseflow	The portion of a stream flow that is not due to storm runoff, and is supported by groundwater seepage into a channel.
Berm	A shelf that breaks the continuity of a slope; a linear embankment or dike.

Term	Definition
Best Management Practice (BMP)	A structure or practice designed in stormwater management to prevent the discharge of one or more pollutants to the land surface thus minimising the chance of wash-off by stormwater. It can also be referred to a structure or practice to temporarily store or treat urban stormwater runoff to reduce flooding, remove pollutants, and provide other amenities (such as recreational, fishing spots, etc.).
Biochemical Oxygen Demand (BOD)	The quantity of oxygen consumed during the biochemical oxidation of matter over a specified period of time (See also COD). It is measured in the dark as the decrease in the oxygen content (in terms of mm/L) of a water sample with a certain temperature over a certain period of time. The decrease in oxygen content is brought about by the bacterial breakdown of organic matter. The decomposition usually proceeds as far as after 20 days until no further change occurs. The oxygen demand is measured after 5 days (and is termed BOD ₅), where 70% of the final value is expected to be reached.
Bioengineering	Restoration and stabilisation techniques that use plants, often from native species, to mimic the natural functions and benefits.
Biofiltration	The use of a series of vegetated swales to provide filtering treatment for stormwater as it is conveyed through a channel. These swales can either be grassed, contain emergent wetlands or high marsh plants.
Biofiltration Swale	A sloped, vegetated channel or ditch that provides both conveyance and water quality treatment to stormwater runoff. It does not provide stormwater quantity control but may convey runoff to BMPs, which are designed for that purpose.
Biological Indicators	Organisms (e.g. plants, macro-invertebrates and fish) that serve as indicators of the quality and characteristics of that waterbody.
Bioretention	A water quality practice that utilises landscaping and soils to treat urban stormwater runoff by collecting it in shallow depressions before filtering through a fabricated planting-soil media.
Bloom	An unusually large number of organisms in a unit of water, usually made up of one or more algae species.
Box Gutter	A graded channel generally of a rectangular shape used for the conveyance of rainwater located within buildings.
Buffer	The zone contiguous with a sensitive area that requires continual maintenance, function, and structural stability. The critical functions of a riparian buffer (those associated with an aquatic system) include shading, input of organic debris and coarse sediments, uptake of nutrients, stabilisation of banks, interception of fine sediments, overflow during high water events, protection from disturbance by human and domestic animals and maintenance due to hydrologic or climatic effects. The critical functions of terrestrial buffers include protection of slope stability, attenuation of surface water flows from storm water runoff plus precipitation and erosion control.
Bypass Flow	Flow which eludes an inlet on grade and is carried to the next inlet downgrade in the street or channel.

Term	Definition
Catchbasin	A chamber or well usually built at the kerb line of a street for the admission of surface water to a sewer or subdrain. At the base of the chamber or well, a sediment sump is designed to retain any grit and detritus located below the point of the overflow.
Catchment	An area draining flow to a particular location or site. It may frequently include an area of tributary streams and flow paths as well as the main stream.
Check Dam	An earthen or gabion structure placed perpendicular across a stream to enhance aquatic habitats. This structure when used in grass swales reduces water velocities, promotes sediment deposition and enhances infiltration.
Check Storm	A lesser frequency event used to assess hazards at critical locations.
Chemical Oxygen Demand (COD)	A monitoring test that measures all the oxidisable matter found in a runoff sample in which a portion of these matters deplete dissolved oxygen in receiving waters.
Combination Inlets	The use of both a curb opening inlet and a grade inlet.
Concentration	The quantifiable amount of chemicals in the surrounding water, food or sediment.
Conservation	The protection, improvement and use of natural resources according to principles resulting in greater economic and social benefits.
Constructed Wetlands	The creation of a wetland on a site, which is designed specifically to remove pollutants from stormwater runoff.
Contributing Watershed Area	A portion of the watershed contributing to its runoff at the point of interest.
Conventional Pollutants	Contaminants other than nutrients (such as sediments, oil, and vehicle fluids).
Conveyance	A mechanism for transporting water from one point to another (which includes pipes, ditches and channels).
Conveyance System	It refers to drainage facilities of both natural and man-made that collect, contain and provide for the flow of surface and stormwater from the highest points of the land right down to receiving waters. The natural elements of the conveyance system include swales and small drainage courses, streams, rivers, lakes and wetlands. The human-made elements of the conveyance system include gutters, ditches, pipes, channels and most retention/detention facilities.
Critical Depth	The depth of flow during critical flow events.
Critical Flow	The flow in an open channel that is at a minimum specific energy and has a Froude Number equal to 1.0.
Cross Slope	The rate of change of roadway elevation with respect to the distance perpendicular to the direction of travel. It is also known as transverse slope.
Cumulative	Brought about or the increased in strength, by successive additions at different times or in different ways.

