



CITY OF KIRKLAND

City Manager's Office

123 Fifth Avenue, Kirkland, WA 98033 425.587.3001

www.ci.kirkland.wa.us

MEMORANDUM

To: David Ramsay, City Manager

From: David Barnes, Planner and Green Building Team Lead
Stacy Clauson, Senior Planner
Scott Guter, Planning Information Specialist
Tom Jensen, Plans Examiner Supervisor
Stacey Rush, Surface Water Engineer
Paul Stewart, Deputy Planning Director

Date: October 4, 2007

Subject: Green Building Program

RECOMMENDATION:

Staff recommends that the City Council do the following:

- Review the following memorandum and background materials
- Provide direction on the phasing and components for a Green Building Program
- Consider funding for Phase I as part of the Mid-Biennial Budget Review Process

BACKGROUND DISCUSSION:

The City Council's philosophy includes a commitment to proactively protect the environment and to facilitate the incorporation of sustainable building practices in both public and private sector development. This memorandum presents several different options for the City Council to consider to support and encourage sustainable development practices. Project activities in this plan seek to carry out goals established by existing policies.

Kirkland has consistently placed high value on a healthy environment, as evidenced by long-standing policies, programs, and development standards. The Comprehensive Plan emphasizes the importance of community stewardship of the environment. This vision has been translated into two framework goals, FG-5 and FG-7, which emphasize protection of environmentally sensitive areas, preservation of a healthy environment, and encouragement of low-impact development (LID) and sustainable building practices. Additionally, the Natural Environment policy NE-1.5 also suggests that the City should educate, promote, support incentives and provide resources to encourage citizens, businesses, builders and the development community to adopt sustainable building practices. More specifically the Natural Resource Management Plan adopted by the Council states that the City should "design a program to provide incentives for low energy use and green construction."

Memo to David Ramsay

10/04/07

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Sustainable building practices further the stated goals of the City because buildings have a tremendous impact on environmental quality, resource use, and human health and productivity. In the United States, buildings account for 36% of the total energy use [65% of electricity consumption; 30% of the greenhouse gas emissions; 30% of raw materials use; 30% of waste output (136 million tons annually); and, 12% of potable water consumption (U.S. Green Building Council)]. Green buildings conserve water and energy and use healthier materials, while innovative site design reduces impacts to aquatic resources and habitats.

As an example, the construction of one home using green building design and construction along with an Energy Star (www.energystar.com) rating can keep 2,070 pounds of green house gasses out of the environment each year. For reference, this reduction is the equivalent to driving 2,200 less vehicle miles or planting 200 trees (King County Green Tools 2007). The implementation of a green building program would align with the City's efforts to respond to climate change and our carbon reduction targets. It will help significantly with the conservation of energy and water, as well as the reduction of impacts to aquatic resources and habitats.

PROJECT UPDATE

At the City Council study session on May 12, 2007, the Green Building Team proposed an action plan that outlined three goals in relation to the creation of a Green Building program for the City of Kirkland. The goals of this program are threefold and include:

- (1) Establishing a public outreach and education program;
- (2) Creating a green building permitting program; and
- (3) Incorporating green building construction into new or renovated City facilities.

The City Council expressed interest in pursuing a green building program. Additionally, Council looked favorably at the idea of having a green building ordinance for City facilities. Since this time the Green Building Team, which is part of the larger Green Team, has been working diligently to achieve the goals of the green building program action plan (Attachment 1)

Some of our accomplishments include:

- Hosted a Kirkland Green Building Developers Forum with a focus of sustainable building practices, including emerging Real Estate trends in Green Building, existing Green Building programs, and a builder's view of Green Building (Attachment 2)
- Conducted interviews with other local jurisdictions and Green Building professionals (Attachment 3)
- Participated in the creation of King County's Green Toolkit and rollout event
- Attended the Built Green Conference and other local education events. Training topics included: Intro to Green Building Programs; Low Impact Development practices; Cost Benefit Analysis of Green Building; and a field trip to Built Green projects.
- Worked to establish a basic website with background information and links to sustainable building and low-impact development resources.

Our program has been discussed with Aaron Adelstein from Built Green and Brenda Nunes from the Kirkland Chamber of Commerce and they have written letters to support our efforts in creating a Green Building program (Attachment 4).

After completing the research activities of the Green Building Action Plan, our team is now at the point of making a recommendation of a program scope that is a phased approach to the full program implementation.

EXPLORING OPTIONS FOR A GREEN BUILDING PROGRAM

Depending upon the desired purpose and scope of a Green Building program, there are several options for different components that can be included in the program. Generally, staff has tried to separate these options into three different categories: incentives, education, and regulations. There are varying levels of activities that can be included as a component to any program. This memorandum defines three phases of the Green Building program for Council consideration, with each phase requiring additional resources and funding. It is recommended that Phase 1 be implemented starting in January, 2008, with the later phases assessed as part of the next regular 2009-2010 budget cycle. As part of Phase I, some "start-up" funding in the amount of \$18,500 is needed for 2008. Staff is requesting that this be added to the list of possible mid-biennial service package requests for Council's consideration.

If additional educational or incentive programs noted in Phase 2 or 3 are desired at this time, the Council can provide direction on whether or not to include these as part of the 2007-2008 budget review or to be considered as part of the next budget cycle.

Phase 1: Green Building Pilot Program

Phase 1 (see Attachment 6): This phase is primarily focused on a priority permit processing incentive to facilitate sustainable building in the construction of new single family residential development. Priority permit processing means that the designated reviewer of the green permit would begin that permit next after completing the current permit on their desk. This incentive could substantially reduce the turnaround time compared to that of a typical new single family residence. It should be noted that under this option, permit turnaround times for other pending permits could be deferred to account for any priority permits processed under this program. Alternatively, additional resources could be allocated to ensure that no permit goals are adversely impacted.

This incentive would work with existing regional and national programs to provide the tools needed to define and measure the cost benefits and performance of sustainable development. In our research and in discussions with other communities, the King County Master Builders and others, priority permitting is the most attractive incentive. Cities such as Seattle, Issaquah and Olympia have such a system in place.

Based on a review of these existing programs, staff is recommending that this incentive be tied to New Single Family Building permits that achieve a level of 4 and 5 Stars under the Built Green program or a certified LEED home under the LEED for Homes Program. The level of achievement that we propose to receive the benefit of a priority permit processing is one which is more challenging and requires an Energy Star rating (www.energystar.com) in addition to all the checklist requirements for Built Green (<http://www.builtgreen.net/>) and LEED for Homes (<http://www.usgbc.org/>) green building programs (See attachment 9). The term Energy Star is a measure of energy efficiency and is independently verified by a third party. In order to receive the benefit of the priority permit processing by the City of Kirkland, the applicant would provide proof of registering their project with the green building

program provider if required, sign an agreement with the City to complete the project as proposed and submit a valid contract with a third party verifier to certify the project. These steps will ensure the commitment of the applicant and their understanding of what the City will do to expedite their permit and the applicant's responsibilities to complete the project as proposed.

It is recommended that this component be implemented beginning in 2008 as the first phase in the rollout of the Green Building Program. This process has been discussed with Tom Phillips, Building Services Manager, Nancy Cox, Development Review Manager and Rob Jammerman, Development Engineering Manager. They are in support of the program and suggest that the City consider it a pilot program beginning January 1, 2008. As part of the budget discussion next year, staff will bring back an evaluation of this effort for the Council's consideration.

As part of the start-up costs, staff is requesting \$18,500. These funds will be utilized for educational and promotional materials, outreach to the building and development community, technical assistance and assistance with review of the priority permits. In addition, staff will continue to evaluate new green building programs and options for alteration/additions, multi-family and commercial projects for inclusion in the City's program.

Phase 2: Green Building Basic Program

Phase 2 (Attachment 7): This phase would include additional incentives and educational resources. As an additional incentive, this phase would include a technical advisory program to assist developers in integrating sustainable building practices. In order to implement this program, this phase would include staff training. A local Government Division Competitive GMA Planning Grant with CTED has been applied for to help offset the projected costs for technical advisor training.

This phase includes increased educational outreach component for builders, homeowners and others in the professional building field. It provides an increased awareness of the City's commitment to sustainability by proactively promoting the green building program and working with other entities such as United States Green Building Council, Built Green and others to host workshops and seminars. This phase also includes a recognition program for green builders who help take Kirkland to new and higher levels of sustainability in the built environment.

Essentially, the Basic Program would continue to provide the priority permit processing for new single family building permits but would have the following additional components:

- Increased Staffing requirements
- Additional in-house technical Staff training
- Staff time allocated to Public Outreach
- Green Building Recognition Program

Initially the program would need .50 FTE for these additional items, but after the completion of Phase 1 there will be a better idea of ongoing staffing requirements.

Phase 3: Expanded Program

Phase 3 (Attachment 8): This phase seeks to broaden the educational element to provide for increased public awareness of sustainable building techniques. In addition to the elements proposed in Phase 2, this alternative would include a very prominent display of sustainability in the form of an information/kiosk that could be located at a City facility. The display would be designed to explain the facets of green building, its many advantages and provides physical examples of materials and resources for citizens of all ages and experience.

The Expanded Program would continue to provide the priority permit processing for New single family building permits. But, above and beyond the basic program would have the following components and would require 1.0 FTE:

- Consideration for expansion of program to Multi-family, Commercial and alteration/addition permits
- Technical Assistance for large scale projects
- Additional Public Outreach

CONCLUSION

A challenge confronts the City of Kirkland and presents a unique opportunity to help promote efforts to increase the level of sustainability in our built environment. It is clear from the tremendous work that is being done City-wide that a green building program which encourages builders, developers and homeowners to reduce waste, preserve resources and increase energy efficiency will be a great tool to reduce carbon and greenhouse gas emissions.

