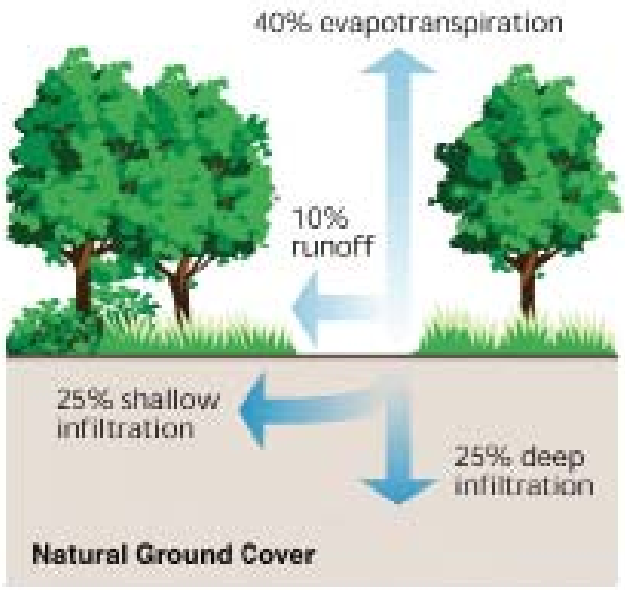
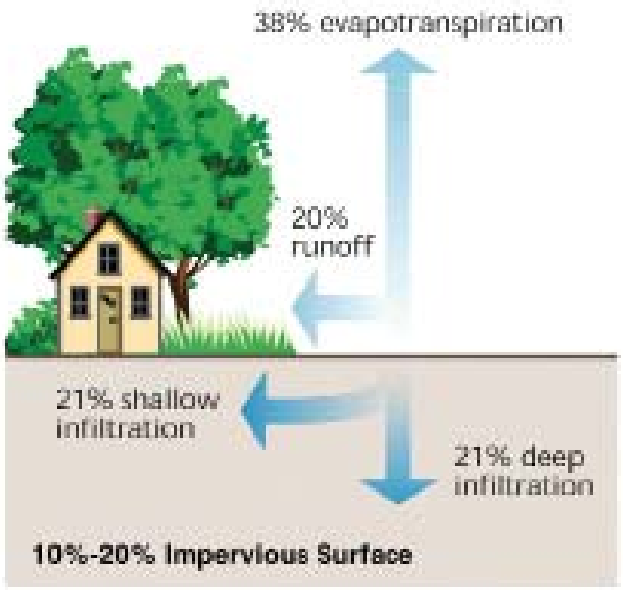
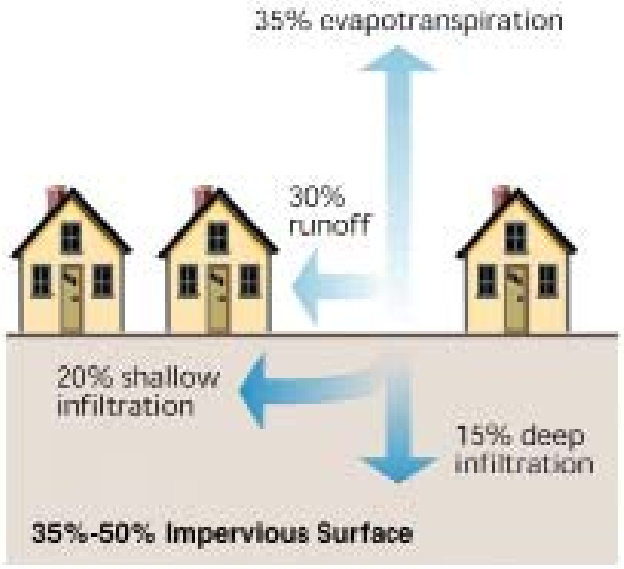
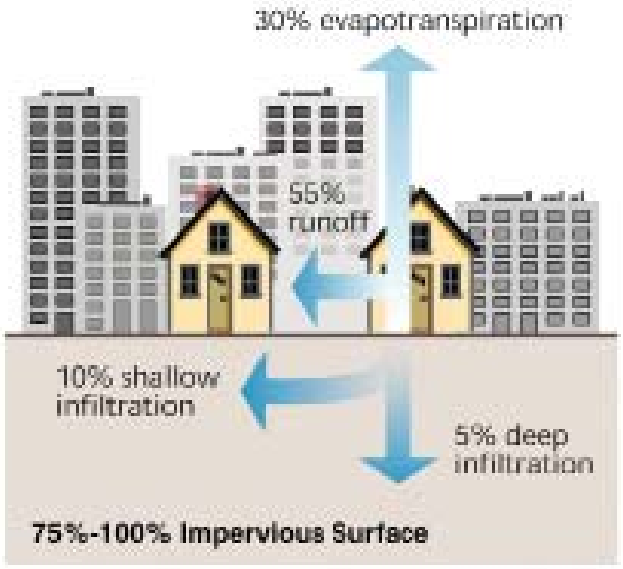








Development Affects Hydrology

More development = more impervious surfaces = more runoff

Runoff carries pollutants and chemicals into our streams and rivers and can cause harmful erosion

Reducing runoff entering streams and rivers can reduce quick and intense flood events

Reduce Runoff

Install rain barrels or plant rain gardens to collect roof runoff

Consider permeable pavements for your driveway and patios

Minimize the disturbance or development of vegetated, natural areas that help infi ltrate stormwater