Term	Definition
Darcy's Law	An empirical law based on experimental evidence for the flow of fluids assuming the flow is laminar and inertia can be neglected. It states that the velocity of the flow through a formation is directly proportional to the hydraulic gradient.
Dead Storage	A permanent pool volume located below the outlet structure of a storage device. Dead storage provides water quality treatment but not water quantity treatment.
Design Storm	A selected rainfall event of specified amount, intensity, duration and frequency used as the basis of design.
Detention	A temporary storage of storm runoff in a BMP, which is used to control the peak discharge rates by controlled release rate(s).
Detention Time	The amount of time a volume of water is detained in a BMP.
Detritus	Unconsolidated sediments composed of inorganic (i.e. dead and decaying) and organic material.
Development	The erection of a building or the carrying out of work; or the use of land or of a building or work; or the subdivision of land.
Direct Runoff	The streamflow produced in response to a rainfall event and is equal to the total stream flow minus its baseflow.
Discharge	The volume of water that passes a given location within a given period of time (e.g. outfall; the flow of water from a well, a pump, a pipe, a drainage basin or an aquifer in m^3/s).
Discharge Area	An area in which water is lost from the saturated zone.
Discharge Structure	The outlet structure of a structural BMP (such as a pond) designed to release water at a designed flow rate.
Dissolved Constituent	Constituents in a water sample that will pass through a 0.45 μm membrane filter.
Drainage Area	The area of a watershed within which all surface runoff drains by gravity into a stream channel or lake upstream of a given location.
Drainage Easement	A legal encumbrance that is placed against a property's title to reserve specified privileges for the users and beneficiaries of the drainage facilities contained within the boundaries of the easement.
Drainage Inlets	The receptors for surface water collected in ditches and gutters, which serve as a mechanism whereby surface water enters storm drains and this refers to all types of inlets (such as grate inlets, curb inlets, slotted inlets, etc.).
Drawdown	The vertical distance where the free water elevation is lowered, or the reduction of the pressure head due to the removal of free water.
Dry Pond	A facility that provides stormwater quantity control by containing excess runoff in a detention basin and then releasing it at allowable levels.
Dry Vault/Tank	A facility that treats stormwater for water quantity control by detaining runoff in underground storage units and then releasing reduced flows at established standards.

Term	Definition
Dry-pit Stations	Pump stations that use both wet and dry wells. Stormwater is stored in the wet well, which is connected to the dry well by horizontal suction piping. The stormwater pumps are located on the floor of the dry well.
Eaves Gutter	A channel, for the conveyance of rainwater, located along the eaves of a roof external to the fascia line. A concealed eaves gutter is located inside the fascia line and can also be called an internal eaves gutter.
Ecology	The study of the habits and modes of life-living organisms (such as plants and animals), and their relationships to each other and their environment.
Effluent	Waste material (e.g. liquid industrial discharge or sewage) that may be discharged into the environment.
Emergency Spillway	The channel of a pond-type BMP, designed to pass a storm event that exceeds the design capacity of the primary discharge structure.
Emergent Plants	Aquatic plants that are rooted in the sediment but whose leaves are at or above the water surface. These wetland plants often have high habitat values for wildlife and waterfowl, and can aid in pollutant uptake.
Endemic	Confined to or originating in a given region as an island. Area or country and found nowhere else.
Energy Dissipater	Any means by which the total energy of flowing water is reduced. In stormwater design, they are usually mechanisms that reduce velocity prior to, or at, discharge from an outfall in order to prevent erosion. They include rock splash pads, drop manholes, concrete stilling basins or baffles, and check dams.
Environmental Values	Particular values or uses of the environment that are conducive to public benefit, welfare, safety or health and that require protection from the effects of pollution, waste discharges and deposits. Several environmental values may be designated for a specific waterbody.
Ephemeral Stream	A stream which does not flow continuously or flows only for short period of time.
Erosion	The wearing of the land surface by water or wind and the subsequent detachment and transportation of soil particles.
Erosion and Sediment Control	Temporary or permanent measures taken to reduce erosion, control siltation and sedimentation, ensuring that sediment-laden water does not leave a site.
Erosive Velocities	Velocities of water that are high enough to wear away land surface. Exposed soil will generally erode faster than stabilised soils. Erosive velocities will vary according to the soil type, slope, structural or vegetative stabilisation used to protect the soil.
Eutrophic	Abundant in nutrients and having high rates of productivity frequently resulting in oxygen depletion below the surface layer of a waterbody.
Eutrophication	Enrichment of water with nutrients, primarily phosphorus, causing abundant aquatic plant growth (mainly algae blooms).
Evaporation	The physical process by which a liquid (such as water) in a stream, lake or moist soil is transformed into a gaseous state. It may be expressed as the total (or the mean) rate in units of mass (or volume) per unit area or as an equivalent depth of water for the period concerned.

