Introduction

Low-impact development (LID) is a way to manage stormwater runoff and nutrients as part of green infrastructure. Some LID techniques include reduction of impervious surfaces, permeable pavement, rain gardens, vegetated buffers and swales, bioretention, and on-site stormwater management.

Polluted stormwater runoff, which can contain oil, grease, metals and sediment, poses a serious threat to our ponds, streams, and rivers. LID is an innovative approach to managing stormwater that uses a variety of small-scale landscape features to keep and treat stormwater on-site.

Eco-friendly permeable pavers, Shutterstock.

A guiding principle of LID is that, once pollutants are removed, stormwater is a resource, not a nuisance. Unlike the conventional approach to stormwater management, which is often a huge, unsightly stormwater retention pond that is fed by a system of catch basins and pipes, LID uses a series of small, cost effective landscape features that are in scale with the site. Many components of a traditional development or redevelopment project can be designed as LID features,including grassed areas, gardens, rooftops, streets, parking lots, and sidewalks.

For More Information

This brochure describes the benefits of using LID techniques. It gives local officials basic information that they can use to encourage developers to use LID techniques or to enact better land use regulations.

For more information, see the Mass.gov publication - Low Impact Development LID for Developers and Planning Boards with this QR code or contact the Building, Planning, or Zoning Department in your town.

Visit WaterSmart South Shore.org

For more resources, go to the WaterSmart Low Impact Development page with this QR code.

WaterSMART

WaterSmart South Shore.org

The WaterSmart program is a nonprofit partnership between the NSRWA and 12 towns on the South Shore: Cohasset, Duxbury, Hanover, Hingham, Hull, Kingston, Marshfield, Norwell, Pembroke, Rockland, Scituate and Weymouth. Our programs are based on the belief that education is key. Since its creation, WaterSmart has educated thousands of local school-age children, adults, and businesses on water conservation, stormwater pollution, where their water comes from, and how to care for it.

Thanks to the Franklin Regional Council of Governments for content.

Attention Developers

LOW IMPACT DEVELOPMENT (LID)TECHNIQUES

Methods and practices for managing stormwater and preventing pollution

Vegetated buffer strip, Roel Meijer, Shutterstock

From WaterSmart South Shore.org

Low Impact Development (LID)

Benefits of Using LID

Less stress on watersheds - LID techniques put stormwater back into the ground, which helps to recharge drinking water aquifers in a combined system.

Reduced demand on public infrastructure - LID reduces the amount of water that flows into a community's storm sewer system, resulting in fewer overflows.

Duxbury rain garden, Lori Wolfe NSRWA.

Healthy rivers and streams - LID uses native plants and soil to remove pollutants. LID is often more effective than conventional pipe and pond solutions in controlling run-off. By preserving natural systems, LID helps to prevent flooding, erosion,and alteration of aquatic habitats.

More livable communities - With an emphasis on green space, natural systems, and careful site design, LID helps to prevent "cookie cutter" developments that detract from community character.

LID Techniques

Bioretention uses vegetated areas or shallow drainage channels surrounding parking lots and along walkways that collect, treat, and infiltrate rain water and slow runoff.

Permeable Paving surfaces for walkways and parking lots allow rainwater to percolate into the ground.

Permeable sidewalk on Sohier St, Cohasset DPW & ConComm.

Rain Gardens and Green Roofs are vegetated systems that capture rainfall and return it to the atmosphere.

Cisterns and Rain Barrels store rainwater for landscaping.

Bioretention swale at Gray's Beach Park, Kingston Conservation.

Permeable pavement, LID landscaping, and bioswale, Shutterstock.

LID Site Planning and Design

Better site design can:

- Require less maintenance than underground practices
- Identify and preserve natural features
- Cost less than conventional drainage techniques
- Maintain natural hydrology
- Help respect abutter's properties
- Enhance aesthetics and property home values when using systems designed to mimic nature
- Retain property values
- Augment groundwater supplies
- Reduce costs of stormwater infrastructure, including curbs and gutters
- Maintain high water quality
- Provide new green space as an amenity
- Reduce the size and number of detention facilities and the size and cost of drainage infrastructure
- Reduce stormwater utility fees
- Increase land value
- Decrease spending on future environmental conservation programs