

## More LID features

### Feature: **Grass Swales & Open Ditches**

**Purpose:** grassed swales are shallow depressions several metres wide that contain vegetation that slows and filters stormwater runoff; open ditches and culverts may be used in residential areas as an effective alternative to curbs and gutters

**Maintenance:** a properly designed system does not provide optimal conditions for mosquito breeding; mow as needed; inspect for erosion problems and correct immediately; remove debris and trash as necessary; remove sediment build-up in the swale bottom once it reaches 25% of the original design volume

### Feature: **Rain Barrels**

**Purpose:** stormwater from the roof is diverted into a barrel connected to the downspouts and stored for later use

**Maintenance:** inspect semi-annually; keep leaf screens, gutters and downspouts free of debris; check mosquito screens and patch holes or gaps immediately

### Feature: **Pervious Pavers**

**Purpose:** allows water to infiltrate and removes pollutants

**Maintenance:** inspect annually for infiltration capacity; keep free of debris including soil and sediment by vacuum sweeping 2-4 times a year; remove snow carefully ensuring plow blade is 25 mm higher than usual

## What does it mean to me?

1. More native vegetation
2. Cooler homes in summer
3. Warmer homes in winter
4. Reduced flooding
5. Reduced negative impact on wetlands
6. Reduced downstream erosion
7. Improved groundwater recharge
8. Reduced infrastructure maintenance cost
9. Improved water quality and water quantity

## Where to find more information

- ◆ **District Municipality of Muskoka**  
[www.muskoka.on.ca/siteengine/activepage.asp?PageID=238](http://www.muskoka.on.ca/siteengine/activepage.asp?PageID=238)
- ◆ **Ontario Ministry of the Environment**  
[www.ene.gov.on.ca/cons/4328e.pdf](http://www.ene.gov.on.ca/cons/4328e.pdf)
- ◆ **LID Urban Design Tools**  
[www.lid-stormwater.net/background.htm](http://www.lid-stormwater.net/background.htm)
- ◆ **Capital Region District - LID**  
[www.crd.bc.ca/watersheds/LID](http://www.crd.bc.ca/watersheds/LID)
- ◆ **Catching the Rain: A Great Lakes Resource Guide for Natural Stormwater Management**  
[www.fxbrowne.com/html/StormwaterGuideBook.pdf](http://www.fxbrowne.com/html/StormwaterGuideBook.pdf)
- ◆ **Canadian Mortgage and Housing Corporation**  
[www.cmhc-schl.gc.ca/en/inpr/su/waho/waho\\_oo6.cfm](http://www.cmhc-schl.gc.ca/en/inpr/su/waho/waho_oo6.cfm)
- ◆ **Innovative Stormwater Management Practices**  
<http://iswm.ca>
- ◆ **On the Living Edge: Your Handbook for Waterfront Living** published by the Living By Water Project. Available from the Muskoka Heritage Foundation at (705) 645-7393.



**Muskoka**  
WATERSHED COUNCIL

9 Taylor Road, Box 482  
Bracebridge, ON P1L 1T8  
Phone: (705) 645-7393  
Fax: (705) 645-7888

Email: [watershed@muskokaheritage.org](mailto:watershed@muskokaheritage.org)  
Website: [www.muskokaheritage.org/watershed](http://www.muskokaheritage.org/watershed)

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# Low Impact Development Features On Your Property

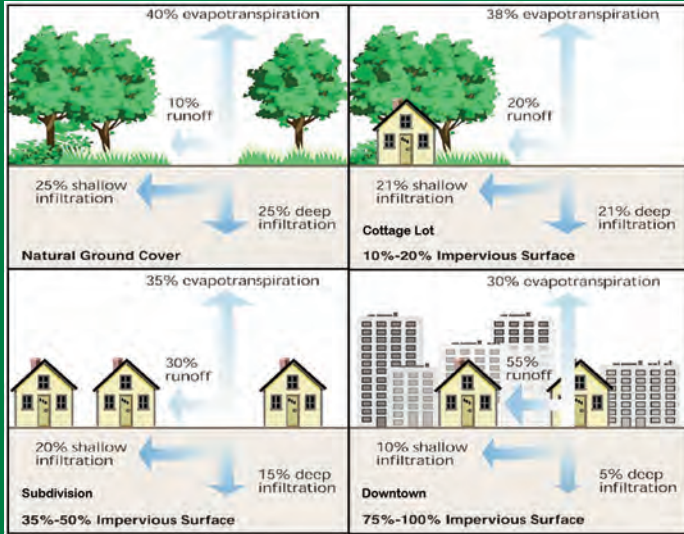


BEST PRACTICES SERIES

# What is urban stormwater?

Urban stormwater is rainfall and snowmelt that seeps into the ground or runs off the land into storm sewers, streams and lakes.