Term	Definition
Evapotranspiration	The total water vapour loss from an area by evaporation and transpiration from plants over a given time period. It includes the evaporation of water from soils, dew and intercepted precipitation, as well as transpiration from plants.
Event Mean Concentration (EMC)	The average concentration of an urban pollutant measured during a storm runoff event. The EMC is calculated by flow-weighing each pollutant sample measured during a storm event.
Excess Rainfall	An amount of rainfall greater than what the soil can absorb, resulting in runoff.
Exfiltration	The downward movement of runoff through the bottom of an infiltration BMP into the soil layer.
Extended Detention	A stormwater management BMP that provides for the gradual release of a volume of water over a time interval designed to increase settling of urban pollutants and protect downstream channels from frequent flooding.
Extended Detention Dry Ponds	Depressed basins that temporarily store a portion of the stormwater runoff following a storm event. The extended detention time of the stormwater provides an opportunity for urban pollutants carried by the flow to settle out.
Faecal Coliform Bacteria	Minute living organisms associated with human or animal faeces that are used as an indirect indicator of the presence of other disease-causing bacteria.
Filtration Media	The sand, soil or other organic material in a filtration device used to provide a permeable surface for pollutant and sediment removal.
Floatables	Materials found in runoff that are buoyant such as polystyrene, plastic, cigarette butts and other types of organic materials.
Flood	Relatively high streamflow which overtops the natural or artificial banks in any part of a stream or river.
Flood Routing	Determining the rise and fall of floodwater as it progresses downstream.
Flood Standard (or Designated Flood)	The flood selected for planning purposes. The choice should be based on an understanding of flood behaviour and the associated flood risk. It should also take into account social, economic and ecological considerations.
Flood Storages	Parts of the floodplain that are important for the temporary storage of floodwaters during the passage of a flood.
Floodplain	The low land adjacent to a waterbody, which is subjected to flooding.
Floodways	Areas where a significant volume of water flows during floods. They are often aligned with obvious naturally defined channels. Floodways are areas, which even if only partially blocked would cause a significant redistribution of flood flow that may in turn adversely affect other areas. They are often, but not necessarily the areas of deeper flow or the areas where higher velocities occur.
Flow Splitter	An engineered, hydraulic structure designed to divert a percentage of storm flow to a BMP located out of the primary channel, or to direct stormwater to a parallel pipe system or to bypass a portion of baseflow around a BMP.
Forebay	An extra storage area provided near an inlet of a pond BMP to trap incoming sediment before it accumulates in a pond BMP.
Foreshore	The land between a water body and the dominant ridge line facing the water body.

Term	Definition
Freeboard	The space from the top of an embankment to the highest water elevation expected for the largest design storm stored. This space is required as a safety margin in a pond or basin.
Gates	Gates are control device at drainage outlet to avoid backflow during high tides or high flood levels at the receiving water bodies. They are normally opened during low water levels and closed during higher water levels at the receiving water bodies.
Grade	The slope of a land surface, road or channel bottom.
Grass Channel	An open vegetated channel used to convey runoff and to provide treatment by filtering pollutants and sediments.
Grate Inlets	Parallel and/or transverse bars arranged to form an inlet structure.
Gross Pollutant Trap	A device used to intercept gross pollutants being transported in stormwater.
Gross Pollutants	Stormwater laden debris typically larger than 3 mm (includes litter and organic matter).
Groundwater Mound	A round, mound-shaped surface in a water table or other potentiometric surface that builds up as a result of the downward percolation of water.
Groundwater Table	The free surface of the underground water that is frequently subjected to conditions such as fluctuating atmospheric pressure with the season, withdrawal rates and restoration rates. Therefore, the groundwater table is seldom static.
Gully	A channel caused by the concentrated flow of surface and stormwater runoff over unprotected erodible land.
Habitat	The kind of locality in which animal breeds or plants normally grow. It is also the geographic distribution or native home of plant or animals.
Hydraulic Conductivity	For isotropic porous medium and homogenous fluids. The term refers to the volume of water at the existing kinematic viscosity that will move in unit time under a unit hydraulic gradient through a unit area measured at right angle to the direction of flow. Replaces the term coefficient of permeability.
Hydraulic Grade Line (HGL)	A line coinciding with the level of flowing water in an open channel. In a closed conduit flowing under pressure, the HGL is the level to which water would rise in a vertical tube at any point along the pipe. It is equal to the energy gradeline elevation minus the velocity head, $V^2/2g$.
Hydraulic Gradient	Slope of the water or potentiometric surface. The change in static head per unit of distance in a given direction. If not specified, the direction generally is understood to be the maximum rate of decrease in head.
Hydraulic Head	The height above a datum plane (such as sea level) of the column of water that can be supported by the hydraulic pressure at a given point in a groundwater system. For a well, the hydraulic head is equal to the distance between the water level in the well and the datum plane.
Hydraulic Jump	A flow discontinuity, which occurs at an abrupt transition from subcritical to supercritical flow.

