

Glossary of Storm Water Terms

APWA: American Public Works Association, a member association that provides support and resources to those working in the Public Works field.

Aquifer: An underground area that contains fresh water in sufficient amounts to yield useful quantities to wells and springs.

Artificial Wetlands: Wetlands that are artificially created, often as part of a water treatment facility.

Basin: A hydrologic unit consisting of a part of the surface of the Earth covered by a drainage system consisting of a surface stream or body of impounded surface water plus all tributaries.

Berm: An earthen mound used to direct the flow of runoff around or through a structure.

Best Management Practices (BMPs): Activities or structural improvements that help reduce the quantity and improve the quality of storm water runoff. BMPs include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Bio retention: A water quality practice that utilizes landscaping and soils to treat urban storm water runoff by collecting it in shallow depressions. It then filters the runoff through a fabricated planting soil media.

Buffer Strip or Zone: Strips of trees, grass or other erosion resistant vegetation located between a waterway and an area of more intensive land use.

Catch Basin: An entryway to the storm drain system, usually located at street corners.

Culvert: A short, closed (covered) conduit or pipe that passes storm water runoff under an embankment, usually a roadway.

CWA: The Clean Water Act. Passed in 1972, it is the basis for much of the regulatory oversight for water pollution prevention in the United States.

Detention Pond: A storm water system that delays the downstream progress of storm water runoff in a controlled manner. This is typically accomplished using temporary storage areas and a metered outlet device. (As opposed to a less common Retention pond)

Dike: An embankment used to confine or control water. Dikes are often built along the banks of a river to prevent overflow; a levee.

Discharge: The volume of water and suspended sediment of surface water, that passes a given location within a given period of time. Rivers are usually measured in Cubic Feet Per Second (CFS). Storm water discharge can be measured in gallons per minute (GPS).

Drip Guard: A device used to prevent drips of fuel or corrosive or reactive chemicals from contacting other materials or areas.

Ecosystem: An ecological community and its environment interacting and functioning as a unit.

Erosion: When land is diminished or worn away due to wind, water or glacial ice. Often the eroded debris (silt or sediment) becomes a pollutant via storm water runoff. Erosion occurs naturally, but can be intensified by land clearing activities such as farming, development, road building and timber harvesting.

Eutrophication: Excessive levels of phosphorous, nitrogen, and nutrients in the water, which leads to a decrease in oxygen levels. Often characterized by excessive growth of algae and aquatic vegetation, which often results in deteriorated water quality and beach closings.

Filter Fabric: A textile of relatively small mesh that is used to allow water to pass through, while keeping sediment out (permeable) or prevent both runoff and sediment from passing through (impermeable).

Filter Strip: A long, narrow portion of vegetation used to retard water flow and collect sediment for the protection of watercourses, reservoirs, or adjacent properties.

Flash Flood: A sudden, violent flood after heavy rain.

Flood: A temporary rise in flow or stage of any watercourse or storm water conveyance system that results in storm water runoff exceeding its normal flow boundaries and inundating adjacent, normally dry areas.

Flood Control: The specific regulations and practices that reduce or prevent the damage caused by storm water runoff.

Floodplain: Any land area susceptible to inundation by storm water from any source.

Flow meter: A gauge that shows the speed of water moving through a conveyance.

Free Groundwater: Unconfined groundwater whose upper surface is a free water table.

General Permit: A permit issued under the NPDES program to cover a certain class or category of storm water discharges. These permits reduce the administrative burden of permitting storm water discharges.

Grading: The cutting and/or filling of the land surface to a desired slope or elevation.

Groundwater: That portion of the water beneath the surface of the Earth that can be collected with wells, tunnels, or drainage galleries, or that flow naturally to the Earth's surface via seeps or springs.

Holding Pond: A pond or reservoir, usually made of earth, built to store polluted runoff for a limited time. (Detention Basin)

Illicit Connection or Discharge: Any discharge to a municipal separate storm sewer that is not composed entirely of storm water, and is not authorized by an NPDES permit, or is not due to fire fighting activities.

Infiltration: The penetration of water through the ground surface into sub-surface soil or the penetration of water from the soil into sewer or other pipes through defective joints, connections, or manhole wells.

Inlet: An entrance into a ditch, storm sewer or other waterway.

Karst: Topography characterized by regions of carbonaceous rock formations typified by limestone caverns and sinkholes.

Lagoon: A shallow pond where sunlight, bacterial action and oxygen work to purify wastewater.

Large Municipal Separate Storm Sewer System (MS4): A storm sewer system located in an area serving a population of 250,000 or more, as determined by the latest U.S. Census. Comprising multiple conveyance systems, including ditches, that transfers storm water from impervious surfaces to streams.

Material Storage Area: On-site location where raw materials, final products, by-products or waste materials are stored.

Medium Municipal Separate Storm Sewer System (MS4): A storm sewer system located in an area serving a population 100,000 or more but less than 250,000, as determined by the latest U.S. Census. Comprising multiple conveyance systems, including ditches, that transfers storm water from impervious surfaces to streams.

Monitoring Well: A non-pumping well used for drawing water quality samples.

Non-Point Source (NPS) Pollutants: Pollutants from many diffuse sources. Rainfall or snowmelt moving over and through the ground causes NPS pollution. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and even our underground sources of drinking water.

Notice of Intent (NOI): An application to notify the permitting authority of a facility's intention to be covered by a general permit; exempts a facility from having to submit an individual or group application.

