UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF
WATER AND WATERSHEDS

August 30, 2010

RE: Comments on Ecology's August 2010 LID Proposal

Dear Bill, Ed, and Harriet:

First, I'd like to thank you for your hard work in managing the LID advisory committee process over this past year. It has been a productive process. Second, I appreciate your efforts to develop Ecology's August 12, 2010 LID proposal. It's clear that a lot of thought went into developing the proposal drawing on the input provided by the LID advisory committees as well as some new ideas. I believe the proposal is a good step forward in the development of the LID MS4 permit requirements. Below are EPA's general comments and comments on each of three major elements of the LID proposal and the proposed MS4 permit requirement deadlines.

General Comments

EPA is supportive of Ecology's approach to include the three major elements of the LID proposal (site and subdivision, codes changes, and basin scale) as requirements in the MS4 permit. EPA believes all three of these elements are important to minimize the impacts of development on aquatic resources in Western Washington. EPA supports Ecology's proposal to require the LID site and subdivision and code change requirements to both the Phase I and Phase II jurisdictions. Given the current flow control standard applies to both Phase I and II jurisdictions and the need to minimize development impacts across Western Washington, it is important to apply the LID requirements to both Phase I and II jurisdictions in the next MS4 permit. EPA is supportive of Ecology's approach to use a hydrologic performance standard to drive the implementation of LID and believes the specific performance standard proposed is well conceived and technically sound.

However, EPA believes the proposal needs some important changes to ensure that LID is fully incorporated in new development/redevelopment in the near future in Western Washington. In general, EPA believes the proposal creates too many exceptions to application of the performance standard and inappropriately de-emphasizes 1) effective site design to protect native vegetation and minimize imperious surfaces and 2) the use of bio-retention areas. Further, the required code changes need more specific requirements and the basin scale requirements need further vetting and modification to protect healthy watersheds that are threatened from new development. Lastly, the MS4 permit deadlines for the LID requirements should be shortened.

LID Site and Subdivision Requirements

Key areas of support:

1. Support the proposed performance standard (i.e., match 8% of the 2-year flow through 50% of the 2-year flow). Agree with the logic of building off the current flow control standard so one hydrologic model approach can be used.

2. Support use of the current permit size thresholds to delineate different LID requirements for new development/redevelopment. Using the existing size threshold for differing LID requirements minimizes the complexity of the permit.

3. Agree that the performance standard should only apply to projects triggering the current flow control standard (greater than 10,000 sq ft) and that M.R. #5 should be the vehicle to require additional LID BMPs for projects >2,000 sq ft and less than 10,000 sq ft..

4. Support the inclusion of infiltration below pavement in M.R. #5 and in the optional Mandatory lists #1 and #2.

5. Support the Performance standard *only* requirement (no feasibility considerations) for New Development on parcels greater than 5 acres outside the UGA.

Recommended changes:

1. Recommend that *only* the performance standard (including feasibility review/commercial green roof cost analysis) apply to New Development inside the UGA for projects >10,000 sq. ft. of hard surface with infiltration >0.15 in/hr. Following this recommendation would eliminate the optional Mandatory list #1 for this category of New Development and eliminate the >5 acre category of New Development Inside the UGA. *Rationale:* Ecology modeling has shown that the performance standard can be attained for high density residential and commercial projects with this infiltration rate or greater with reasonable application of LID. These projects already require hydrologic modeling and an engineering review for the current flow control standard. Following this approach avoids the Mandatory list #1 and the concerns expressed by many on the LID committee to add features to this list.
    - *If* the Mandatory list #1 option is retained for New Development projects >10,000 sq ft of hard surfaces with infiltration >0.15, recommend that the native vegetation and impervious surface requirements developed as part of the PSP/AHBL LID regulatory assistance projects be included based on development type/zone (e.g., 20% native vegetation minimum and 60% impervious maximum for 10 du/acre residential). *Rationale:* Protecting/restoring native vegetation and minimizing impervious surface through effective site design is the most important LID technique. EPA recognizes the challenges of prescriptive requirements for these elements, but since they would be part of an alternative to meeting the

performance standard, Ecology should believe it is acceptable to include them as part of these lists. The PSP/AHBL table represent reasonable requirements, especially when critical areas are allowed to be included as part of meeting the native vegetation requirement.