Term	Definition
Hydraulic Radius	This is the ratio of cross sectional area of the flow to the wetted perimeter. For a circular pipe flowing full, the hydraulic radius is one-fourth of the diameter. For a wide rectangular channel, the hydraulic radius is approximately equal to the flow depth.
Hydraulics	The study of water flow; in particular the evaluation of flow parameters such as stage and velocity in a river or stream.
Hydrogeology	The science that deals with subsurface waters and related geologic aspects of surface waters. Also used in the more restricted sense of groundwater geology.
Hydrograph	A graph showing stage, flow, velocity, or other characteristics of water with respect to time. A stream hydrograph commonly shows rate of flow; a groundwater hydrograph shows the water level or head.
Hydrologic Abstractions	Losses of rainfall that do not contribute to direct runoff. These losses include water retained in surface depressions, water intercepted by vegetation, evaporation and infiltration.
Hydrologic Budget (Balance)	An account of the inflow to, outflow from and storage in a hydrologic unit such as a drainage basin, aquifer, soil zone, lake, or reservoir. It is also expressed as the relationship between evaporation, precipitation, runoff and the change in water storage by the hydrologic equation.
Hydrologic Equation	The equation that balances the hydrologic budget.
Hydrology	The study of the rainfall and runoff process and relates to the derivation of hydrographs for given floods, draughts and other water resources aspects.
Hydroperiod	A seasonal occurrence of flooding and/or soil saturation. It encompasses depth, frequency, duration and seasonal pattern of inundation.
Hydroplanning	Separation of the vehicle tire from the roadway surface due to a film of water on the roadway surface.
Illicit Discharge	All non-urban runoff discharges to urban runoff drainage systems that could cause or contribute to a violation of water quality, sediment quality, or groundwater quality standards. This discharge includes sanitary sewer connection, industrial process water, car washing, etc.
Impermeable	A condition where a material is incapable of transmitting significant quantities of water under pressure differences.
Impervious Surface	A hard surface area, which either prevents or retards the entry of water into the soil mantle under natural conditions, and/or causes water to run off the surface in greater quantities or at an increased rate of flow compared to the present flow under natural conditions; prior to development. Common impervious areas include (but are not limited to) rooftops, walkways, patios, driveways, parking lots, storage areas, concrete or asphalt paving, gravel roads, packed earthen materials and oiled macadam.
Imperviousness	The percentage of impervious cover within a defined area.
Impoundment	The body of water retained by a berm, dam or dike.
Indigenous	Native to; belonging naturally to a particular area, country etc. (endemic).

