


# LID Briefing for NPDES Permittees Integrating LID into Codes & Standards




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## Introduction

### PRESENTATION OVERVIEW

- Middle of a 4-5 year training process
  - Permittees
  - Engineers
  - Landscapers
  - Realtors
  - Composters
- Objective: Discuss the integration of LID into local codes and standards. This will include the steps needed to accomplish LID code integration.




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## Introduction

### NPDES Phase I & Phase II permits

- Reissued Phase I permit & first issued Phase II permits in 2007
- The Western WA permits were appealed to the Pollution Control Hearings Board (PCHB)
- PCHB decisions compelled Ecology to prepare a requirement in the 2012 permits to require LID unless infeasible
- You know the “rest of the story”




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Updates to Codes and Standards

**Western WA Phase I & Phase II NPDES permit overview**

- LID required, where feasible
- Review & amend local codes & standards
- Site & subdivision scale requirements
- Small, medium and large projects



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Updates to Codes and Standards

**LID BMPs identified in the permit**

- Key best management practices (BMPs) required where feasible
- Optional BMPs that permittees may opt to allow or require
- Key LID principles



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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
**Bioretention**



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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
**Permeable Pavement**



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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
**Rain Gardens (small projects only)**



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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
Dispersion



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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
Downspout Dispersion



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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
Sheet Flow



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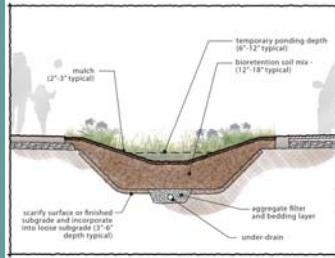
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Updates to Codes and Standards

**Required BMPs (unless infeasible)**  
**Perforated stub-out connections**



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Updates to Codes and Standards

**BMPs — permittees may opt to allow or require**  
**Vegetated roofs**



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Updates to Codes and Standards

**BMPs — permittees may opt to allow or require**  
**Rainwater Harvesting**



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Updates to Codes and Standards

**BMPs —** Permittees may opt to allow or require Minimal Excavation Foundations



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Updates to Codes and Standards

**Development Code Review & Amendment Goals**

- Reduce impervious surface
- Protect native vegetation
- Reduce stormwater runoff
- Make LID the preferred and commonly used approach

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Updates to Codes and Standards

**Development Codes**

- Directive
- Prescriptive

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Ecology included flexibility for developers & discretion for local government

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Updates to Codes and Standards

### LID Key Principles

- Permit requires non structural practices integrated into early stages of project design
- LID principles include:
  - Conserve Vegetation
  - Reduce & Disconnect Impervious Surfaces
  - Distribute small-scale techniques
  - Infiltrate on site




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Updates to Codes and Standards

### Code amendments for implementing LID principles

- Reduced road width
- Changes in road layout and orientation
- Clustering
- Higher building & smaller footprints
- Parking regulations
- Landscaping using bioretention




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Updates to Codes and Standards

### Development Code Review & Amendment




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Updates to Codes and Standards

DEADLINES:

December 31, 2016 except;

Lewis and Cowlitz - June 30, 2017  
Aberdeen - June 30, 2018

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Timing is to be coordinated with major 10 year  
GMA updates

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Updates to Codes and Standards

START NOW

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This process is not difficult, but will take time

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Begin thinking with the end in mind

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Updates to Codes and Standards

STEPS:

1.

Assemble Team

2.

Understand LID topics to Address

3.

Review Existing Codes & Standards

4.

Fill in the Gaps

5.

Review & Adopt

6.

