

Greening the Building Permit Process: a how-to session for municipalities

Cynthia Moffitt

Dept. of Development and Environmental Services

Katie Spataro

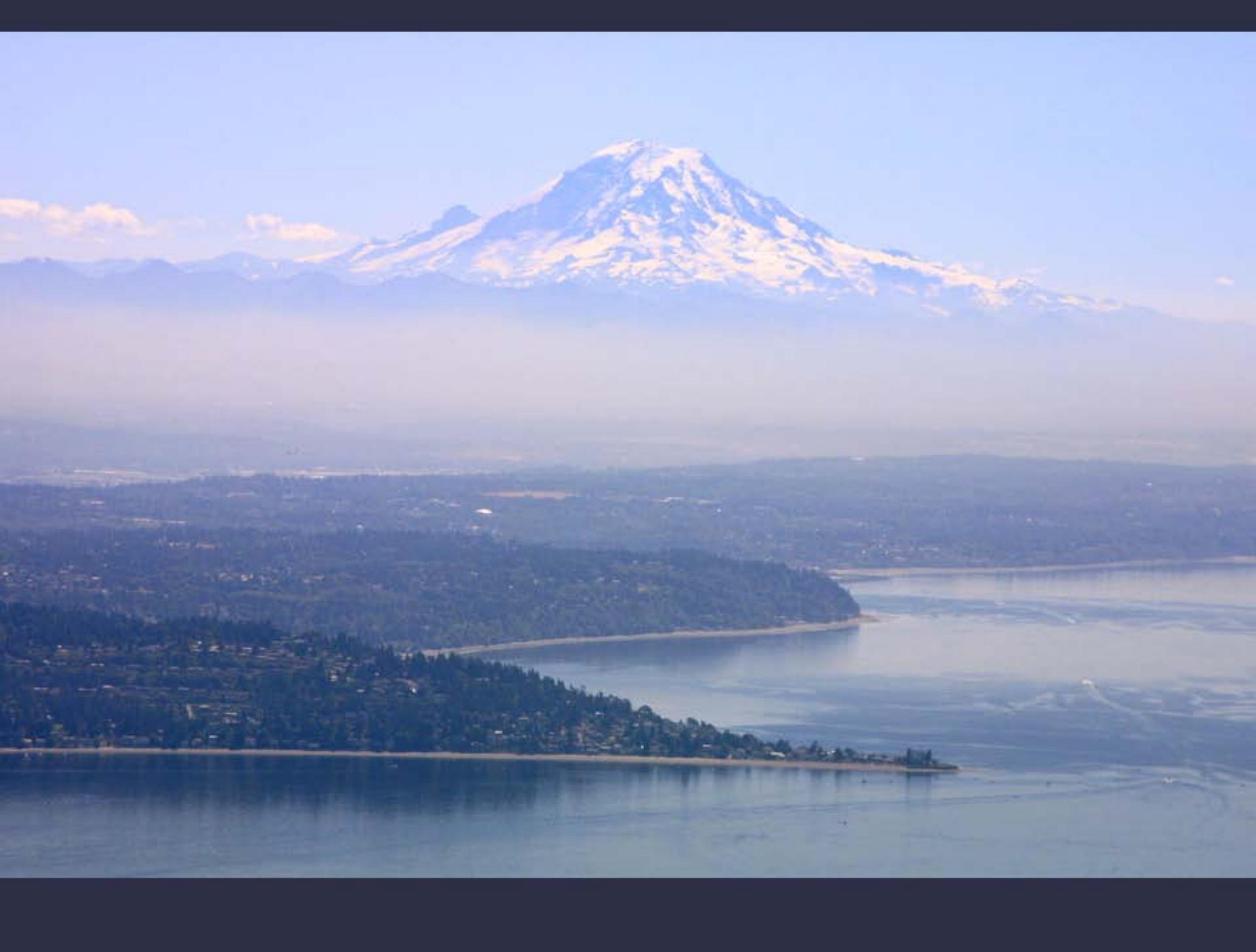
Dept. of Natural Resources and Parks



King County

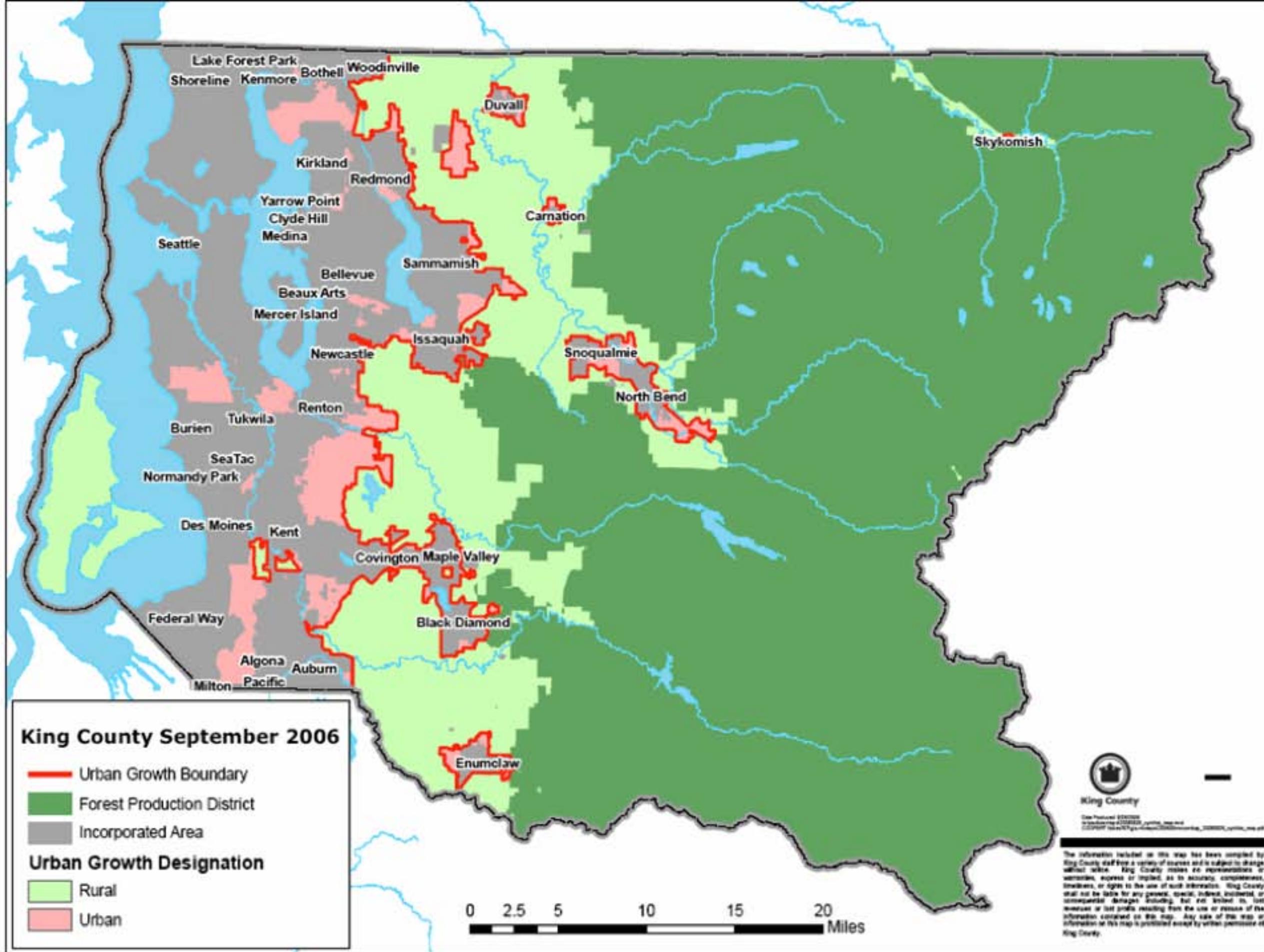






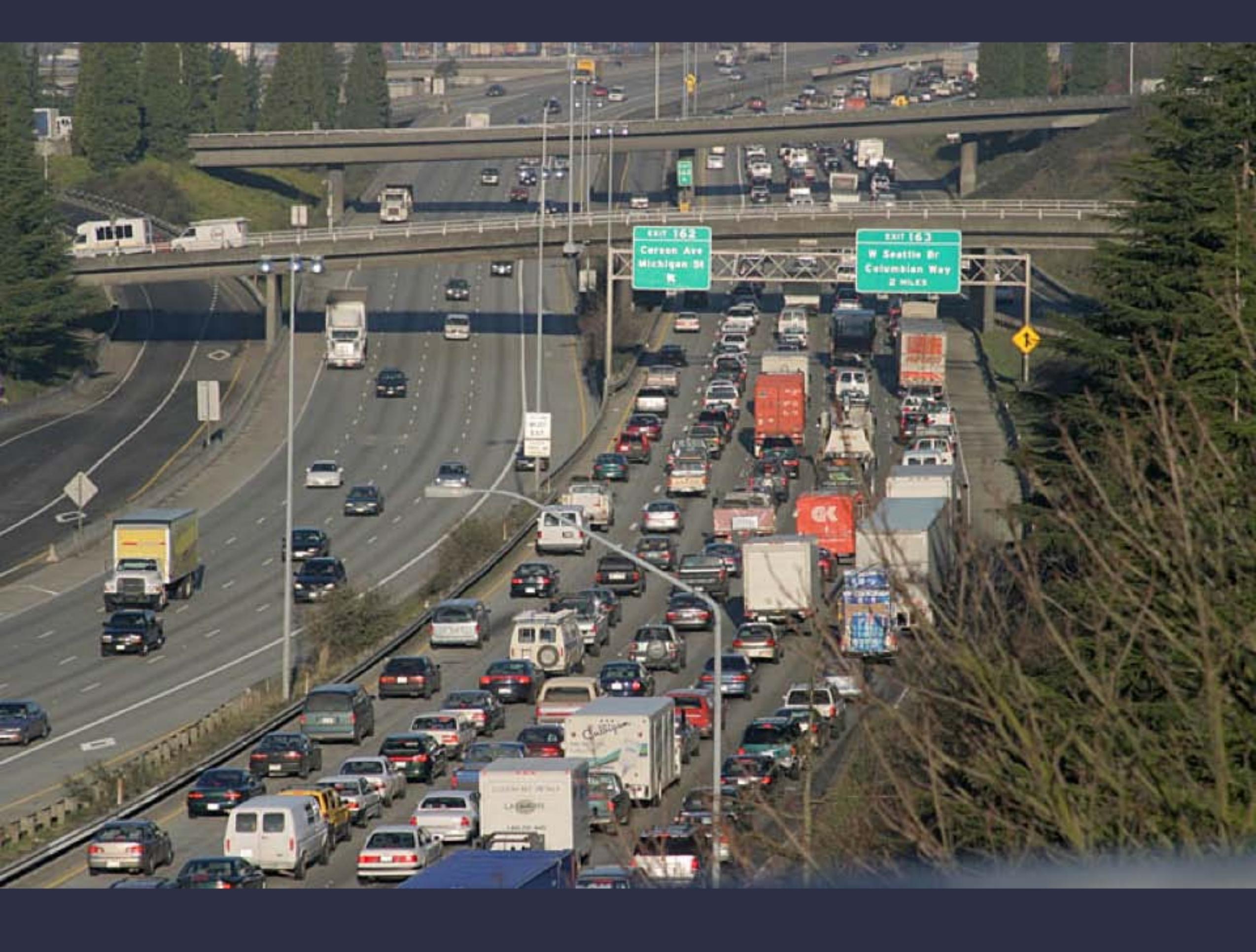






Lake Forest Park, Shoreline, Kenmore, Bothell, Woodinville, Duvall, Skykomish, Kirkland, Redmond, Carnation, Yarrow Point, Clyde Hill, Medina, Seattle, Bellevue, Sammamish, Mercer Island, Issaquah, Snoqualmie, Newcastle, North Bend, Renton, Tukwila, Burien, SeaTac, Normandy Park, Des Moines, Kent, Covington, Maple Valley, Black Diamond, Federal Way, Enumclaw, Algonia, Auburn, Pacific, Milton









LEED PROJECTS

# Projects	Certified	Registered
Washington State	46	87
Seattle/King County	31	53



**First LEED™ Silver Fire Station,
Issaquah**



**LEED-EB Gold certified King
Street Center, Seattle**

9000 BUILT GREEN™ HOMES



CERTIFIED BUILT GREEN™



Greenbridge



Shamrock Heights



KING COUNTY EXEC RON SIMS



ENVIRONMENTAL INITIATIVES

- 1st US county to sell “carbon credits”
- Increased use of biodiesel
- New energy policies



KEY IDEAS TO TAKE HOME

- Practical Green Tools
- It Takes Time
- Share with Others



AGENDA

Process

Incentives

Discussion

Project Examples

“It takes a village....”