- *If* the Mandatory list #1 is option is retained, the suite of requirements should generally meet the performance standard with a high degree of certainty. *Rationale:* Projects with infiltration >0.15 in/hr should be able to meet the performance standard.
- *If* a threshold is kept to delineate when the Mandatory list #1 is not an option to the performance standard (Ecology proposed 5 acres), recommend that the threshold be lowered to 1 acre. *Rationale:* 5 acres unnecessarily excludes a lot of development.

2. Recommend that Mandatory list #2 includes native vegetation and impervious surface requirements based on the type of development as per the tables development by PSP/AHBL as part of the LID regulation assistance projects. *Rationale:* same as discussed above with respect to Mandatory list #1.

3. Recommend that Mandatory list #2 include a raingarden requirement with specifications to contributing area and depth to avoid standing water. *Rationale:* Raingardens have been successfully incorporated into sites with poor draining soils (<0.15 in/hr).

4. Recommend that M.R. #5 (for project sites between 2,000 and 10,000 sq ft hard surfaces) include a basic raingarden requirement if runoff cannot be dispersed into native areas, especially for commercial sites. *Rationale:* There is a significant amount of development that falls in this range. Not including raingardens in appropriate circumstances would be a missed opportunity.

5. Recommend the Redevelopment requirements be essentially the same as the New Development requirements. *Rationale:* The proposal includes the Mandatory list #2 for projects >10,000 sq ft and less than 5 acres for sites with infiltration >0.15 in/hr. This is not a very aggressive requirement for this range of projects (e.g., no raingardens at all). Plus, the variants included in the Redevelopment requirements make the proposal unnecessarily too complicated.

6. Recommend that partial dispersion be incorporated into the proposal. *Rationale:* Few sites will be able to meet the full dispersion requirements, but many sites, with good site design can take advantage of partial dispersion. A clear path to use of this approach is important.

7. Recommend that centralized retention not be allowed, or at least significantly minimized, in outwash soils. One approach may be to limit the % of runoff that can be controlled with traditional retention ponds (e.g., 25 %). *Rationale:* LID committee members have

stated that large retention ponds may cause groundwater mounding and stream impacts not fully accounted for in WWHM and other models. Large retention ponds are not considered LID (i.e., not well distributed) and certainly LID techniques are very feasible on outwash soils.

8. Recommend further evaluation of the proposal for flow control exempt areas and the consideration to apply the LID requirements for all hard surfaces/land clearing, not just pollution generating surfaces. *Rationale:* These areas are exempt from the current flow control standard because Ecology determined that meeting the standard would have little impact on channel erosion in these rivers. The LID requirements, however, help other hydrologic features such as groundwater inflow, which can be important ecologically to these river areas. Thus, a new basis to exempt these areas from the full LID requirements needs to be established. EPA believes the best approach would be not to make a distinction in these areas and apply the full LID requirements. EPA also notes that it will be easier to meet the LID performance standard in these areas because the current flow control standard will not have to be met (i.e., there will be no orifice flow from a pond to account for).

9. EPA supports lesser LID requirements in Highly Urbanized Basins due to feasibility concerns. However, the concept of meeting the LID performance standard based on existing conditions has not been assessed in the advisory committees. Thus, it's unclear how much LID will be required for new development/redevelopment in these areas. A basic level of LID should be required in these areas.

LID Development Code Changes

EPA recommends that these requirements be more specific. Lack of clarity will result in little change given the constraints and demands on local planning staff. It's true that each jurisdiction's codes are unique. However, the types of changes that are needed to remove LID barriers and help projects meet the LID performance standard are similar. For example, development codes that *require* curb and gutter, excessive minimum street width, excessive parking requirements, and a variance in order to cluster development *must* be removed in order to achieve successful LID projects. In the next couple of months, Ecology should work with others to identify the specific short list of common code LID barriers that *must* be removed and include those as requirements in the MS4 permit. Beyond this list, general requirements along with guidance and model ordinances can address the host of other codes changes that generally serve to help promote LID project design.

