

## **Appendix M**

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### **Glossary**

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## Glossary

**ALTER:** Any activity, which will measurably change the ability of a ground surface area to absorb water or will change existing surface drainage patterns. Alter may be similarly represented as “alteration of drainage characteristics,” and “conducting land disturbance activities.”

**APPLICANT:** A property owner or agent of a property owner who has filed an application for a permit from the Town of Greenwich.

**APPROVING AUTHORITY:** Town of Greenwich Department of Public Works - Engineering Division.

**AQUIFER:** A porous water-bearing formation of permeable rock, sand or gravel capable of yielding economically significant quantities of groundwater.

**BASEFLOW:** The portion of streamflow that is not due to storm runoff but is the result of groundwater discharge or discharge from lakes or similar permanent impoundments of water.

**BEST MANAGEMENT PRACTICE (BMP):** Structural, non-structural and managerial techniques that are recognized to be the most effective and practical means to prevent and/or reduce increases in stormwater volumes and flows, reduce point source and nonpoint source pollution, and promote stormwater quality and protection of the environment. “Structural” BMPs are devices that are engineered and constructed to provide temporary storage and treatment of stormwater runoff. “Non-structural” BMPs use natural measures to reduce pollution levels, do not require extensive construction efforts, and/or promote pollutant reduction by eliminating the pollutant source.

**BIOENGINEERING:** The integration of living woody and herbaceous materials along with organic and inorganic materials to increase the strength and structure of soil.

**BIORETENTION:** A practice to manage and treat stormwater runoff by using a specially designed planting soil bed and planting materials to filter runoff stored in a shallow depression. Bioretention systems mimic the ecological functions of an upland forest floor through the use of specific vegetation, mulch, and soils. Bioretention systems include bioretention cells, landscape detention, rain gardens, bio-filters, tree box filters, and stormwater planters.

**BUFFER:** Area in its natural state left between development and a shoreline, wetlands, or stream to protect water quality. Development is restricted in a buffer zone.

**CISTERN:** Containers that store larger quantities of rooftop stormwater runoff and may be located above or below ground. Cisterns can also be used on residential, commercial, and industrial sites. See also Rain Barrel.

**CONVEYANCE:** Any structure or device, including pipes, drains, culverts, curb breaks, paved swales or man-made swales of all types designed or utilized to move or direct stormwater runoff or existing water flow.

**CRITICAL AREAS:** Areas sensitive to stormwater discharges including shellfish growing areas and public swimming beaches, recharge areas for public water supplies (groundwater and surface water supplies), and other sensitive receiving water bodies or wetlands as designated by the Town of Greenwich or the Connecticut Department of Environmental Protection.

**DEEP SUMP CATCH BASIN:** Storm drain inlets that typically include a grate or curb inlet and a sump to capture trash, debris and some sediment and oil and grease.

**DESIGN STORM:** A rainfall event of specific size, intensity, and return frequency (e.g., the 1-year storm) that is used to calculate runoff volume and peak discharge rate.

**DEVELOPMENT:** The modification of land to accommodate a new use or expansion of use, usually involving construction.

**DISTURBANCE OF LAND:** Any action that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material.

**DOWNSTREAM ANALYSIS:** Calculation of peak flows, velocities, and hydraulic effects at critical downstream locations to ensure that proposed projects do not increase post-development peak flows and velocities at these locations.

**DRAINAGE EASEMENT:** A legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

**EROSION CONTROL:** The prevention or reduction of the movement of soil particles or rock fragments.

**EROSION AND SEDIMENT CONTROL PLAN:** A plan that shows the location and construction detail(s) of the erosion and sediment reduction controls to be utilized for a construction site.

**EVAPOTRANSPIRATION:** The loss of water to the atmosphere through the combined processes of evaporation and transpiration, the process by which plants release water they have absorbed into the atmosphere.

**FILTER STRIP:** Bands of closely-growing vegetation, usually grass, planted between pollution sources and downstream receiving waterbodies.

**FLOOD CONTROL:** The prevention or reduction of flooding and flood damage.

**FLOODING:** A local and temporary inundation or a rise in the surface of a body of water, such that it covers land not usually under water.

**FLOODPLAIN:** Any land susceptible to being inundated by water, usually adjacent to a stream, river or water body and usually associated with a particular design flooding frequency (e.g., 100-year floodplain).

**GRADING:** Changing the level or shape of the ground surface.

**GREEN INFRASTRUCTURE:** Practices that manage and treat stormwater and that maintain and restore natural hydrology by infiltrating, evapotranspiring and capturing and using stormwater. On a regional scale, green infrastructure is the preservation and restoration of natural landscape features, such as forests, floodplains and wetlands, coupled with policies such as infill and redevelopment that reduce overall imperviousness in a watershed. On the local scale, green infrastructure consists of site- and neighborhood-specific practices, such as bioretention, trees, green roofs, porous pavements and cisterns.