ATTACHMENTS

1. City of Kirkland Green Building Program Action Plan
2. Kirkland Green Building Developers Forum
3. Interviews with other local jurisdictions and Green Building professionals
4. Letters of support from Kirkland Chamber of Commerce and Built Green/King and Snohomish County Master Builders
5. Letter of support from Kirkland Chamber of Commerce
6. Green Building Program Phase 1
7. Green Building Program Phase 2
8. Green Building Program Phase 3
9. Built Green program and LEED for Homes program checklists

cc: Green Team

Kirkland Green Building Program - Action Plan 10/07

Attachment 1

Task	Action Items	Description	Due Date
Phase 1: Research/Startup. Phase I of the Action Plan focuses on background research on existing sustainable building programs as well as sustainable building practices. The following tasks would be associated with Phase I:			
Task 1: Research	Research general background information including: 1. Existing programs for measuring the performance of green buildings, including LEED, Built Green, Energy Star, and Home Energy Rating System (HERS). Identify key benefits to each program and costs for builders to implement. Research to include interviews with local builders who have developed under these programs as well as staff from other jurisdictions familiar with the programs.		June 1-30, 2007 Completed
	2. Identify existing sources for technical assistance, including King County Solid Waste, O'Brien & Associates, and Resource Venture.		Completed
	3. Identify and compile resources for existing incentive programs, such as existing federal tax credits, rebate programs offered through Puget Sound Energy, King County grants, etc.		Completed
	4. Investigate the costs, time commitment, and requirement for staff training. There are several different training opportunities that are available, including LEED Certification (LEED-AP), Sustainable Building Advisor Program through Seattle Central Community College), Workshops (e.g. Built Green conference)		Completed
	5. Investigate funding sources for a Green Building Program.		Completed
	6. Investigate existing green building programs (City of Seattle, King County, City of Issaquah) to determine structure of program, funding sources for program, staff resources, and incentives offered.		Completed
	7. Identify any existing barriers to implementation of a green building program. This would include analysis of existing codes, permit processing, and fee structure. Identify any key strengths and opportunities to build upon.		Pending
	8. Identify key stakeholders, including staff, developers, and community leaders. Convene stakeholders group to gain input on program structure and components.		Completed
	9. Investigate potential incentives for promoting green building, including priority permit review, financial assistance for soft costs of certifying construction, development of a recognition program, variations to development regulations, fee reductions, etc.		Completed
Task 2: Determine program scope	Prepare a recommendation for a program scope to present to City Council members, City Manager, Natural Resources Management Team and the Development Review Committee. In preparing a recommendation, the following issues should be considered: Vision, funding commitment, staff resources, anticipated benefits of program, developer interest, and standards for success.		Completed
Phase 2: Implementation			
Task 1: Service Package Request	Develop service package request, if necessary, to cover any identified funding requirements of program.		September 1, 2007
Task 2: Communication and Outreach.	Develop a public outreach program to promote program. Components could include:		Winter 2008
	1. Development of website with links to sustainable building resources.		Fall 2007

Kirkland Green Building Program - Action Plan 10/07

Attachment 1

Task	Action Items	Description	Due Date
		2. Develop Community Lecture series to inform developers and public of program and green building opportunities.	To Be determined
		3. Investigate other outreach opportunities, including public access TV spots, City Update, newspaper article, etc.	Ongoing
Task 3: Staff Training		Completion of any necessary staff training identified in Phase 1.	Winter 2008
Task 4: Code and Fee Schedule Revisions		Move forward on any code or fee revisions identified under Phase 1.	Winter 2008
Phase 3: On-going Program Maintenance			
Task 1: Benchmarking		Tracking of structures built under program.	Advantage Updated
Task 2: Feedback		Communication with developers and community on successes and barriers to implementation of program	

Green Builder's Forum

June 21, 2007 from 8:00 – 10:00 AM
Council Chambers, City Hall, 123 5th Avenue

Participate in making Kirkland a green place to live as we take steps to create a city green building program. Come to this month's Developer's Forum and learn what it takes to successfully build green from three local experts. Provide vital input to the city about what you need to support your efforts when building green.

RSVP today by emailing David Barnes at dbarnes@ci.kirkland.wa.us.

Speakers:

Alistair Jackson

Project Associate
O'Brien & Company
811 First Avenue, Suite 380
Seattle, WA 98104

(360) 756 – 9599
Alistair@obrienandco.com

Alistair Jackson provides project design & construction consulting, verification and rating services to clients in the affordable and market-rate housing sector in the Western US. Alistair is a certified Sustainable Building Advisor, a LEED Accredited Professional, and a BuiltGreen™, EnergyStar® and LEED® for Homes verifier/rater/Faculty member, and an accredited Real Estate Trainer.

- Alistair will discuss the two prominent green building programs, Built Green and Leadership in Energy and Environmental Design (LEED) and certifications for both.

Ben Kaufman

Co-Owner & Managing Broker
GreenWorks Realty
7406 Greenwood Avenue N., Suite A
Seattle, Washington 98103

(206) 283-8181
ben@greenworksrealty.com

Ben is the co-founder of GreenWorks Realty, a real estate brokerage and land development firm specializing in environmentally friendly homes and community focused real estate developments. Ben holds an urban planning degree from the University of Washington and a Certificate in Permaculture Design from Crystal Waters, Australia. Ben graduated from the University of Washington's Commercial Real Estate

Certificate program. Ben studied innovative community development and green building internationally and is the author of several published articles on marketing and selling green realty. Current projects include a 34 unit courtyard housing project in the permitting phase incorporating the latest Low Impact Development standards available.

- Ben will discuss the importance of recent green building real estate marketing trends in the Pacific Northwest.

Jim Tennyson

Owner

Tennyson Homes

405 Slater Avenue South

Kirkland, WA 98033

(425) 827-9060

Tennyson Homes, Inc. specializes in building single-family homes with a focus in the Greater Puget Sound Area. Tennyson Homes encourages environmental awareness by partnering with the Master Builders Association of King and Snohomish Counties Built Green program. Built Green is an environmentally-friendly, non-profit, residential building program developed in partnership with King County, Snohomish County, and other agencies in Washington State. Tennyson Homes actively engages in a comprehensive salvage and re-cycle program on all re-development and new home projects.

- Jim will lend his practical experience at a seasoned green builder and the lessons he's learned.

**June 21, 2007
Green Builder's Forum**

Roster and Questionnaire

Last Name	First Name	Organization	Filled out Questionnaire	Phone	Email
Baker	Kelly	Bayridge Development	Yes	206-459-1659	kelly@bayridgedev.com
Coakley	Joe	Coakley Development Group	Yes	206-979-0693	josephcoakley@msn.com
Darrow	Brian	Blueline	Yes	425-216-4051, x222	bdarrow@thebluelinegroup.com
Digovanni	Tom	Newhouse Development	Yes	425-753-0289	tom@newhousedev.com
Eng	Hunter	Eng Consulting	Yes	206-778-1035	hunter-eng@msn.com
Gebhard	Deanna	Blueline	Yes	425-216-4051, x239	dgebhard@thebluelinegroup.com
Harmon	Darrell	COK Building Department			
Heni	Lora				
Hollingbery	Aaron	CamWest	Yes	425-825-1955	ahahollingbery@camwest.com
Holzknacht	Steve	Four Suns Inc	Yes	425-869-1891	steve@foursunsinc.com
Jones	Jason	Chaffey Homes	Yes	425-822-5981	jasonj@chaffeyhomes.com
Kaifer	Mark				
Kappler	John	Kappler Architects PS	Yes	425-641-5320	Johnk@kapplerhomeplans.com
Kelly	Tim	T.E. Kelly Co-LLC			
Klein	Rose	Four Suns Inc			
Konrad	Monika	Chaffey Homes	Yes	425-822-5981	monikak@chaffeyhomes.com
Lysen	Josh	Merit Homes, Inc.			
McCoy	Melonie	COK Building Department			
Nelson	Michael	Frontier Bank	Yes	425-889-2265	mnelson@frontierbank.com
Nunes	Brenda	Kirkland Chamber/AESI			
Olson	Tim	Tim Olson Architect	Yes	425-889-9066	tim.olson6@verizon.net
Ramsey	Dave	COK City Manager			
Robertson	Kirsten	Coldwell Banker Bain	Yes	425-802-0414	kirstenrobertson@cbbain.com
Rudolph	John	Kirkland Builders Group President			
Stone	Steve	Sinclair Thimgan Homes	Yes	425-450-1197	steve@sinclairthimgan.com
Wig	Christopher	Tennyson Homes Inc.			

Q1	Q2	Q2sub	Q2sub2	Q3	Q4	Q5
1 yes	no			yes	yes	Cost and Valuation information
2 yes	yes	no	Issaquah F	yes	yes	LID, Clustered Housing
3 yes	no			yes	yes	Green Building for Engineers
4 yes	yes	yes	541 14th A	yes	yes	Alternative Materials & methods, City Green Building incentives and progress report
5 yes	yes	no	Mercer Isla	yes	yes	Material resource/suppliers, design consultants, web listings
6 yes	no			yes	yes	Site design and housing components
7 yes	yes			yes	yes	Site development, LID
8 yes	no			yes	maybe	cost & value
9 yes	yes	yes	Forbes Cre	yes	yes	Product availability, pricing, incentives
10 yes	yes	yes		yes	yes	
11 yes	yes	yes	Forbes Cre	yes	yes	product availability, incentives, utility upgrades to support GB
12 N/A	N/A	N/A		yes	yes	
13 yes	no			yes	yes	
14 N/A	N/A	N/A		yes	yes	
15 yes	yes	no	Issaquah F	yes	no	BuiltGreen Checklist (most points for least amount of money)
100.00%	61.54%	30.77%		100.00%	86.67%	

Q6	Q7sub1	Q7sub2	Q7sub3	Q7sub4
	5		5	5
	5		5	5 Customer & Realtor education, subcontractor training
	5		3	4
Excellent Presentations	5		5	5
City inspectors perform 3rd party verification, GB cost rolled into permit	5		5	5
	5		5	4
	3		5	3
Wanted presentations to be more Kirkland focus	5		5	3 Expedited review may be difficult; will GB projects be further expedited
Cities need to be up to built green speed	3		5	5 Subcontractor training
	5		5	5
	5		0	5
	0		0	0
	3		5	4
	0		0	5
	3		4	4 Provide a copy of a GB home, describe the process
	3.8		3.8	4.133333
	4.384615385		4.384615385	
	(net median)		(net median)	