King County

Department of Natural Resources
& Parks

Solid Waste Division



Timeline

• 1993

**Ban on C & D
Disposal**



Timeline

• 1993

closing the loop



Linkup

Construction Works

Recognizing jobsites that recycle and reduce waste



Timeline

• 1993

• 1999

Partnered with MBA




BUILT GREEN™

Timeline

• 1993

• 1999



HOME BUILDER Self-Certification Checklist

Check items you will be including in this project to qualify for a BUILT GREEN™ star rating.

Requirements to Qualify at 1-Star Level

(All ★ items plus orientation)

- Program Orientation (one time only)
- Section 1: Build to "Green" Codes & Regulations
- Earn 25 points from Sections 2 through 6, any items
- Prepare/post a jobsite recycling plan (Action Item 5-19)
- Provide an Operations & Maintenance Kit (Action Item 6-1)

Requirements to Qualify at 2-Star Level (100 points minimum)

- Meet 1-Star requirements
- Earn 75 additional points from Sections 2 through 6, with at least 6 points from each Section
- Attend a BUILT GREEN™ approved workshop within past 12 months prior to certification

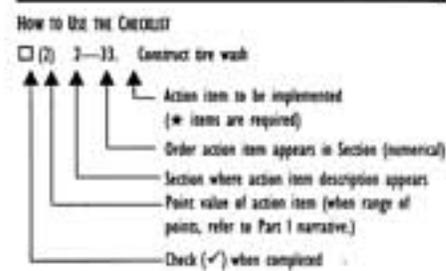
Requirements to Qualify at 3-Star Level (180 points minimum)

- Meet 2-Star requirements plus 105 additional points

Section One: Build to Green Codes/Regulations	
<input type="checkbox"/> (★)	1-1. Meet Washington State We Use Effy Job
<input type="checkbox"/> (★)	1-2. Meet Stormwater/Soil Development Std.
<input type="checkbox"/> (★)	1-3. Meet Washington State Energy Code
<input type="checkbox"/> (★)	1-4. Meet Washington State Ventilation/MQ Code

Section Two: Site and Water

SITE PROTECTION	
Overall	
<input type="checkbox"/> (1)	2-1. Build on an infill lot to take advantage of existing infrastructure and reduce development of virgin sites
<input type="checkbox"/> (18)	2-2. Build in a BUILT GREEN™ development
Protect Site's Natural Features	
<input type="checkbox"/> (1)	2-3. Limit heavy equipment use zone to limit soil compaction
<input type="checkbox"/> (1)	2-4. Preserve existing native vegetation as landscaping
<input type="checkbox"/> (1)	2-5. Take extra precautions to protect trees during construction



<input type="checkbox"/> (1)	2-6. Preserve and protect wetlands, shorelines, bluffs, and other critical areas during construction
<input type="checkbox"/> (5-10)	2-7. Set aside percentage of site to be left undisturbed
Protect Natural Processes On-Site	
<input type="checkbox"/> (1)	2-8. Install temporary erosion control devices and regularly maintain them
<input type="checkbox"/> (1)	2-9. Use compost to stabilize disturbed slopes
<input type="checkbox"/> (1)	2-10. Protect topsoil with mulch or plastic
<input type="checkbox"/> (1)	2-11. Balance cut and fill, while maintaining original topography
<input type="checkbox"/> (1)	2-12. Limit grading to 20 ft outside building footprint
<input type="checkbox"/> (4)	2-13. Amend disturbed soil to a depth of 8 to 18 inches to restore soil environmental functions
<input type="checkbox"/> (5)	2-14. Replant or donate removed vegetation for immediate reuse
<input type="checkbox"/> (5)	2-15. Grind landscaping wood and stumps for reuse
<input type="checkbox"/> (5)	2-16. Use a water management system that allows groundwater to recharge
<input type="checkbox"/> (5)	2-17. Design to achieve effective impervious surface equivalent to 0% for 5 acres and above; <10% for less than 5 acres
<input type="checkbox"/> (5)	2-18. Use pervious materials for at least one-third of total area for driveways, walkways, patios
<input type="checkbox"/> (18)	2-19. Bonus Points: Install vegetated roof system (e.g. eco-roof) to reduce impervious surface
<input type="checkbox"/> (18)	2-20. Bonus Points: Construct no impervious surfaces outside house footprint
Eliminate Water Pollutants	
<input type="checkbox"/> (1)	2-21. Take extra care to establish and maintain a single stabilized construction entrance (quarry spill or crushed rock)
<input type="checkbox"/> (1)	2-22. Take extra precautions to install and maintain sediment traps