Basin-Scale Requirements

EPA appreciates the ingenuity of the basin scale element of the LID proposal. Linking a basin assessment to a trigger, such as a UGA expansion has some merit. However, we think the proposal does not necessarily target or proactively address the important need to protect relatively healthy watersheds at risk from urbanization in the near future. We think there are a

few dozen basins, mostly in the Puget Sound watershed, that are 1) relatively undeveloped (roughly 10% impervious or less) although not pristine, 2) are of high ecological value primarily in regards to salmon recovery, and 3) are at risk to urbanization impacts, such as hydrologic change, over the next 10-30 years. We think it is important to focus the basin-scale LID requirement toward these areas. These basins may include some areas within the UGA, but the majority of the area is likely to be outside and adjacent to the UGA. Examples basins that may meet these characteristic include: Lower Woods Creek in WRIA 7, Patterson Creek in WRIA 7, Newaukum Creek in WRIA 9, Boise Creek in WRIA 10, South Prairie Creek in WRIA 10, and Union River in WRIA 15.

We think the focus of the basin-scale LID requirement should be to conduct a hydrologic analysis of the basin (typically for multiple sub-basins) using a HSPF model under current conditions (impervious, forest cover, etc.) and future conditions given existing land use zoning and regulations. The primary objective would be to use this information to modify land use requirements so that the hydrology of the basin is maintained and improved under predicted future conditions. As you are aware, scientific studies have shown that maintaining less than 10% impervious and greater than 65% native vegetation in a sub-basin is likely needed to maintain a healthy watershed.

Potential land use modifications may include: changes to comprehensive plans to protect areas of the basin; changes in use and zoning to less density and/or less impervious uses in certain areas; minimum native vegetation and maximum impervious limits for certain zones; changes to the UGA boundary to minimize hydrologic impacts in the basin; mitigation requirements for land clearing/impervious development to offset impacts; and expansion of critical area buffers for streams and hydrological important upland features. In addition, other land use tools such as land purchases or PDR and TDR programs could be employed.

EPA recommends that the MS4 permit(s) require one basin-scale assessment be completed for WRIA's 1, 3, 8, 9, 11, and 27/28 and two basin-scale assessments be completed for WRIA's 7, 10, and 15 during 5 year period of the next MS4 permit. The County's in the respective WRIA's would be the lead jurisdictions with required participation of any cities whose UGA lies within the basins. To streamline the process, EPA recommends the 12 specific basins be identified in the MS4 permit(s). The basin-scale requirement could include the evaluation and modeling described above and implementation of specific land use changes to maintain and improve the basin's hydrologic condition over the next 20 years.

EPA notes that basin plans done to date have been complex to varying degrees and have primarily focused on identification of projects to improve flooding, stormwater runoff, and habitat, and to a limited extent identification of preventative strategies. These past and ongoing efforts are beneficial, especially for prioritization of stormwater retrofit projects. However, as described above, EPA recommends the basin-scale LID requirements focus on land use and prevention.

Permit Timelines

The proposal requires the adoption of both the LID code changes and site and subdivision requirements by December 1, 2014 for most jurisdictions, which is estimated to be nearly 3 years after the planned permit issuance date of February 2012.

EPA believes this is too long and recommends that both the code and site/subdivision requirements be required to be adopted within 12-18 months for Phase I jurisdictions and 18-24 months for Phase II jurisdictions.

Ecology's proposal is based in part on potential efficiencies that might be gained by aligning with GMA deadlines (December 2014). We question this premise. GMA will require comprehensive plan and some ordinance review and changes (e.g., critical areas). The LID code work and the revision of the stormwater code to include the site/subdivision requirements are largely unrelated and distinct to the issues and changes that jurisdictions will be making under the GMA update. We think it's highly likely that joining these two efforts on a similar timeline will actually burden local staff. Thus, we recommend that the stormwater code changes occur *prior to* the GMA updates. We think this is appropriate in light of the PCHB's LID decisions and orders and the importance of minimizing the impacts of future development though LID. Further, if the minimum code changes are well defined as suggested above, the time to do this work will be reasonable.

Final Thoughts

In several places the proposal refers to the current flow control standard as the "stream protection" standard and separately identifies the LID standard. I recommend the current standard be referred to as the "stream erosion" standard and both the current and LID standard be referred to as the "stream protection" standard.

As the LID requirement moves forward, I believe it's important to develop examples and define the LID requirements as part of way to meet the current flow control standard and that costs are not expected to increase in many cases due to a smaller (or no) traditional stormwater pond.

Again, thank you for your efforts in developing the August 2010 LID proposal and providing the opportunity to provide comment. I look forward to continued discussions on this topic.

Sincerely,

John Palmer
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Office of Water and Watershed