- Question 1** 100% of questionnaire participants plan on building green.
Question 2 61.54% are currently building green.
30.77% have a green building in Kirkland.
Question 3 100% of the forum participants found it useful.
Question 4 86.67% said they would attend future forums. The remaining said they may come or sent other staff to the forum.
Question 5 A list of what participants would like to hear in future forums:

- Cost and valuation information
- LID, Clustered Housing information
- Green Building for Engineers
- Alternative Materials & methods, City Green Building incentives and progress report
- Material resource/suppliers, design consultants, web listings
- Site design and housing components
- Site development and LID
- Cost and value of green building projects
- Product availability, pricing, incentives
- Utility upgrades to support green building
- Review BuiltGreen Checklist to evaluate how to get the most points for least amount of money

- Question 6** A list of additional comments include:

- Excellent Presentations
- City inspectors should perform 3rd party verification and if opting to build green extra costs should be rolled into per
- Wanted presentations to be more Kirkland focus
- All cities need to be up to built green speed

- Question 7** When asked to rate three possible green building services from 1 - 5 (1 being the least desired and 5 being the most desired):
The median score for technical assistance is **4.39** for questionnaire participants identified as builders.
The median score for expedited review is **4.39** for questionnaire participants identified as builders.
The median score for education programs and training is **4.13**

Interviews

8/16/07 Meeting with Aaron Adelstein, Built Green Director

Notes by Stacey Rush

Built Green

- They are launching new multifamily checklist
- Have about 550 members
- Use of certified products – recycled products
- They address all aspects of building
- They rate and certify “projects” only (not supplies), over 1100 projects in the Puget sound area.
- They will be doing a real estate agent course to certify agents as “built green”

Aaron sees multiple roles for greater good of Built Green.

Aaron sees the COK role as to:

- Facilitate
- Support
- Remove barriers
- Give incentives
- Increase public awareness/provide resources to public
- Don't legislate too much, but make sure project/idea is good

Barriers Aaron has seen:

Biggest barrier – items are treated differently – need consistency between jurisdictions.

- Pervious pavement – some jurisdictions allow it, some don't. Some give 100% credit, others only 50% credit.
- Skinny streets – fire access issue
- Sloped roofs, out vents, spray foam
- Advanced framing
- Energy systems, geothermal heating
- Gray water or rain water to flush toilets
- Rainwater harvesting
- BRAC system
- Composting toilets

Built Green does training – they have a “built green” newsletter.

Huge Incentive: Seattle has expedited review for 4 & 5 star projects.

Best things COK can do to promote Built Green program

- Allocate some FTE towards built green issue
- Tie incentives to 4 and 5 star projects (since these are verified).
- Remove slow process for review and inspection
- Prepare permit departments staff and inspectors to understand green building.
- Dedicate a project manager to provide technical advice
- Have kiosks, printed material, etc. here at city hall where people come in for permits
- Have display of what is green building – it's not just straw bale walls...

- Dispel barrier that green building is more expensive – it's not more expensive.

7/19/07 Meeting with Brenda Nunes, President – Kirkland Chamber of Commerce

Notes by Stacey Rush

Education first, then incorporate in permitting process, then implement in projects

Incentives

- Need to show why a project is green building and why it is good
- Expedited permit process – faster review time
- Reduced permit fees
- Assign a technical advisor to project (King Co. does this)
- Highlight project – give recognition to builder/architect

Barriers

- Biggest hurdle is getting through the permit process and construction inspections to make project successful.
- Problems with permitting – crawl space issues, need to get inspectors on board with inspecting built green projects.
- Need flexibility
- Make sure inspectors and reviewers know built green techniques
- Predictability – developers don't want to build anything that is going to slow down the process.
- Convince the residents that we have to take more density in Kirkland, and that developers can add density responsibly. Really focus on benefits to community.
- Show developers the benefit

LEED – started with commercial projects, now moving into residential projects

PSE may have info on energy side.

Sustainable September – have fun handouts for residents.

“home” pocket with cards inside – each card is for a different type of green building.

Street of Dreams this year – focus on green building

Ways to build momentum for our program

- Highlight existing Kirkland businesses that are doing it right
- Have graphics, posters of projects and expo
- Developers forum
- Identify local engineering consultants as “green engineering” – Otak, Blueline, Triad, etc.
- Yarrow Bay Development does green building projects, is located in Kirkland, but most projects are done outside of Kirkland.
- Focus on builders that build in Kirkland first, then go to developers/builders that are located here but build elsewhere.
- Realtors – need to include them. MLS has a check box for “green building” now
- Ben Coffman, Joe Cokely
- COK Council is green, mayor, city manager – we have the internal support for green building program.

Biggest role COK can have is EDUCATION

Make sure staff is trained on what is green building and why green building is good.

Need to show traditional and then see “green” method – Inspectors need to know what to look for.

Bruce Chattin – concrete rep that lives in Kirkland

Kevin Coleburg – painting and mold prevention



A Program of the Master Builders Association in Partnership with King and Snohomish Counties

Attachment 4

10/8/2007

Re: Kirkland Green Building Program

Kirkland City Council
123 5th Avenue
Kirkland, WA 98033

Dear Kirkland City Council,

I am writing this letter in support of the Green Building Program being proposed by the City of Kirkland staff. Green building techniques are becoming widely recognized as an effective way to minimize negative environmental impacts in the building process, as well as significantly reduce the fossil fuel emissions causing climate change. The Pacific Northwest is already considered a national leader in green building, and the policies and programs created here often inspire similar programs in other jurisdictions nationwide. This initiative will also directly benefit both the residential and business communities of Kirkland. We are excited to see another municipality be proactive in support of environmental stewardship in the building sector.

Built Green™ is a non-profit certification program for residential construction. As a program of the Master Builders Association of King and Snohomish Counties, in partnership with both King and Snohomish Counties, we provide a mechanism as well as a rating system for builders to lessen the environmental impacts of their construction projects. Since our inception in 1999 we have certified over 11,500 homes in King and Snohomish Counties, and have over 250 participating builders.

As demonstrated by this Green Building initiative, Kirkland is lucky to have a visionary staff that is committed to environmental stewardship. We urge you to approve the program and look forward to helping make it successful in whatever capacity our help is needed.

Sincerely,

Aaron Adelstein, Executive Director
Built Green of King and Snohomish Counties



Built Green and Master Builders Association
335 116th Avenue SE • Bellevue WA 98004
(425) 460-8230 • www.builtgreen.net



401 Parkplace, Suite 102
Kirkland, WA 98033
www.kirklandchamber.org

Phone 425-822-7066
Fax 425-827-4878

October 1st, 2007

Kirkland City Council
City Hall
123 5th Avenue
Kirkland, WA 98033

Subject: City of Kirkland's Green Building Program

Honorable City Council:

As the population of Kirkland grows, more demands will be placed on our environment and we must find ways to leverage the use of our available resources. The Kirkland Chamber of Commerce is encouraged that the City of Kirkland is developing a Green Building Program. The Chamber supports an incentive based program (not regulations) that promotes innovation and market based solutions resulting in better resource efficiencies.

While developing the program, we would also like to encourage the City to evaluate building regulations for inconsistencies between regulations and incentive based programs. We also recommend training and education for planners, engineers, inspectors and other personnel involved in the building process so they understand and support green building practices.

The Kirkland Chamber appreciates their partnership with the City of Kirkland during the 2007 Sustainable September and hopes that we will continue to work together to provide long term sustainable solutions that balance environment, economic vitality and societal good. We welcome the opportunity to provide input to the Green Building Program during the development phase.

A handwritten signature in black ink that reads "Brenda Nunes".

Brenda Nunes, President
Kirkland Chamber

A handwritten signature in black ink that reads "Bill Vadino".

Bill Vadino, Executive Director
Kirkland Chamber

CITY OF KIRKLAND GREEN BUILDING PROGRAM -- Phase One- Pilot Program

*Priorities are ranked in order of importance (1-3) and categorized as *E*ducation, *I*ncentives, & *R*egulations

PRIORITY*	PROGRAMS	RESOURCES (\$)	RESOURCES (FTE)	PROGRAM ELEMENTS
1-I	Expedited Permit Processing (half normal review time)		Ongoing Start up	<ol style="list-style-type: none"> 1. Research number of Green Building permits processed in other jurisdiction. Check with King County on when in the process to trigger certification contract. 2. Develop process and receive approval from DRC II 3. Conduct financial analysis of process impacts 4. Continual tracking of Green Building permits received for appropriate program adjustments
1-E	Technical Advisors	\$1,500.00	5 personnel at 24 hours each (1 PW, 2 PCD, & 2 BLD) + training materials	<ol style="list-style-type: none"> 1. Receive approval from DRC 2. Maintain equivalence of new/ongoing green building methodologies
2-E	Public Outreach	\$15,000.00		<ol style="list-style-type: none"> 1. Additional education and technical assistance
2-I	Green Builders Recognition	\$2,000.00	Maintenance & initial cost for design/materials for awards	<ol style="list-style-type: none"> 1. Create green building award to be presented to developer (coordinate with Green Businesses Program). 2. Council proclamation 3. Track and maintain list of awarded green builders. 4. Publication of recognition

\$18,500.00
TOTAL DOLLAR COSTS

0
TOTAL FTE

CITY OF KIRKLAND GREEN BUILDING PROGRAM -- Phase Two- Basic Program

*Priorities are ranked in order of importance (1-3) and categorized as *E*ducation, *I*ncentives, & *R*egulations

PRIORITY*	PROGRAMS	RESOURCES (\$)	RESOURCES (FTE)	PROGRAM ELEMENTS
1-I	Expedited Permit Processing (half normal review time)		0.3 Ongoing Start up	<ol style="list-style-type: none"> 1. Research number of Green Building permits processed in other jurisdiction. Check with King County on when in the process to trigger certification contract. 2. Develop process and receive approval from DRC II 3. Conduct financial analysis of process impacts 4. Continual tracking of Green Building permits received for appropriate program adjustments
1-E	Development Review Services (DRS) Education		30 personnel at 4 hours each	<ol style="list-style-type: none"> 1. Determine the educational needs of DRS for number of trained personnel in LEED & BuiltGreen programs. 2. Develop training materials 3. Conduct LEED & BuiltGreen seminar training seminars
1-E	Technical Training for in- house staff	\$3,000.00	0.1	<ol style="list-style-type: none"> 1. Receive approval from DRC 2. Maintain equivalence of new/ongoing green building methodologies
2-E	Public Outreach	\$10,000.00	0.1	<ol style="list-style-type: none"> 1. Conduct ongoing public informational/educational forums 2. Develop and maintain a green building program website 3. Develop and maintain a green building resource list
2-I	Green Builders Recognition	\$2,000.00	Maintenance & initial cost for design/materi als for awards	<ol style="list-style-type: none"> 1. Create green building award to be presented to developer (coordinate with Green Businesses Program). 2. Council proclamation 3. Track and maintain list of awarded green builders. 4. Publication of recognition
		\$15,000.00	0.5	
		TOTAL DOLLAR COSTS	TOTAL FTE	

