Department of Ecology – Water Quality Program
Development of Low Impact Development (LID) Standards
for the Municipal Stormwater General Permits

Advisory Committee Kick-Off Meeting
October 13, 2009 – 9:00 – 3:30, Tacoma Convention Center

9:00	Welcome and Introductory Comments: Josh Baldi - Department of Ecology; David Dicks - Puget Sound Partnership
9:30	Introduction of Advisory Committee Members (name, organization, relationship to LID)
9:45	Overview: Objectives of the Advisory Committee Process Overview of PCHB Rulings re: Low Impact Development Objectives of the Advisory Committee Process
10:15	Overview: Advisory Committee Expectations Advisory Committee Expectations and Logistics Public Involvement
10:30	Advisory Committee Input on Objectives and Expectations
11:30	Public Input on Objectives and Advisory Committee Expectations
12:00	**LUNCH (on your own)**
1:15	Overview: Issues, Sequencing and Coordination Between the Committees Issues to be Addressed Coordination Between the Committees, Proposed Meeting Schedule Proposed Issue Sequencing and Meeting Topics
1:45	Advisory Committee Input on Proposed Issues and Sequencing
2:45	Public Input on Proposed Process and Issues
3:15	Next meetings – Logistics, schedule, locations
3:30	**Adjourn**

See back for additional information and resources.

Website Resources

Ecology

Developing Low Impact Development (LID) Standards:
http://www.ecy.wa.gov/programs/wq/stormwater/municipal/LIDstandards.html

This site will be updated frequently throughout the process. To sign up for notifications of website updates, please subscribe to the LID Listserve available at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/LIDstandards.html.

Municipal Stormwater Permits page:
http://www.ecy.wa.gov/programs/wq/stormwater/municipal/index.html

Puget Sound Partnership

http://www.psp.wa.gov/stormwater.php

Puget Sound Partnership LID Local Regulation Assistance Project:
http://www.psparchives.com/our_work/stormwater/lid/lid_regs.htm

EPA

http://www.epa.gov/owow/nps/lid/

Meeting Dates

Technical Committee Meetings:

November 2, 2009

December 9, 2009

January 25, 2010

March 17, 2010

Implementation Committee Meetings

November 19, 2009

January 5, 2010

February 17, 2010

April 15, 2010

Joint Meetings (Both Committees)

May 12, 2010

June 23, 2010

Please see Handout for Meeting Topics.

Department of Ecology – Water Quality Program
Development of Low Impact Development (LID) Standards for the Municipal Stormwater General Permits

The Pollution Control Hearings Board (PCHB) ruled in August 2008 that Ecology must add requirements to the Phase I permit that apply to local governments covered under the permits. The PCHB also ruled in February 2009 that Ecology begin to prepare Western Washington Phase II permittees for future implementation of LID.

Ecology is convening a stakeholder advisory process to receive input on the definitions and standards for these LID stormwater requirements. EPA Region 10 funded Ecology to conduct an eight-to-ten month process to receive input from two advisory committees: a technical advisory committee and an implementation advisory committee.

At the end of the process, Ecology will make a decision on permit requirements and will amend the Phase I permit to include them. Ecology will also determine the timing to include additional LID requirements in future Western Washington Phase I and Phase II permits. Ecology also expects to incorporate these standards in the Stormwater Management Manual for Western Washington.

The Puget Sound Partnership (PSP) calls for these standards as a priority action in the 2008 Puget Sound Action Agenda. The PSP LID program has led the region in advancing LID, and is partnering with Ecology in this process.

OBJECTIVES OF THE ADVISORY COMMITTEE PROCESS

The primary objective of the Advisory Committee process is to assist Ecology to implement the PCHB rulings regarding LID.

Key excerpts from the PCHB rulings are included in Attachment 1. The rulings include:

1. Requiring implementation of LID, where feasible, for all new developments and redevelopment at the site/subdivision scale, first for Phase I Municipalities, and then for the Phase II Municipalities.
2. Evaluation of implementation of LID at the basin or watershed planning scale.

Ecology has included these requirements in the Municipal NPDES permits that were modified in June 2009 (effective July 2009). Ecology acknowledges that the specifics of what it means to require LID will be developed with Advisory Committee input.

