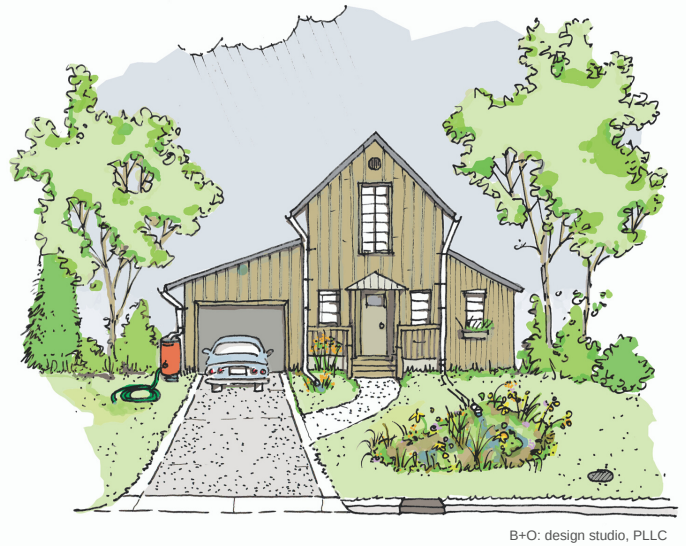


Nature-based Stormwater Strategies work for STORMWATER RETROFITS

Nature-based Stormwater Strategies use cost-effective landscaped features and other designed and engineered techniques to infiltrate, store and filter rain where it falls. Retrofitting existing developments by disconnecting impervious surfaces to slow stormwater runoff and promote infiltration can restore a site's natural hydrology and capacity to capture and treat runoff.



Stormwater runoff flows from this conventional home when rain hits the impervious roof, walkway and driveway. The polluted runoff then flows to the storm drain where it can reach surface waters.



Stormwater runoff was significantly reduced by installing simple retrofits to disconnect impervious surfaces. Gutter downspouts were rerouted to rain gardens and rain barrels while the driveway and walkway were resurfaced with pervious pavement.

Nature-based Stormwater Strategies

Disconnecting Impervious Surfaces

Directing downspouts to vegetated areas, rather than pavement, allows water to infiltrate the soil and reduce stormwater runoff.

Pervious Paving

Permeable pavement allows water infiltration and reduces impervious surfaces, thereby reducing stormwater runoff.

Bioretention (Rain Garden)

Rain gardens capture stormwater runoff and filter water to improve water quality, while providing aesthetic benefits.

Nature-based Stormwater Strategy Project Examples

Swansboro Town Hall

A parking lot using pervious pavers reduces stormwater runoff to benefit local waterways.



The pervious lot allows water to seep through to the soil below.

City of Hendersonville

The City of Hendersonville, NC encourages homeowners to purchase a rain barrel at a reduced cost.



Rain barrels can help disconnect impervious surfaces and allow the captured rainwater to be used at home.

Market at Colonnade

Low impact development (LID) practices allowed this site to be rezoned and developed in Raleigh, NC with limited impacts to the Falls Lake watershed.



An underground detention chamber, bioswales, and cistern are three types of nature based strategies used at the Market of Colonnade site.

Wrightsville Beach

Curb cuts in Wrightsville Beach, NC reduce runoff from entering local waterways.



Water is directed to the curb cuts and feeds into vegetated areas where it can infiltrate the soil.

Why use Nature-based Stormwater Strategies?

"LID is feasible in all but rare circumstances. Where infiltration of rainwater...is limited...LID features can detain and treat runoff...greatly reducing downstream impacts."

California Ocean Protection Council

"LID infiltration and filtration practices also reduce the likelihood of flooding downstream of the stormwater controls, thereby reducing the burden on drainage infrastructure and reducing the potential for sewer overflows."

Environmental Protection Agency

"We encourage the use of LID treatment practices that put stormwater back into the ground or allow it to be used by plants. This protects streams from the pollution and erosion that are often an unfortunate side effect of development protects."

**Annette Lucas, Stormwater Program Supervisor
Division of Energy Mineral and Land Resources**