CITY OF KIRKLAND GREEN BUILDING PROGRAM -- Phase Three - Expanded Program

*Priorities are ranked in order of importance (1-3) and categorized as *E*ducation, *I*ncentives, & *R*egulations

PRIORITY*	PROGRAMS	RESOURCES (\$)	RESOURCES (FTE)	PROGRAM ELEMENTS
1-I	Expedited Permit Processing (half normal review time)		0.5 Ongoing Start up	<ol style="list-style-type: none"> 1. Research number of Green Building permits processed in other jurisdiction. Check with King County on when in the process to trigger certification contract. 2. Develop process and receive approval from DRC II 3. Conduct financial analysis of process impacts 4. Continual tracking of Green Building permits received for appropriate program adjustments
1-E	Development Review Services (DRS) Education		60 personnel at 4 hours each	<ol style="list-style-type: none"> 1. Determine the educational needs of DRS for number of trained personnel in LEED & BuiltGreen programs. 2. Develop training materials 3. Conduct LEED & BuiltGreen seminar training seminars
1-E	Technical Advisors	\$10,000.00	0.3	<ol style="list-style-type: none"> 1. Receive approval from DRC 2. Maintain equivalence of new/ongoing green building methodologies
1-R	Ordinance/Regulatory Changes			<ol style="list-style-type: none"> 1. Integration into comprehensive plan and zoning code updates (coordinate with Joan Liebermann-Brill for comprehensive plan updates).
2-E	Public Outreach	\$20,000.00	0.2 Kiosk & forum materials	<ol style="list-style-type: none"> 1. Conduct ongoing public informational/educational forums 2. Partner with other agencies with public outreach efforts

				<ul style="list-style-type: none"> 3. Develop and maintain a green building program website 4. Develop and maintain a green building resource list 5. Sponsor/support a green building demonstration project 6. Develop a green building kick-off competition 7. Offer a green building auditing service for developed properties 8. Create Green A to Z Educational Building Opportunities G.A.Z.E.B.O.
2-1	Green Builders Recognition	\$2,000.00	Maintenance & initial cost for design/materials for awards	<ul style="list-style-type: none"> 1. Create green building award to be presented to developer (coordinate with Green Businesses Program). 2. Council proclamation 3. Track and maintain list of awarded green builders. 4. Publication of recognition

\$32,000.00
TOTAL DOLLAR COSTS

1
TOTAL FTE



Single-Family New Construction Self-Certification Checklist

Project Address

Company Name

Check items you will be including in this project to qualify for a BUILT GREEN™ star rating. **Version 2007**

Number	Possible Points	CREDITS	Point Totals	Comments
TWO-STAR REQUIREMENTS (100 points minimum)				
	required	All ★ items	★	
	required	Program Orientation (one time only)	★	
	required	Section 1: Build to "Green" Codes/Regulations and Program Requirements	★	
	required	Earn 75 additional points from Sections 2 through 5, with at least 6 points from each Section	★	
	required	Attend a Built Green™ approved workshop within past 12 months prior to certification	★	
THREE-STAR REQUIREMENTS (180 points minimum)				
	required	Meet 2-Star requirements plus point minimum	★	
	required	Achieve 10% of minimum point requirements in each section	★	
FOUR-STAR REQUIREMENTS (250 points minimum)				
	required	Meet 3-Star requirements plus point minimum	★	
	required	3 rd party verification required (See reference)	★	
Site & Water	required	No zinc galvanized ridge caps, copper flashing or copper wires for moss prevention (2-35)	★	
Site & Water	required	Landscape with plants appropriate for site topography and soil types, emphasizing use of plants with low watering requirements [drought tolerant] (2-39)	★	
Site & Water	required	Use the most efficient aerator available for the faucets used (2-44 and 2-45)	★	
Energy	required	Energy Star Homes or equivalent required (See action item 3-3)	★	
IAQ	required	Use low toxic/low VOC paint on all major surfaces (except for PVA primer which is currently not available) (4-32)	★	
IAQ	required	Ventilate with box fans in windows blowing out during drywall sanding and new wet finish applications (4-9)	★	
Materials	required	Practice waste prevention and recycling and buy recycled products (5-1)	★	
	required	Choose one of the following:	★	
IAQ		Provide built in walk-off matt and shoe storage area (4-76)		
IAQ		Use plywood and composites of exterior grade or with no added urea formaldehyde for interior uses (4-25)		
IAQ		Use high efficiency pleated filter of MERV 12 or better, or HEPA (4-53b)		
IAQ		Install sealed combustion heating and hot water equipment (4-63)		
FIVE-STAR REQUIREMENTS (500 points minimum)				
	required	Meet 4-Star requirements plus point minimum	★	
Site & Water	required	Minimum of 125 points earned for Site & Water	★	
Site & Water	required	Amend disturbed soil with compost to a depth of 10 to 12 inches to restore soil environmental functions (2-15)	★	
Site & Water	required	Use pervious materials for at least one-third of total area for driveways, walkways, and patios (See action item 2-21)	★	
Site & Water	required	Limit use of turf grass to 25% of landscaped area (2-37)	★	
Site & Water	required	Avoid soil compaction by limiting heavy equipment use to building footprint and construction entrance (2-4)	★	
Site & Water	required	Preserve existing native vegetation as landscaping (2-5)	★	
Site & Water	required	Retain 30% of trees on site (2-6)	★	
Energy	required	Minimum R-26 for overall wall insulation (3-4)	★	
Energy	required	Maximum average U-value for all windows of 0.30 ACH (3-10)	★	
Energy	required	Advanced framing with double top plates (3-17)	★	
Energy	required	Pre-wire for future PV (3-74)	★	
Energy	required	75% minimum <i>Energy Star</i> light fixtures (3-5)	★	
Energy	required	<u>Alternate:</u> In Lieu of above energy requirements demonstrate home energy performance 30% beyond code per action item 3-1	★	
IAQ	required	Detached or no garage OR garage air sealed from house with automatic exhaust fan (4-21)	★	
IAQ	required	Use plywood and composites of exterior grade or formaldehyde free (for interior use) (4-25)	★	
Materials	required	Achieve a minimum recycling rate of 70% of waste by weight	★	
Materials	required	Use a minimum of 10 materials with recycled content	★	

Number	Possible Points	CREDITS	Point Totals	Comments
Section One: Build to "Green" Codes/Regulations and Program Requirements				
1-1	required	Meet Washington State Water Use Efficiency Standards	★	
1-2	required	Meet Stormwater/Site Development Standards	★	
1-3	required	Meet Washington State Energy Code	★	
1-4	required	Meet Washington State Ventilation/Indoor Air Quality Code	★	
1-5	required	Provide Owner with Operations and Maintenance Kit	★	
1-6	required	Prohibit Burying Construction Waste	★	
1-7	required	Do Not Dispose of Topsoil in Lowlands or Wetlands	★	
1-8	required	When Construction is Complete, Leave No Part of the Disturbed Site Uncovered or Unstabilized	★	
1-9	required	Dispose of Non-Recyclable Hazardous Waste at Legally Permitted Facilities	★	
1-10	required	Prepare Jobsite Recycling Plan and Post On Site	★	
1-11	required	2 - 3 Stars: Install CO Detector (Hardwire Preferred) for All Houses with a Combustion Devise or Attached Garage	★	
1-12	required	4 - 5 Stars: Install CO Detector (Hardwire Required) for All Houses with a Combustion Devise or Attached Garage	★	
1-13	required	Conform to the House Size Matrix (Square Feet Limit Refers to Conditioned Space)	★	
SECTION ONE TOTALS			SECTION ONE TOTALS	Required
SECTION TWO: SITE AND WATER				
SITE PROTECTION				
Overall				
2-1	10	Build on Infill Lot to Take Advantage of Existing Infrastructure, Reduce Development of Virgin Sites		
2-2	10	Build in a Built Green™ Development		
2-3	3-5	Use Low Impact Foundation System, Such as PIN Systems or Post and Pier, for at least 50% of the Foundation		
			Subtotal	
Protect Site's Natural Features				
2-4	3	Avoid Soil Compaction by Limiting Heavy Equipment Use to Building Footprint and Construction Entrances		
2-5	3	Preserve Existing Native Vegetation as Landscaping		
2-6	4	Retain 30% of Trees On Site		
2-7	4	Retain (or Add) Deciduous Trees South of House		
2-8	4	Do Not Build Near Wetlands, Shorelines, Bluffs, and Other Critical Areas		
2-9	2	If Building Near Wetlands, Shorelines, Bluffs, and Other Critical Areas, Preserve & Protect Beyond Code		
2-10	5-10	Set Aside Percentage of Buildable Site to be Left Undisturbed		
			Subtotal	
Protect Natural Processes On--Site				
2-11	2	Install and Maintain Temporary Erosion Control Devices That Significantly Reduces Sediment Discharge from the Site Beyond Code Requirements		
2-12	3	Use Compost to Stabilize Disturbed Slopes		
2-13	3	Balance Cut and Fill, While Maintaining Original Topography		
2-14	4	Limit Grading to 15 Feet All Around, Except for Driveway Access		
2-15	4	Amend Disturbed Soil with Compost to a Depth of 10 to 12 Inches to Restore Soil Environmental Functions		
2-16	2	Replant or Donate Removed Vegetation for Immediate Reuse		
2-17	2	Use Plants Donated from Another Site		
2-18	3	Grind Land Clearing Wood and Stumps for Reuse		
2-19	3	Use a Water Management System That Allows Groundwater to Recharge		
			Subtotal	
Impervious Surfaces				
2-20	7	Design to Achieve Effective Impervious Surface Equivalent to 0% for 5 Acres and Above; <10% for Less Than 5 Acres		
2-21	3	Use Pervious Materials for At Least One-Third of Total Area for Driveways, Walkways, Patios		
2-22	10	Bonus Points: Install Vegetated Roof System (e.g. Green-Roof) to Reduce Impervious Surface		
2-23	10	Bonus Points: Construct No Impervious Surfaces Outside House Footprint		
			Subtotal	
Eliminate Water Pollutants				
2-24	4	Protect Topsoil On Site for Reuse		
2-25	1	Wash Out Concrete Trucks into Storage Containers		
2-26	1	Establish and Post Clean Up Procedures for Spills to Prevent Illegal Discharges		
2-27	1	Reduce Hazardous Waste Through Good Jobsite Housekeeping		
2-28	4	Provide an Infiltration System for Rooftop Runoff		
2-29	2	Construct Tire Wash, Establish and Post Clean Up Protocol for Tire Wash		
2-30	2	Use Slow-Release Organic Fertilizers to Establish Vegetation		
2-31	2	Use Less Toxic Form Releasers		
2-32	3	Use Non-Toxic or Low-Toxic Outdoor Materials for Landscaping (e.g. Plastic, Least-Toxic Treated Wood)		

