



MEETING AGENDA

KELSO STORMWATER ADVISORY COMMITTEE

DATE: April 29, 2015
TIME: 4:00 pm – 5:00 pm
LOCATION: Kelso City Hall, Suite 203

Old Business

- 1) Meeting minutes for 01/28/2015

New Business

- 1) KSAC president/vice-president vote
- 2) Low Impact Development presentation – McKay
- 3) Behavior Change educational program: target audience and BMP – group discussion



Kelso Stormwater Advisory Committee Meeting
April 29, 2015 @ 4:00 p.m.
City Hall Conference Room 203
203 S. Pacific Ave.

Attendees:

1. Gloria Nichols
2. Van Mulkey
3. Stephanie Tyler
4. ERIK OLSON
5. Tim Wines
- 6.
7. Excused Absences: Dan Howell
8. Gary Fredricks
- 9.
10. UnExcused absence: Andrea Barg
- 11.
- 12.
- 13.
- 14.
- 15.



Engineering Department

203 S. Pacific Avenue, PO Box 819 Kelso, WA 98626



Stormwater Advisory Committee Meeting April 29, 2015

Open discussion began at 4:05 p.m., at City of Kelso City Hall, 203 S. Pacific Ave., Conference Room 203.

A quorum was not present and no official business was conducted.

Those present were as follows:

Advisory Committee Members:

Gloria Nichols
Erik Olson
Tim Wines
Steffanie Taylor

Staff:

Van McKay, City of Kelso
Stephanie Helem, Recording Secretary

Excused Absences:

Dan Howell
Gary Fredricks

Unexcused Absences:

Alexandria Barg

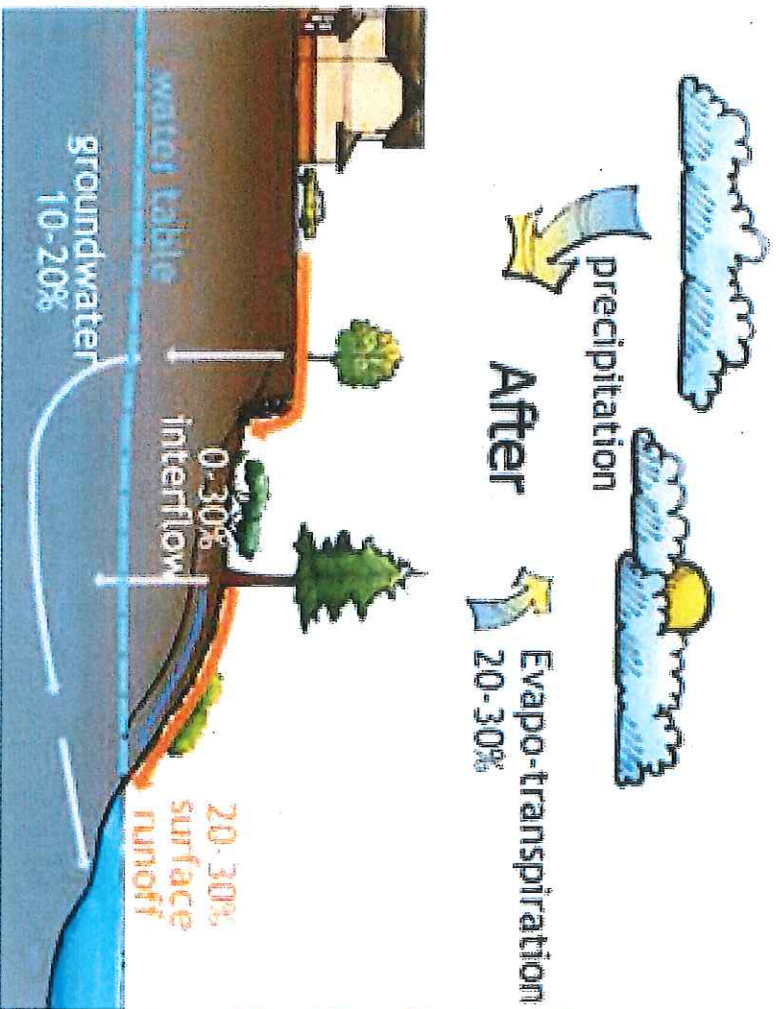
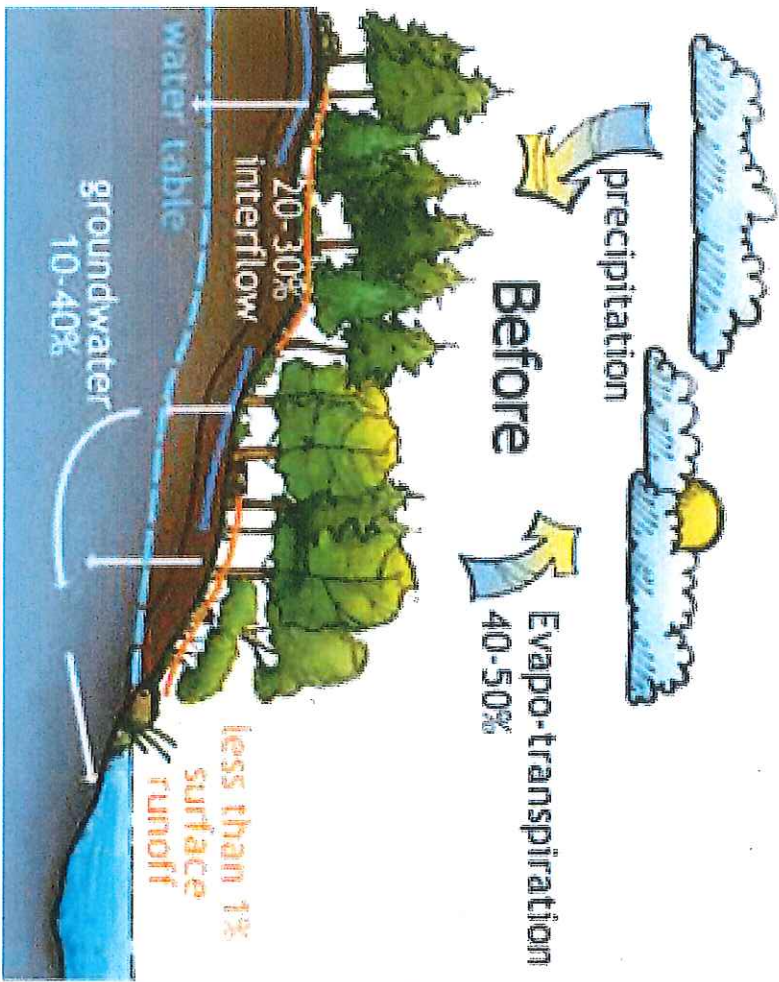
Open Discussion:

1. KSAC President/Vice President Election Discussion
2. Low Impact Development PowerPoint Presentation by Van McKay

Next Meeting:

Attendees discussed and agreed the next meeting shall be held July 29, 2015.

Open discussion ended at 5:02 pm.



Before development almost all rainfall is taken up by plants, evaporates or infiltrates through the ground. After conventional development, surface runoff increases significantly while evaporation and infiltration into the ground decrease.

Image courtesy of Puget Sound Partnership

Introduction

PRESENTATION OVERVIEW

- I. Introduction
- II. Why we are here
- III. What is LID?
- IV. What do the new requirements mean to me
& my community?
- V. Questions & Evaluation

Why are we here?

Clean Water Act

- Permits are reissued every five years to comply with the Act's MEP standard
- Technology advances change what is deemed “practicable”
 - LID is example of an evolving science

Why are we here?

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

What is LID?

