

GREEN BUILDING SUMMIT

**Green Building
Opportunities for
Infrastructure Projects**



King County Building Summit:
Dollars and Sense Tools to Green Your Project



King County

Summary

- Development and stormwater runoff have degraded streams, fish habitat and water quality in Puget Sound.
- LID is a new approach to land development and stormwater management that helps protect water resources and watershed hydrology.
- We're gaining a better understanding of how LID can be used to protect the environment, reduce costs and make our communities more attractive.

Low Impact Development

An innovative, ecosystem-based approach to land development and stormwater management



Why We Need Low Impact Development

To better protect our:

- Streams
- Fish and wildlife habitat
- Watershed hydrology
- Drinking water
- Water quality

To reduce infrastructure costs

To make our communities more attractive



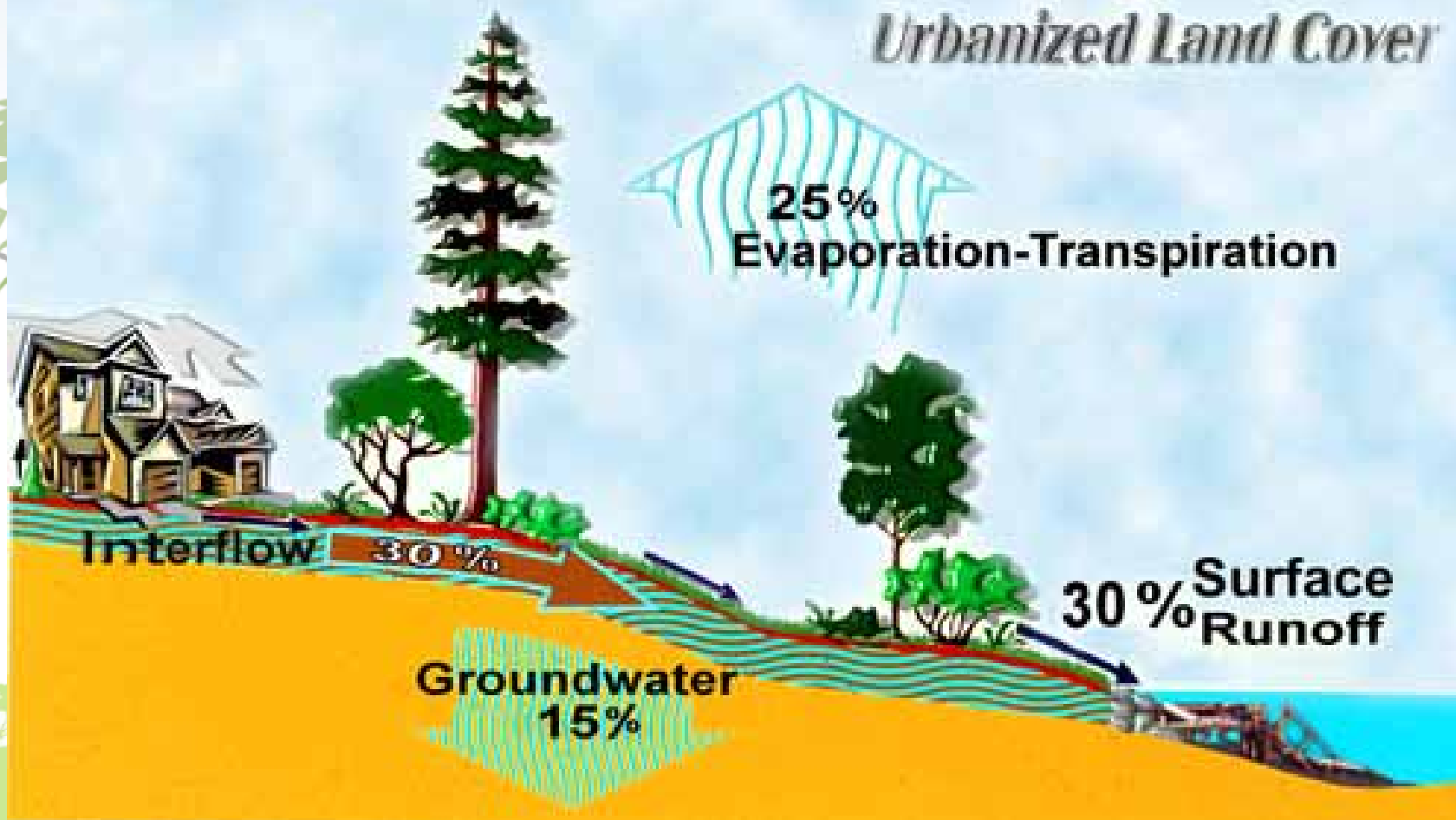