1 - 5 star rating

Timeline

• 1993

• 1999

Partnered with local
chapter USGBC



Timeline

• 1993

• 1999



Timeline



• 1993

• 1999 • 2001

King County's
Green Building Program

Internal
Policies
Capitol Projects

External
Built Green™
Cascadia Region GBC
Other partners

Timeline

• 1993

• 1999 • 2001

**Green Building
Executive Order**



**Emergency Coordination Center,
Renton**



King Street Center, Seattle

Timeline

• 1993

• 1999 • 2001

• 2005

**Green Building
Ordinance**



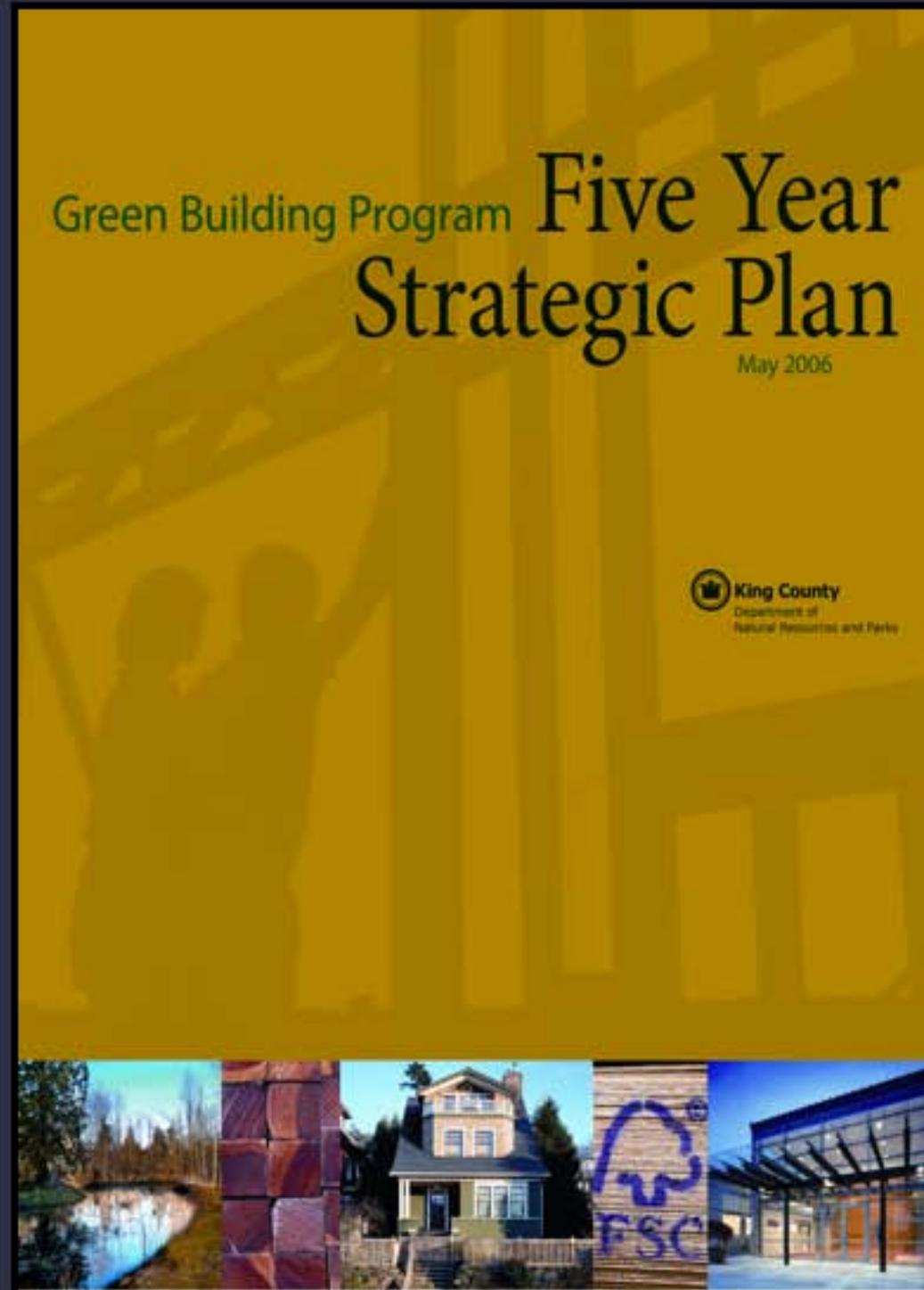
New County Office Building, Seattle

Timeline

• 1993

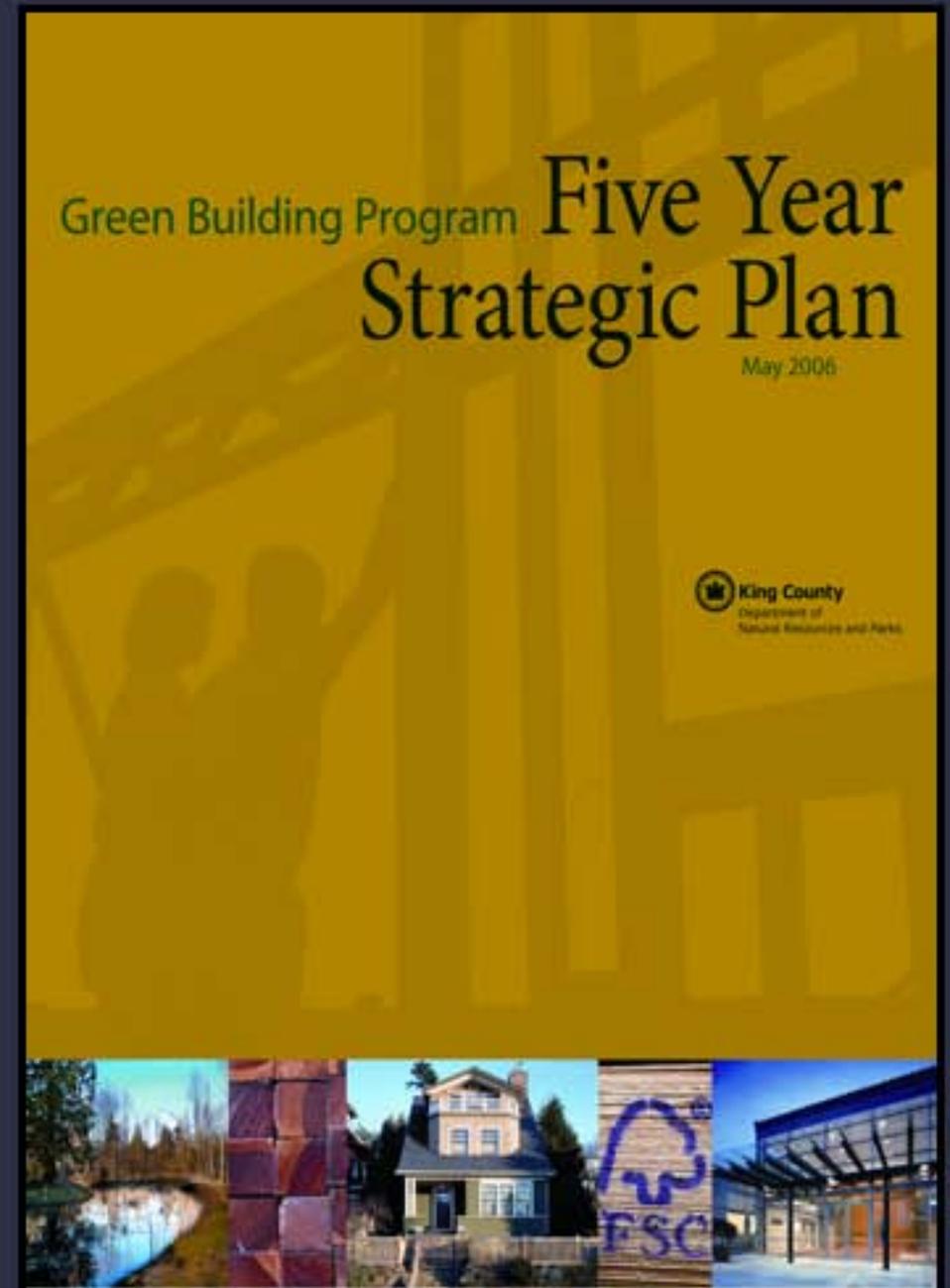
• 1999 • 2001

• 2005 • 2006



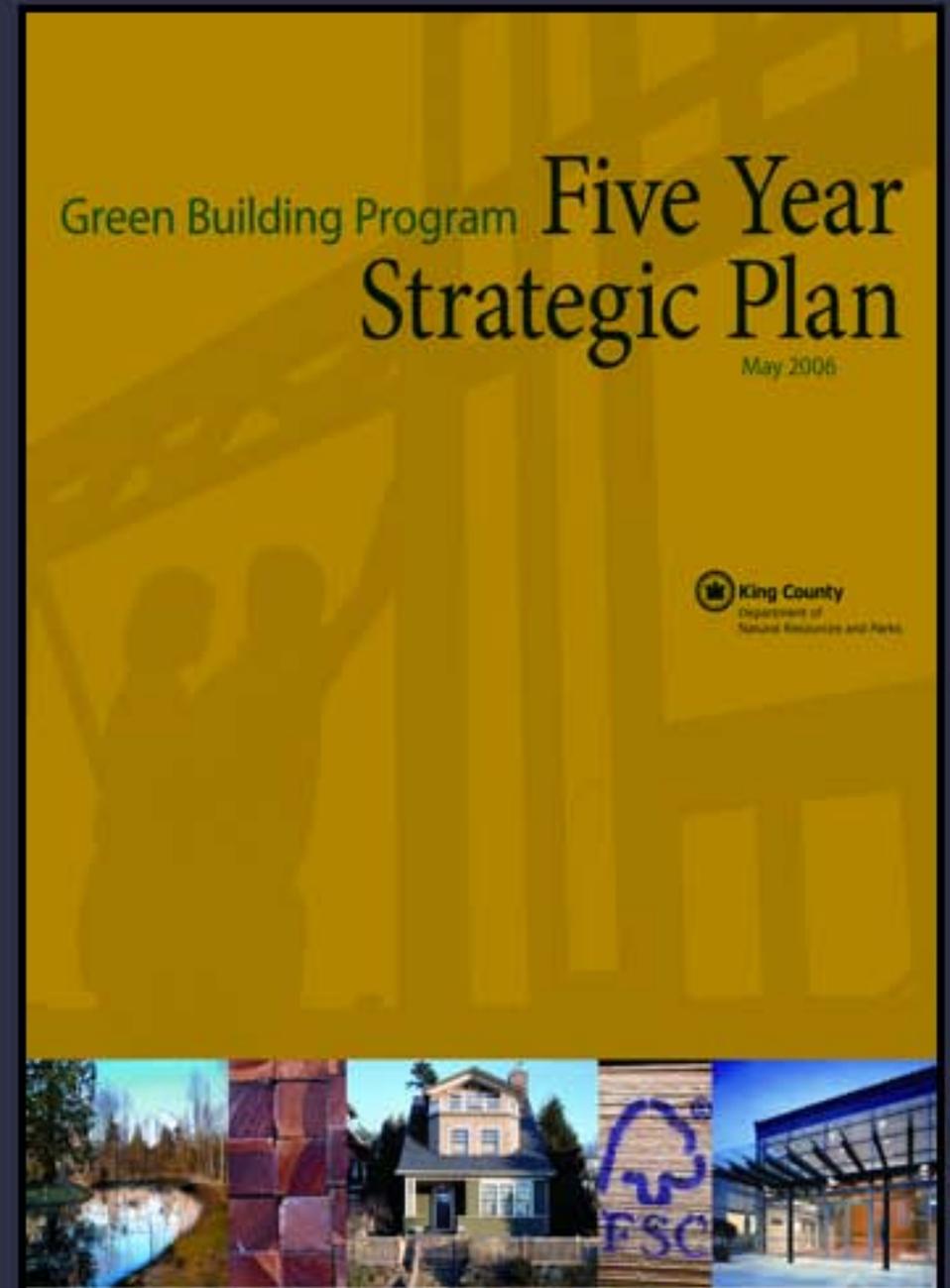
GOALS

- Institutionalize green building
- Create livable communities
- Zero waste of resources/
increased C&D recycling



RESOURCES

- 4.0 FTE staffing
- \$196,500 annual budget
- established & new partnerships





Green Building

Built Green

Leadership in Energy & Environmental Design (LEED™)

Construction Works

Green Building Team

Training Opportunities

Contacts

Calendar

Documents

Links

Green Building

Welcome to the King County Green Building Web site. In addition to providing information on King County's green building programs, this site is intended to serve as a resource for all kinds of green building information ranging from case studies to technical references. Be sure to check the [documents](#) and [links](#) pages for resources on a variety of green building topics.

What is Green Building?

Green building, or sustainable building, is defined by King County as: "Designing, constructing and operating buildings and landscapes to incorporate energy efficiency, water conservation, waste minimization, pollution prevention, resource-efficient materials, and indoor environmental quality in all phases of a building's life" (1999 Northwest Regional Sustainable Building Action Plan).