- Stakeholders participated in a 2-year process to define LID:

“Low-impact development (LID) is a stormwater and land use management strategy that strives to mimic pre-disturbance hydrologic processes of infiltration, filtration, storage, evaporation, and transpiration by emphasizing conservation, use of on-site natural features, site planning, and distributed stormwater management practices that are integrated into a project design.”

*Source: Department of Ecology's
Phase II Municipal Stormwater Permit*

What is LID?

Conventional stormwater facilities



What is LID?

LID stormwater facilities

- Reduces volume thereby minimizing high flows
- Removes pollutants from stormwater
- Replenishes streams and wetlands
- Reduces size of conventional stormwater facilities
- Increases open space
- Visually attractive
- Can result in construction and maintenance cost savings
- Can increase densities
- Can increase public safety

What is LID?

LID stormwater facilities

Multiple functions



What is LID?

LID stormwater facilities

Aesthetically pleasing



What is LID?

LID stormwater facilities

Size



What is LID?

LID stormwater facilities

Options for a variety of design challenges



What is LID?

LID stormwater facilities

Maintenance

- LID practices require maintenance
- May be less costly than conventional facilities

What is LID?

LID stormwater facilities

Maintenance



Conventional

LID

What do the new requirements mean to me & my community?

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

What do the new requirements mean to me & my community?

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

What do the new requirements mean to me & my community?

Required BMPs (unless infeasible)

Bioretention



What do the new requirements mean to me & my community?

Required BMPs (unless infeasible) Permeable Pavement



What do the new requirements mean to me & my community?

Required BMPs (unless infeasible)

Rain Gardens (small projects only)



What do the new requirements mean to me & my community?

Required BMPs (unless infeasible)

Dispersion



What do the new requirements mean to me & my community?

Required BMPs (unless infeasible)

Downspout Dispersion



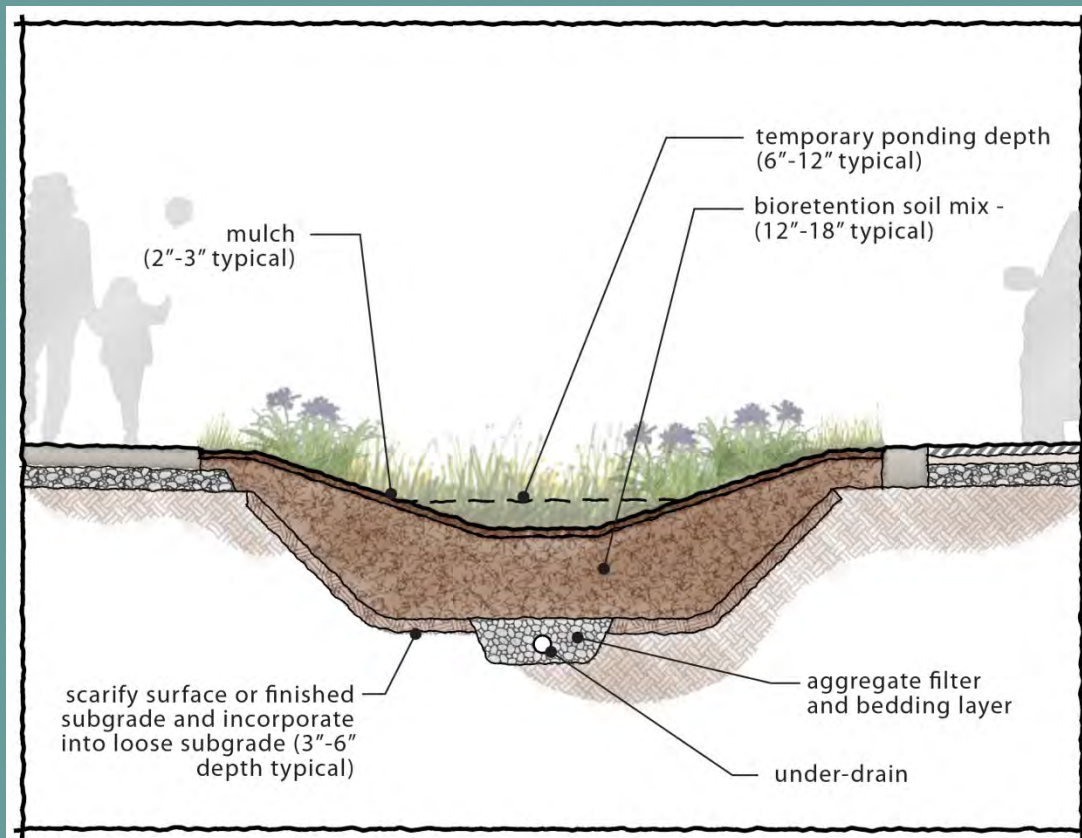
What do the new requirements mean to me & my community?

