

STORMWATER MANAGEMENT GLOSSARY

Compiled by the Environmental Committee of the League of Women Voters of Newton
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Aquifer A geologic stratum containing groundwater that can be withdrawn and used for human purposes, and that supplies water to rivers.

Backwater Water upstream from an obstruction which is deeper than it would normally be without the obstruction.

Bio-retention Method of catching and storing rain water runoff using certain landforms and plantings such as vegetated wetlands, rain gardens, green roofs.

Biofiltration swale or Bioswale A long, gently sloped, vegetated ditch designed to filter pollutants from stormwater. Grass is the most common vegetation, but wetland vegetation can be used if the soil is saturated.

Catch basin A device to slow or screen storm drainage in order to separate solids which can then be removed.

Cistern Underground storage for rainwater captured for reuse.

Conveyance System Drainage facilities and features that collect, contain, and provide for the flow of surface and storm water from the highest points on the land down to a receiving water. Conveyance systems are made up of natural elements and of constructed facilities.

Culvert Pipe or concrete box structure which drains open channels, swales, ditches, even streams or brooks under a roadway and/or under the ground, typically with no catch basins or manholes along its length.

DEP Department of Environmental Protection, the Massachusetts agency responsible for enforcing state environmental laws. It also works in collaboration with the federal EPA.

Drainage facility A constructed or engineered feature that collects, conveys, stores or treats surface and storm water runoff. Drainage facilities include but are not limited to constructed or engineered streams, pipelines, channels, ditches, gutters, lakes, wetlands, water quality treatment facilities, and erosion and sedimentation control facilities.

EIS: Environmental Impact Statement.

Embankment A structure of earth, gravel, or similar material raised to form a pond bank or foundation for a road.

EPA Environmental Protection Agency. The federal agency charged with the enforcement of US environmental laws.

Erosion The detachment and transport of soil or rock fragments by water, wind, ice, etc.

Eutrophic A condition of a water body in which excess nutrients, particularly phosphorous, stimulate the growth of aquatic plant life usually resulting in the depletion of dissolved oxygen. It often results from runoff carrying fertilizers. Also referred to as "Nutrient loading"

FEMA Federal Emergency Management Agency.

Groundwater Underground water found in aquifers. Groundwater usually originates from infiltration. Wells tap the groundwater for water supply uses.

Hardpan A cemented or compacted and often clay-like layer of soil that is impenetrable by roots.

Heavy metals A subset of elements that exhibit metallic properties, generally with high metallic weights, toxic in low concentrations to life, often residual in the environment and accumulative biologically. e.g., mercury, chromium, cadmium, arsenic, lead.

Hydrologic cycle The circuit of water movement from the atmosphere to the earth and return to the atmosphere such as: precipitation, interception, runoff, infiltration, percolation, storage, evaporation, and transpiration.

Illicit discharges Discharges of non-stormwater into the storm drainage system that should be going to the sanitary sewer system, a holding tank, on-site process water treatment system or septic system.

Impervious surface A hard surface area which either prevents or retards the entry of water into the soil mantle as under natural conditions prior to development; and/or a hard surface area which causes water to run off the surface in greater quantities or at an increased rate of flow from the flow present under natural conditions prior to development.

Infiltration/Inflow (I/I) Clean storm and/or groundwater that enters the sewer system through cracked pipes, leaky manholes, or improperly connected storm drains, down spouts and sump pumps. Most inflow comes from stormwater and most infiltration comes from groundwater. I/I affects the size of conveyance and treatment systems and, ultimately, the rate businesses and residents pay to operate and maintain them.

Infiltration facility A drainage facility designed to use the hydrologic process of water soaking into the ground (percolation) to dispose of surface and storm water runoff.

Leachate Formed by leaching, especially a solution containing contaminants picked up through the leaching of soil.

Low Impact Development (LID) Development which employs natural onsite drainage features and landscaping techniques to help control and contain storm water to increase natural recharge and reduce pollution.

MWRA Massachusetts Water Resources Authority, which supplies drinking water and sewage treatment for 60 communities in eastern Massachusetts. This independent agency wholesales its services to municipalities and is funded by fees from the communities it serves.

