

From: [Dave Porter](#)
To: [SW Permit Comments](#)
Subject: i support these improvements
Date: Saturday, January 14, 2012 3:18:00 PM
Attachments: [image004.png](#)
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January 2012

RE: Review and Analysis of the Department of Ecology's Draft Municipal Stormwater Permit and Low Impact Development Standards

BY: Sustainable Development Task Force of Snohomish County

We support the inclusion of new Low Impact Development (LID) requirements, expanded requirements to monitor discharges, and expansion of permit coverage in key areas (e.g. Elimination of the "1 acre exemption" for Phase II jurisdictions). These are essential elements of a successful program. We do, however, have concerns with specific elements of the permit, particularly with regard to the LID standards.

Low Impact Development Standard (LID)

Traditional stormwater management techniques such as "curb and gutter" collection or end of pipe stormwater treatments such as detention ponds have failed to stop the flow of pollutants into our waters and maintain healthy streams by infiltrating stormwater back into the groundwater or shallow subsurface flow. In turn many local streams no longer receive re-charge flow in summer months have reduced flow or dry up completely. Using LID techniques helps to mimic the historic pre-developed hydrologic flow necessary for a healthy ecosystem.

LID techniques must be the first choice or default option for all stormwater treatment. Only where it can be proven that infiltrating LID techniques are not appropriate, should the traditional end of pipe methods be considered and only as a partial management tools. Since non-infiltrating LID technologies, such as native vegetation and soil preservation / restoration, soil amending, minimizing pervious surfaces, green roofs, cisterns, pin pile foundations, stormwater bogs, bioberms and other non-infiltrating LID solutions can be used to help with flow and quality control regardless of limiting soil conditions, therefore these LID solutions should be default solutions on non-draining soils. Examples of where infiltrating LID techniques might not be appropriate include:

- Within 200 feet of steep slope designated as a critical area, or any potentially unstable slope greater than 1H:1V;
- Areas with seasonally high groundwater less than 3 feet below the bottom of the treatment facility;
- Stormwater facilities over contaminated soil exceeding Model Toxics Control Act (MTCA) action cleanup requirements; and
- Facilities where there is a high probability of spills such as fuel transfer stations or industrial sites that regularly handle large quantities of potentially toxic or mobile chemicals.

The rest of the nation is already moving towards mandatory LID standards, which have been found necessary to meet the Clean Water Act's goals. While this permit requires the development of such programs at the local level, we believe the approach outlined has serious flaws.

First, the new standard fails to fully embrace the most crucial LID techniques, notably protection of native vegetation on site and reduction of impervious surfaces. Where impervious surfaces must be used, the stormwater flow pattern should be broken up into smaller size infiltration rain gardens to help mimic the historic hydraulic flow patterns.

Experts agree that these techniques are the most effective means of reducing runoff from a given site. While there are passing references to protection of native vegetation and reduction of impervious surfaces, the language is vague and potentially permissive. Without a core foundation of protecting native vegetation and reducing new impervious area, the remaining LID approaches are limited to techniques such as pervious concrete, rain gardens etc.

Moreover, the permit contains no requirement to consider water reuse, and its standards for green roofs are weak. This leaves rain gardens and pervious pavement as the primary LID techniques for most sites. Without full application of all LID tools, these techniques by themselves will make only a marginal difference. To make matters worse, the new draft utilizes an extremely conservative soil standard for engineered rain gardens. Studies by WSU and others indicate that rain gardens perform well in less than ideal soils. This standard should be revisited.

The draft permit also contains very broad "feasibility" and "competing needs" exemptions. While we support the need for some flexibility in application of the new standard, these loopholes could potentially allow jurisdictions and developers to avoid compliance with the new requirements. While many of the exemptions in this section are legitimate, a number are either very vague, or overly conservative.

Permit Implementation

Many of the LID techniques proposed in the new NPDES permit will be new to many permit reviewers and inspectors. We strongly urge that all persons involved in the implementation of the NPDES permit and using LID such as designers,

permit reviewers, inspectors, contractors, construction supervisors, and maintenance personnel of LID facilities will be required to receive training. The recent failures of bioretention facilities were not the results of limiting soil conditions, but of the lack of LID training for almost all involved with the design and installation processes. A minimum of 24-hours of training should be required for all permit reviewers to be certified by the Dept. of Ecology courses. Training classes should also be offered by the Dept of Ecology or their designated representative monthly for the first year after adoption of the NPDES Permit and quarterly thereafter. Classes should be scheduled in each County covered under the NPDES permit.

Upon successfully completing this training or an accredited certification course, the attendees shall be certified by the Dept. of Ecology for LID design for a period of not more than three years. At the end of three years, an 8 hour refresher course must be required every three years to maintain current certification.