Required BMPs (unless infeasible) Sheet Flow



What do the new requirements mean to me & my community?

Required BMPs (unless infeasible) Perforated stub-out connections



What do the new requirements mean to me & my community?

BMPs — permittees may opt to allow or require
Vegetated roofs



What do the new requirements mean to me & my community?

BMPs — permittees may opt to allow or require Rainwater Harvesting



What do the new requirements mean to me & my community?

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



What do the new requirements mean to me & my community?

Development Code Review & Amendment Goals

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

What do the new requirements mean to me & my community?

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

What do the new requirements mean to me & my community?

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

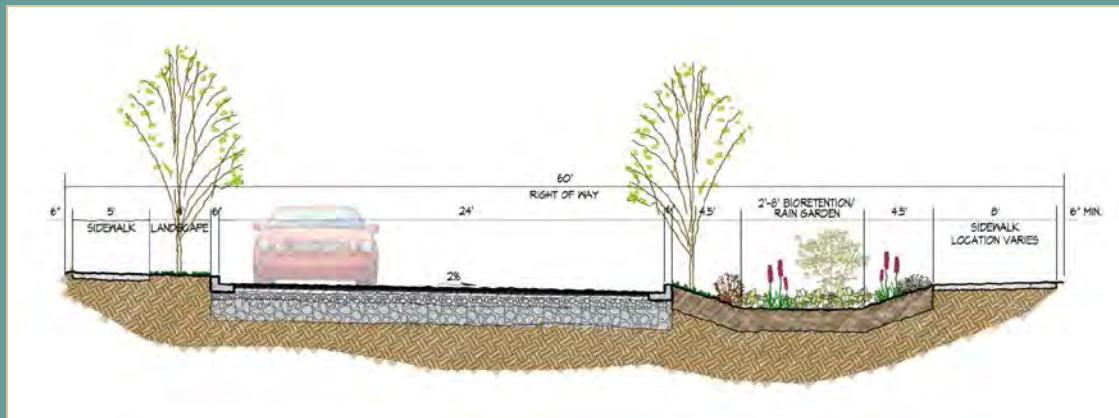
What do the new requirements mean to me & my community?

Narrow Road Standards



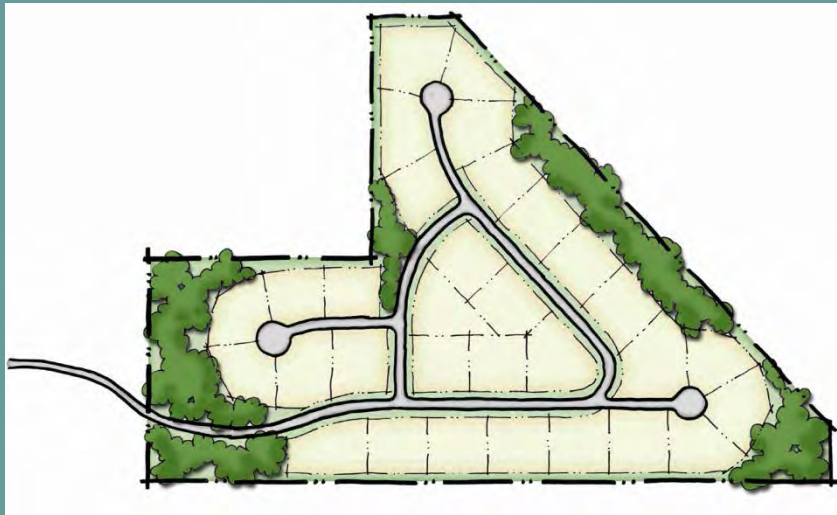
What do the new requirements mean to me & my community?