Number	Possible Points	CREDITS	Point Totals	Comments
2-33	4	Phase Construction so that No More Than 60% of Site Is Disturbed at a Time and to Prevent Adverse Impacts On Adjoining Properties or Critical Areas		
2-34	5	No Clearing or Grading During Wet Weather Periods		
2-35	2	No Zinc Galvanized Ridge Caps, Copper Flashing, or Copper Wires For Moss Prevention		
		Subtotal		
WATER PROTECTION				
Outdoor Conservation				
2-36	2	Mulch Landscape Beds with 2 Inches of Organic Mulch		
2-37	5	Limit Use of Turf Grass to 25% or Less of Landscaped Area		
2-38	10	Bonus Points: No Turf Grass		
2-39	5	Landscape with Plants Appropriate for Site Topography and Soil Types, Emphasizing Use of Plants with Low Watering Requirements (Drought Tolerant)		
2-40	3	Plumb for Greywater Irrigation		
2-41	2	Sub-Surface or Drip Systems Used for Irrigation		
2-42	10	Install Landscaping That Requires No Potable Water for Irrigation Whatsoever After Initial Establishment Period (Approximately 1 Year)		
2-43	1-15	Install Rainwater Collection System (Cistern) for Reuse		
		Subtotal		
Indoor Conservation				
2-44	1	Select Bathroom Faucets with GPM Less than Code		
2-45	1	Select Kitchen Faucets with GPM Less than Code		
2-46	1	Select High Performance Low-Flush Toilets from List in Resources		
2-47	2-8	Install Dual Flush Toilets		
2-48	10	Install Composting Toilets		
2-49	5	Bonus Points: Stub-In Plumbing to Use Greywater Water for Toilet Flushing		
2-50	10	Use Greywater Water for Toilet Flushing		
2-51	2	Install a Recirculating Pump for Domestic Hot Water		
		Subtotal		
Eliminate Water Pollutants				
2-52	1	Educate Owners/Tenants About Fish-Friendly Moss Control		
2-53	3	Provide Food Waste Chutes and Compost or Worm Bins Instead of a Food Garbage Disposal		
2-54	3	Install a Whole House Water Filter System		
		Subtotal		
ENVIRONMENTAL DESIGN CONCEPTS				
2-55	10	Provide Accessory Dwelling Unit or Accessory Living Quarters		
2-56	1	Build North Area of the Lot First, Retaining South Area for Outdoor Activities		
2-57	5	Provide a Front Porch		
2-58	2	Position Garage So It Is Not in Front of House		
2-59	2-5	Minimize Garage Size		
2-60	4	Build within ¼ mile of a transit stop		
		Subtotal		
Extra Credit for Site and Water				
2-61		Extra Credit for Innovation in Site and Water		
		Subtotal		
SITE AND WATER SECTION TOTALS				
Section Three: Energy Efficiency				
ENVELOPE				
Thermal Performance				
3-1	10-40	Document Envelope Improvements Beyond Code (Component Performance Approach)		
3-2	1-55	Document Envelope Improvements Beyond Code (Prescriptive Approach)		
3-3	1	Install Rigid Insulation Beneath Any Slabs on Grade		
3-4	5	Install Dense Packed Cellulose (Over 2.5 lbs/inch), or Wet-Blown Cellulose, or Blown-in Foam or Fiberglass BIBS as Insulation		
3-5	8	Bonus Points: Participate in a Program that Provides Third-Party Review and Inspection		
3-6	1	Install No More Than 1% of Floor Space of Skylights		
3-7	50	Build a Zero Net Energy Home That Draws Zero Outside Power or Fuel On a Net Annual Basis		
		Subtotal		
Air Sealing				
3-8	3	Airtight Drywall Approach for Framed Structures		
3-9	3	Use Airtight Building Method, Such as SIP or ICF		
3-10	5-10	Blower Door Test Results Better than 0.30 ACH (5 points), 0.25 ACH (10 points)		
		Subtotal		
Reduce Thermal Bridging				
3-11	1	Use Insulated Headers		
3-12	1	Fully Insulate Corners (Requires 2-Stud Corners Instead of 3-Stud Corners)		
3-13	1	Fully Insulate at Interior/Exterior Wall Intersection By Open Cavity Framing (See Reference Guide)		

Number	Possible Points	CREDITS	Point Totals	Comments
3-14	3	Use Energy Heels of 6 Inches or More on Trusses to Allow Added Insulation Over Top Plate		
3-15	10	Use Structural Insulated Panels (SIPs) on Whole House		
3-16	2	Use Insulated Exterior Sheathing		
3-17	5	Use Advanced Wall Framing - 24-Inch OC, With Double Top Plate		
3-18	5	Innovative Stick Framing to Reduce Thermal Bridging, by Methods Such as Double Wall Framing and Horizontal Wall Furring		
Subtotal				
Solar Design Features				
3-19	6	Passive Solar Design, Basic Features Installed		
3-20	12	Passive Solar Design, Advanced Features Installed		
3-21	3	Model Solar Design Features Using Approved Modeling Software		
3-22	4-10	Demonstrate a Reduction in Space Conditioning Energy, Using Approved Energy Modeling Software		
Subtotal				
HEATING/COOLING SYSTEM				
Distribution				
3-23	1	Centrally Locate Heating/Cooling System to Reduce the Size of the Distribution System		
3-24	1	Two Properly Supported Ceiling Fan Pre-Wires		
3-25	2	Use Advanced Sealing of All Ducts Using Low-Toxic Mastic		
3-26	3	Performance Test Duct for Air Leakage Meets Third-Party Review and Certification		
3-27	5	Third-Party Duct Test Results Less Than 6% Loss of Floor Area to Outside/Total Flow		
3-28	5	All Ducts Are In Conditioned Space		
3-29	4	Locate Heating/Cooling Equipment Inside the Conditioned Space		
3-30	5-10-15	Install Hydronic Heating Systems, Point Range Based on Boiler Efficiency		
Subtotal				
Controls				
3-31	1	Install Thermostat with On-Switch for Furnace Fan to Circulate Air		
3-32	2	Install 60-Minute Timers or Humidistat for Bathroom and Laundry Room Fans		
3-33	2	Install Programmable Thermostats		
3-34	3	Select High Efficiency Heat Pumps Instead of Electric Heat		
Subtotal				
Heat Recovery				
3-35	3	Install a Heat Recovery Ventilator		
Subtotal				
Heating / Cooling				
3-36	3	Select Energy Star® Heating/Cooling Equipment		
3-37	2	Install Biofuel Appliances		
3-38		No Gas Fireplaces, Use Direct Vent Gas or Propane Hearth Product		
3-39	5	No Air Conditioner		
3-40	3	Install On-Demand Hot Water Heating Used for Space Heating		
3-41	10	Install Geothermal Heat Pumps		
Subtotal				
WATER HEATING				
Distribution				
3-42	2	Locate Water Heater Within 20 Pipe Feet of Highest Use		
3-43	1	Insulate All Hot Water Pipes and Install Cold Inlet Heat Traps on Hot Water Heater		
Subtotal				
Drainwater Heat Recovery				
3-44	2	Install Drainwater Heat Recovery System (DHR)		
Subtotal				
Water Heating				
3-45	2	Passive or On-Demand Hot Water Delivery System Installed at Farthest Location From Water Heater		
3-46	2	Install Tankless Hot Water Heater		
3-47	2-7	Upgrade Gas or Propane Water Heater Efficiency to EF 0.61, 0.83, or 0.90		
3-48	2	Install Water Heater Inside the Heated Space (Electric, Direct Vent, or Sealed Venting Only)		
3-49	4	Upgrade Electric Water Heater to Exhaust Air Heat Pump Water Heater or De-Superheater: EF 1.9		
3-50	3	Install a Timer to Regulate Standby Hot Water Loss in Hot Water Heater		
Subtotal				
LIGHTING				
Natural Light				
3-51	1	Light-Colored Interior Finishes		
3-52	2	Use Clerestory for Natural Lighting		
3-53	2	Use Light Tubes for Natural Lighting and to Reduce Electric Lighting		
Subtotal				