Systems for Measuring Green Building

Locally, two systems are available to measure the "greenness" of a building project. These systems provide a standard method for measuring a building's environmental performance. Developers also use these systems to market their projects and make a positive impression on consumers who seek homes or office spaces that are environmentally friendly.

- [Built Green™](#) (external link) is a rating system for single and multi-family residential developments and remodeling projects.
- [Leadership in Energy and Environmental Design \(LEED™\)](#) (external) is an environmental rating system for commercial projects and multi-family construction over four stories. The King County [LEED™ Supplement](#) clarifies the relationship between the national LEED™ requirements and local building codes.

What's New!

King County Grants for LEED projects! More information and [application](#).



King County Green Building

The Kent Pullen Regional Communications and Emergency Coordination Center - LEED™ certified.

Timeline

• 1993

• 1999

• 2001

• 2003

• 2005

• 2006

**Partnership with
Dept. of
Development &
Environmental
Services**

- issues building and land use permits
- enforces county land use codes



WORK PROGRAM

DDES Goal Setting

- Provide tools and resources
- Track and monitor demonstration projects
- Promote green building practices in all projects permitted in unincorporated King County
- Develop incentives for builders and developers



WORK PROGRAM

Identify Challenges

- Funding
- Adequate staffing
- Development of technical transfer and training programs
- MOU's with other departments and external partners
- Entrenchment from County staff and development community