Term	Definition
Infiltration	The downward movement of water from the soil surface at ground level into the underlying subsoil. Water infiltrates into the soil profile and percolates through it. The infiltration capacity is expressed in terms of mm/hr. Infiltration depends heavily on the vegetative cover of the soil surface, while permeability depends on the soil texture and compaction.
Infiltration Basin	A facility that provides stormwater quantity control by containing excess runoff in a detention facility, then percolating that runoff into the surrounding soil.
Infiltration Capacity	The maximum or limiting infiltration rate.
Infiltration Rate	The rate at which a soil under specified conditions absorbs falling rain, melting snow, or surface water expressed in depth of water per unit time (centimetres per second, inches per hour).
Inlet	A form of connection between the surface of a ground and a drain or sewer for the admission of surface and stormwater runoff.
Invasive Exotic Plants	Non-native plants having the capacity to compete and proliferate in introduced environments.
Invert	The lowest point on the inside of a culvert or pipe.
Leaching	The loss of nutrients from the existing ground (i.e. when rain dissolve the nutrients and are carried away). There are possibilities that chemical fertilisers leached from the ground are able to pollute streams and other water sources.
Level Spreader	A device used to spread out stormwater runoff uniformly over the ground surface as sheet flows (not through channels). The purpose of level spreaders is to prevent concentrated and erosive flows from occurring, thus enhancing infiltration.
Lowflow Channel	An incised or paved channel from the inlet to the outlet in a dry basin, which is designed to carry low runoff flows and/or baseflow directly to the outlet without detention.
Macrophyte	A member of the macroscopic plant life, especially of a waterbody.
Major Storm	A precipitation event that is higher than the typical largest rainfall for a year.
Major System	A system that provides overland relief for stormwater flows exceeding the capacity of the minor system and is composed of pathways that are provided, knowingly or unknowingly, for the runoff to flow to natural or manmade receiving channels such as streams, creeks or rivers.
Management Plan	A document including, as appropriate, both written and diagrammatic information describing how a particular area of land is to be used and managed to achieve defined objectives. It may also include description and discussion of various issues, problems, special features and values of the area, the specific management measures which are to apply and the means and timing by which the plan will be implemented.
Mathematical (Computer) Models	The mathematical representation of physical processes (e.g. rainfall and runoff, or mobilisation and transport of pollutants by runoff). These models usually run on computers due to the complexity of the mathematical relationships.
Mean Depth	The average depth described as the cross-sectional area of the inundated channel divided by its surface width.

Term	Definition
Minor System	A system, which consists of the components of the storm drainage system that is normally designed to carry runoff from the more frequent storm events. These components include curbs, gutters, ditches, inlets, manholes, pipes and other conduits, open channels, pumps, detention basins, water quality control facilities, etc.
Mulch	Organic material spread on soil to aid moisture retention and prevent weed growth. It also provides nutrients and helps to open soil texture.
Naturalise	The establishment of plants in a manner as though they are of wild species.
New Development	Includes the following activities: land disturbing activities, structural development including construction, installation or expansion of a building or other structure, and creation of impervious surfaces.
Nonpoint Source (NPS) Pollution	Pollution caused by sediment, nutrients, organic and toxic substances originating from land-use activities and/or from the atmosphere, which are carried to surface waterbodies by runoff. (NPS) pollution occurs when the rate at which these materials entering waterbodies exceeds natural levels.
Nutrient	A substance necessary for the growth of organisms.
Observation Well	A test well installed in an infiltration BMP to monitor draining times and sediment accumulation after installation.
Off-line	A stormwater management system designed to manage a storm event by diverting a percentage of stormwater events from a stream or storm drainage system.
Off-line BMP	A water quality facility designed to treat a portion of stormwater, which has been diverted from a stream or storm drain.
Off-line Treatment	A BMP system that is located outside of the stream channel or drainage path. A flow splitter is used to divert runoff from the channel and into the BMP for treatment.
Off-site	Any area lying upstream of the site that drains onto the site and any area lying downstream of the site.
Oil/Grit Separator	A best management practice designed to remove heavy particulate and hydrocarbons.
On-line	A stormwater management system designed to manage stormwater in its original stream or drainage channel.
Orifice	An opening with closed perimeter usually sharp-edged and of regular form in a plate, wall, or partition through which water may flow. Generally used for the purpose of measurement or flow control.
Orifice Flow	Flow of water through a submerged opening and controlled by pressure forces.
Outfall	The point or structure of a conduit discharging to a waterbody.
Outlet	Point of water disposal of a stream, river, lake, tidewater or artificial drain.
Overflow Rate	Detention basin release rate divided by the surface area of the basin. It can be thought of as an average flow rate through the basin.
Overtopping	To flow over the limits of a containment or conveyance element.