Implementation

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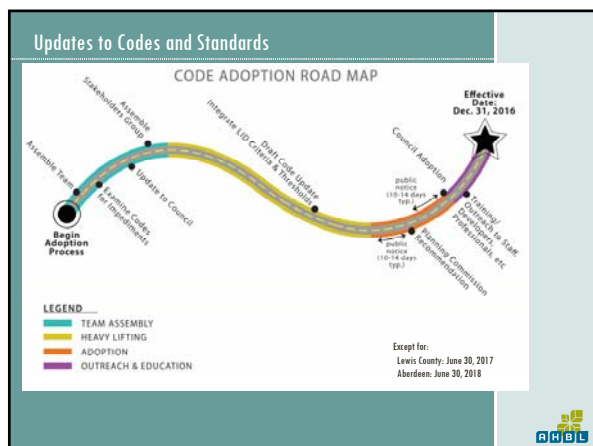
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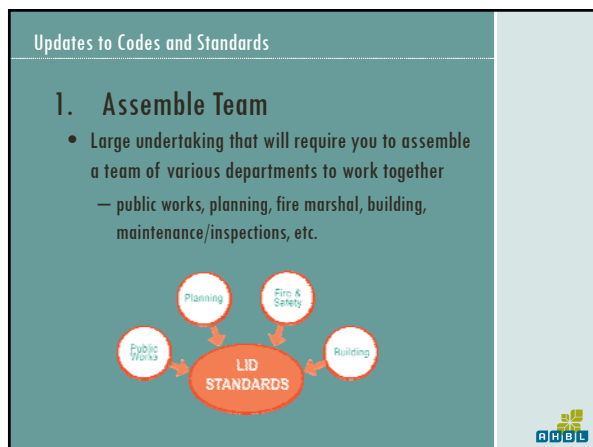
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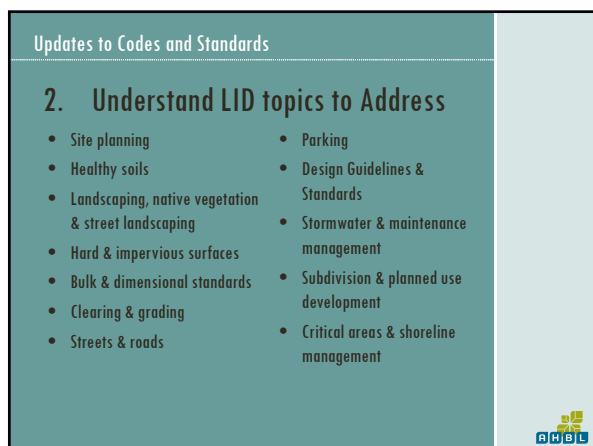
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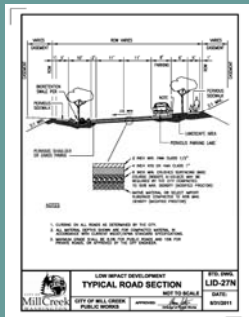
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## Updates to Codes and Standards

### 4. Fill in the Gaps




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## Updates to Codes and Standards

### 5. Review & Adopt




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## Updates to Codes and Standards

### 6. Implementation

- The change to LID will represent a paradigm shift that will affect the way you do business
  - Education & Training
  - Maintenance
  - Cost (short & long term)

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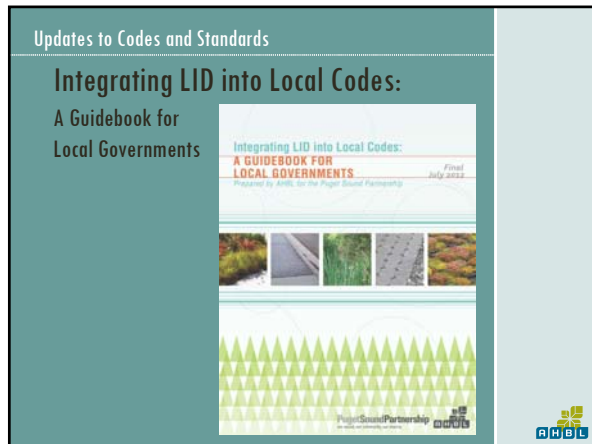
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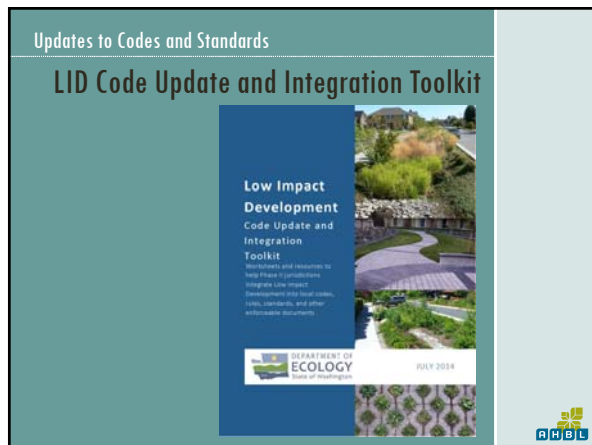
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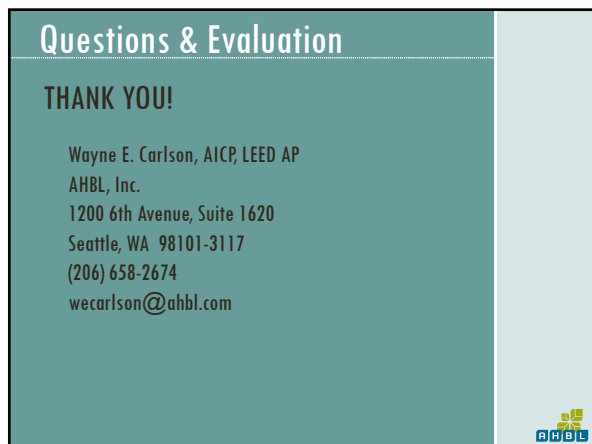
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