Number	Possible Points	CREDITS	Point Totals	Comments
Efficient Lighting				
3-54	1	Solar Powered Walkway or Outdoor Area Lighting		
3-55	1	Furnish Four Compact Fluorescent Light Bulbs to Owners		
3-56	2-5	Use Compact Fluorescent Bulbs, Ballast, or Fixtures in Three High-Use Locations (Kitchen, Porch/Outdoors, and One Other Location)		
3-57	1-10	Install Hard-Wired Fluorescent Fixtures, with 1 Point for each 10% of Lighting		
3-58	1	Hard Wired Fluorescents on Dimmer		
3-59	3	Install Lighting Dimmer, Photo Cells, Timers, and/or Motion Detectors (Interior)		
3-60	2	Install Photo Cells, Timers, Motion Detectors (Exterior)		
3-61	1	Install LED Lighting		
3-62	1	Use Air Lock Can Lights Instead of IC Rated		
		Subtotal		
Appliances				
3-63	1	Provide an Outdoor Clothesline		
3-64	1	Install Gas Clothes Dryer		
3-65	3	Install Front Loading or Energy Star® Washing Machine		
3-66	1	Install an Energy Star® Dishwasher		
3-67	2	Install Energy Star® Refrigerator		
3-68	2	Install Gas Stove/Cooktop (Requires a Carbon Monoxide Detector)		
3-69	2	Install Energy Star® Exhaust Fan		
		Subtotal		
EFFICIENT DESIGN				
3-70	2	Use Building and Landscaping Plans That Reduce Heating/Cooling Loads Naturally		
3-71	5	Install Heat Systems with Separate Zones for Sleeping and Living Areas		
		Subtotal		
ALTERNATIVE ENERGY				
3-72	2-3	Enroll the Residence in the Local Utility's Electricity Program for Renewable Electricity Sources		
3-73	10	Solar Water Heating System Sized to Provide a Minimum of 40% Hot Water Designed Energy Use		
3-74	2	Pre-Pipe for Solar Water Heater		
3-75	5-25	House Powered by Photovoltaic		
3-76	5-25	Install Innovative Non-Solar Renewable Power Systems That Produce a Minimum of 15%, 30%, or 50% of the House's Total Annual Energy		
		Subtotal		
Extra Credit for Energy Efficiency				
3-77		Extra Credit for Innovation in Energy Efficiency		
		Subtotal		
ENERGY EFFICIENCY SECTION TOTALS				
Section Four: Health and Indoor Air Quality				
OVERALL				
4-1	5	Assist Homeowners with Chemical Sensitivities to Identify Preferred IAQ Measures and Finishes		
4-2	5	Project Team Member to Have Taken American Lung Association (ALA) of Washington "Healthy House Professional Training" Course or Other IAQ Class With 8 Hours of Curriculum Minimum		
4-3	15	Certify House Under ALA Health House Program or Other Program As Approved By Program Director		
4-4	2	Provide Homeowners With Maintenance Checklists (Furnace Filters, Under the Fridge, Etc.)		
		Subtotal		
JOBSITE OPERATIONS				
4-5	1	Use Less-Toxic Cleaners		
4-6	1	Require Workers to Use VOC-Safe Masks When Applying VOC Containing Wet Products, and N-95 Dust Masks When Generating Dust		
4-7	3-5	Take Measures During Construction Operations to Avoid Moisture Problems Later (See Handbook for Basics and Expanded Levels)		
4-8	2	Take Measures To Avoid Problems Due To Construction Dust (Perform All Measures Listed In Handbook)		
4-9	3	Ventilate With Box Fans In Windows Blowing Out During Drywall Sanding and New Wet Finish Applications		
4-10	2	No Use of Unvented Heaters During Construction		
4-11	3	Clean Duct and Furnace Thoroughly Just Before Owners/Tenants Move In		
4-12	4	Train Subs in Implementing a Healthy Building Jobsite Plan for the Project		
		Subtotal		
LAYOUT AND MATERIAL SELECTION				
4-13	1	Use Pre-Finished Flooring		
4-14	15	No Carpet		
4-15	2	If Using Carpet, Specify Products Certified by Third-Party for Indoor Air Quality		
4-16	1	Do Not Install Either Insulation or Carpet Padding With Brominated Flame Retardant		

Number	Possible Points	CREDITS	Point Totals	Comments
4-17	1	Install Low Pile or Less Allergen-Attracting Carpet and Pad		
4-18	3	Limit Use of Carpet to One-Third of Home's Square Footage		
4-19	2-6	Optimize Air Quality in Family Bedrooms to Basic or Advanced Level (Perform All Measures Listed in Handbook for Basic or Advanced Level)		
4-20	1	If Using Carpet, Install by Dry Method		
4-21	5	Detached or No Garage, or Garage Air-Sealed from House with Automatic Exhaust Fan		
4-22	3	Use Urea Formaldehyde-Free Insulation or Greenguard Certified Product		
4-23	4	Do Not Use Fiberglass Insulation		
4-24		Inside the House, Use Only Low-VOC, Low-Toxic, Water-Based, Solvent-Free Sealers, Grouts, Mortars, Caulks, Adhesives, Stains, Pigments, and Additives for:		
4-24a	2	Tile and Grout		
4-24b	2	Framing		
4-24c	4	Flooring		
4-24d	2	Plumbing		
4-24e	2	HVAC		
4-24f	2	Insulation		
4-24g	2	Drywall		
4-25	3	Use Plywood and Composites of Exterior Grade or With No Added Urea Formaldehyde (For Interior Use)		
4-26	5	Install Cabinets Made with No Added Urea Formaldehyde Board and Low-Toxic Finish		
4-27	3	Use Ceramic Tile for 5% of Flooring		
4-28	5	Use Only Shelving, Window Trims, Door Trim, Base Molding, Etc., With No Added Urea Formaldehyde		
4-29	3	Use No PVC Piping for Plumbing		
4-30	1	Install Natural Fiber Carpet (e.g. Wool)		
4-31	3	Use Only Low-VOC/Low-Toxic Interior Paints and Finishes for Large Surface Areas		
4-32	5	Use Only Low-VOC/Low-Toxic Interior Paints and Finishes for All Surface Areas (Including Doors, Windows, Trim)		
4-33	1	Use Only Paints and Finishes Without Cadmium or Lead		
		Subtotal		
MOISTURE CONTROL				
4-34	1	Grade to Drain Away from Buildings		
4-35	1	Verify Seal at Doors, Windows, and Plumbing and Electrical Penetrations Against Moisture and Air Leaks		
4-36	3	Envelope Inspection at Pre-Installation by a Qualified Professional		
4-37	2	Slab On Grade, Upgrade Under Slab Moisture Barrier Beyond Code to 10 mil Minimum; Minimum of 10 mil Poly in Crawl Spaces with Sealed Seams and Sealed Perimeter		
4-38	1	Use Ridge Vents for Venting Attic		
4-39	1	Prepare a Roof Water Management Plan Showing Best Practices for the Site Soils and Storm Water Infrastructure		
4-40	3	Roof Overhangs Are at Least 24" Inches		
4-41	2	Protect Windows and Doors on Tall Walls with Additional Overhang Protection		
4-42	6	Install a Drain Plane for Walls Between Siding, Trim, and Building Paper or House Wrap		
4-43		Install:		
4-43a	7	A Sloped Sill Pan with End Dams and Back Dams for All Windows, and Back Dams for All Exterior Doors Exposed to the Weather		
4-43b	3	Back Dams or Sloped Sill at All Window Sills		
4-44	1	Install Metal Flashing at All Windows		
4-45	1	Install Metal Flashing at Door Heads Exposed to the Weather		
4-46	3	Hose Test First Installed Windows to Verify Resistance to Wind Driven Rain		
4-47	2	Install Working "Radon" Type Vent System to Eliminate Potential Moisture, Methane, and Radon Problems in Crawl Space or Under Slabs on Grade		
4-48	1	Install A Rigid Perforated Footing Drain at Foundation Perimeter, Not Connected to Roof Drain System		
4-49	3	Show and Build Moisture Management Details for Below Grade Walls Beyond Code, Such as Dimple Drainage Mat at Exterior Face and Capillary Breaks		
4-50	2	Perform Calcium Chloride Moisture Test on All Slabs on Grade Prior to Installing Any Finish Flooring in Conformance with Product Warranties		
4-51	3	Have Crawl Space, Attic, and Garage Building Performance Tested for Disconnection to the Living Space of House		
		Subtotal		
AIR DISTRIBUTION AND FILTRATION				
4-52	2	Do Not Install Electronic, Metal Mesh, Horse Hair, or Non-Pleated Fiberglass Filters		
4-53		Use Effective Air Filter		
4-53a	1	Use Medium Efficiency Pleated Filter, MERV 10		
4-53b	5	Use High Efficiency Pleated Filter, MERV 12 or Better, or HEPA		
4-54	2	Balance Airflow System Based on Filter Being Used		
4-55	3	Install Central Vacuum, Exhausted to Outside		
4-56	2	Provide for Cross Ventilation Using Operable Windows		
		Subtotal		

