



February 3, 2012

Municipal Permit Comments
WA Dept. of Ecology
Water Quality Program
PO Box 47696
Olympia, WA 98504

Subject: Ecology's Draft NPDES Permit and
Modifications to the 2005 SWMWW

I believe that the Dept. of Ecology, (Ecology) is on the right track with its proposed modifications to the NPDES Municipal permit and proposed modifications to the 2005 edition of the *Stormwater Management Manual for Western Washington* (SWMWW). **However, I question that this action may be too little too late and urge Ecology to take a more aggressive position on requiring adoption and implementation of the new SWMWW, including mandatory retrofits.**

I offer the following comments:

Make Adoption of the Ecology SWMWW Mandatory

The option for municipalities to adopt an alternate, equivalent stormwater manual must be eliminated. All municipalities should be required to adopt the approved Ecology Stormwater Manual as appropriate for their region *in-toto*, within 60 days of issuance. Should a municipality desire to have requirements more stringent than those in the approved Ecology Stormwater Manual, or should they have specific conditions that require a deviation, they may adopt only those regulations making stormwater treatment more stringent as approved by Ecology.

Many municipalities such as Clark County, Snohomish County, and others used the excuse of having to write their own SWM manual to delay for years or even decades adopting the more protective water quality requirements needed to protect Washington's waters and endangered salmonid species.

For instance, until October 2010, Snohomish County was still allowing development projects to use of the outdated and discredited 1992 *Stormwater Management Manual for the Puget Sound Basin*. Snohomish County never adopted the 2001 SWMWW using the code revision as a baseless excuse. The amount of new development from October 2010 to date is such a small footprint as compared to the development in Snohomish that occurred prior to October 2010 as to have no effect on yet on protecting our water quality. Will we have to wait until the year 2020 for some municipalities to adopt the new SWMWW?

Ecology should make the adoption of the new SWMWW mandatory. This will have several immediate advantages such as:

- It will eliminate the delay in adoption and implementation of the water quality protection afforded by the new manual;

- It will create design and water quality consistency throughout the Salish Sea drainage basin and all of Western Washington;
- It will make engineering design easier and thus less expensive by having one consistent stormwater manual through the region for designers to use rather than many; and
- It will save taxpayers the cost of individual municipalities writing their own manual, then waiting for Ecology reviews to be completed on the municipality's alternate manual, and interminable delays and re-submittals that occur.

Ecology should only allow municipalities to submit amendments to the SWMWW that because of their localized or special conditions enhance the water quality protection. Having only to review amendments rather than entire SWM's will greatly reduce the cost to Ecology and the municipalities.

Stormwater engineers will not need to review a plethora of 4" thick SWMWW's to prepare a design for each municipality; rather they will only need to review a few pages of amendments to identify stormwater requirements that are specifically different to each municipality to prepare a competent stormwater design.

Ecology should be authorized to cite municipalities who fail to adopt and implement the new SWMWW within 60 days after its issuance. The cost of the citation should be equal to the estimated value of the stormwater treatment facility that would have been required under the new SWMWW. This could also include mandatory retrofitting of projects completed in the period between manual issuance and adoption that did not comply with the new SWMWW.

Stormwater citations in excess of the \$10,000 should be published conspicuously in a newspaper of general circulation in the County where the violation occurred naming the violators.

Mandatory Retrofits

As previously discussed, the area of new development completed even using Ecology's 2005 SWMWW is insignificantly small when compared to the development that has occurred in the Salish Sea and Western Washington drainage basins over the last 50 plus years. Although it may be politically undesirable, Ecology needs to take an aggressive stand to encourage stormwater retrofitting of private property not subject to development to protect our water quality. This could include relief from part or all of property tax fee component for surface water management for those properties that install LID retrofits.

More emphasis needs to be put on public education and outreach, and encouraging homeowners to voluntarily retrofitting the properties. Ecology should help facilitate low interest loans and grants to municipalities and private property owners who voluntarily retrofit their property.

It may be 500 years or more for the changes mandated in the new manual to have any real effect on our stormwater quality, **IF** we only rely on new construction on virgin land or reconstruction on previously developed land. If we as citizens of Washington State truly want to keep our quality of life, our salmon, Orca's, and other wildlife populations healthy, then we must act soon or they will be lost!

Emphasis on LID

I 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.

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 LID techniques are not appropriate, should the traditional end of pipe methods be used. Examples of where 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 if so determined by a geotechnical engineer;
- Areas with seasonally high groundwater less than 3 feet below the bottom of the treatment facility;
- Stormwater facilities over or near 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 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 very 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 such as designers, permit reviewer, inspectors, construction supervisors, and maintenance personnel of LID facilities receive a minimum of 16-hours of training. Training classes should 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, 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.

The cost of the LID training and certification shall be paid for by the attendees.

Update of Local Codes and Watershed Planning

I 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. However, delays in adopting code updates should not be used by municipalities as excuse to delay implementation of the new SWMWW.

I 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 that are not in compliance with the SWMWW.

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 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

I 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.

1 Acre Exemption

I 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 0.25 inches per hour. Many pervious pavements and rain gardens can be designed to fully infiltrate 100% of site stormwater runoff using 0.25-in/hr rates using gravel storage base rock or designing hardscape runoff to rain gardens. Using the WWHM model, storage in drain rock can be sized properly to hold 100% of the stormwater until it infiltrates into the ground.

Differentiate Between Rain Gardens and Bio-Retention Facilities

Please provide a differentiation in the new permit between Rain Gardens and Bio-Retention facilities. Define Rain Gardens accept runoff from all impervious areas less than 10,000 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 to encourage property owners to install rain gardens. This will also encourage homeowners to voluntarily install rain gardens without having to pay the expense of hiring a professional civil engineer.

Bio-Retention facilities would be those facilities providing flow control and water quality treatment to pollution generating impervious areas greater than or equal to 10,000 square feet. Design of bio-retention facilities would be performed under the supervision of a professional civil engineer specializing in stormwater design.

Thank you for your consideration of these comments.

Sincerely,
LIDER ENGINEERING, PLLC



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