Natural Conditions



Developed Conditions

Typical Annual Water Budget

Urbanized Land Cover



OPPORTUNITIES TO USE LID IN INFRASTRUCTURE PROJECTS



OVERVIEW OF TECHNIQUES THAT
CAN BE APPLIED TO PROJECTS



Preserve and enhance native vegetation

Minimize impervious surfaces

Conservation

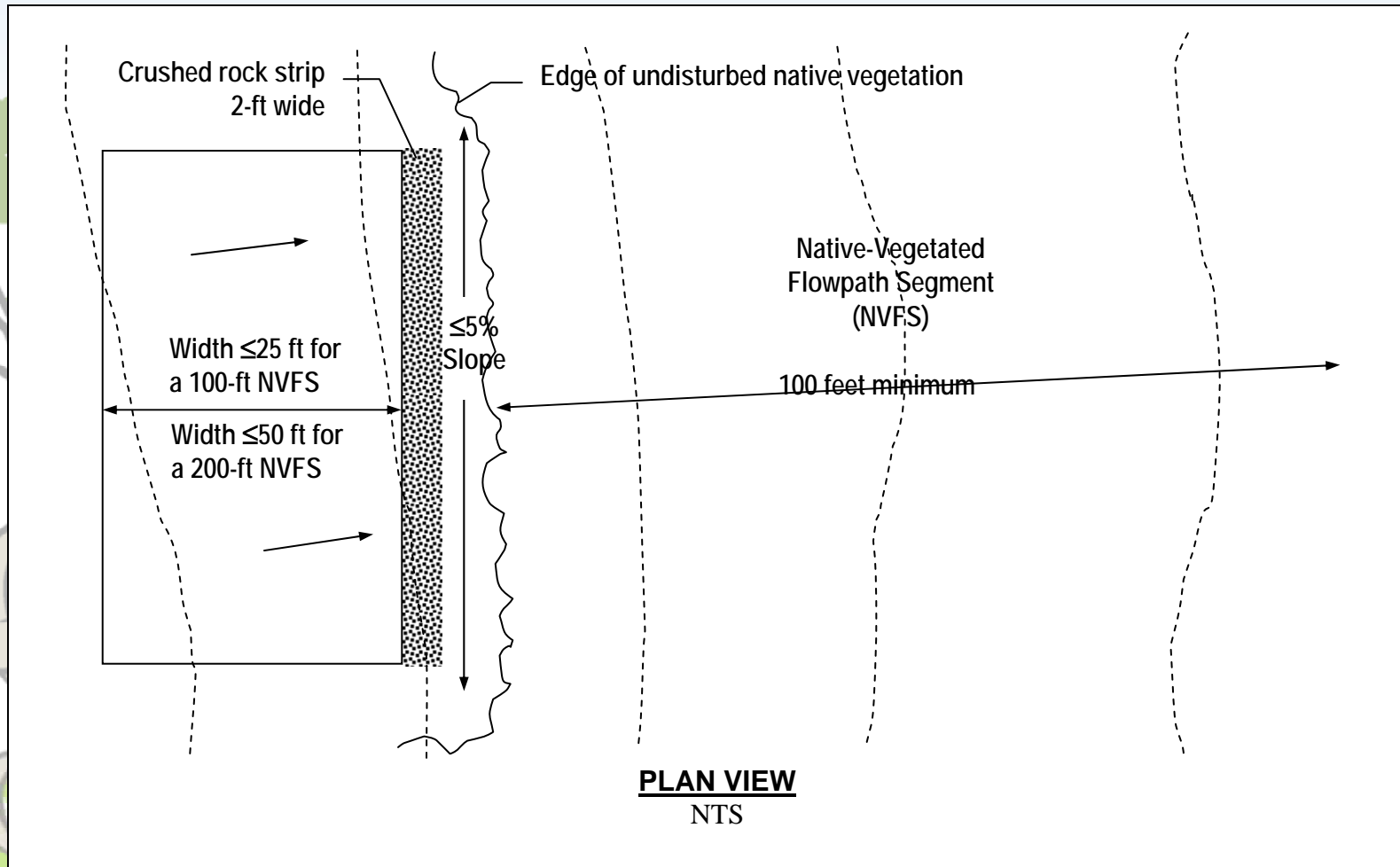
**Typical
Development**



Narrow Streets



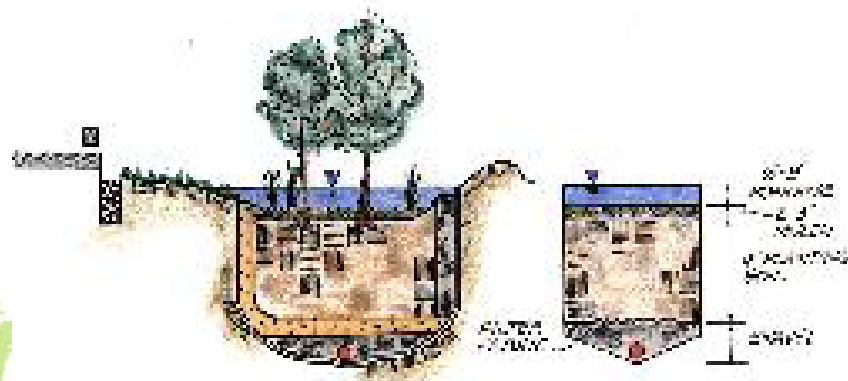
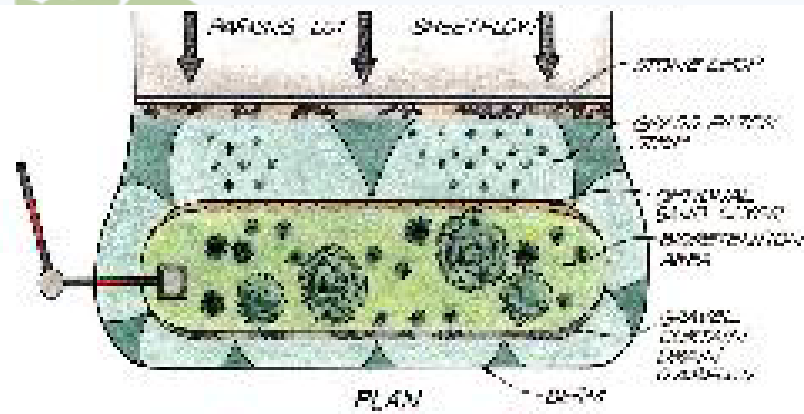
Sheet Flow Full Dispersion