Number	Possible Points	CREDITS	Point Totals	Comments
HVAC EQUIPMENT				
4-57	1	Flow Test All Fans In the House		
4-58	1	Use Heating System Controls That Are Free of Mercury		
4-59	1	Limit Kitchen Exhaust Fan to 300 CFM Maximum		
4-60	1	Install 60-Minute Timer Switches for Bath Exhaust Fans or HRV Override Switch		
4-61	2	Install Quiet (<1.5 sone) Bath Fan with Smooth Ducting, Minimum 4 Inch or Employ Other Quiet Ventilation Strategy		
4-62	1	Install Exhaust Fans in Rooms Where Office Equipment is Used		
4-63	3	Install Sealed Combustion Heating and Hot Water Equipment		
4-64	3	Install Power Venting for Combustion Furnaces and Water Heating Equipment (Cannot Be Taken in Addition to Action Item 4-63)		
4-65	3	Install Exhaust Fan in Attached Garage On Timer or Wired to Door Opener, or No Garage Attached to Home		
4-66	2	Install Whole House Fan Beyond the Code Requirements		
4-67	1	No Sound Insulation or Other Fibrous Materials Installed Inside Ducting		
4-68	5	Bonus Points: Provide Balanced or Slightly Positive Indoor Pressure Using Controlled Ventilation		
4-69	3	Install Timer Control Integrated with Thermostat On Whole House Ventilation System with Balanced or Positive Pressure, or Continually Running HRV		
4-70	10	Install Whole House Radiant Heating System (No Ducted Heating)		
		Subtotal		
Health and Indoor Air Quality				
4-71	1	Build a Lockable Storage Closet for Hazardous Cleaning and Maintenance Products, Separate from Occupied Space		
4-72	1	If Installing Water Filter at Sink, Select One with Biodegradable Carbon Filter		
4-73	1	Install Showerhead Filter		
4-74	3	Do Not Install a Wood-Burning Fireplace Inside House		
4-75	1	Do Not Install Gas-Burning Appliances Inside House		
4-76	3	Design a Shoe Removal Vestibule at Major Entrances to House (Front, Back, Garage)		
4-77	1-2	Install Floor Drain or Catch Basin with Drain Under Washing Machine and/or Water Heater		
4-78	1	Install Moisture Alarms Under Sinks and Dishwasher		
		Subtotal		
Extra Credit for Health and Indoor Air Quality				
4-79		Extra Credit for Innovation in Health and Indoor Air Quality		
		Subtotal		
HEALTH AND INDOOR AIR QUALITY SECTION TOTALS				
SECTION FIVE: MATERIALS EFFICIENCY				
OVERALL				
5-1	10	Practice Waste Prevention and Recycling and Buy Recycled Products		
5-2	5-9	Design and Build for Deconstruction Concept		
5-3	1-5	Eliminate Materials and Systems That Require Finishes on a Minimum of 100 Square Feet		
		Subtotal		
JOBSITE OPERATIONS				
5-4	1	Provide Weather Protection for Stored Materials		
5-5	1	Substitute Products That Require Solvent-Based Cleaning Methods with Solvent-Free or Water-Based Methods		
		Subtotal		
Reduce				
5-6	2	Create Detailed Take-Off and Provide as Cut List to Framers		
5-7	2	Use Central Cutting Area or Cut Packs		
5-8	2	Require Subcontractors and Contractor's Employees to Participate in Waste Reduction Efforts		
		Subtotal		
Reuse				
5-9	2-20	Use Deconstruction to Dismantle and Reuse Existing Building(s) On Site		
5-10	1	Sell or Give Away Wood Scraps, Lumber, and Land Clearing Debris		
5-11	1	Donate, Give Away, or Sell Reusable Finish Items		
5-12		Reuse Building Materials {{Suggestion: Move Section Here as Primary for new Breakouts}}		
5-12a	1	Reuse Doors		
5-12b	1	Reuse Flooring		
5-12c	1	Reuse Windows		
5-12d	1	Reuse Appliances		
5-12e	1	Reuse Fixtures		
5-12f	1	Reuse Hardware		
5-12g	1	Reuse Cabinets		
5-12h	1	Reuse Siding		

Number	Possible Points	CREDITS	Point Totals	Comments
5-12i	1	Reuse Decking		
5-12j	1	Reuse Trim		
5-12k	1	Reuse Framing Lumber		
		Subtotal		
Recycle				
Source Separation Recycling				
5-13	1	Recycle Cardboard by Source Separation, 85% Minimum Recycling Rate		
5-14	2	Recycle Metal Scraps by Source Separation, 85% Minimum Recycling Rate		
5-15	5	Recycle Clean Scrap Wood and Broken Pallets by Source Separation, 85% Minimum Recycling Rate		
5-16	2	Recycle Package Wrap and Pallet Wrap by Source Separation, 85% Minimum Recycling Rate		
5-17	3	Recycle Drywall by Source Separation, 85% Minimum Recycling Rate		
5-18	2	Recycle Concrete/Asphalt Rubble, Masonry Materials, or Porcelain by Source Separation, 85% Minimum Recycling Rate		
5-19	1	Recycle Paint by Source Separation, 85% Minimum Recycling Rate		
5-20	4	Recycle Asphalt Roofing by Source Separation, 85% Minimum Recycling Rate		
5-21	2	Recycle Carpet Padding and Upholstery Foam by Source Separation, 85% Minimum Recycling Rate		
5-22	1	Recycle Glass by Source Separation, 85% Minimum Recycling Rate		
5-23	3	Recycle Land Clearing and Yard Waste, Soil, and Sod by Source Separation, 85% Minimum Recycling Rate		
		Subtotal		
Commingle Recycling				
5-24	10	Send At Least 85% of Jobsite Waste (By Weight, Excluding Concrete) to a Commingle Recycling Facility with a 50% Recycling Rate		
5-25	18	Send At Least 85% of Jobsite Waste (By Weight, Excluding Concrete) to a Commingle Recycling Facility with a 75% Recycling Rate		
5-26	24	Send At Least 85% of Jobsite Waste (By Weight, Excluding Concrete) to a Commingle Recycling Facility with a 90% Recycling Rate		
5-27	4	Commingle Recycle at Least 50% of Jobsite Debris, and Take to a Facility With a Minimum Recycling Rate of 50%		
5-28	3-12	Bonus Points: Overall Recycling Rate Above 50%, 70%, or 90% by weight		
		Subtotal		
DESIGN AND MATERIAL SELECTION				
Overall				
5-29	1	Use Standard Dimensions in Design of Structure		
5-30	1	Install Materials with Longer Life Cycles		
5-31	1-3	Install Locally Produced Materials		
5-32	1-8	Use Building Salvaged Lumber, Minimum 200 Board Feet		
5-33	2-3	Use Urban or Forest Salvaged Lumber, Minimum 250 Board Feet		
5-34	1	Use Any Amount of Rapidly Renewable Building Materials and Products Made From Plants Harvested Within a Ten-Year Cycle or Shorter		
5-35	3	In Three Applications, Use Rapidly Renewable Building Materials and Products Made From Plants Harvested Within a Ten-Year Cycle or Shorter		
5-36	1-10	Bonus Points: Reuse Salvaged Materials		
5-37	3	Use No Endangered Wood Species		
5-38	2	Use Environmentally Preferable Products with Third-Party Certification, such as SCS, Greenguard, Green Seal, and Floor Score (Not Applicable to Carpet)		
		Subtotal		
Framing				
5-39	7	Use Dimensional Lumber that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		
5-40	1	Use Dimensional Lumber that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook		
5-41	5	Use Sheathing That Is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		
5-42	1	Use Sheathing That Is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook		
5-43	5	Use Beams That Are Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		
5-44	1	Use Beams That Are Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook		
5-45	1	Use Factory Framed Wall Panels (Panelized Wall Construction)		
5-46		Use Stacked Floor Plan		
5-47	3	Use Engineered Structural Products and Use No Dimensional 2xs Larger Than 2x8, and No 4xs Larger Than 4x8		
5-48	4	Use Structural Insulated Panels (SIPs)		
5-49	3	Use Insulated Concrete Forms (ICFs)		
5-50	2-3	Use Finger-Jointed Studs		
5-51	5	Use Advanced System Framing With Double Top Plate		
		Subtotal		

Number	Possible Points	CREDITS	Point Totals	Comments
Foundation				
5-52	1	Use Regionally Produced Block		
5-53	6	Use Flyash or Blast Furnace Slag For 25% by Weight of Cementitious Materials for All Concrete (20% for Flat Work)		
5-54	2	Use Recycled Concrete, Asphalt, or Glass Cullet For Base or Fill		
		Subtotal		
Sub--Floor				
5-55	1	Use Recycled-Content Sub-Floor		
		Subtotal		
Doors				
5-56	2	Use Domestically-Grown Wood Interior Doors		
		Subtotal		
Finish Floor				
5-57	4	No Vinyl Flooring		
5-58	1	Use Any Amount of Rapidly Renewable Flooring Products With a Ten-Year Harvest Cycle or Shorter (Excluding Carpet)		
5-59	3	On More Than 250 Square Feet, Use Rapidly Renewable Flooring Products With a Ten-Year Harvest Cycle or Shorter (Excluding Carpet)		
5-60	1	Use Recycled-Content Carpet Pad		
5-61	1	Use Recycled, Renewed Carpet or Wool Carpet		
5-62	1	Use Replaceable Carpet Tile		
5-63	3	Use 40% Recycled-Content Hard Surface Tile, 100 Square Feet Minimum		
5-64	3	Use Natural Linoleum		
5-65	1-5	Use Locally Salvaged Wood Flooring		
5-66	5	Use Flooring that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		
5-67	1	Use Flooring that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook		
5-68	1	Use Durable/Spot Repairable Floor Finish		
5-69	2	Use Concrete Slab or Sub-Floor as a Finished Floor in Living Space		
		Subtotal		
Interior Walls				
5-70	4	Use Drywall with a Minimum of 90% Recycled-Content Gypsum or Flue Gas Substitute for Recycled Gypsum		
5-71	2	Use Recycled or "Reworked" Paint and Finishes		
5-72	1	Use Recycled Newspaper or Cork Expansion Joint Filler		
5-73	1-3	Use Natural Wall Finishes, Like Lime Paint and Clay		
5-74	2	Reduce Interior Walls Through Open Plan for Kitchen, Dining, and Living Areas		
		Subtotal		
Exterior Walls				
5-75	3	Use Siding with Reclaimed or Recycled Material On At Least 20% of Solid Wall Surface		
5-76	4	No Vinyl Siding or Exterior Trim		
5-77	2	Use 50-Year Warranted Siding Product		
5-78	5	Use Wood Siding that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, On At Least 20% of Solid Wall Surface		
5-79	1	Use Wood Siding that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook, On At Least 20% of Solid Wall Surface		
5-80	3	Use Salvaged Masonry Brick or Block, 50% Minimum		
5-81	2	Use Regionally-Produced Stone or Brick		
5-82	5	Use Straw Bale Walls, Minimum R-28		
		Subtotal		
Windows				
5-83	3	Use Wood/Composite or Fiberglass Windows		
5-84	4	No Vinyl Windows		
5-85	1	Use Finger-Jointed Wood Windows		
5-86	5	Use Wood Windows that are Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook		
5-87	1	Use Wood Windows that are Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook		
		Subtotal		
Cabinetry and Trim				
5-88		If Using Trim:		
5-88a	1	Use Regional Trim Products, 50% Minimum		
5-88b	3	Use Trim That Is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		
5-88c	1	Use Trim that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook , 50% Minimum		
5-89	3	Use Finger-Jointed or MDF Trim With No Added Urea Formaldehyde, 90% Minimum		
5-90	1	Use Wood Veneers that are Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		

