



King County Green Building Initiative

2002 Annual Report

2002 King County Green Building Initiative Annual Report

Introduction

The Green Building Team is pleased to submit this first annual report to the Executive. This report is an overview of the accomplishments achieved and the challenges encountered as King County strives to 'green' its design and construction practices. This report also makes important recommendations to strengthen efforts by making green building a standard practice in County capital projects.

Background

The Green Building Initiative was established by Executive Order in November 2001. It created a Green Building Team to educate and guide Departments in Green Building practices. Specifically, the Green Building Initiative:

- Encourages and promotes the use of green building practices in all buildings the County constructs, remodels, and renovates.
- Incorporates and supports the use of the LEED™ (Leadership in Energy and Environmental Design) green building rating system.
- Established a countywide Green Building Team to educate and guide Departments in green building practices.

The Green Building Initiative underscores King County's commitment to minimize the environmental impacts of construction by encouraging practices that conserve resources, use recycled content materials, maximize energy efficiency, and otherwise address environmental and social considerations in county-wide projects. The initiative also promotes potential economic benefits that could include the reduction of operating costs, enhanced asset value, optimized building performance and a healthier workplace for employees.

2002 Highlights

Significant accomplishments were made in 2002 including:

- King County launched the nation's first online LEED™ Supplemental Tool.
- An online Green Building Reference Center was created.
- Eco-charettes were conducted to familiarize staff working on County building projects with LEED™ and green building techniques.
- Two projects were registered with the US Green Building Council for LEED™ certification.
 - The Regional Communications and Emergency Coordination Center in Renton
 - King Street Center

2002 Green Building Initiative Accomplishments

Green Building Team

Background

The Green Building Team serves as a technical resource for all King County Departments and provides technical support to project teams including LEED™ training, budget analyses, and strategic and policy support relating to green building. The Team maintains and monitors County projects striving to incorporate LEED™ criteria.

The Team is sponsored by Rod Hansen, Solid Waste Division Manager and consists of 23 individuals representing the following departments:

- Natural Resources and Parks
- Transportation
- Executive Services
- Adult & Juvenile Detention
- Development and Environmental Services

Accomplishments

- **Creation and launch of the nation's first online LEED™ Supplemental Tool**
<http://dnr.metrokc.gov/swd/LEED™/default.asp>
This web-based tool, specific to King County, helps County project managers, architects, designers, and contractors develop green buildings in King County. This supplement provides guidance on applying LEED™ within the context of current King County building codes and interprets the use of LEED™ for three distinct building types: Commercial, Industrial and Ground-Based projects.
- **Creation of an online Green Building Reference Center**
http://dnr.metrokc.gov/swd/bizprog/sus_build/greenteam.htm
These pages contain an extensive bibliography and online catalogue of green building publications, programs, tools, products and technical resources. The Green Building Reference Center is useful to staff in project management, architecture, landscape architecture, design, budgeting, engineering, and resource conservation.
- **Host professionally facilitated “eco-charettes”**
Eco-charettes are project-specific brainstorming sessions to train and familiarize members of the project team on LEED™ and green building techniques. Participants have included elected officials, project managers, budget analysts, planners, designers, and engineers. The Green Building Team planned and hosted eco-charettes in 2002 for:
 - Harborview 401 Broadway project
 - Central-Atlantic Base Expansion
 - Carnation Wastewater Treatment Plant
 - Brightwater
 - 1st NE Transfer Station

- **Collaboration and planning of the Puget Sound Sustainable Development Center**
The Puget Sound Sustainable Development Center will provide a venue for promoting sustainable practices in the built environment through education and demonstration. Partners are currently seeking funding for the center, slated to open in 2005.
- **Development of a King County LEED™ Project Tracking Form**
The Project Tracking Form is an evaluation and tracking tool designed to assess the effectiveness and compliance of the Green Building Initiative.
- **Launch of Virtual Tour of King Street Center**
http://www.dnr.metrokc.gov/dnrp/ksc_tour/
A virtual tour of King Street Center was launched and received 4,759 visits from August through December of 2002.
- **Tours of green buildings**
Tours of area green buildings are provided to raise awareness of green building. Tours were provided for:
 - The City of Seattle's Justice Center
 - Cedar River Watershed Education Center.
 - King Street Center
- **LEED™ accreditation for three Green Team members**
Three members of the Green Team are LEED™™ Accredited Professionals, nationally recognized by the US Green Building Council.