**GROUNDWATER:** All water beneath any land surface including water in the soil and bedrock beneath water bodies.

**GROUNDWATER RECHARGE:** The process by which water that seeps into the ground, eventually replenishing groundwater aquifers and surface waters such as lakes, streams, and the oceans. This process helps maintain water flow in streams and wetlands and preserves water table levels that support drinking water supplies.

**HIGH LOAD AREAS:** Land uses or activities with higher potential stormwater pollutant loadings

**HYDRODYNAMIC SEPARATORS:** A group of stormwater treatment technologies designed to remove large particle total suspended solids and large oil droplets, consisting primarily of cylindrical-shaped devices that are designed to fit in or adjacent to existing stormwater drainage systems. The most common mechanism used in these devices is vortex-enhanced sedimentation, where stormwater enters as tangential inlet flow into the side of the cylindrical structure. As the stormwater spirals through the chamber, the swirling motion causes the sediments to settle by gravity, removing them from the stormwater.

**HYDROGRAPH:** A graph showing the variation in discharge or depth of a stream of water over time.

**HYDROLOGIC CYCLE:** The distribution and movement of water between the earth's atmosphere, land, and water bodies.

**HYDROLOGY:** The science that encompasses the occurrence, distribution, movement and properties of the waters of the earth and their relationship with the environment within each phase of the hydrologic cycle.

**ILLCIT DISCHARGES:** Discharges to the stormwater management system that are not entirely comprised of stormwater.

**IMPAIRED WATERS [303(d) LIST]:** Those water bodies not meeting water quality standards. This list of impaired waters within each state is referred to as the “303(d) List” and is prepared pursuant to Section 303(d) of the Federal Clean Water Act.

**IMPERVIOUS SURFACE:** Impervious cover is defined as those surfaces in the landscape that impede the infiltration of rainfall and result in an increased volume of surface runoff. As a simple rule, human-made surfaces that are not vegetated will be considered impervious. Impervious surfaces include but not limited to roofs, buildings, paved streets, and parking areas and any concrete, asphalt, compacted dirt or compacted gravel surfaces. Landscaping ponds and swimming pools shall be included as part of the total site impervious cover. Although pools may collect portions of stormwater runoff, they are not designed as a stormwater facility. In addition, they disrupt the natural ability of soils to percolate/filter surface runoff. In the case of landscaping ponds, the same criteria and reasoning applies, regardless of the use of the pond.

**IMPERVIOUS COVER:** See Impervious Surface.

**INFILTRATION:** The act of conveying surface water into the ground to permit groundwater recharge and the reduction of stormwater runoff from a project site.

**LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED):** An internationally recognized green building certification system developed by the U.S. Green Building Council, providing third-party verification that a building or community was designed and built using system performance strategies: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.

**LOW IMPACT DEVELOPMENT (LID):** A comprehensive, holistic stormwater management approach with the goal of maintaining or replicating pre-development hydrology through the use of site planning techniques and decentralized engineered practices that infiltrate, filter, store, evaporate, and detain runoff close to its source. LID is based on the premise that stormwater management should not be seen as stormwater disposal. Instead of conveying and managing/treating stormwater in large, costly end-of-pipe facilities located at the bottom of drainage areas, LID addresses stormwater through small, cost-effective landscape features distributed throughout a site.

**MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) or MUNICIPAL STORM DRAIN SYSTEM:** The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Greenwich.

**NATURAL LANDSCAPING:** A landscaping method that minimizes lawn area and uses native plant species adapted and/or indigenous to the local climate – also called native gardening or ecological landscaping.

**NEW DEVELOPMENT:** Any construction or land disturbance of a parcel of land that is currently in a natural vegetated state and does not contain alteration by man-made activities.

**NONPOINT SOURCE POLLUTION:** Pollution from many diffuse sources caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into water resource areas.

**OPERATION AND MAINTENANCE PLAN:** A plan that defines the functional, financial and organizational mechanisms for the ongoing operation and maintenance of stormwater management systems to ensure that the systems function as designed.

**OWNER:** A person with a legal or equitable interest in a property.

**PEAK FLOW CONTROL:** Criteria intended to address increases in the frequency and magnitude of a range of potential flood conditions resulting from development and include stream channel protection, conveyance protection, peak runoff attenuation, and emergency outlet sizing.

**PHASE II STORMWATER:** The second phase of the NPDES program which specifically targets certain regulated small MS4s and construction activity disturbing between one and five acres of land.