Term	Definition
Oxidation	The combination of oxygen with a substance, or the removal of hydrogen from it, or more generally, any reaction in which an atom loses electrons.
Oxygenation	The process of adding dissolved oxygen to a solution.
Parameter	A measurable (or quantifiable) characteristic (or feature).
Peak Discharge	The maximum flow for a given hydrologic event at a specified location.
Percolation	The movement under hydrostatic pressure of water through the interstices of rock or soil, except for the movement through large openings such as caves.
Percolation Rate	The rate expressed as either velocity or volume per unit of time at which water percolates through a porous medium.
Perennial	Plant that grow for more than two years.
Permeability	The capacity of a geologic material in transmitting a fluid. The degree of permeability depends upon the size and shape of the openings and the extent of the interconnections of the material.
Pervious	Allowing for the passage of water.
Pesticide	A substance or mixture of substances used to eliminate unwanted species of plants or animals.
pН	Value taken to represent the acidity or alkalinity of an aqueous solution. It is defined as the negative logarithm of the hydrogen ion acidity of the solution.
Point Source	A distinct, identifiable source of pollutants.
Porous Pavement	An alternative to conventional pavement whereby runoff is diverted through a porous asphalt layer or manufactured pavement grid into an underground stone reservoir. Thus, the stored runoff gradually infiltrates into the subsoil.
Post-development Peak Runoff	Maximum instantaneous rate of flow during a storm after a development is completed.
Pretreatment	The removal of material such as gross solids, grit, grease and scum from flows prior to physical, biological or chemical treatment processes to improve treatability. Pretreatment may include screening, grit removal, stormwater and oil separators.
Probability	A statistical measure of the expected frequency or occurrence of flooding. For a fuller explanation, see Annual Exceedance Probability.
Pump	Pump is a motor that drive the propeller, impeller or screw to lift flood water to a higher elevation. Pump selection and numbers depend on station layout, required pump rate, wet well depth, and maintenance considerations. The size of each motor depends on the pump size, flow rate, pressure head, and duty cycle.
Pump Station Controls	Control circuitry includes the flood level at which the pump station will be activated, sequence of operation, activation of the standby generator when necessary, deactivation when the flood event has passed, and operation of any night security lighting. Controls may also include automatic communication with a central office on the station's status regarding water levels, pump readiness, utility electrical power, standby generator fuel level, security, or other central office concerns.

Term	Definition
Pump Station Discharge Channels	Conveyance that direct the pump flows into the receiving water bodies and shall be designed to avoid any backflow into the pump sump.
Pump Station Power Sources	The power source is usually provided by the local utility that normally require electrical substation. Every pump station shall have an on-site standby electrical generator because the type of storm that makes a pump station necessary is also the type of storm that interrupts utility power.
Pump Station Side-spill Weir	Side-spill weir is a device to separate the stormwater channel and the pump storage or sump to prevent stormwater from entering the pump storage or sump during normal period where the flow can be discharge through gravity.
Pump Sump and Storage	The sump and storage are small pond to receive the inflow of storm water prior to pumping. The storage can attenuate the storm hydrograph peak to reduce the required pumping rate. In most circumstances, the stormwater that brings along debris can clog and damage the pumps and debris removal system shall be provided before the flows enter the sump and storage. Convenient access shall be provided for the removal of accumulated debris and silt.
Rainfall Intensity	The rate at which precipitation occurs at a given instant.
Rainhead	A collector of rainwater at the end of a box gutter generally of a rectangular shape and external to a building, which is connected to an external downpipe.
Reach	The smallest portion of a drainage system consisting of a uniform shape, cross- section and slope.
Receiving Waters	Bodies of water or surface water systems receiving water from man-made (or natural) upstream streams.
Recharge	Replenishment of groundwater by downward infiltration of water from rainfall, streams and other sources. Natural recharge occurs without assistance or enhancement by man. Artificial recharge occurs when the natural recharge pattern is modified deliberately to increase recharge.
Recharge Basin	A basin constructed on the ground surface to receive discharge from streams, storm drains or other sources for the purpose of replenishing groundwater supply.
Redevelopment	The construction, alteration or improvement exceeding 500 square meters of existing land currently used as commercial, industrial, institutional or multifamily residential.
Release Rate	The rate of discharge in volume per unit time from a detention facility.
Restoration	The reestablishment of wetland functional characteristics and processes to previously defined wetlands that have been lost through alterations, activities or catastrophic events.
Retention	The holding of runoff in a basin without release except through means of evaporation, infiltration or emergency bypass.