Vegetated Roofs



Raingarden

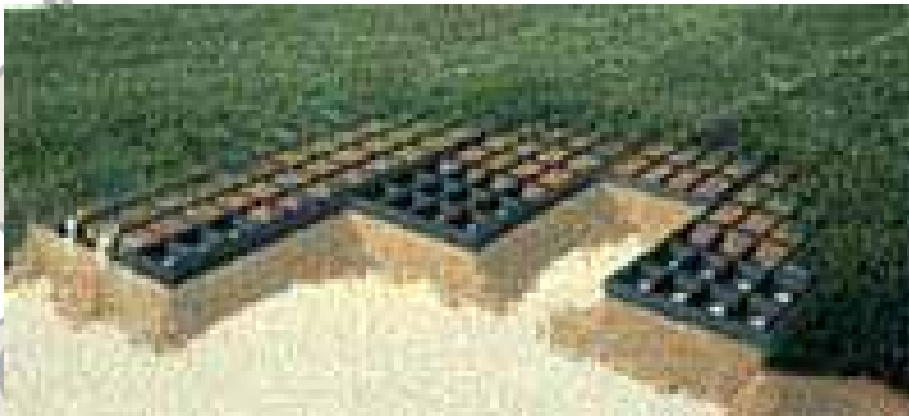


Rainwater Harvesting



Permeable Pavement

Porous concrete
Porous asphaltic concrete
Permeable pavers
Modular grid pavement
Grassed modular grid pavement



Grassed Modular Grid Pavement



Porous Concrete Sidewalk



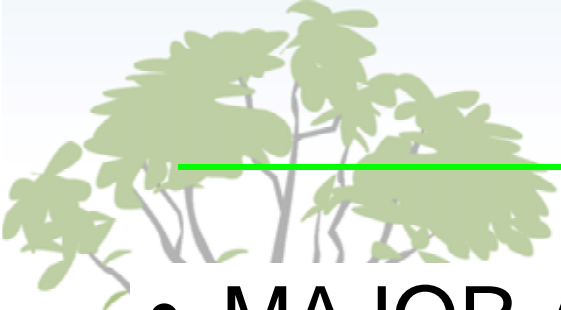

INTEGRATED DESIGN USING NARROW STREET, POROUS CONCRETE, AND BIORETENTION



EXISTING KC ROADS PROJECTS USING PERMEABLE PAVEMENT

- Woodinville-Duvall Road pervious asphalt shoulder.
- Renton Shops parking stall pervious pavement test installation.
- North Spar porous asphalt sidewalk.

PROPOSED KC ROADS PROJECTS CONSIDERING USE OF LID

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- MAJOR ARTERIAL PROJECT
 - INTERSECTION IMPROVEMENTS
 - SCHOOL TRAILS
 - COLLABORATIVE TEAM APPROACH
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LID STANDARDS IN KING COUNTY




2005 KING COUNTY SURFACE WATER DESIGN MANUAL

Flow Control Changes



Adoption Information

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- Stormwater Ordinance effective January 1, 2005. Public rule for Manual update effective January 24, 2005.
 - 2005 Manual available for purchase at DDES in Renton and WLRD at King Street Center.
 - Appendix C available online at:
<http://dnr.metrokc.gov/wlr/dss/manual.htm#appendices1>