Road Layout & Orientation Standards



What do the new requirements mean to me & my community?

Clustering/PUD Code Provisions



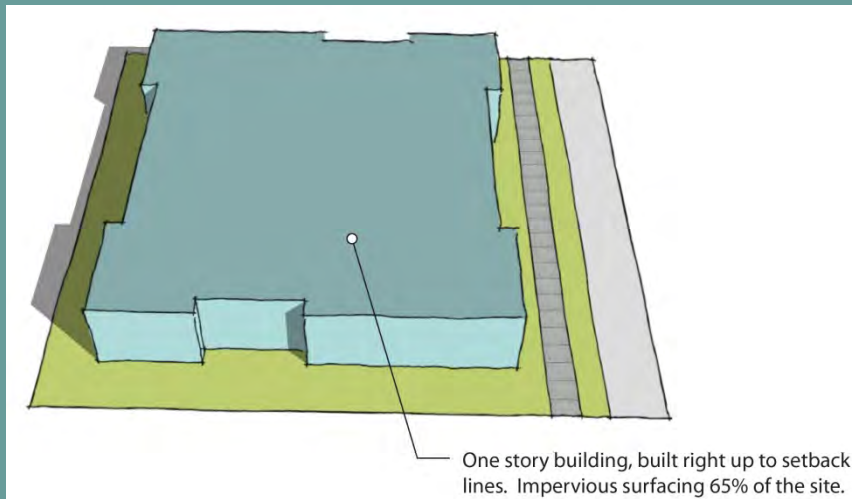
Conventional Design



Low-Impact Design

What do the new requirements mean to me & my community?

Minimizing Impervious Surfaces Through Taller Structures



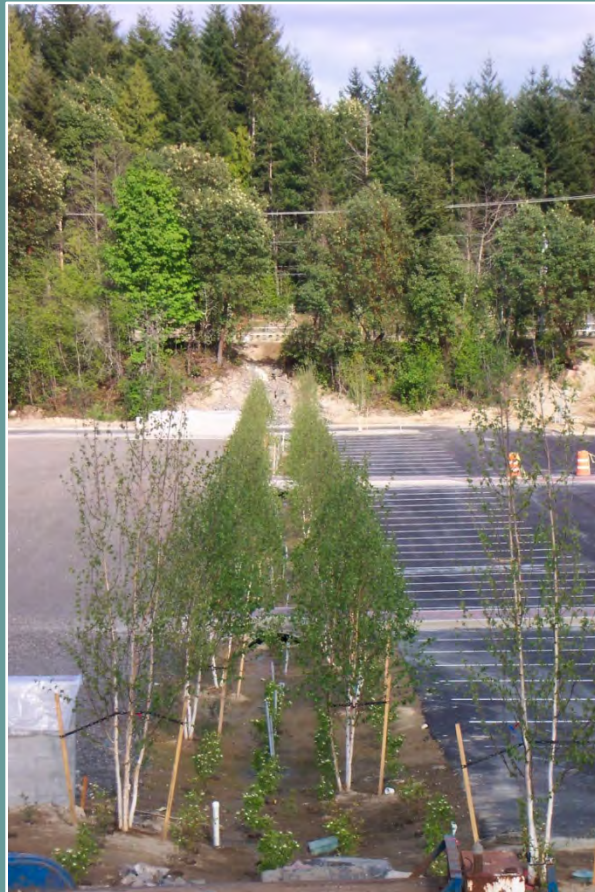
What do the new requirements mean to me & my community?