> *In order to implement the Pollution Control Hearings Board's language in S5.C.5.b.iii, Ecology will initiate a process to define the scope of LID techniques to be considered, criteria for determining the feasibility of LID techniques, and a LID performance standard. When the process is complete, Ecology will incorporate the results and a*

deadline for implementation of S5.C.5.b.iii(2) into the permit through a permit modification (Page 11).

Ecology is forming the technical and implementation Advisory Committees to receive input on both how to specifically require LID implementation and how to coordinate these requirements with the municipal code updates that are necessary for full implementation.

Input will be used to both modify the current Phase I Municipal Stormwater Permit; to produce the next permit updates for both the Phase I and Phase II Permits; and to develop strategies for the future. In the summer of 2010, Ecology intends to modify the current Phase I Permit language, a process that will include formal public comment.

The current permits will expire in Feb 2012. In order to reissue permits on time, Ecology will need to release draft permits for public comment in spring 2011. These permits will incorporate the LID updates.

ADVISORY COMMITTEE EXPECTATONS

The Technical and Implementation Advisory Committees will provide input for Ecology to consider as Ecology develops updated permit language. Advisory Committee meetings will be facilitated in a way that allows the Committees to talk through the issues, and to make sure that multiple viewpoints are considered in the development of LID permit requirements.

The purpose of the meetings is for the Committee members to educate each other and Ecology, and to work together on the development of options for considerations. The meetings will elicit and discuss proposals and ideas, and pros and cons of those ideas. Differences of opinion will be understood and documented.

It will be great when Committee members reach general agreement on input; however consensus is not a requirement of this process. This is not a decision-making process. Input will be documented for Ecology to consider as they subsequently reach decisions on permit language.

Committee meetings will be open to the public, with specific times on each agenda for public input. Ecology will post meeting schedules, agendas, summaries and technical documents on the Ecology website:
http://www.ecy.wa.gov/programs/wq/stormwater/municipal/LIDstandards.html

Ecology is also setting up a listserve system that will notify subscribers of updates via e-mail. The Advisory Committees consist of members nominated and selected to represent the diversity of those impacted by the PCHB ruling. Members of the public wishing to provide input into the process are encouraged to present input at the committee meetings, provide input by email, or route comments and concerns through a representative on the committee.

Advisory Committee meetings are expected to occur through June 2010. Meetings will be documented, and the series of meetings will result in a summary document of input received.

SPECIFIC ISSUES, SEQUENCING AND COORDINATION BETWEEN THE COMMITTEES

Issues to be Addressed

Specific issues to be addressed with the Advisory Committees include:

- The definition and goals of "Low Impact Development"
- LID practices to be considered at the site and subdivision scale, as well as barriers/constraints for their implementation
- Criteria for determining feasibility
- Performance standards – metrics for performance requirements
- Implementation approach, sequence and schedule
- Options and strategy for basin/watershed scale water quality management tools

Coordination Between the Committees

Committee Members are listed in Attachment 2. The technical aspects of these issues will be discussed first with the members of the Technical Committee. There are 12 people on the Technical Committee, who provide a broad range of professional engineering and hydrologic expertise in the development and application of LID standards and techniques.

The Implementation Committee is made up of 17 people with planning, policy making and regulatory expertise. After issues have been discussed with the Technical Committee, their input will be provided to the Implementation Committee. Implementation Committee discussion will focus on the approach, sequence and schedule for workable deployment of LID requirements – with particular attention to coordination with other planning and development requirements.