WORK PROGRAM

Staff Training

Session Topic	Date	Time/Location	Instructor
1. Introduction to King County's Green Building Program: <ul style="list-style-type: none"> • Built Green™ • LEED™ • Construction Works 	October 12, 2005	1:00 PM – 2:30 PM Room: DDES Hearing Room	Katie Spataro, King County DNRP Kinley Deller, King County DNRP
2. Eco-Charrette for a School Project	October 19, 2005	1:00 PM – 2:30 PM Room: DDES Hearing Room	Teresa Burrelsman, Paladino & Co
3. Eco-Charrette for Residential development project	October 26, 2005	1:00 PM – 2:30 PM Room: DDES Hearing Room	Mark Huppert, Catapult Community Developers
4. SWDM Appendix C & Soils Standards Training	November 2, 2005	1:00 PM – 2:30 PM Room: DDES Hearing Room	Steve Foley, King County DNRP
5. Field Trip to green residential development projects in King County	November 9, 2005	9 AM – 1 PM Various Locations	RSVP to cynthia.moffitt@metrokc.gov
6. Brown Bag: Cost Benefit Analysis of Green Building	November 16, 2005	Noon – 1 PM DDES Room B-35 (Technical Screening Room)	Mark Huppert, Catapult Community Developers

WORK PROGRAM

Staff Training

4. Pervious Pavement

February 25, 2004 8:30am – 10:30am DDES, Room TBD

This training will include local example projects, estimating costs, permitting, construction practices, design guidance, and performance information on different types of pervious pavements. Some of these pavements include porous concrete, reinforced grass, porous gravel, porous asphalt, permeable interlocking pavers, and absorptive concrete.



The training will include a power point presentation with photos and drawings as well as ample time to discuss the material and ask questions. Handouts will be provided.

Presenter:

Christopher J. Webb is a professional engineer and a principal of 2020 ENGINEERING, Inc. Chris is a LEED™ Accredited Professional and is passionate about providing civil engineering designs that demonstrate the highest degree of sustainability and are based on ecological principles. Chris is a frequent speaker on the technical aspects of sustainability as it is applied in civil engineering. His firm was part of the design team on Islandwood, the first LEED™ Gold project in Washington State, and Chris has served as a member of the technical advisory group for the US Green Building Council's LEED™ Rating System. The firm was recently awarded the 2003 Governor's Award for Pollution Prevention and Sustainable Practices.

2020 ENGINEERING, Inc. was founded in 1995 to research, develop, and implement innovative civil engineering designs and has designed systems such as: rainwater catchment for potable and non-potable uses, wastewater treatment with constructed wetlands and other ecological means, composting toilets, stormwater management with rain gardens, porous pavements, toilet flushing systems that use recycled water and other simple and sustainable systems.

WORK PROGRAM

Field Trips



WORK PROGRAM

Incentives

- Expedited permits or priority plan review
- Permit fee rebates
- Tied to existing performance standards
- Density bonuses
- Free marketing



WORK PROGRAM

USGBC Government Resources

- State & local government toolkit
- Compilation of incentives & LEED initiatives





*“The whole is greater than
the sum of it’s parts”*



AGENDA

Process

Incentives

Discussion

Project Examples

DDES GREEN BLDG PROGRAM

Beginnings of Program

Role of Green Bldg Coordinator

Incentives for Customers

GETTING STARTED



DEMONSTRATION ORDINANCE



“Encouraging sustainable development is one of the most important things we can do as a county as we balance the demand for housing with protecting our region’s valuable natural resources.”

King County Executive Ron Sims

DEMO ORDINANCE PROJECTS

- GreenBridge: Hope VI Project
- Shamrock Heights: Market-Rate Subdivision
- Sunflower: Affordable Housing Subdivision

FUNDING GREEN PROGRAM



GREEN BLDG PROGRAM COSTS

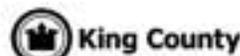
(A Modest Program)

- **.3 FTE @ Permit Agency (Coordinator)**
- **.5 FTE @ Solid Waste (Co-Lead/Technical Advice)**
- **.1 FTE @ Storm Water – Low Impact Development (Technical Advice)**
- **Permit Center Green Building Display**
- **Educational Materials for Customers**
- **Staff Training (staff time & presenters)**
- **Demonstration Gardens**

GREEN BUILDING COORDINATOR ROLE

- **Dedicated position at the permit agency**
- **Experience with the permitting process**
- **Advocate for the Green Bldg Program**
- **Intuitive work skills**

DDES GREEN BLDG BULLETIN



Department of Development and Environmental Services (DDES)
900 Oakesdale Avenue Southwest • Renton, Washington 98055-1219 • 206-296-6600 • TTY 206-296-7217

Green Building & Low Impact Development

• FREQUENTLY ASKED QUESTIONS •

Visit the DDES Web site at
www.metrokc.gov/ddes
for more information

DDES Customer
Information Bulletin #

55

King County DDES has created customer information bulletins to inform the general public about the effect of codes and regulations on their projects. These bulletins are not intended to be complete statements of all laws and rules and should not be used as substitutes for them. If conflicts and questions arise, current codes and regulations are final authority. Because the codes and regulations may be revised or amended at any time, consult King County staff to be sure you understand all requirements before beginning work. It is the applicant's responsibility to ensure that the project meets all requirements of applicable codes and regulations.

For alternate formats, call 206-296-6600.

Introduction

The purpose of this bulletin is to assist individuals with implementing green building and low impact development practices for all types of projects including: new and remodeled single-family and multifamily housing, commercial buildings, and neighborhood developments such as plats and short plats.

King County encourages sustainable development and green building practices to help balance growth with protection of our region's valuable natural resources. County incentives for builders and developers to use sustainable development techniques include free consultations and fee discounts. More information is online at <http://dnr.metrokc.gov/topics/sustainable-building/>, and [streaming video](#) of the June 2005 Open House to announce King County's incentives to "build green" also is available [online](#) (requires fee [RealPlayer](#)).

By promoting and supporting green building and low impact development in projects permitted through the Department of Development and Environmental Services (DDES), King County can help builders and developers create communities that are healthy for families and for our Northwest environment.

Customers can get information about green building practices by coming to the DDES Permit Center in the Building Services Division of DDES, 900 Oakesdale Avenue SW, Renton, or by calling the Department of Natural Resources and Parks Green Building Program at 206-296-4466.

COMPREHENSIVE PLAN POLICY:

In 2004, the King County Comprehensive Plan was updated with a new section on sustainable development (see Chapter II Section VI). This document, which guides policy for all land use and development regulations in unincorporated King County, states the county's commitment to encourage, support and promote the application of sustainable development practices in all private sector development.

GREEN BLDG OPEN HOUSE



**MBA President
Sam Anderson**

**King County Executive
Ron Sims**

BULLETIN 55 - PURPOSE

To assist individuals with implementing green building and low impact development practices for all type of projects.