Term	Definition
Retention/Detention Facility	A drainage facility designed to hold water for a considerable length of time then releasing it by evaporation, plant transpiration and/or infiltration into the ground. It is also designed to hold surface and stormwater runoff for a short period of time and then releasing it to the surface and stormwater management system.
Retrofitting	The renovation of an existing structure or facility to meet changed conditions or to improve performance.
Right-of-way	Right of passage, as over another's property. A route that is lawful to use. A strip of land acquired for transport or utility construction.
Riparian	Pertaining to the banks of streams, wetlands, lakes or tidewater. A relatively narrow strip of land that borders a stream or river, which often coincides with the maximum water surface elevation of the 100 year storm.
Riprap	A facing layer or protective mound of stones placed to prevent erosion or sloughing of a structure or embankment due to the flow of surface and stormwater runoff.
Riser	The vertical portion of an inlet to a conduit, extending from the barrel to the water surface.
Risk	A statistical concept defined as the expected frequency or probability of undesirable effects resulting from a specified exposure to known or potential environmental concentrations of a material. A material is considered safe if the risks associated with its exposure are judged to be acceptable. Estimates of risk may be expressed in absolute or relative terms. Absolute risk is the excess risk due to exposure. Relative risk is the ratio of the risk in an exposed population to the risk in an unexposed population.
Runoff	A portion of rainfall which ends up as streamflow; also known as rainfall excess.
Safety Bench	A flat area above the permanent pool and surrounding a stormwater pond designed to provide a separation to adjacent slopes.
Saturated Zone	Part of a water-bearing material in which all voids, both large and small, are ideally filled with water under pressure greater than atmospheric.
Sediment	Mineral and organic soil material that is transported in suspension by wind or water flow from its origin to another location.
Separate Sewer Overflow (SSO)	An event where wastewater entering sanitary sewers may be so great the collection system or sewage treatment plant cannot handle the increased flow and may be due to blockage, a lack of capacity, inflow and infiltration or other reasons. As a result, untreated sewage empties directly into receiving waters, often from manholes or up through sewer connections.
Settleable Solids	Suspended solids in stormwater that separate by settling when the stormwater is held in a quiescent condition for a specified time.
Sheet Flow	Runoff, which flows over the ground surface as a thin, even and unconcentrated layer in a channel.
Short Circuiting	The passage of runoff through a BMP in less than the theoretical or design treatment time.

Term	Definition
Shrub	Plant with many woody stems, the main ones rising from near the base.
Slope	A ratio of run (horizontal) to rise (vertical).
Slotted Inlets	A section of pipe cut along the longitudinal axis with transverse bars spaced drainage form slots.
Soil Groups	The great soil group system is one system that can be used to classify soils. The grouping depends on the presence and type of morphological features observed in the field, selection of these features and the weighting they receive based on the concepts of soil genesis.
Soil Moisture	Water or moisture contained in the soil mantle.
Soil Porosity	The percentage of the soil (or rock) volume that is not occupied by solid particles, including all pore space filled with air and water.
Soil Stabilisation	The use of measures such as rock lining, vegetation or other engineering structures to prevent the movement of soil when loads are applied.
Source Control BMP	BMP that is intended to prevent pollutants from entering the stormwater. A few examples of source control BMPs are erosion control practices, maintenance of stormwater facilities, constructing roofs over storage and working areas, and directing wash water and similar discharges to the sanitary sewer or a dead end sump.
Species	The basic unit of biological classification; a group of individual plants resembling each other by a combination of constant characteristics with inter- breeding possible within the species but generally not between species.
Spillway	A passage (such as a paved apron or channel) for surplus water over or around a dam or similar obstruction. An open or closed channel, or both, used to convey excess water from a reservoir. It may contain gates, either manually or automatically controlled to regulate the discharge of excess water.
Spreading Water	Discharging native or imported water to a permeable area for the purpose of encouraging it to percolate to the saturated zone. Spreading, artificial recharge and replenishment all refer to operations used to place water in a groundwater basin.
Steady Flow	Flow that remains constant with respect to time.
Storm Drain	A particular storm drainage system component that receives runoff from inlets and conveys the runoff to some point. They are either closed conduits or open channels connecting to two or more inlets.
Stormwater	Water resulting from runoff from a storm event. During a rainfall event some water remains on the surface or is held in the soil or underground aquifer as groundwater, a portion of the water is used directly by plants and the remainder flows over the surface. This overland flow is called stormwater. It usually moves as overland (sheet) flow or channel (concentrated) flow.
Stormwater Management	The process of controlling the quality and quantity of stormwater to protect the downstream environment.
Stormwater Ponds	A land depression or impoundment created for the detention or retention of stormwater runoff.