**PRE-DEVELOPMENT:** Pre-development (i.e., pre-existing conditions) is defined as the hydrologic and hydraulic condition of a project site before the proposed development occurs. In the case of redevelopment, the pre-development condition shall be the least developed state of the site in the prior 5 years as determined from Town of Greenwich aerial photographs. Any off-site drainage onto the site shall be considered in the context of off-site drainage patterns and land use at the time of the proposed activity.

**POINT SOURCE:** Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

**POST-DEVELOPMENT:** The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land. Post-development refers to the phase of a new development or redevelopment project after completion, and does not refer to the construction phase of a project.

**PROPRIETARY STORMWATER BMPs:** Manufactured systems that use proprietary settling, filtration, absorption/adsorption, vortex principles, vegetation, and other processes to remove pollutants from stormwater runoff.

**RAIN BARRELS:** Barrels designed to retain small volumes of runoff for reuse for gardening and landscaping. They are applicable to residential, commercial, and industrial sites and can be incorporated into a site's landscaping plan. The size of the rain barrel is a function of rooftop surface area and the design storm to be stored.

**RAIN GARDEN:** Functional landscape elements that combine plantings in depressions that allow water to pool for only a few days after a rainfall then be slowly absorbed by the soil and plantings. Also see Bioretention.

**RECHARGE:** The replenishment of underground water reserves.

**REDEVELOPMENT:** Construction, alteration, or improvement that disturbs the ground surface or increases the impervious area on previously developed sites. Redevelopment projects are defined to include maintenance and improvement of existing roadways including widening less than a single lane, adding shoulders, correcting substandard intersections, and improving existing drainage systems; development, rehabilitation, expansion and phased projects on previously developed sites including teardowns and remedial projects specifically designed to provide improved stormwater management.

**RETROFIT:** The modification of an existing development with or without an existing stormwater management system through the construction and/or enhancement of a proprietary or natural BMP designed to improve water quality.

**RIPARIAN:** Of or pertaining to stream systems or stream corridors. Riparian areas usually include a stream channel, its banks, the floodplain, and associated vegetated buffers.

**RUNOFF:** Rainfall, snowmelt, or irrigation water flowing over the ground surface.

**RUN-ON:** Off site stormwater surface flow or other surface flow which enters your site.

**SEDIMENTATION:** A process of depositing material that has been suspended and transported in water.

**SITE:** The parcel of land being developed, or a designated planning area in which the land development project is located.

**SMART GROWTH:** The efforts of communities, counties or regions to direct growth to minimize environmental impact.

**SOURCE CONTROLS:** Practices to limit the generation of stormwater pollutants at their source.

**STORMWATER:** Water consisting of precipitation runoff or snowmelt.

**STORMWATER MANAGEMENT:** The use of structural or non-structural practices that are designed to reduce stormwater runoff pollutant loads, discharge volumes, and/or peak flow discharge rates.

**STORMWATER MANAGEMENT PLAN:** A plan required for all development and redevelopment activities that are subject to the Stormwater Management Standards, which shall include current and proposed site conditions, proposed improvements, proposed stormwater

control measures, development schedules, and such other matters as may be required by the Approving Authority.

**STRUCTURAL CONTROLS:** Devices constructed for temporary storage and treatment of stormwater runoff.

**SWALE:** An open drainage channel designed to detain or infiltrate stormwater runoff.

**TEARDOWNS:** Demolition and reconstruction or replacement of an existing residential/commercial structure with another structure of any size.

**TIME OF CONCENTRATION:** The time required for water to flow from the most distant point to the downstream outlet of a site. Runoff flow paths, ground surface slope and roughness, and channel characteristics affect the time of concentration.

**TOTAL MAXIMUM DAILY LOAD (TMDL):** A calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources, including a margin of safety.

**TOTAL SUSPENDED SOLIDS (TSS):** The total amount of particulate matter that is suspended in the water column.

**UNDEVELOPED:** Land that has not been improved upon with a structure(s) or other impervious cover – in a natural state.

**VEGETATED BUFFER:** An area or strip of land in permanent undisturbed vegetation adjacent to a water body or other resource that is designed to protect resources from adjacent development during construction and after development by filtering pollutants in runoff, protecting water quality and temperature, providing wildlife habitat, screening structures and enhancing aesthetics, and providing access for recreation.

**WATERSHED:** The topographic boundary within which water drains into a particular river, stream, wetland, or body of water.

**WATER TABLE:** The top of the saturated zone; the surface beneath which all open spaces between soil particles are completely filled with water.

**WATER QUALITY VOLUME:** The storage needed to capture a specified average annual stormwater runoff volume. Numerically, the WQV will vary as a function of site drainage area and runoff coefficient.