LOW IMPACT DEVELOPMENT

A Guide to Stormwater Management & Green Infrastructure Practices

Rain Barrels

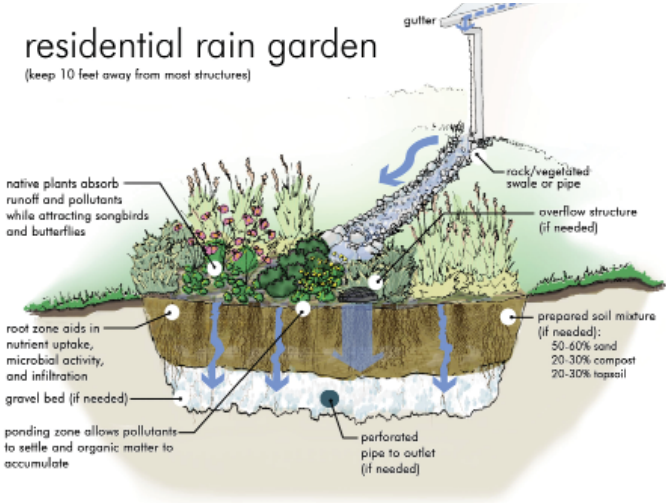
Rain barrels and cisterns are low-cost water conservation devices that reduce runoff volume and, for very small storm events, delay and reduce the peak runoff fl ow rates. Both rain barrels and cisterns can provide a source of chemically untreated "soft water" for gardens and compost, free of most sediment and dissolved salts. The Connecticut Water Company offers its customers the opportunity to order rain barrels at https://upcycle-products.com/ct/cwc/

Elimination of Curbs & Gutters

Curbs and gutters transport fl ow as quickly as possible to a stormwater drain without allowing for infiltration or pollutant removal. Sheet flow, the form runoff takes when it is uniformly dispersed across a surface, can be established and maintained in an area that does not naturally concentrate flow, such as parking lots. Maintaining sheet flow by eliminating curbs and gutters and directing runoff into vegetated swales or bioretention basins helps to prevent erosion and recharges the groundwater.

RESOURCES:

Visit *staffordct.org* for additional information and helpful links on ecology topics.



Bioretention Cells

A bioretention cell or rain garden is a depressed area with porous backfill (material used to refill an excavation) under a vegetated surface. These areas often have an underdrain to encourage filtration and infiltration, especially in clay soils. Bioretention cells provide groundwater recharge, pollutant removal, and runoff detention.

Grassed Swales

Grassed swales are shallow grass-covered hydraulic conveyance channels that help to slow runoff and facilitate infiltration. The suitability of grassed swales depends on land use, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the grassed swale system. Use of natural, low-lying areas is encouraged and natural drainage courses should be preserved and utilized.

Riparian & Vegetated Buffers

A riparian buffer is an area along a shoreline, wetland, or stream where development is restricted or prohibited. The primary function of aquatic buffers is to physically protect and separate a stream, lake, or wetland from future disturbance or encroachment. If properly designed, a buffer can provide stormwater management and can act as a right-of-way during floods, sustaining the integrity of stream ecosystems and habitats.

Stormwater Planter

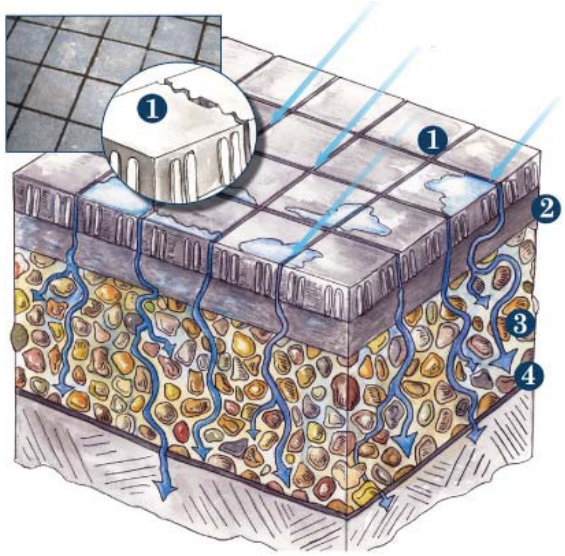
Stormwater planters are small landscaped stormwater treatment devices placed above or below ground and can be designed as infiltration or filtering practices. They are typically a few square feet of surface area compared to hundreds for rain gardens and green roofs.

Green Roofs

Green roofs consist of an impermeable roof membrane overlaid with a lightweight planting mix with a high infi ltration rate and vegetated with plants tolerant of heat, drought, and periodic inundations. In addition to reducing runoff volume and frequency and improving runoff water quality, a green roof can reduce the effects of atmospheric pollution, reduce energy costs, and create an attractive environment. They have reduced replacement and maintenance costs and longer life cycles compared to traditional roofs.

Permeable & Porous Pavements

Permeable pavement is an alternative to asphalt or concrete surfaces that allows stormwater to drain through the porous surface to a stone reservoir underneath. The reservoir temporarily stores surface runoff before infi ltrating it into the subsoil.



1. Gaps between the pavers allow rainwater to fl ow through.
2. Three inches of coarse sand for stability.
3. 6-8" crushed gravel provides storage for rainwater
4. Geotextile p revents fi ne soil particles from migrating up into the crushed gravel.

Stafford Inland Wetlands Commission

This information sheet is provided by the Stafford Inland Wetlands Commission to assist property owners reduce the effects of storm water, erosion, flooding, and water quality degradation of our wetlands and watercourses.