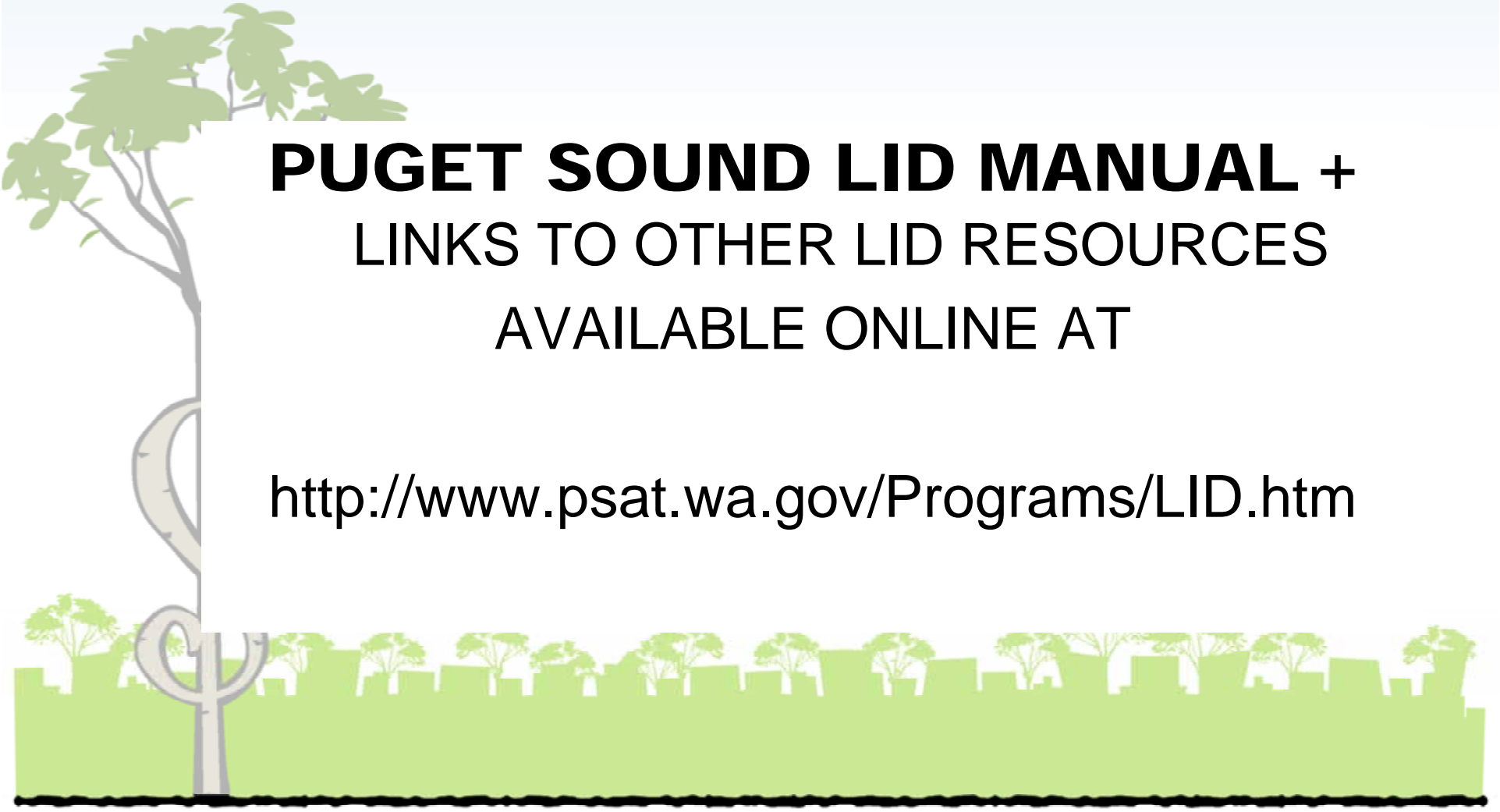
New FC BMP Requirement

- FC BMPs (a.k.a. Low Impact Development BMPs) required in addition to and in the absence of FC facilities on most developments.
- FC BMPs include measures for increasing retention and/or infiltration of rainwater and minimizing developed surfaces and runoff.
- Requirement based on project type
- Facility sizing credits given for FC BMPs.

Appendix C Flow Control BMPs

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- Full Dispersion
 - Full Infiltration
 - Limited Infiltration
 - Basic Dispersion
 - Rain Garden
 - Permeable Pavement
 - Rainwater Harvesting
 - Vegetated Roof
 - Reduced Impervious Surface Credit
 - Native Growth Retention Credit
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OTHER RESOURCES

A decorative illustration on the left side of the slide. It features a tall, stylized tree with green foliage and a grey trunk. At the base of the tree, there is a green silhouette of a city skyline with various building shapes. The entire illustration is set against a light blue background.

PUGET SOUND LID MANUAL +
LINKS TO OTHER LID RESOURCES
AVAILABLE ONLINE AT

<http://www.psat.wa.gov/Programs/LID.htm>

Technical Assistance

Contact your Green Team members

For LID assistance contact:

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