National Pollutant Discharge Elimination System (NPDES): The name of the surface water quality program authorized by Congress as part of the 1987 Clean Water Act. This is EPA's program to control the discharge of pollutants to waters of the United States.

Oil/Grease Traps: Devices that collect oil and grease, removing them from water flows.

Oil Sheen: A thin, glistening layer of oil on the surface of water.

Oil/Water Separator: A device installed (usually at the entrance to a drain) which removes oil and grease from water entering the drain.

Outfall: The point where wastewater or drainage discharges from a sewer pipe, ditch or other conveyance to a receiving body of water.

Permeability: The characteristic of soil that allows water or air to move through it. Usually described in inches/hours or inches/day.

Permit Issuing Authority (Permitting Authority): The state agency or EPA regional office that issues environmental permits to regulated facilities.

Phyto-Filtration: Using plants and trees to filter impurities or excessive levels of nutrient from water.

Plunge Pool: A basin used to slow flowing water. The pool may be protected from erosion by various lining materials.

Point Source Pollutant: Pollutants from a single, identifiable source such as a factory, refinery or place of business.

Pollutant Loading: The total quantity of pollutants in storm water runoff. Total Daily Maximum Loading (TMDL) is the limiting of pollutant loading into a body of water, such as a lake or river.

Recharge: Re-supplying of water to the aquifer. Recharge generally comes from snowmelt and storm water runoff.

Residual: The amount of pollutant that remains in the environment after a natural or technological process has taken place, such as the particulates remaining in air after passing through a scrubber.

Retention: A process that halts the downstream progress of storm water runoff. This is typically accomplished using total containment involving the creation of storage areas that use infiltration devices, such as dry wells, to dispose of stored storm water via percolation over a specified period of time. (As opposed to a more common Detention Pond)

Riparian: Of, or pertaining to, rivers/streams and their banks.

Runoff: Drainage or flood discharge that leaves an area as surface flow or as pipeline flow has reached a channel or pipeline by either surface or sub-surface routes.

Sanitary Sewer: A system of underground pipes that carries sanitary waste or process wastewater to a treatment plant.

Secondary Containment: Structures, usually dikes or berms, surrounding tanks or other storage containers to catch spilled material.

Sediment/Silt: Soil, sand and materials washed from land into water, usually after rain. Sediment can destroy fish-nesting areas, clog animal habitats, and cloud water so that sunlight does not reach aquatic plants.

Sediment Trap: A device for removing sediment from water flows, usually installed at points of outflow.

Sedimentation: The process of depositing soil, clay, sand or other sediments that were moved by the flow of water.

Small Municipal Separate Storm Sewer System (MS4): A storm sewer system located in an area serving a population less than 100,000, as determined by the latest U.S. Census. Comprising multiple conveyance systems, including ditches, that transfers storm water from impervious surfaces to streams. The City of Cape Girardeau is a small MS4.

Spill Prevention Control and Countermeasures Plan (SPCC): Plans to prevent and respond to spills of hazardous substances as defined in the Clean Water Act.

Storm Drain: A slotted opening leading to an underground pipe or an open ditch carrying surface runoff. These lead directly to streams and do not go through a treatment or processing plant.

Storm Water: Precipitation from a storm event that flows quickly into streams or accumulates in natural or constructed storage systems. Storm water often includes pollutants and sediment from land surfaces.

Storm Water Facilities: Systems such as watercourses, constructed channels, storm drains, culverts, and detention/retention facilities that are used for the conveyance and/or storage of storm water runoff.

Storm Water Management: Functions associated with planning, designing, constructing, maintaining, financing and regulating the facilities (both constructed and natural) that collect, store, control and/or convey storm water.

Storm Water System: The entire assemblage of storm water facilities located within a watershed.

Storm Sewer Utility: A means of establishing a dedicated and reliable source of revenue based on user fees, rather than taxes, to help solve storm water management problems. This steady revenue source ensures that funds will be available to support a local storm water management program.

Sump: A pit or tank that catches liquid runoff for drainage or disposal.

Surface Water: Water that remains on the surface of the ground, including rivers, lakes, reservoirs, streams, wetlands, impoundments, seas, estuaries, etc.

Swale: A low lying or depressed, at least seasonally, wet stretch of land. Often lined with grass (grassy swale) and used as a conveyance for storm water.

Total Maximum Daily Load (TMDL): a tool for establishing the allowable loadings of a given pollutant in a surface water resource to meet predetermined water quality standards.

Underground Storage Tanks (UST's): Storage tanks that have at least 10% of their storage capacity underground.

Urban Runoff: Storm water from urban areas, which tends to contain heavy concentrations of pollutants from vehicles and industry.

Watercourse: A lake, stream, creek, channel, storm water conveyance system, or other topographic feature, over which storm waters flow at least periodically.

Watershed: That geographical area which drains to a specified point on a water course, usually a confluence of streams or rivers (also known as drainage area, catchment or river basin)

WEF: Water Environment Federation, technical and educational organization dedicated to research and education for clean and safe water around the world.

Wetlands: Land with a wet, spongy soil, where the water table is at or above the land surface for at least part of the year. Wetlands are characterized by a prevalence of vegetation that is adapted for life in saturated soil conditions. Examples include swamps, bogs, fens, marshes, and estuaries.

Wet Weather Flows: Water entering storm drains during rainstorms.