COMP PLAN POLICY

2004 King County Comprehensive Plan
Updated with a new section on sustainable
development.

Urban Communities: Sustainable Development (Chapter 2,
Section VI)

Notes County's commitment to encourage,
support and promote the application of
sustainable development practices.

GREEN TRACT INCENTIVE

Dedicated Green Tract Team for green building and low impact development projects

Nancy



Tod



Daniel



GREEN TEAM ASSISTANCE

- Green (vegetated roofs)
- Alternative energy systems such as solar, wind and geothermal
- Rain water collection systems
- Resource efficient framing
- Recycled materials

BUILT GREEN™ INCENTIVE

For residential projects achieving a
5-star Built Green™ rating

- Free project management -
up to 10 hours
- Priority processing

LEED™ GRANT INCENTIVE

green bucks for green buildings

King County's NEW Green Building Grants offer funding for projects seeking LEED® certification.

Grant awards between \$15,000-\$25,000 are available for:

- New construction or major renovations in King County
- Projects in early design
- Certification at LEED-Silver or above

Application and guidelines for 2006 grants available at:
www.metrokc.gov/dnrp/swd/greenbuilding



TECH ASSISTANCE INCENTIVE

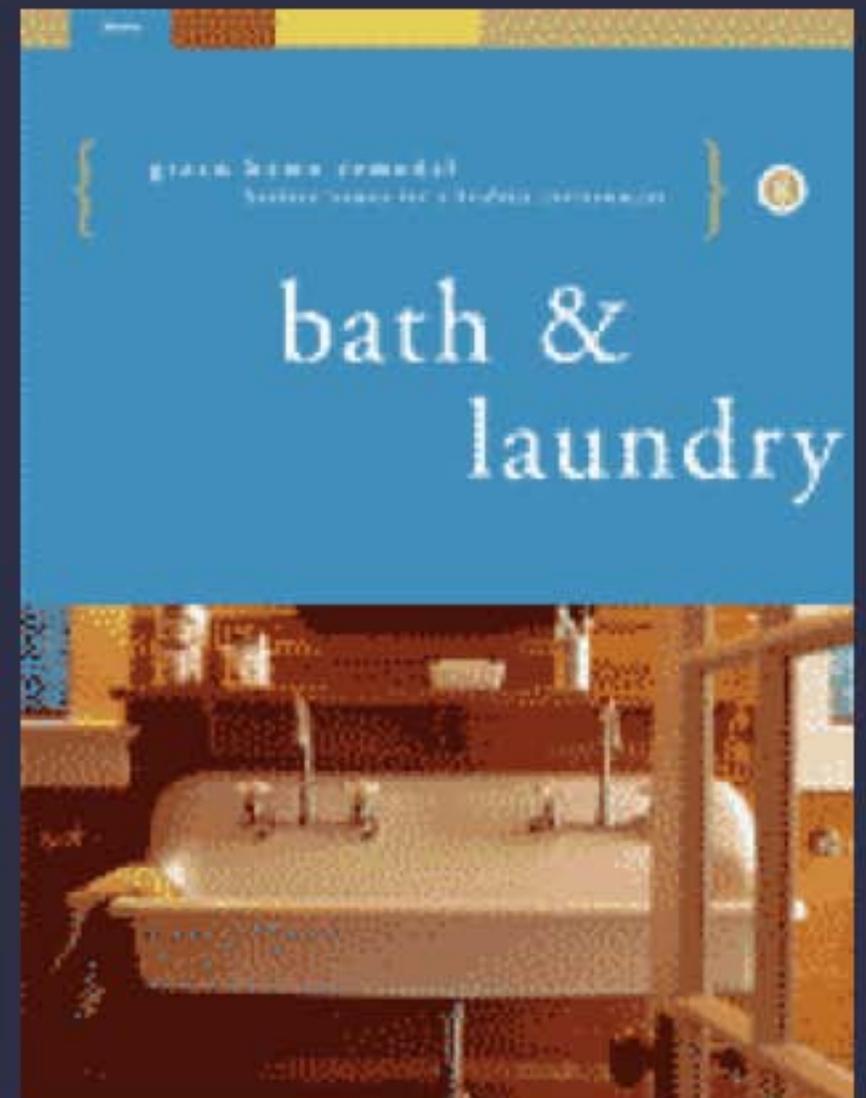
Free Technical Consulting Services

- Green Building
- Low Impact Development
- Construction Recycling and Deconstruction
- Professionally Facilitated Mtgs – eco-charettes

MARKETING RESOURCES

At the DDES Permit Center
Product Displays
Information Brochures

- Remodeling Guides
- LEED and Built Green Checklists
- Construction Recycling Directory
- On-site Demonstration Gardens



PERMIT CENTER DISPLAY



PERMIT CENTER DISPLAY



DEMONSTRATION GARDENS

before



DEMONSTRATION GARDENS

after







MORE GREEN BLDG HELP

- Amended soils
- Code language
- On-line calculator
- Worksheets to estimate soil amount
- Worksheets for staff inspecting soils installation

Achieving the Post-construction Soil Standard



Preserving And Restoring Healthy Soils On Developments In King County

Healthy soil is vital to a clean environment and healthy landscapes. Deep soil that is rich in organic material absorbs rainwater, helps prevent flooding and soil erosion, and filters out water pollutants. Healthy soil also stores water and nutrients for plants to use in dry times, promoting healthy plants that require less irrigation, toxic pesticides, and other resources.

Land development and landscaping practices can damage these valuable soil functions by removing or compacting topsoil. The result is erosion, unhealthy landscapes that are difficult and expensive to maintain, polluted water, destroyed fish habitat, and increased need for costly stormwater management structures.