Term	Definition
Stormwater Site Plan	A plan, which shows the measures taken during and after project construction to provide erosion and sediment control, and stormwater control.
Stormwater Treatment Train	A series of BMPs or natural features, each designated to treat a different constituent, component, or aspect of runoff, implemented together to maximise pollutant removal effectiveness.
Stormwater Utility	An utility established to generate a dedicated source of funding for stormwater pollution prevention activities where users pay a fee based on land-use and contribution of runoff to the stormwater system.
Stormwater Wetlands	Shallow, constructed pools that capture stormwater and allow for the growth of characteristic wetland vegetation.
Structural BMPs	Devices which are constructed to provide temporary storage and treatment of stormwater runoff.
Subcritical Flow	Flow characterised by high velocities, large depths, mild slopes and a Froude number less than 1.0.
Sump	A collector of rainwater, generally of rectangular shape, in the sole of a box gutter and connected to a downpipe within the building perimeter. Its function is to increase the head of water at the entry to the downpipe and thus increasing its capacity.
Surface Drainage System (Property Drainage)	A system for the collection and conveyance of stormwater, the elements which includes kerbs and gutters, site stormwater drains or channels and appurtenances and pumped systems.
Suspended constituent	The constituents in a water sample (the residue) that are retained on a filter medium. The type of filter must be specified.
Suspension	A system in which very small particles (e.g. solid, semi-solid or liquid) are more or less uniformly dispersed in a liquid or gaseous medium. If the particles are small enough to pass through filter membranes, the system is termed a colloidal suspension. If the particles are larger than colloidal dimensions they will tend to precipitate if heavier than the suspending medium, or if lighter, to agglomerate and rise to the surface.
Swale	A natural or human-made open depression or wide, shallow ditch that intermittently contains or conveys runoff. Can be used as a BMP to detain and filter runoff.
Threshold Concentration	A concentration, where if above will produce some effect (or response) and vice versa.
Time of Concentration	The time required for water to travel from the hydraulically most distant point to the outlet of a drainage area.
Toxicity	The inherent potential or capacity of a material to cause adverse effects in a living organism.
Toxicity test	The means by which the toxicity of a chemical or other test material is determined. It is used to measure the degree of response produced by exposure to a specific level of stimulus (or concentration of chemicals).

Term	Definition
Trash Rack	A protective structural device installed to protect outlet structures from inflowing debris.
Travel Time	The time interval required for water to travel from one point to another through a part (reach) of a watershed.
Treatment Control BMPs	These are methods of treatment to remove pollutants from the stormwater. Treatment control BMPs are also known as "structural controls". These controls do require maintenance.
Turbidity	Cloudiness of water due to suspended solids.
Turbulence	Unorganised movement in liquids and gases resulting from the eddy formation.
Uniform Flow	A state of steady flow where the mean velocity and cross-sectional area remain constant.
Unit Hydrograph	The direct runoff hydrograph produced by a storm of given duration such that the volume of excess rainfall and direct runoff is 1 cm.
Unsaturated Zone	The zone between the land surface and the water table. It includes the capillary fringe and may contain water under pressure less than that of the atmosphere.
Unsteady Flow	Flow that changes with respect to time.
Uptake	A process by which materials are absorbed and incorporated into a living organism.
Vadose Zone	See Unsaturated Zone.
Valley Gutter	Inclined channels placed at the intersecting sloping surfaces of the adjacent roof for the conveyance of rainwater.
Varied Flow	Flow in an open channel where the flow rate and depth change along the length of the channel.
Vegetated Filter Strip (VFS)	A facility that is designed to provide stormwater quality treatment of conventional pollutants but not nutrients through the process of biofiltration.
Water Quality BMP	A BMP specifically designed for pollutant removal.
Water Quality Criteria	Scientific data evaluated to derive the recommended limits for water uses.
Water Quality Inlets	Pre-cast storm drain inlets (oil and grit separators) that remove sediment, oil and grease, and large particulates from paved area runoff before it reaches storm drainage systems or infiltration BMPs.
Water Table	The upper surface of a saturated zone except where that surface is formed by an impermeable body; or locus of points in soil water at which the pressure is equal to atmospheric pressure; or the surface where groundwater is encountered in a well in an unconfined aquifer. The water table is a particular potentiometric surface.
Weed	Generally a plant which rapidly reproduces itself in large numbers, and if not checked, supersedes or destroy cultivated crops or interferes with their cultivation.

Term	Definition
Weir Flow	Flow over a horizontal obstruction controlled by gravity.
Wet Detention Ponds	A BMP consisting of a permanent pool of water designed to treat runoff by detaining water long enough for settling, filtering, and biological uptake. Wet ponds are also often designed to have an aesthetic or recreational value.
Wet Pond	A facility that treats stormwater for water quality by utilising a permanent pool of water to remove conventional pollutants from runoff through sedimentation, biological uptake and plant filtration.
Wetlands	Areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, at under normal circumstances, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes and bogs. This includes wetlands, which are created, restored or enhanced as part of a mitigation procedure. This does not include constructed wetlands or surface waters intentionally constructed from sites that are not wet-lands such as irrigation and drainage ditches, grass-lined swales, canals, agricultural detention facilities, farm ponds and landscape amenities.
Wet-pit Stations	Pump stations designed such that the pumps are submerged in a wet well or sump with the motors and the controls located overhead.