Examining Existing Parking Regulations



What do the new requirements mean to me & my community?

Integrating Bioretention Into Required Parking Lot Landscaping



What do the new requirements mean to me & my community?

Development Code Review & Amendment

What do the new requirements mean to me & my community?

DEADLINES:

December 31, 2016 except;

Lewis and Cowlitz - June 30, 2017

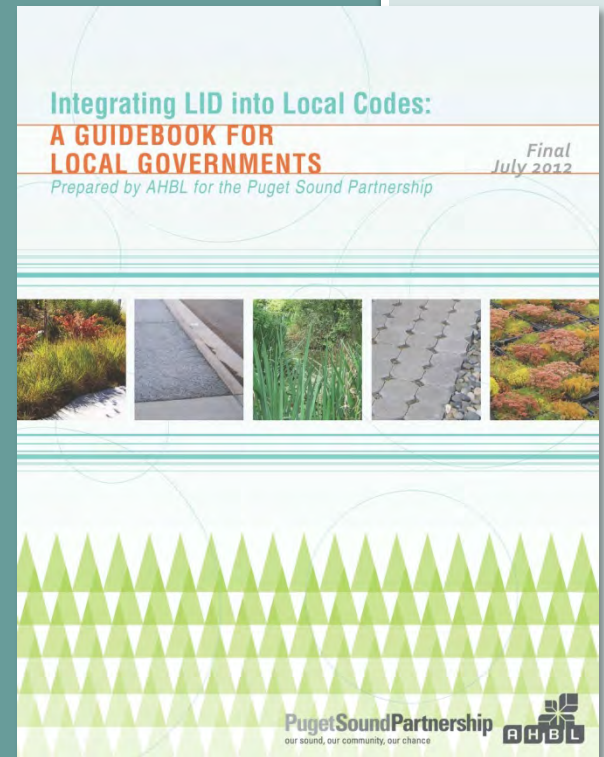
Aberdeen - June 30, 2018

- Timing is to be coordinated with major 10 year GMA updates

What do the new requirements mean to me & my community?

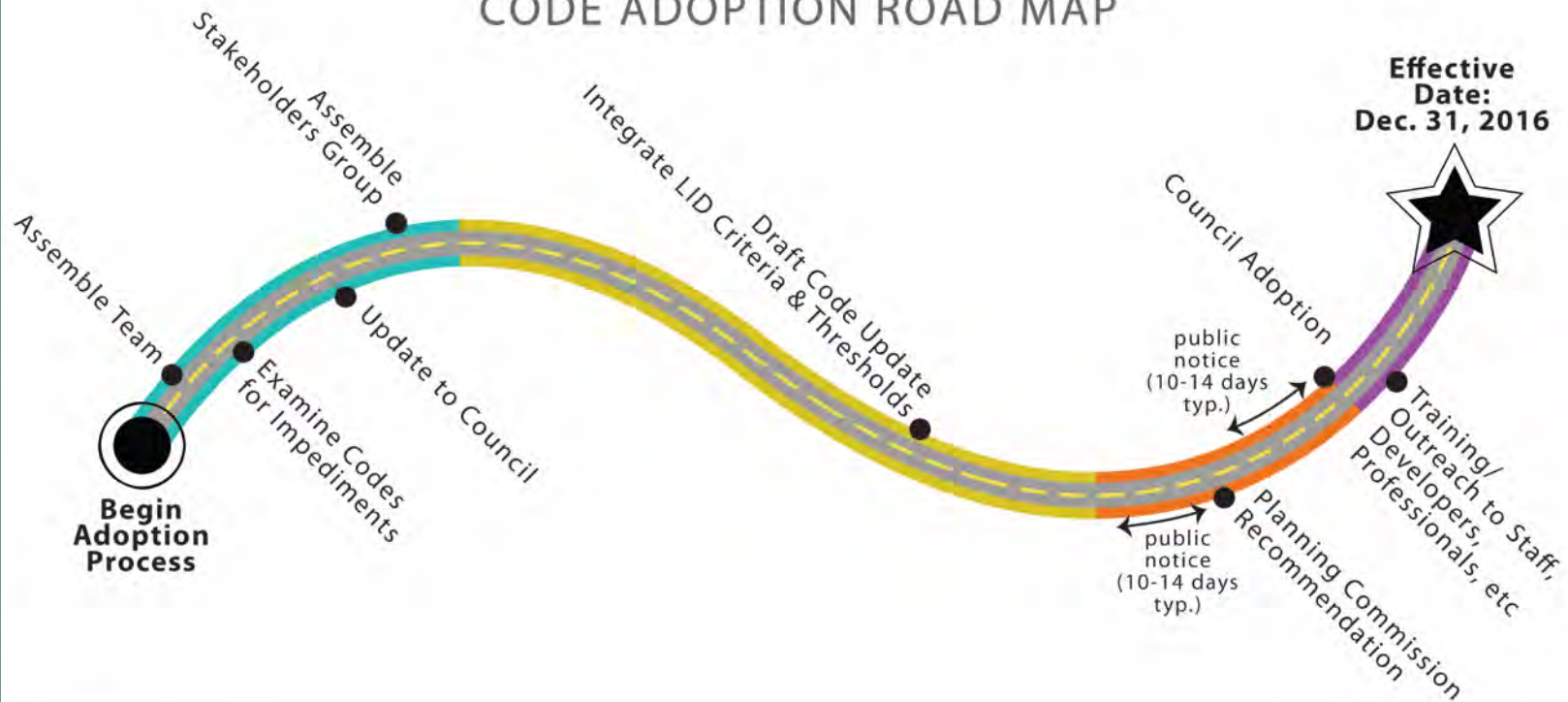
STEPS:

1. Assemble Team
2. Understand LID topics to Address
3. Review Existing Codes & Standards
4. Fill in the Gaps
5. Review & Adopt
6. Implementation



What do the new requirements mean to me & my community?

CODE ADOPTION ROAD MAP



LEGEND

- TEAM ASSEMBLY
- HEAVY LIFTING
- ADOPTION
- OUTREACH & EDUCATION

Except for:

Lewis County: June 30, 2017

Aberdeen: June 30, 2018

What do the new requirements mean to me & my community?

1. Assemble Team

- Large undertaking that will require you to assemble a team of various departments to work together
 - public works, planning, fire marshal, building, maintenance/inspections, etc.




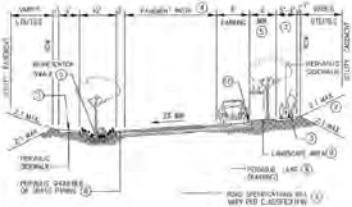
What do the new requirements mean to me & my community?

2. Understand LID topics to Address

- Site planning
- Healthy soils
- Landscaping, native vegetation & street landscaping
- Hard & impervious surfaces
- Bulk & dimensional standards
- Clearing & grading
- Streets & roads
- Parking
- Design Guidelines & Standards
- Stormwater & maintenance management
- Subdivision & planned use development
- Critical areas & shoreline management

What do the new requirements mean to me & my community?

3. Review Existing Codes & Standards

BENCHMARK/OBJECTIVE	CODE REFERENCE AND SUMMARY OF EXISTING STANDARD	GAP BETWEEN EXISTING STANDARD AND BENCHMARK (OPPORTUNITY TO IMPROVE)
<p>Are curb and gutters required for most residential street sections?</p> 	<p>§ 9-4.159 – Curbs, Gutters and Sidewalks</p> <p>Standard Drawing Nos. 401, 402, 405</p>	<p>Yes. Within the urban services line, residential street sections (local) are required to have curb and gutter. Outside the urban services line, rural street sections are not required to have curb and gutter.</p>
<p>Do adopted street sections allow for the use of open treatment and conveyance of stormwater within landscape strips?</p> 		<p>The code is silent on this design alternative.</p>

What do the new requirements mean to me & my community?

