

Comments from Bruce Wulkan, Puget Sound Partnership

Ed and Harriet,

Thanks so much for all the good work you and your consultant have done on this project. Thanks also for asking for additional comments. Below are our office's comments related to the three sections of the document Ecology released related to adding LID requirements to the municipal NPDES permits:

Proposed Requirements and Timelines to Update Development Codes to Incorporate LID, Proposed Requirements for Basin-Scale Approach, and Ecology Proposal for LID Site and Subdivision Technical Requirements, all dated August 2010.

Comments - Primary

Relates to: *Proposed Requirements and Timelines to Update Development Codes to Incorporate LID, August 2010*

1. The deadlines for permittees to revise their regulations appear overly long, considering the following factors: PCHB ruling that the existing phase I permit be modified for these requirements; Committee discussions (these deadlines appear to be on the longer side of committee discussions); Existence of LID code work already done in region (Partnership provided detailed recommendations to 36 local governments in basin 2005-09); New guidebook with model ordinances the Partnership will produce in coordination with Ecology by July 2011; and Advance notice permittees are receiving of this new requirement now.

Recommendation: Shorten timelines to 18 months for phase I (late 2013) and 24 months (early 2014) for phase II based on the above listed factors.

Relates to: *Proposed Requirements for Basin-Scale Approach, August 2010*

2. The basin scale approach to LID appears limited. It appears to apply only to UGAs, while it is the urbanizing fringes around UGAs that are most threatened by future development (through expansion of UGAs) and which could be better protected by stronger watershed planning measures. The approach doesn't utilize the watershed characterization work done by Stephen Stanley and others. The approach doesn't adequately account for already developed watersheds and basins that may not undergo zoning changes and/or UGA expansions. The approach doesn't contain any elements of protecting native vegetation and limiting impervious surfaces. The approach isn't clear about how cumulative, smaller increases in zoning and UGA expansion (below trigger levels) would be addressed.

Recommendations: Expand this section: a) Apply to lands in counties adjacent to UGAs also; b) Add language directing permittees to use watershed characterization work in their decision making re: whether to expand a UGA and in which direction (i.e., use watershed characterization work to direct development to appropriate areas and preserve areas identified for protection); c) Add LID requirements to retrofit elements of the phase I permit (and phase II if retrofit is added to this permit); d) Add language directing permittees to begin a process to set minimum limits on native vegetative cover and maximum allowable impervious surface cover by watershed; e) Clarify language regarding cumulative increases to UGAs and zoning changes.

Relates to: *Proposal for LID Site and Subdivision Technical Requirements, August 2010*

3. We support Ecology's new LID flow control standard. Ecology is correct in asserting that if we are to protect resources, particularly Puget Sound lowland stream and wetland resources and species listed under the Endangered Species Act from adverse effects of development and stormwater runoff, we must strive to protect natural hydrology by mimicking to the extent technically feasible natural conditions. This new standard seeks to do that – to manage on site more of the smaller, more frequent storm events that, if left unmanaged, can lead to harm to smaller streams and creeks, wetlands, and

aquifers. This is the intent behind the development and use of LID – to capture the full range of storm events from developed properties, including the smaller, more frequent storms.

Recommendation: Retain this new standard.

4. Re: thresholds, we support the new requirement to use pervious pavement for smaller sites below 10,000 sq ft hard surface. However, the five-acre threshold for requiring the new LID performance standard appears overly large, and not consistent with discussions at the technical advisory committee meetings (where many recommended lowering this threshold because it is technically possible to meet the new LID standard on sites smaller than 5 acres).

Recommendations: a) Retain requirement for pervious pavement on smaller sites. B) Modify the five-acre threshold for the LID standard to be significantly smaller, with accompanying engineering analysis to either a) apply the new LID standard; or b) demonstrate why it cannot be met and why the mandatory list will be used instead. Recommend considering one acre and larger sites for this threshold. The one-acre threshold would be consistent with the threshold for the NPDES construction permit. C) Retain the 5-acre threshold for mandatory use of the new LID standard.