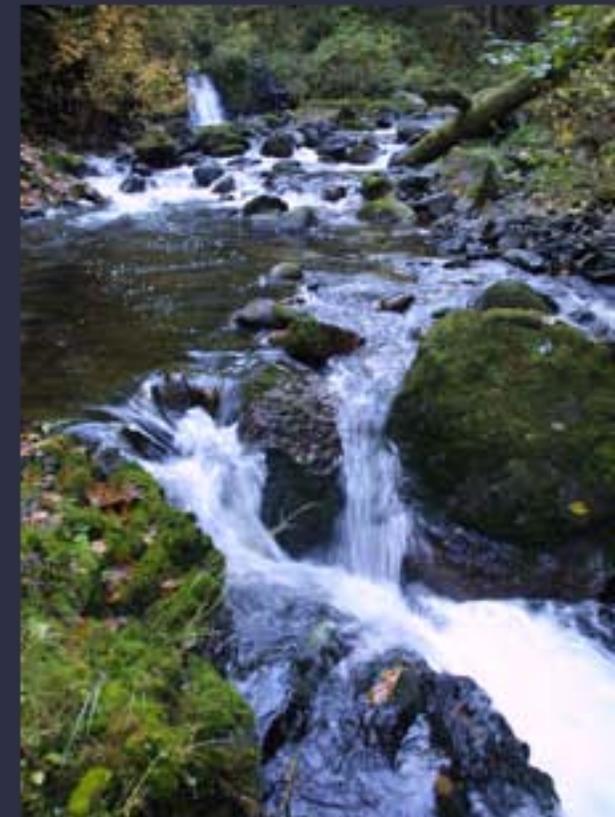
Amendments to King County's Clearing and Grading regulations KCC 16.82 help prevent costly environmental and landscape problems by requiring new developments to preserve topsoil, restore soils by adding compost after construction, or implement other measures to maintain the soil's moisture holding capacity. There are economical ways to retain the benefits of healthy soil, and avoid more costly damage to streams, wildlife, and human health.

This booklet explains how to preserve and restore soil quality and to meet these new code requirements.

Effective January 1, 2005

PRESENTATION KEY POINTS

- Practical Green Tools
- It Takes Time To Build a Green Program
- Share Your Green Building Ideas with Others



Find your place on the planet, dig in, and take responsibility from there.

Gary Snyder

AGENDA

Process

Incentives

Discussion

Project Examples

DISCUSSION

Consider...

Incentives

- funds available, best uses
- stakeholders
- perceived value vs. actual value

Marketing

- customer appeal
- where and how to advertise
- audiences
- best use of resources
- partnership opportunities



AGENDA

Process

Incentives

Discussion

Project Examples

Shamrock Heights



“...regional cooperation has made an incredible dent in accomplishing low impact development goals...”

-Eric Campbell, president CamWest



GreenBridge

King County Housing Authority



Before



After

“coordination with King County resulted in 23% faster permittingallowed for upgrades to more durable products.”
-John Eliason, KCHA



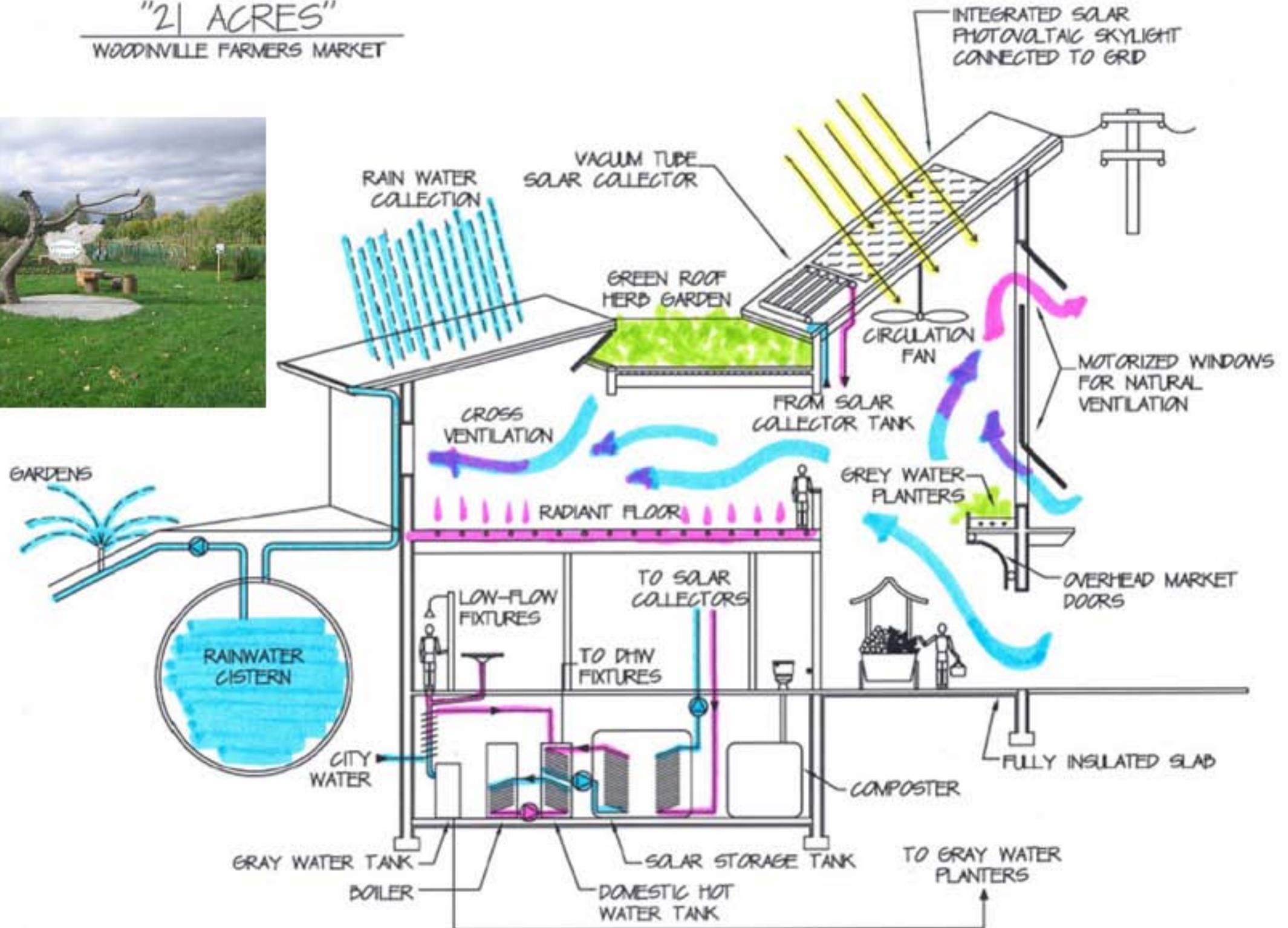
Lakewood Community Center

The Miller Hull Partnership



Woodinville Agriculture Center

"21 ACRES"
WOODINVILLE FARMERS MARKET



The Living Building Challenge

No credits... just prerequisites

A challenge to all building owners, developers and building professionals to reach to a true level of sustainability

Imagine buildings that:

- Harvest all their own energy and water
- Are adapted to climate and site
- That operate pollution free
- That promote health and well-being
- That are comprised of integrated systems
- Are Beautiful



Download the tool!
www.cascadiagbc.org



Why is our work important?

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Q & A

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King County