



Rain barrels Oswegatchie School



Roadside vegetated swale Giovanni Drive

## Want to learn more about low impact development and stormwater management?

<http://nemo.uconn.edu>

CT Nonpoint Education for Municipal Officials (CT NEMO) has information on MS4, nitrogen reduction, rain gardens, and an LID atlas that indicates where LID has been implemented in Connecticut.

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<https://www.epa.gov/green-infrastructure>

The Environmental Protection Agency offers resources to assist with planning, design, operating, maintaining, and funding LID and other forms of green infrastructure.

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[www.ct.gov/deep/greeninfrastructure](http://www.ct.gov/deep/greeninfrastructure)

The Connecticut Department of Energy and Environmental Protection has an extensive collection of photos at different LID implementation sites across the state. It also has links to information on LID and on CT DEEP's programs regarding stormwater issues.

## TOWN OF WATERFORD Low Impact Development



Bioretention Island  
Great Neck School

**An Environmentally-Friendly  
Alternative to Conventional Urban  
Development**

## LID Examples



*University of Connecticut*

Green roofs are roofs that are host to a garden of low-maintenance vegetation. A layer of waterproof material separates the actual roof from the garden to prevent leaking of rainwater. The vegetation is drought-resistant and able to withstand the extreme heat and winds that a roof can be exposed to. In addition to reducing stormwater runoff, green roofs provide insulation to the buildings it lies on top of, which can help to reduce energy costs.

**Pervious asphalt** is functionally identical to normal asphalt; however the pervious asphalt mixture lacks finer aggregates, resulting in void space that water can seep into. From there, it can percolate into the underlying soil or evaporate.

Pervious asphalt must be maintained periodically, to vacuum and remove fines that may clog void spaces and reduce the asphalt's ability to absorb water. Pervious asphalt parking area at O'Neill Theatre.



**Rain gardens** are vegetated areas that collect run-off in shallow depressions and allow it to seep into the soil. They can support a variety of vegetation and are usually located to intercept run-off from a roof or driveway. By infiltrating runoff into the soil, pollutants are kept out of nearby streams and Long Island Sound.



*Waterford High School*

## What is low impact development?

Low impact development (LID) refers to systems and practices that minimize the effects of urban development on the natural hydrology of an area by integrating and/or mimicking natural processes that allow for water to evaporate and infiltrate the soil.



## What are the benefits of LID?

Low impact development restores or maintains the ability for water to cycle freely throughout the ecosystem. Traditional urban development includes impervious roads and parking areas that prevent water from infiltrating the soil and being taken up by plants. During storm events, water cannot evaporate quickly enough, so it flows off these impervious surfaces as runoff. Runoff carries pollutants and nutrients as it flows over land and can degrade the quality of the water bodies it flows into. By allowing water to flow into the soil, low impact development reduces runoff from storm events significantly.

## LID Examples

### **Tree box filters**

function similarly to rain gardens; they are placed on or near roads, sidewalks, or parking lots to absorb stormwater runoff. The engineered soil medium helps to improve water quality by removing common pollutants from stormwater before it is absorbed into the soil surrounding the filter. In heavy rain events, an outflow pipe discharges excess water to the town's storm drain



**Bioretention areas** are similar to rain gardens, but are larger in size and designed to detain or retain



stormwater flow. They are vegetated depressions that collect and filter run-off or infiltrate it into the ground and reduce runoff volume. Vegetation and soil media sustain microorganisms which help remove nutrients from the runoff.

*Bioretention area in Giovanni Drive cul-de-sac*

**Pavers** function to increase permeability and reduce run-off. While conventional pavement does not allow water to infiltrate, spaces within and between pavers allow water to infiltrate into the soil, reducing the volume of runoff that comes off of sidewalks, roads, and parking lots. These concrete pavers are located at Great Neck School.