5. Several key LID components are notably missing: Site assessment, site planning, native vegetation retention, and limits on impervious surface cover. The draft framework does not require site assessment and planning, and it only requires permittees to comply with local regulations re: native vegetation protection and limits on impervious surface (which they would need to regardless of this permit). All these elements are as critical elements of LID as are the individual techniques. In the Partnership's work helping 36 local governments add LID to their codes, local government staff always requested recommendations and text related to site assessment and planning. Protection and use of native vegetation to manage runoff, and limiting impervious surfaces, particularly effective impervious surfaces, are the most basic elements of the overall LID approach.

Recommendations: a) Add a requirement for site assessment and site planning to achieve key LID goals, and list goals and objectives of each activity. B) Add requirements to protect a portion of a site's native vegetation and limit impervious surfaces, particularly effective impervious surfaces. C) Consider adding a sliding scale for native vegetative cover and impervious surface cover limits according to land use type (residential vs. commercial/municipal/industrial) and by zoning density. D) Allow critical areas to count towards native vegetation protection areas.

Comments – Secondary

All below comments relate to: *Ecology Proposal for LID Site and Subdivision Technical Requirements, August 2010*

1. Clarify Page 2, B1C – Current language reads as though the 50% trigger refers to both new development and redevelopment. I believe this trigger is intended to apply only to redevelopment.

Recommendation: Clarify.

2. Clarify Page 2, B1D - Current language reads as though all runoff must be routed through rain gardens. It is not necessary to route runoff to approved dispersion areas also to rain gardens (bioretention). Approved dispersion areas satisfy flow control and treatment requirements. Also where did the minimum sizes for rain gardens come from? It may not be necessary to dictate minimum sizes for rain gardens if the site is using partial dispersion.

Recommendations: Clarify that runoff to approved dispersion areas need not be routed to rain gardens. State the sources for the minimum sizes for rain gardens. Consider providing flexibility for use of dispersion and use of low impact foundations.

3. Full and partial dispersion, Page 3, #4 – Support including full dispersion, but partial dispersion is missing.

Recommendation: Clearly call out partial dispersion if full dispersion is not practical due to zoning and density.

4. Treatment credits Page 3, #5 – Bioretention is approved for enhanced treatment but text does not state this obvious benefit.

Recommendation: Add.

5. Existing LID techniques, with minimum guidelines, not referenced – All LID techniques, with minimum design standards, should be listed to give permittees guidance on where to find LID techniques and how to design them. This is important for consistency, and to ensure full array of LD is used.

Recommendation: Reference stormwater management manual for western WA., latest edition. When LID manual is updated (2011), the Partnership, Ecology and WSU Extension will coordinate to ensure the updated LID guidance manual remains consistent re: LID with Ecology’s western WA manual.

6. Allowing centralized detention on outwash soils, Page 4, #7 – Allowing projects on outwash soils to use centralized detention rather than LID distributed controls is puzzling. LID is clearly feasible on outwash soils – why require it on tougher soils but not easier, better draining soils? This doesn’t appear consistent with the PCHB ruling to require LID where feasible.

Recommendation: Change text to clearly require LID where feasible, specifically multiple, distributed, small-scale hydrologic controls throughout the site. This will remain consistent with the PCHB ruling, protect an entire site’s hydrology better, and provide better treatment.

7. Attachment #1, Feasibility Criteria B. Pervious Pavement – Allowing up to 3X the pervious pavement area to be contributing impervious area may or may not be appropriate. Where did this info come from?

Recommendation: Check with Curtis Hinman, Mutual Materials (for pavers), Andy Marks (for pervious concrete) re: this allowance to ensure it is technically appropriate.

8. Page 7, Endnote re: green roofs - Support statement that green roofs are a proven technology – they certainly are. However, only requiring a cost analysis is a very light requirement. Will this result in the use of green roofs, which are a proven LID technology?

Recommendation: Consider requiring the use of green roofs on commercial, municipal and industrial buildings (not residential) when the cost increase is nominal. Research options for defining “nominal.” Is 5% additional reasonable?

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