

## **High Expectations for Low Impact Development *Washington State's Changing Landscape***

Changes are coming to jurisdictions in Washington State that regulate stormwater runoff under the federal Clean Water Act. Low Impact Development (LID) strategies will be used, especially in Western Washington, in landscape design, installation, maintenance, and retrofits.

LID slows stormwater runoff by mimicking natural drainage with pervious surfaces, native plants, and healthy soils. LID is a departure from conventional stormwater management techniques that focus on collecting and piping stormwater off sites either directly to a stream or river, to a large stormwater management facility such as a basin, or to a combined sewer system flowing to a wastewater treatment plant.

LID practices commonly include bioretention or rain gardens, permeable pavements, natural vegetation, and healthy soil with effective absorption rates. LID also includes green roofs and rain water catchment.

***Stormwater runoff is one of the largest sources of pollutants in urbanized areas of Washington State and the largest contributor of pollutants entering Puget Sound.***

Stormwater runoff results from rainfall on impervious surfaces such as roads and rooftops where it picks up pollutants and carries them to local waterways harming wildlife and damaging their habitat. LID protects water quality and reduces or slows runoff. In LID landscapes, rainwater infiltrates where it falls instead of becoming runoff that carries pollutants to the nearest water body. LID leads to groundwater re-charge, filters pollutants, and can help to restore wildlife habitat.

Under the federal Clean Water Act, a municipal permit is required for urbanized areas that collect stormwater runoff in a municipal separate storm sewer (MS4) and discharges it to surface waters. Stormwater discharges from MS4s are covered under permits authorized by the National Pollutant Discharge Elimination System (NPDES) permit program and Washington State RCW 90.48, which are administered by the Department of Ecology for Washington State. Regulations are organized into "Phase I" and "Phase II" permits, according to jurisdiction population size.

***Jurisdictions are required to integrate LID into their local development regulations when they update them.***

In Western Washington, Phase I jurisdictions including Seattle and Tacoma, and unincorporated areas of King, Snohomish, Pierce and Clark counties will adopt and implement new LID requirements by June 30, 2015.

Western Washington Phase II jurisdictions will adopt and implement LID requirements by December 31, 2016, or coinciding with their Growth Management Act update deadlines:

- Cities of Centralia, Kelso, Longview and Cowlitz County – June 30, 2017
- City of Aberdeen – June 30, 2018

Eastern Washington jurisdictions are required to allow LID and tailor strategies to local conditions. Changes, if any, will be effective by Dec 31, 2017.

When changes take place, stormwater will increasingly be managed with LID rather than conventional management techniques. LID strategies will differ for Eastern and Western Washington because of variations in

temperature, soil types, and precipitation. With careful planning, we expect to see LID successfully implemented in areas of urban redevelopment, new residential developments, and in public infrastructure projects such as planning of roads, light rail, and parking areas.

We anticipate LID-designed sites to include less impervious surface with smaller building footprints, narrower road sections, more vegetation, and less turf. Designers and developers will disconnect downspouts and install bioretention cells, swales, and planters between impervious surfaces to allow for infiltration. Maintenance crews will protect trees and soils for the important functions of stormwater absorption. Site designs may include permeable pavement like porous asphalt, pervious concrete, and pavers.

### ***What you can do to get prepared***

Landscape and nursery professionals will play a critical role in the transition to broad use of LID strategies. You can prepare now by familiarizing yourself with LID practices and projects, determine needs for new tools, equipment, and supplies, and begin developing marketing materials to sell critical LID services such as materials, installment and maintenance to builders and commercial developers, homebuilders and homeowners, homeowners associations, and local governments. To help you do this the Department of Ecology will be putting on a series of webinars hosted by industry professionals experienced in the field of LID, on the topics of LID Plant Considerations, Rain Gardens and Permeable pavement.

#### **You can:**

1. Sign up to attend these upcoming webinars at <http://www.wsnla.org>:
  - LID Plant Considerations – May 14, 2013, 6:00pm – 7:30pm
  - Rain Gardens and Bioretention – May 22, 2013, 6:00pm – 7:30pm
  - Permeable Pavement – June 11, 2013, 6:00pm – 7:30pm
2. Learn more from these resources:
  - *Leveraging the landscape to manage water* <http://vimeo.com/15225376>, an animation explaining how green infrastructure systems effectively manage stormwater.
  - EPA Fact Sheet on costs <http://water.epa.gov/polwaste/green/bbfs.cfm>
  - EPA – Using LID to Reduce Stormwater Costs (2007) [http://water.epa.gov/polwaste/green/costs07\\_index.cfm](http://water.epa.gov/polwaste/green/costs07_index.cfm)
  - LID Technical Guidance Manual for Puget Sound: [http://www.psp.wa.gov/downloads/LID/20121221\\_LIDmanual\\_FINAL\\_secure.pdf](http://www.psp.wa.gov/downloads/LID/20121221_LIDmanual_FINAL_secure.pdf)
  - Washington Stormwater Center: <http://www.wastormwatercenter.org/certification-programs/>
  - Spokane Water LID Landscape Maintenance: [http://www.spokanewastewater.org/SURGE/Documents/ASCE\\_Landscape\\_Maintenance\\_2003.pdf](http://www.spokanewastewater.org/SURGE/Documents/ASCE_Landscape_Maintenance_2003.pdf)
3. Provide input - As a landscape or nursery professional, you may be one of the most important voices in this transition to broader implementation of LID strategies. Your input is important! Consider contacting your elected officials and stormwater or drainage management decision makers who are tasked with developing new LID policies and requirements. Your expertise may help them develop more effective policies.