Countywide

Background

Departments are directed to apply LEED™ criteria in the pre-design and design phase of projects, and are encouraged to seek the highest LEED™ certification possible. The types of projects where LEED™ certification could apply include transfer stations, wastewater treatment facilities and pump stations, office buildings, maintenance facilities and recreational facilities. Because the County frequently constructs project types where application of LEED™ is not feasible, Departments are encouraged to use LEED™ as a guideline only for incorporating green building practices.

Accomplishments

In 2002, two projects were registered with the US Green Building Council for LEED™ certification: the Regional Communications and Emergency Coordination Center in Renton and the King Street Center. The King Street Center is seeking certification under the LEED™ for Existing Buildings Pilot Program. Ten other projects currently in the design phase have assessed the use of LEED™ or equivalent green building strategies.

The table below outlines county projects that have reported a LEED™ assessment on their green building accomplishments as outlined in the Green Building Initiative for 2002

County Projects With LEED™ Assessment

Project Name	Division	Phase	Description	Eco-Charette Held	Achievable LEED Rating or LEED Assessment
Atlantic/Central Base Tire & Repair Shop	Transit	Pre-Design	Commercial & Industrial	YES	Certified
Atlantic/Central Base Parking Garage	Transit	Construction	Parking Structure	YES	Certified
Power Distribution Headquarters	Transit	90% Design	Commercial & Industrial	YES	Certified
Redondo Heights Park & Ride Lot	Transit	Design	Parking Structure	--	Certified
Issaquah Highlands Park & Ride	Transit	Pre-Design	Parking & Commercial	--	Certified
Brightwater Treatment Plant	WTD	Pre-Design	Industrial	YES	Certified
Carnation Treatment Plant	WTD	Pre-Design	Industrial	YES	Certified+
Juanita Pump Station	WTD	Pre-Design	Industrial	YES	--
First NE Transfer Station	SWD	Pre-Design	Industrial	YES	--
King Street Center-Existing Building	SWD	Existing Building	Commercial	NO	Silver
Regional Communications and Emergency Coordination Center	FMD	Construction	Commercial	YES	Certified+
Harborview Medial Center	FMD	Design	Hospital	Planned	TBD

Several additional County projects have made notable progress in meeting the intent of the Initiative. While not all county projects will be eligible for LEED™ certification due to the limited scope of the project, they are worth highlighting.

Transportation, Transit Division

In addition to the five Transit projects listed in the chart above, the Transit Division has demonstrated additional efforts in compliance with the Initiative by:

- Identifying two additional projects in the pre-planning phase where LEED™ certification may be feasible: the Auxiliary Functions Building and the Convention Place Station Transit Oriented Development.

- Incorporating several green building practices into the Eastgate Parking project, designed prior to the adoption of the Initiative, such as energy efficient lighting, recycled content materials and charging stations for alternative-fuel vehicles.
- Implementing the use of drought tolerant plants, xeriscaping and high efficiency irrigation have also been implemented consistently in Transit projects.

Natural Resources and Parks, Wastewater Treatment Division (WTD)

The Wastewater Treatment Division has made significant efforts to educate project managers and support green building in their Division. Their achievements include:

- Convening their own WTD Green Team to assess green building practices for their capital projects including a review of their guide specifications.
- Developing resources for their project managers, which include sample green building RFP language, and LEED™ training and technical resources guides.
- Hosting Eco-charettes for four major projects, Brightwater Treatment Plant, Carnation Treatment Plant, Juanita Pump Station, and Sammamish Valley Reclaimed Water Production Facility.



The Dexter-Horton Regulator Station's Green Roof

- Replacing the Dexter Regulator Station roof in 2002 with a vegetated green roof to capture and retain stormwater runoff, reduce heat island effects and provide vegetation and wildlife habitat on an urban site.
- Incorporating many green building principals into the design of the Division's Environmental Lab Office Expansion Project including natural light and ventilation, renewable and nontoxic building materials and sustainable site planning.

Natural Resources and Parks, Solid Waste Division (SWD)

The Solid Waste Division has provided funding for Green Team activities throughout 2002, including:

- Development of the online Resource Center, the King County Supplement to LEED™ and the LEED™ Project Tracking Forms.
- Sponsorship of green building training and professionally facilitated eco-charettes for all county capital projects.

In addition, Solid Waste Division projects that incorporate green building strategies include:

- Algona Transfer Station Roof Replacement Project and Bow Lake Transfer Station Safety Improvement Project: recycling of demolition debris including 139 tons of asphalt, 53 tons of dirt and 1.25 tons of steel.
- The Gas-To-Energy project for converting methane gas generated at the Cedar Hills landfill to a usable energy source.