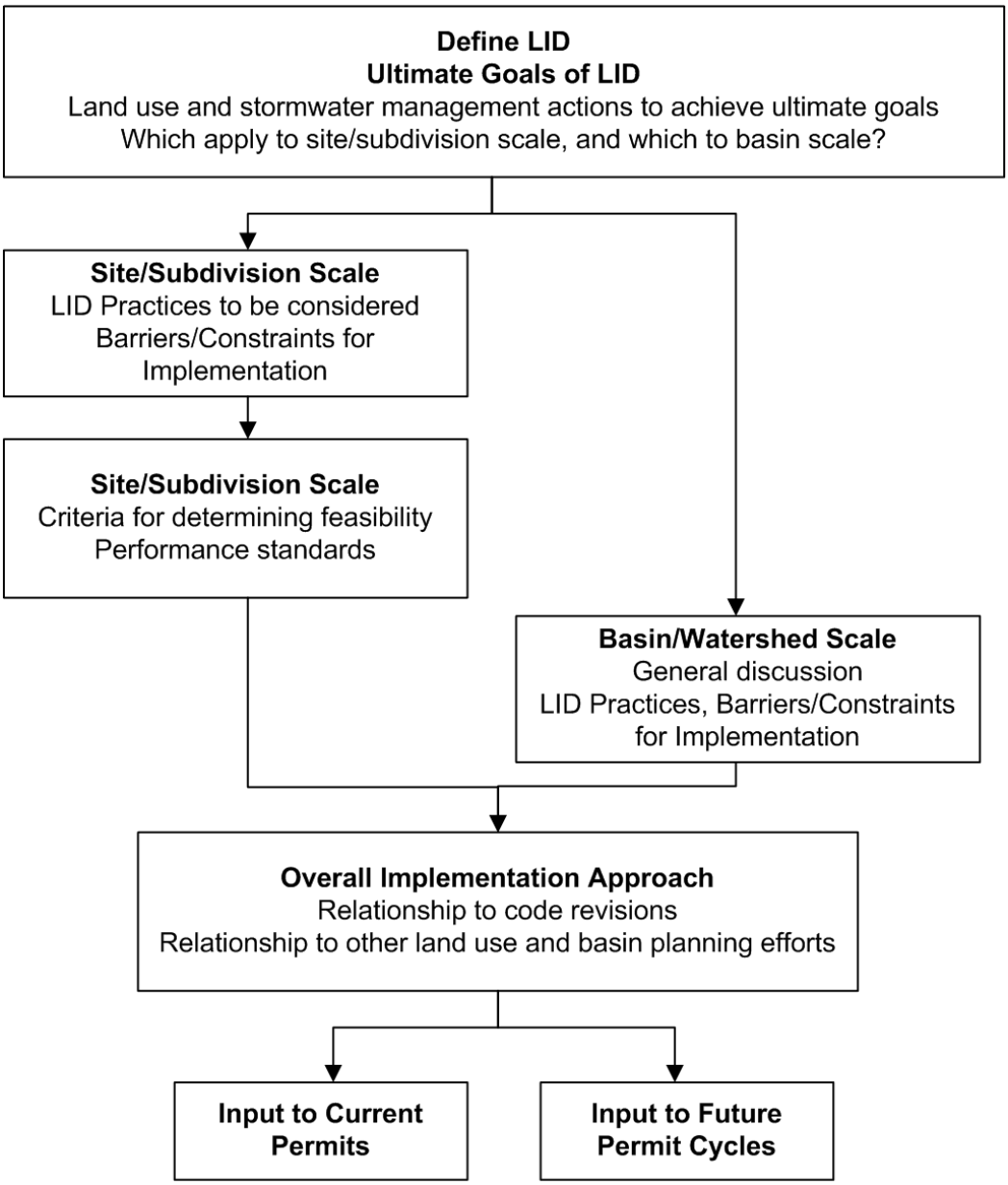
The work of the committees will be facilitated and documented by Floyd|Snider, under contract to Ecology. SvR Design Company will provide technical assistance to Floyd|Snider as needed.

Issue Sequencing

Ecology's team is proposing that issues be discussed starting with the long-term, big-picture view of opportunities, and then focusing on elements appropriate for near-term implementation. Our concept is that this sequence will assist committee members and Ecology in discussing the overall purpose and end-goals for LID implementation first, so as to provide context to subsequent input on near-term requirements.

Note: The proposed sequence of issues and topics for committee meetings presented here are the current thoughts of the Ecology Team. We will welcome input and critique from committee members at the Kick-Off Meeting scheduled for October 13.

The diagram below shows the general concept for issue sequencing.



PROPOSED SEQUENCING OF ISSUE DISCUSSION

Proposed Meeting Sequence (Draft for Committee Input)

	Technical Committee	Implementation Committee
October	**Joint Kick Off**	
Early Nov	**TAC Mtg #1:** Define LID, Ultimate Goals of LID, Basin and Site/Subdivision Practices	
Mid Nov		**IAC Mtg #1:** LID Definition, Ultimate Goals, Basin and Site/Subdivision Practices. Overall Implementation Approach.
Dec	**TAC Mtg #2**: Site/Subdivision LID Implementation Constraints, Feasibility Criteria and Performance Standards	
Early Jan		**IAC Mtg #2:** Site/Subdivision Practices and Implementation Approach
Late Jan	**TAC Mtg #3** : Site/Subdivision LID Implementation Constraints, Feasibility Criteria and Performance Standards (continued)	
Feb		**IAC Mtg #3:** Site/Subdivision Feasibility Criteria, Performance Standards, Implementation Approach
Mar	**TAC Mtg #4:** Basin Scale Practices, Input to Current and Future Permits	
April		**IAC Mtg #4:** Basin Scale Implementation Considerations, Overall Implementation Approach, Input to Current and Future Permits
May	**Joint Meeting** - Summary of Input to Ecology	
June	**Joint Meeting -** Ecology briefing on next steps and permit direction	

Meetings will typically be held from 10:00 – 3:00, and will be scheduled well in advance, at the beginning of the process.

