

What is Low Impact Development?



Low Impact Development, or LID, is a comprehensive approach to managing stormwater runoff so that the impacts of development are reduced. Stormwater is managed in smaller, cost-effective treatment practices located throughout the development project rather than being conveyed and managed in large, costly storm ponds.

The primary goal of LID is to mimic predevelopment conditions by using site planning and design techniques that store, infiltrate, evaporate, and detain runoff as close as possible to the point where precipitation reaches the ground. These techniques help to protect water quality and habitat from polluted runoff. LID uses on-site treatment that can reduce costs of stormwater management while maintaining or increasing the value of the property.

In the past the landscape was significantly altered to fit the style of development. The LID process is reversed; development is shaped to fit the landscape. This new approach to stormwater management follows three broad steps:

1. Avoid the Impacts:

Preserving and protecting as much undisturbed land and natural features as possible and guiding growth away from surface waters and wetlands are important first steps in stormwater management.



Conservation Development as a way to implement LID

By allowing flexible lot sizes, this technique preserves open space that protects stream corridors and wetlands. The scenic views, recreational opportunities, and other benefits offered keeps lot values high, even though the lots themselves are smaller.

2. Reduce the Impacts:

Once sensitive resources have been avoided the next step is to reduce the impact of land alteration by minimizing impervious areas to reduce the volume of runoff, increase groundwater recharge, and reduce pollutant loadings from a site. Traditional development often includes excessive amounts of impervious cover that can be reduced by thoughtful site planning.

This development was built using LID. Native vegetation was left to maintain natural hydrology. The road width and driveways were reduced, and road runoff is treated by engineered grass swales along the side of the road.



3. Manage the Impacts:

After making every effort to avoid and reduce development impacts, the next step is to manage the remaining stormwater runoff. Instead of using conventional curb and gutter pipe-to-pond management, precipitation is infiltrated as close as possible to the point it reaches the ground using vegetated conveyance and treatment systems.

How Can Communities Help Implement LID?

Communities have the primary authority to avoid and reduce the impacts from development through their land use regulations. There are several simple ways that local decision-makers can make minor adjustments to existing regulations, as well as adopting new ordinances, to meet the goals of avoiding and reducing impacts to our water.

To assist communities in avoiding and reducing the impacts of development and incorporating LID into their ordinances, DEM and CRMC developed the Rhode Island LID Site Planning and Design Guidance Manual. The purpose of this manual is to provide communities with the specific guidance they need to revise their applicable land use regulations to avoid and reduce the impacts of stormwater runoff.

The Narragansett Bay Research Reserve's Coastal Training Program is coordinating training on the LID guidance manual. For more information contact Jennifer West at jennifer@nbnerr.org or 401-222-4700, ext 7413, or Scott Millar, Chief of DEM's Sustainable Watersheds Office, at scott.millar@dem.ri.gov or 401-222-4700, ext 4419.

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