



King County

Department of Natural Resources and Parks
Water and Lands Resources Division
King Street Center
201 South Jackson Street, Suite 600
Seattle, WA 98104-3855

August 27th, 2010

Ed O'Brien
Department of Ecology
PO Box 47600 Olympia,
WA 98504-7600

RE: Comments on 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 dated August 12, 2010

Dear Mr. O'Brien:

King County Department of Natural Resources and Parks has reviewed the draft guideline document on the implementation of the LID stormwater standards issued by your group on August 12th, 2010. We wish to thank you for the obvious thought and hard work that you have put into this document and giving us the opportunity to provide comments. We realize that this is a position paper that is lacking in many of the details needed to understand how implementation of the LID requirements will be achieved through the Municipal NPDES permit. As a result, we have attempted to target our comments and suggestions to the general concepts of the paper. King County recognizes LID as a valuable tool to address stormwater and supports its successful use in the region.

Proposed Requirements and Timelines to Update Development Codes to Incorporate LID

The time frames cited in this document are challenging and based on the premise that there will be no challenges, appeals, or other legal actions that will slow the process or alter the regulatory requirements for either the growth management act or the stormwater LID requirements. As experienced by the Phase I permittees when establishing equivalency for their design manuals, the process and effort are much more complicated and time consuming than anticipated. There will be issues that will require negotiation of regulatory language with multiple agencies in order to implement LID. Mandating narrower roads as the standard will be challenged by the need to maintain safe and stable traveled surfaces. The approach should be to assess the needs of the existing or proposed pavement area and seeing if there are opportunities to reduce pavement, analyze alternate materials, and still meet the project's transportation objectives.

Proposed Requirements for Basin-Scale Approach

The PCHB ruling concluded that a permit condition requiring municipalities to implement LID at a basin or watershed level is not reasonable or practical and that cities and counties should identify where areas of basin planning would assist in reducing stormwater impacts. This is supported by the lack of knowledge, effective tools, and technology to effectively conduct the analyses described in this paper. Much of the development of these tools will fall to Phase II jurisdictions as they are the most likely to trigger the benchmarks in this paper. King County is just now concluding grant negotiations to evaluate EPA's SUSTAIN watershed modeling software for the northwest region and results are not expected for two years and the results of this study will not meet the modeling needs outlined in this paper. There needs to be a significant amount of additional work done on this section before useful, analytical comments can be made.

Ecology Proposal for LID Site and Subdivision Technical Requirements

In general, we find this approach achievable. We have included several comments which illustrate that there are numerous details that need to be addressed before this program can be fully commented on.

- We do not agree that LID requirements in the permit should supersede the Growth Management Act requirements. This statement places stormwater programs in an untenable position.
- Using the road Right-of-Way (ROW) as a stormwater storage and treatment facility poses challenges that have not been fully recognized and poses serious problems for the management of that property. Putting LID in and under road ROWs creates significant challenges for the design, construction, operations and maintenance of the LID facility and the road itself; this includes infiltration through pervious pavement and under impervious pavement. Consideration must be taken when the road is over or near a wetland; ground water is shallow; or, where infiltration contributes to soil saturation on unstable slopes.
- The determination of Saturated Hydraulic Conductivity is critical to determine the feasibility of LID and a number of issues are unresolved around methodology and application.
 - Soil maps and assumptions about soil characteristics are not sufficient for site assessment.
 - Methodology - Pit, infiltrometer, permeameter, and grain size analysis – all give different results. How many tests, where on the property; the lack of details in the methodology can easily lead to incorrect results.
 - Conditions- Are these tests conducted under truly saturated soil conditions (wet period) or during other periods.
 - Timing during development – When are these tests conducted: with native infiltration (before any clearing); after clearing; after grading; after

compaction? Only final condition of soil prior to application of LID is meaningful and consequently predictive.

- Sample size - Native soils are quite heterogeneous, what is representative?

There are still concerns about various aspects of broad application of LID on the landscape. Issues of concern include the long-term fate of infiltrated pollutants; source control, operations, maintenance, and inspections in single family residence settings; spill containment and cleanup; the effects of interflow on neighboring structures; and, where these waters daylight. King County strongly supports the effective and appropriate use of LID in stormwater management programs and wants to ensure the success of the application of LID in the Puget Sound region.

Sincerely,

Douglas D. Navetski
Supervising Engineer
King County DNRP

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