Proposed Meeting Topics (Draft for Committee Input)

TAC Mtg #1:

- Define Low Impact Development (a definition that applies at all scales)
- What is the ultimate goal of LID – what is overall target?
- Identify land use and stormwater management practices that are necessary to achieve ultimate goal. Which apply to basin/watershed scale and which to the site/subdivision scale?

IAC Mtg #1:

- Review and supplement outcomes of TAC Mtg #1
- Discuss overall implementation approach at both basin/watershed and site/subdivision scales
- Generally identify related administrative codes and land use planning processes

TAC Mtg #2:

- Revisit LID practices that apply to the site/subdivision scale
- Identify barriers/constraints to implementation, and discuss ways to remove or reduce them, identify their level of severity
- Rank LID practices relative to near-term implementability
- Identify criteria for determining feasibility for site/subdivision scale practices – prioritizing those defined as implementable in the near-term
- Discuss minimum performance standards that could be utilized to set requirements and measure effectiveness
- Define homework to support continued discussion in Meeting #3

IAC Mtg #2:

- Review and supplement outcomes of TAC Mtg #2. Supplement identification of regulatory and administrative barriers. Discuss readiness of the development and planning communities.
- Discuss administrative actions, processes and schedules for removing barriers, using ranked list as described above.

TAC Mtg #3:

- Continue to discuss implementation constraints, feasibility criteria and performance standards
- Discuss performance standard approaches for different land use types, and change in performance standards over time as more LID practices become implementable.

IAC Mtg #3:

- Review and supplement outcomes of TAC Mtg #3
- Input on implementation approach at site/subdivision scale. Relationship to GMA updates?
- Input on implementation deadlines related to NPDES permit terms

TAC Mtg #4:

- Revisit LID Practices that apply at the basin/watershed scale
- Discuss barriers/constraints to implementation. Identify opportunities for additional information gathering and reporting. Brainstorm options to remove/reduce barriers
- Discuss overall implementation approach and input to current and future permit cycles.

IAC Mtg #4:

- Review and supplement basin-scale outcomes of TAC Mtg#4. Review TAC input on overall implementation approach
- Discuss administrative actions, processes and schedules for removing barriers for basin scale practices
- Discuss overall implementation approach and input to current and future permit cycles.

May Joint Meeting:

- Jointly review a summary of all input developed from this process
- Discuss Ecology's schedule and process for permit updates
- Appreciation for participation, debrief of process, potential future roles of these committees

June Joint Meeting:

- Ecology presentation of next steps and permit direction
- Initial comments/reaction from IAC/TAC members
- Discussion of formal public comment and implementation process

ATTACHMENTS:

1. Key Exerpts from PCHB Rulings
2. Listing of Committee Members

Attachment 1

Key Excerpts from PCHB Decision re Low Impact Development Within the Phase I Municipal Stormwater Permit

Key Findings of Fact:

Paragraph 57: Ecology staff who developed the Phase I permit, as well as a number of stormwater experts who testified before the Board, agreed that no one stormwater management technique could solve the problem of polluted runoff from municipal stormwater systems. Even the extensive use of site-level LID is not sufficient, on its own, to fully protect aquatic resources. Rather, a combination of aggressive use of LID techniques, best conventional engineering techniques to manage high flows (such as the flow duration standard), and land use actions to preserve a high percentage of native land cover, are necessary to reduce pollutants in stormwater to the maximum extent, and to preserve water quality.

Paragraph 60: Requiring municipalities to impose parcel and subdivision-level LID best management practices represents a cost effective, practical advancement in stormwater management."