Also, any person involved with the design, installation and / or maintenance of LID solutions should be required to be certified by one of our local accredited Universities or Colleges. Several schools (University of Washington, Washington State University, Edmonds Community College, Lake Washington Technical Institute, etc.) offer LID training and one month to two year certification programs for professionals from landscape designers and installers to engineers and planners.

Just as plumbing can only be designed and installed or even maintained by licensed plumbers (other than homeowners), LID facilities should be designed, built and cared for by professionals who are certified to do so. The cost of the LID training and certification shall be paid for by the attendees.

Stormwater Manual Adoption Mandatory

The option for municipalities to adopt an alternate, equivalent stormwater manual should be eliminated. All municipalities should be required to adopt the approved Ecology Stormwater Manual as appropriate for their region „in toto“. Should a municipality desire to have requirements more stringent than those in the approved Ecology Stormwater Manual, they may adopt only those regulations making stormwater treatment more stringent.

Having a region wide manual consistently used by all municipalities will make design, enforcement, construction, and maintenance of stormwater facilities more uniform over the entire watershed. Having just a few pages of local modifications to the stormwater manual review instead of a 4 inch thick binder, will reduce the likelihood of mistakes in design of stormwater facilities. This requirement will also help reduce the cost to taxpayers required by municipalities to write a duplicate manual, the cost of Ecology to review and approve the duplicate manual, and eliminate the delays associated with approval, adoption, and implementation of the NPDES Permit requirements helping to assure uniform compliance.

Update of Local Codes and Watershed Planning

We very much support requirements S5(C)5(b) which call for an update of local codes, particularly given recent improvement in the Puget Sound Partnership guidance manual on this subject. Updates to codes may lead to some of the most significant improvements in terms of vegetation retention and reduction of impervious surfaces. Having said that, the permit language lacks detail in this area and the guidance is not prescriptive, which will lead to challenges in implementation.

We also support watershed / basin planning requirements in S5(C)5(c) but suggest that it be expanded to include additional jurisdictions. We appreciate the fact that the proposal calls for “full build out analysis” of future growth in these basins. While we support language which requires the plans to achieve protection of “beneficial uses,” we believe that a more specific performance standard which includes a vegetation goal is needed here. Finally, it should be made clear that Ecology not only reviews plans but has authority to approve or reject such plans.

Municipal design standards must also be revised to require the use of LID techniques in the public right-of-way, unless it can be proven that these techniques are not physically feasible. This should include the use of standard details for LID implementation to be augmented by a competent designer as appropriate for project specific conditions.

Monitoring

We support new monitoring requirements contained in Section S8 of the permit. Ecology recognizes and incorporates the recommendations of the Stormwater Work Group which worked for three years to recommend a system which will result in a more coordinated, cost-effective approach for monitoring the impacts of stormwater runoff on receiving waters. This approach will result in data which fits together and is useful for adaptive management purposes. The regional monitoring approach represents a paradigm shift in how monitoring will be conducted in the basin. However, the total funding that will be generated for the project under Monitoring Option #1 is inadequate to pay for the type of monitoring necessary to evaluate success of stormwater programs.

One Acre Exemption

We strongly support the decision by Ecology to harmonize the Phase I and II permits in terms of the size of projects regulated. Projects under 1 acre have very significant impacts on our receiving waters and Phase II jurisdictions should be required to evaluate and minimize those impacts.

Minimum Infiltration Rate

The minimum design infiltration rate should be 0.125 inches per hour. Many pervious pavements and rain gardens can be designed to fully infiltrate 100% of site stormwater runoff using 0.125-in/hr rates using gravel storage base rock or

designing hardscape runoff to rain gardens. Several well functioning sites exist all across Puget Sound to provide tangible and verifiable proof for this recommendation. These sites have been installed and are monitored by reputable firms and organizations for years now.

Differentiate Between Rain Gardens and Bio-Retention Facilities

We strongly support a differentiation in the new permit between Rain Gardens and Bio-Retention facilities. Define Rain Gardens: „accepting runoff from all impervious areas less than 5,000 square feet that are typically non-engineered facilities that may be installed by home owners or other professionals working in this field“. This designation will help to promote small scale stormwater retrofits that will help encouraging property owners to install Rain Gardens. Bio-Retention facilities would be those facilities providing flow control and water quality treatment to pollution generating impervious areas greater than or equal to 5,000 square feet. Design of Bio-Retention facilities would be performed under the supervision of a professional civil engineer specializing in stormwater design.

Closing

The Sustainable Development Task Force of Snohomish County wants to thank the Department of Ecology for a very well facilitated open discussion regarding the Draft Municipal Stormwater Permit and Low Impact Development Standards. We hope that our comments will make an impact in the decisions regarding the revision of these important documents.

January 10, 2012

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Warm (Energy Efficient) Regards,

Dave Porter

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