As it flows over the ground it picks up pesticides, road salt, heavy metals, oil, bacteria, and nutrients and transports them directly into our rivers and lakes.



The more hardened surfaces, the more stormwater runoff. Less water evaporates into the air and seeps into the ground.

# What is Low Impact Development?

Low Impact Development (LID) is a stormwater management strategy that aims to mitigate the impacts of increased runoff and stormwater pollution that results from development.

LID promotes the use of natural systems for infiltration, evapotranspiration, and reuse of rainwater to treat stormwater onsite.

LID practices can effectively remove nutrients, pathogens and metals from stormwater, as well as reduce the volume and intensity of stormwater flows.

Using a combination of LID techniques also makes communities greener and more beautiful while reducing construction and maintenance costs.



## Conventional

Conventional development involves clearing a site of vegetation, grading it, and then installing roads with curbs and gutters, buildings and landscaping. Stormwater is collected and quickly transported to a central detention pond where it is treated and slowly released to downstream water features.

## LID

LID involves leaving as much native vegetation as possible in order to mimic the natural water cycle on the property prior to development.

LID uses pervious paving materials and grassed or vegetated swales to transport stormwater. Treatment of stormwater is completed within swales and rain gardens vegetated with native species.

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## LID features on your property

Your property may already contain LID features. The maintenance of these features is essential to ensure that performance and other benefits continue over the full life cycle of the installation.

### Feature: Native Vegetation

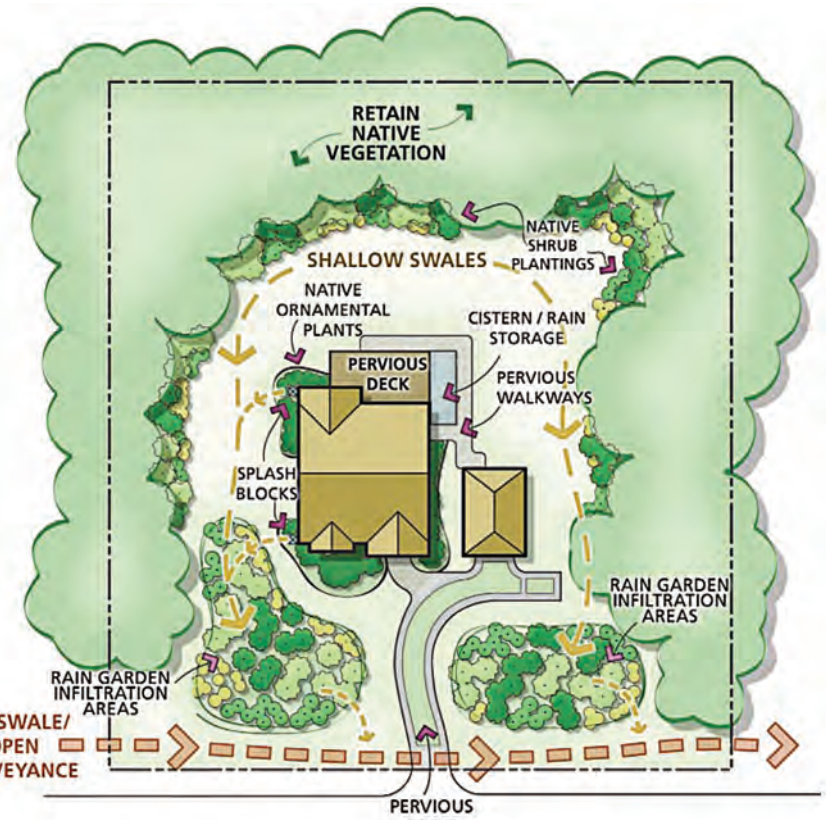
**Purpose:** improves groundwater recharge and baseflow, prevents stream erosion and flooding, protects water quality

**Maintenance:** inspect regularly; prune, weed, water and mulch as needed; replace damaged vegetation with appropriate native species

### Feature: Rain Gardens

**Purpose:** planted or stone-covered beds specifically designed to receive stormwater and allow it to be slowly absorbed into the soil

**Maintenance:** inspect regularly; prune, weed, water and mulch as needed; replace damaged vegetation and plant bare spots immediately to maintain density; remove accumulated sediment from inflow points



More LID features on back panel