Paragraph 62: A major consideration in utilizing LID techniques at a site level is not the engineering or construction associated with the LID techniques, but rather the costs associated with navigating a system of regulation and development that was not created with LID in mind. To fully incorporate LID principles into this system will require review, consideration, and in some instances modification, of existing zoning and building regulations that create obstacles to the use of LID. Some examples of common local government ordinances that could make it difficult to utilize certain LID techniques include requirements related to road width, curbs and gutters, vegetation clearing, and parking spaces."

Paragraph 63: Many leading scientists concluded, in a paper submitted to the Puget Sound Partnership in July of 2007, that the problem of stormwater must be addressed in the land use context if the health of Puget Sound, the species that inhabit it, and its various important beneficial uses to the region, are to be protected and/or recovered. The group concluded that:

> We have well documented evidence that the impairment associated with stormwater runoff is primarily a **land use problem,** and that we cannot fully mitigate its effects if we approach it only site-by-site. We know that the problems must be addressed at a basin or landscape level-but we continue to manage land use and stormwater primarily on a site-by-site, end of pipe basis. At the same time, we also know that current site-by-site development techniques that result typically in wholesale loss of vegetation, compaction of native soils and connected impervious surfaces, can and should be improved upon significantly if we are to address stormwater problems.

Paragraph 66: The Board finds that LID methods are at this time a known and available method to address stormwater runoff at the site, parcel, and subdivision level…. The Board also finds that LID methods are technologically and economically feasible and capable of application at the site, parcel, and subdivision level at this time.

Key Conclusions of Law:

Paragraph 16: Thus, we conclude that under state law, the permit must require greater application of LID techniques, where feasible, in combination with the flow control standard, to meet the AKART standard. The permit must also require the application of LID, where feasible, and conventional engineered stormwater management techniques to remove pollutants from stormwater to the maximum extent practicable in order to comply with federal law.

Paragraph 17: Given these several factors, the Board concludes that a permit condition requiring municipalities to implement LID at a basin or watershed level is not, at this time, reasonable or practicable. This is not to say that no steps can or should be taken at this time. Ecology has identified the particular importance of basin planning in areas which are relatively undeveloped where new development is occurring. The Board concludes that city and county permittees should identify such areas where potential basin planning would assist in reducing the harmful impacts of stormwater discharges upon aquatic resources.

Paragraph 18: The Board concludes that contrary to the concerns raised by Ecology during permit development, that the GMA is not a barrier to greater use of LID but rather complements the efforts of Ecology to move forward with requiring the use of LID techniques under the Phase I Permit.

Paragraph 26: We conclude that there is no conflict between GMA and the WPCA, nor the roles of local governments and Ecology under these statutes. These roles support and complement each other and can be harmonized to allow water quality efforts to be considered and integrated into the growth management process outlined in the GMA.

Paragraph 27: The Board concludes Ecology may, within the bounds of the GMA, require use of LID as a water quality management tool. The Board further concludes that the Phase I Permit must be modified to require use of LID where feasible, as it is necessary to meet the MEP and AKART standards of federal and state law, respectively.

Order:

a. Modify the Phase I Municipal Stormwater Permit to read as follows: The program must require non-structural preventive actions and source reduction approaches, including Low Impact Development Techniques (LID), to minimize the creation of impervious surfaces, and measures to minimize the disturbance of soils and vegetation where feasible.
b. Require permittees to identify barriers to implementation of LID and, in each annual report, identify actions taken to remove barriers identified.
c. Require permittees to adopt enforceable ordinances that require use of LID techniques where feasible in conjunction with conventional stormwater management methods.
d. Require permittees to address in their annual report to Ecology under the Phase I Permit, information on the extent to which basin planning is being conducted in their jurisdiction, either voluntarily, or pursuant to GMA or any other requirement.
e. Require permittees to identify, prior to the next permit cycle or renewal, areas for potential basin or watershed planning that can incorporate development strategies as a water quality management tool to protect aquatic resources.

Key Excerpts of PCHB Decision re Low Impact Development Within the Phase II Municipal Stormwater Permit

Conclusions of Law:

……The Board concludes that in addition to adopting ordinances or other regulatory mechanisms to allow LID, as the Permit currently requires, the Permit must set forth additional requirements with respect to broader use of LID during this permit term, and in anticipation of the next. Such steps should include, at a minimum, requirements to identify barriers to use of LID and to address the same, requirements to identify currently available and understood LID practices that can reasonably be implemented within this permit term, requirements to identify potential or planned non-structural actions and LID techniques to prevent stormwater impacts, requirements to establish goals and metrics to identify, promote, and measure LID use, including flexible schedules by which Phase II jurisdictions will begin to require and implement these non-structural and LID techniques on a broader scale in their jurisdiction in the future.