Nonpoint source (NPS) pollution Occurs when rainfall, snowmelt, or irrigation runs over land or through the ground, picks up pollutants, and deposits them into water bodies or introduces them into ground water.

NPDES National Pollution Discharge Elimination System. A permitting system administered by EPA under the federal Clean Water Act.

Outfall A point where collected and concentrated surface and storm water runoff is discharged from a pipe system or culvert.

Percolation The downward flow or infiltration of water through soils

Point discharge The release of collected and/or concentrated surface and storm water runoff from a pipe, culvert, or channel.

Pollution-generating impervious surface An impervious surface considered to be a significant source of pollutants in surface and storm water runoff. Such surfaces include those subject to vehicular use or storage of erodible or leachable materials, wastes, or chemicals, and which receive direct rainfall or the run-on or blow-in of rainfall.

Pollution-generating pervious surface A non-impervious surface with vegetative ground cover subject to use of pesticides and fertilizers. Such surfaces include, but are not limited to, the lawn and landscaped areas of residential or commercial sites, golf courses, parks, and sports fields.

Rain Barrel Captures rainwater for reuse; normally at a downspout termination

Rain Garden A planted depression that allows rainwater runoff from impervious surfaces like roofs, drives, walks, and compacted lawn areas the opportunity to be absorbed.

Recharge The flow to groundwater from the infiltration of surface and stormwater runoff.

Riparian Pertaining to the banks of rivers and streams, and sometimes also wetlands, lakes, or tidewater.

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 storm water runoff.

Runoff Water originating from rainfall and other precipitation that ultimately flows into drainage facilities, rivers, streams, springs, seeps, ponds, lakes, and wetlands as well as shallow groundwater.

Sanitary sewer system The system of pipes, pumps, and pump stations that collect and transport wastewater from homes and businesses to a wastewater treatment plant, where it is processed. It is not "sanitary" but is called so to distinguish it from "storm sewers". 3.

Sediment Control A practice or device designed to keep eroded soil on a site so that it does not wash off and cause pollution to a nearby water body.

Septic system An onsite wastewater collection system.

Sewage The subset of wastewater that is contaminated with feces or urine.

Sludge A semi-liquid substance consisting of settled sewage solids combined with water and dissolved materials; product of sewage treatment

SSOs Sanitary sewer overflows. These occurrences, which are caused by obstructions or rain water flooding the pipes, must be reported to the EPA.

Stormwater Water that runs off surfaces such as rooftops, paved streets, highways, and parking lots, as well as hard grassy surfaces like lawns, play fields, graveled roads and parking lots.

Storm drain system The system of gutters, pipes, streams, or ditches used to carry surface and storm water from surrounding lands to streams, lakes, rivers, or the ocean.. Also see Conveyance System.

Stormwater Management The application of site design principles and construction techniques to prevent sediments and other pollutants from entering surface or ground water; source controls; and treatment of runoff to reduce pollution.

Structural Best Management Practices (BMP) Constructed facilities or measures to help protect receiving water quality and control stormwater quantity. Examples include storage, vegetation, infiltration, and filtration.

Swale A shallow drainage conveyance with relatively gentle side slopes.

Water quality treatment facility A drainage facility designed to reduce pollutants once they are already contained in surface and storm water runoff. Water quality treatment facilities are the structural component of best management practices (BMPs); when used singly or in combination, water quality facilities reduce the potential for contamination of surface and/or ground waters.

Watershed The region draining into a river, river system, or other body of water. Also a ridge of high land dividing two areas that are drained by different river systems.

Wetland An area inundated or saturated by ground or surface water at a frequency and duration sufficient to support, and that normally do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. e.g. swamps, marshes, bogs, and similar areas.

Wet pond Drainage facilities for water quality treatment that contain a permanent pool of water. They are designed to optimize water quality by providing long retention times (on the order of a week or more) to settle out particles of fine sediment to which pollutants such as heavy metals adsorb, and to allow biologic activity to occur that metabolizes nutrients and organic pollutants..