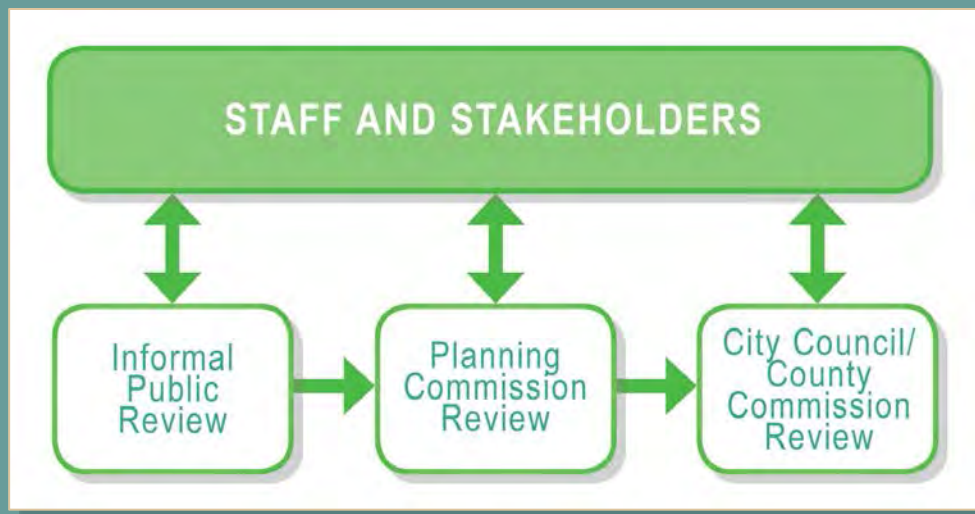
4. Fill in the Gaps

City of Newcastle. 18.21.080 Native vegetation areas.

- A. For the purposes of this Chapter, native vegetation areas shall have a tree density of one native tree for every 600 square feet.
- B. Native vegetation area includes native, undisturbed areas or rehabilitation of previously disturbed areas. Native vegetation areas may integrate passive recreation facilities. Active recreation areas shall not count towards native vegetation areas total.
- C. For the purposes of calculating the required native vegetation area required in 18.21.050-1, inundated lands shall not be included; however, other sensitive areas and their buffers may be included within the Native Vegetation Area boundaries. Land below an ordinary high water mark shall not be counted towards the required native vegetation.
- D. Native Vegetation Areas shall be forested or reforested.
 - 1. Native Vegetation Areas that do not contain sufficient tree canopy coverage shall be planted with native or near native trees at the minimum tree density specified in 18.21.080(A) and shall be replanted in accordance with 18.16.090(C) and (D) for broadleaf and evergreen trees, respectively. This requirement does not apply to areas addressed by Chapter 18.24.
 - 2. Native Vegetation Areas shall be planted with vegetation that is indigenous to the Pacific Northwest or suitable for the Pacific Northwest climate.
 - 3. A minimum of 25% replanted trees shall be of deciduous species and a minimum of 25% replanted trees shall be coniferous species.
- E. Existing native vegetation, forest litter, and understory shall be preserved to the extent possible in the Native Vegetation Areas in order to reduce flow velocities and encourage the dispersion of the storm water on the site. Runoff discharged into native

What do the new requirements mean to me & my community?

5. Review & Adopt



What do the new requirements mean to me & my community?

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)

What do the new requirements mean to me & my community?

TIMELINE:

1. Assemble Team: 1 to 3 months
2. Understand LID topics to address: 1 to 3 months
3. Review Existing Codes & Standards: 1 to 3 months
4. Fill in the Gaps: 3 to 9 months
5. Review & Adopt: 3 to 9 months
6. Implementation: Ongoing

What do the new requirements mean to me & my community?

Integrating LID into Local Codes:

A Guidebook for Local Governments