- Membership in the EPA Waste Wise Program where SWD is participating in the EPA's Green Building Challenge reporting the entire county's accomplishments on green building.

Natural Resources and Parks, Water and Land Resources Division (WLRD)

The Water and Land Resources Division has demonstrated efforts to conserve resources and restore habitats at the Cedar River Landslide Flood Buyout Project. In 2002, the Division acquired occupied land in the Cedar River flood plain for conversion to open space. The property includes three houses scheduled for demolition. WLRD is currently working with a local business to deconstruct and salvage as much of the homes as possible, conserving resources while reducing the cost of demolition material disposal. Salvaged and recycled items to date include flooring, cabinetry, windows, doors, fixtures, hardware, roofing and brick.

Department of Development and Environmental Services (DDES)

In 2002, DDES initiated a proposed demonstration ordinance relating to Low Impact Development and Built Green™ residential green building projects. The purpose of the ordinance is to determine whether innovative site development and building construction techniques result in environmental and economic benefits. The demonstration projects will also assist in the development of King County Comprehensive Plan policies to guide application and refinement of zoning and stormwater regulations. Three development projects in King County are slated to apply for the new demonstration ordinance.

Executive Services, Facilities Management Division (FMD)

Facilities Management Division's reported accomplishments include:

- Regional Communications and Emergency Coordination Center, King County's first LEED™ registered project. Sustainable design and construction strategies include on-site stormwater management, recycled-content and low-emitting materials selection, day-lighting and recycling of construction debris.



The Regional Communications Center. The County's first LEED™ Registered Project.

- NRF Demolition Project, collaboration with King County and Washington State. The project includes extensive salvage and recycling of demolition debris, which is expected to generate a \$100,000 savings in disposal fees.

Challenges

Green building is beginning to be a serious component of County projects, albeit slowly. On-going education will be necessary to integrate green building practices in capital projects and to identify new opportunities such as harvesting rainwater for reuse, installing green vegetated roofs to control runoff, optimizing energy efficiency by using fuel cell technology, photovoltaics or bio-gas where appropriate.

A misperception among the building industry is that green building is difficult to benchmark for county capital improvement projects because they tend to be more public works kinds of projects such as parking garages and bus shelters. It is true that the LEED™ green rating system does not specifically address every building type. However, all projects can benefit by using the LEED™ rating system as a guideline regardless of the scope of the project. The *LEED™ Supplement to King County* addresses this by illustrating how each LEED™ credit could apply to commercial, industrial and ground-based projects.

Given the decentralized nature of King County, the Green Building Team has been challenged with trying to create standardized reporting mechanisms. A formal reporting form was developed with the assistance of an outside consultant, however, many project manager found the reporting form to be time consuming and lengthy. As a result, the Green Building Team has found it difficult to collect information about green building practices throughout the county on a project-by-project basis. This has also made tracking and reporting very difficult for evaluation of the Initiative.

Integrating green building strategies early in the design process allows projects to take full advantage of green technologies at the lowest net costs. Sometimes, however, green building systems or materials require higher front-end budgets that may be offset by reduced operating or maintenance costs over the life of the building. Increased budgets and the perception that building green costs more has been difficult to justify for capitol projects, particularly during times of budget reductions County-wide. The need for more extensive budget analysis that encompasses the life cycle of green building strategies and highlights environmental as well as economic costs can assist with integrating sustainable design for county projects.

Finally, soliciting support and compliance with the Initiative throughout the county has been a challenge for members of the Green Building Team. Members are responsible for providing education and assistance to their Division to facilitate implementation of the Initiative. However, capitol project teams often view the Initiative as an additional workload and are hesitant to incorporate green building strategies into their projects. Increased and continual support by Division and Department managers is necessary for the success of the Green Building Initiative.

Conclusion

The Green Building Initiative represents King County's commitment to achieve the environmental, economic and social goals of sustainable development. The 2002 accomplishments outlined above demonstrate the high level of commitment by the Green Building Team and County Divisions to support the goals instated by the Initiative. County project managers have made significant strides to identify environmental considerations for their projects and incorporate LEED™ methods and techniques. The preliminary projects seeking compliance with the Initiative will serve as valuable learning tools for future projects. Tracking budgets and environmental benefits of LEED™ projects will assist with upfront cost analysis and comparison of sustainable development technologies.

In 2003, The Green Building Team will be charged with finding new and more effective means of disseminating green building education throughout the county. The Team will meet quarterly next year with a focus on addressing the challenges of the Initiative while implementing and refining tools to assist County Departments with complying with the Green Building Initiative.