The Board recognizes that Ecology's development of technical guidance and eventual adoption of a performance standard is a critical step necessary for the fullest and most successful implementation of LID practices in both Phase I and Phase II jurisdictions. The Board has also found it is reasonable for Ecology to allow some lag in timing between Phase I and Phase II jurisdictions as LID requirements are implemented by Phase II municipalities, and that development of some types of technical guidance and adoption of a performance standard will likely take longer than is reasonable or feasible to incorporate into this cycle of the Phase II Permit.

….We believe it is within Ecology's technical expertise to determine how to best implement the (*Phase* I) decision within this permit cycle, whether it be through permit modification and/or development of technical guidance documents or an LID performance standard. For these reasons, the Board does not order inclusion of a performance standard within the Phase II Permit, and we give Ecology some amount of discretion to determine the timing for moving Phase II permittees forward to broader implementation of LID.

Order:

Having concluded that a portion of the Phase II permit is invalid, the Board REMANDS the Phase II Permit to Ecology pursuant to WAC 371-08-540, for modifications consistent with this opinion, including modifications to Permit Condition S5.C.4 to address additional requirements for Low Impact Development.

Where to find the sections on LID in PCHB Rulings

Rulings are available at http://www.ecy.wa.gov/programs/wq/stormwater/municipal/appeals.html

Phase I Findings of Fact, Conclusions of Law, and Order of the Pollution Control Hearings Board – August 7, 2008

- Page 4 – Description of Legal Issues
- Page 6 – Summary of the Decision
- Pages 27 to 46 - Findings of Fact
- Pages 55 to 65 - Conclusions of Law
- Pages 71 to 72 – Order

Phase II Findings of Fact, Conclusions of Law, and Order of the Pollution Control Hearings Board – February 2, 2009

- Page 4 – Description of Legal Issues
- Page 5 – Summary of the Decision
- Pages 13 to 25 - Findings of Fact
- Pages 46 to 48 - Conclusions of Law
- Page 55 – Order

Attachment 2
Advisory Committee Members

Technical Advisory Committee

Ed O'Brien, Stormwater Engineer
Department of Ecology

Bruce Wulkan, Stormwater Program Manager
Puget Sound Partnership

John Palmer, Senior Policy Analyst
Region 10 EPA Office of Water and Watersheds

DeeAnn Kirkpatrick, Fishery Biologist
National Marine Fisheries Service

Curtis Hinman, Director LID Research Center, Pierce County WSU Extension

Thomas Holz, P.E.
Consulting Engineer

Alice Lancaster
Herrera Environmental Consultants

Dave Tucker, Assistant Utilities Director
Kitsap County Public Works

Tracy Tackett, Green Infrastructure Program Manager, Seattle Public Utilities

Curtis Koger, Principal Geologist and Hydrogeologist, Associated Earth Sciences

Hans Hunger, Senior Engineer
Pierce County Public Works

Ross Dunning
Kennedy Jenks, Consultants

Patrick Harbison, Consulting Engineer
Wallis Engineering

Implementation Advisory Committee

Bill Moore, PDS Section Manager,
Water Quality Program, Department of Ecology

Bruce Wulkan, Stormwater Program Manager,
Puget Sound Partnership

John Palmer, Senior Policy Advisor, USEPA
Region 10 Office of Water and Watersheds

Doug Peters, Growth Management Division,
Department of Commerce

Bruce Wishart, Policy Director
People for Puget Sound

Art Castle, Executive Vice President
Kitsap County Homebuilders Association

Cathy Beam, Principal Environmental Planner,
City of Redmond

Larry Matel, Managing Engineer
City of Bremerton Public Works and Utilities

Tribal government representative TBD

Jan Hasselman, Attorney
Earthjustice

Harry Reinert, Dept of Development and Environmental Services, King County

Wayne Carlson, Associate Principal Planner,
AHBL Inc.

Wally Costello
Quadrant Homes (retired)

Debby Hyde, Habitat Protection Coordinator,
Pierce County Utilities

Craig Doberstein
Herrera Environmental Consultants

Jodi Slavik
Building Industry Association of Washington

Al Schauer
MacKay & Sposito, Inc.