Number	Possible Points	CREDITS	Point Totals	Comments
5-91		For Cabinets:		
5-91a	2	Use Regional Products, 90% Minimum		
5-91b	3	Use Wood that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook, 50% Minimum		
5-91c	1	Use Wood that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 2 Requirements Outlined in the Handbook, 50% Minimum		
5-92	2-3	Use Cabinet Casework and Shelving Constructed of Agricultural Fiber With No Added Urea Formaldehyde		
5-93	1	Use Countertops That Are Salvaged, Recycled, or Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook		
		Subtotal		
Roof				
5-94	2	Use Recycled-Content Roofing Material		
5-95	2	Use 30-Year Warranted Roofing Material		
5-96	3	Use 40-Year Warranted Roofing Material		
5-97	2	Use Solar Shingles		
5-98	3	Install a Metal Roof		
		Subtotal		
Insulation				
5-99	2	All Insulation to have a Minimum of 40% Recycled-Content		
5-100	3	Use Environmentally Friendly Foam Building Products (Formaldehyde-Free, CFC-Free, HCFC-Free)		
		Subtotal		
Other Exterior				
5-101	2	Use Reclaimed or Salvaged Material for Landscaping Walls		
5-102	3	Use 100% Recycled Content HDPE, Salvaged Lumber or Lumber that is Third-Party Certified Sustainably Harvested Wood that Meets the Tier 1 Requirements Outlined in the Handbook for Decking and Porches		
5-103	4	Use No Pressure Treated Lumber		
5-104	5+	Points for B20 Biodiesel or Better Equipment (5 Points for 100% Excavation Equipment on Biodiesel, 1 Point for Any Additional Vehicle Frequently On Site)		
		Subtotal		
Recycling				
5-105	2	Provide Built-In Kitchen or Utility Room Recycling Center		
		Subtotal		
Extra Credit for Materials Efficiency				
5-106		Extra Credit for Innovation in Materials Efficiency		
		Subtotal		
MATERIALS EFFICIENCY SECTION TOTALS				
Extra Credit				
EC-1	1-10	Extra Credit for Innovation in Marketing		
		Subtotal		
EXTRA CREDIT TOTALS				
Project Scoring Sub-Total				
(Action Item 1-13) Multiplier				
PROJECT SCORING TOTAL				
PROJECT SUMMARIES				
CODES & REGULATIONS				
SITE & WATER SECTION TOTALS				
ENERGY EFFICIENCY SECTION TOTALS				
HEALTH AND INDOOR AIR QUALITY SECTION TOTALS				
MATERIALS EFFICIENCY SECTION TOTALS				
EXTRA CREDIT TOTALS				

_____ **Total Points for Project**

Program Level Obtained

1-Star ★
 2-Star ★★
 3-Star ★★★
 4-Star ★★★★
 5-Star ★★★★★

By my signature, I certify that I have performed all Action Items checked above.

X _____

(Home Builder Signature and Date)

Smaller houses use a multiplier for their *overall* points based on SF size.

Larger houses are required to earn a minimum of points in the energy and materials section. *(points listed are for each section)*

Project size to include all conditioned space of house except for an ADU

	Bedrooms						Multiplier	min. points req in energy section**	min. points req in materials section**	
	1	2	3	4	5	6				
2005 avg. size in King Co. (outside of Seattle)	S F	<500	<700	<900	<1300	<1900	<2400	1.20	N/A	N/A
		501- 800	701-1000	901-1200	1301-1750	1901-2350	2401-2700	1.15	N/A	N/A
		801-1200	1001-1400	1201-1800	1751-2350	2351-2950	2701-3500	1.10	N/A	N/A
		1201-1600	1401-1800	1801-2400	2351-3000	2951-3600	3501-4300	1.05	N/A	N/A
		1600	1800	2400	3000	3600	4300	1.00	0	0
		1601-1800	1801-2000	2401-2700	3001-3400	3601-4000	4301-4700	1.00	25*	25
		1801-2000	2001-2200	2701-3000	3401-3800	4001-4400	4701-5100	1.00	35*+	35+
		2001-2200	2201-2400	3001-3300	3801-4200	4401-4800	5101-5500	1.00	45*+	45+
		>2200	>2400	>3300	>4200	>4800	>5500	1.00	55*+	55+

* Energy Star Certification or Equivalent can be substituted for the required point minimum

+ These totals will be initially under review pending participant feedback



for Homes

Project Checklist

LEED for Homes

Builder Name:
Responsible Party (if different):
Home Address (Street/City/State):

Input Values: <small>Click here if you're experiencing problems</small>	Minimum No. of Points Required:
No of Bedrooms: <input type="text" value="4"/> Floor Area (SF): <input type="text" value="2400"/>	Certified: <input type="text" value="45"/> Silver: <input type="text" value="60"/> Gold: <input type="text" value="75"/> Platinum: <input type="text" value="90"/>

Detailed information on the measures below are provided in the companion document "LEED for Homes Rating System" **Max Points Available**

Y / Pts	No	N/A	Innovation and Design Process (ID)		(Minimum of 0 ID Points Required)	OR	9
			1.1	Integrated Project Planning	Preliminary Rating		Prerequisite
			1.2		Integrated Project Team		1
			1.3		Design Charrette		1
			2.1	Quality Management for Durability	Durability Planning; (Pre-Construction)		Prerequisite
			2.2		Wet Room Measures		Prerequisite
			2.3		Quality Management		Prerequisite
			2.4		Third-Party Durability Inspection		3
			3.1	Innovative / Regional Design	Provide Description and Justification for Specific Measure		1
			3.2		Provide Description and Justification for Specific Measure		1
			3.3		Provide Description and Justification for Specific Measure		1
			3.4		Provide Description and Justification for Specific Measure		1
0			Sub-Total				
Y / Pts	No	N/A	Location and Linkages (LL)		(Minimum of 0 LL Points Required)	OR	10
			1	LEED-ND Neighborhood		LL2-5	10
			2	Site Selection	Avoid Environmentally Sensitive Sites and Farmland	LL1	2
			3.1	Preferred Locations	Select an Edge Development Site	LL1	1
			3.2		OR Select an Infill Site	LL1	2
			3.3		Select a Previously Developed Site	LL1	1
			4	Infrastructure	Site within 1/2 Mile of Existing Water and Sewer	LL1	1
			5.1	Community Resources & Public Transit	Basic Community Resources / Public Transportation	LL1	1
			5.2		OR Extensive Community Resources / Public Transportation	LL1	2
			5.3		OR Outstanding Community Resources / Public Transportation	LL1	3
			6	Access to Open Space	Publicly Accessible Green Spaces	LL1	1
0			Sub-Total				
Y / Pts	No	N/A	Sustainable Sites (SS)		(Minimum of 5 SS Points Required)	OR	21
			1.1	Site Stewardship	Erosion Controls (During Construction)		Prerequisite
			1.2		Minimize Disturbed Area of Site		1
			2.1	Landscaping	No Invasive Plants		Prerequisite
			2.2		Basic Landscaping Design		2
			2.3		Limit Turf		3
			2.4		Drought Tolerant Plants		2
			3	Shading of Hardscapes	Locate and Plant Trees to Shade Hardscapes		1
			4.1	Surface Water Management	Design Permeable Site		4
			4.2		Permanent Erosion Controls / Professional Design of Erosion Control		2
			5	Non-Toxic Pest Control	Select Insect and Pest Control Alternatives from List		2
			6.1	Compact Development	Average Housing Density ≥ 7 Units / Acre	LL1	2
			6.1		OR Average Housing Density ≥ 10 Units / Acre	LL1	3
			6.3		OR Average Housing Density ≥ 20 Units / Acre	LL1	4
0			Sub-Total				
Y / Pts	No	N/A	Water Efficiency (WE)		(Minimum of 3 WE Points Required)	OR	15
			1.1	Water Reuse	Rainwater Harvesting System		4
			1.2		Grey Water Re-Use System		1
			2.1	Irrigation System	Select High Efficiency Measures from List		3
			2.2		Third Party Verification		1
			2.3		OR Install Landscape Designed by Licensed or Certified Professional	WE 2.2	4
			3.1	Indoor Water Use	High Efficiency Fixtures (Toilets, Showers, and Faucets)		3
			3.2		OR Very High Efficiency Fixtures (Toilets, Showers, and Faucets)	WE 3.1	6
0			Sub-Total				



Project Checklist (cont'd)

HERS Index Value Achieved:
 IECC Climate Zone:

EA 1.2 Pts Achieved:

Y / Pts		No	N/A	Energy and Atmosphere (EA)		(Minimum of 0 EA Points Required)	OR	38
				1.1	ENERGY STAR Home	Meets Performance Requirements of ENERGY STAR for Homes		Prerequisite
				1.2		Exceeds Performance of ENERGY STAR for Homes	EA 2-10	34
				7.1	Water Heating	Improved Hot Water Distribution System		2
				7.2		Pipe Insulation		1
				11	Refrigerant Management	Minimize Ozone Depletion and Global Warming Contribution:		1
				0	Sub-Total (or Sub-Total from Addendum A - Prescriptive EA Credits)			
Y / Pts		No	N/A	Materials and Resources (MR)		(Minimum of 2 MR Points Required)	OR	14
				1.1	Material Efficient Framing	Overall Waste Factor for Framing Order Shall be No More than 10%.		Prerequisite
				1.2		Advanced Framing Techniques		3
				1.3		Structurally Insulated Panels	MR 1.2	2
				2.1	Environmentally Preferable	Tropical Woods, if Used, Must be FSC		Prerequisite
				2.2	Products	Select Environmentally Preferable Products from List		8
				3.1	Waste Management	Document Overall Rate of Diversion		Prerequisite
				3.2		Reduce Waste Sent to Landfill by 25% to 100%		3
				0	Sub-Total			
Y / Pts		No	N/A	Indoor Environmental Quality (IEQ)		(Minimum of 6 IEQ Points Required)	OR	20
				1	ENERGY STAR with IAP	Meets ENERGY STAR w/ Indoor Air Package (IAP)	IEQ2-10	11
				2.1	Combustion Venting	Space Heating & DHW Equip w/ Closed/Power-Exhaust	IEQ 1	Prerequisite
				2.2		Install High Performance Fireplace	IEQ 1	2
				3	Moisture Control	Analyze Moisture Loads AND Install Central System (if Needed)	IEQ 1	1
				4.1	Outdoor Air Ventilator	Meets ASHRAE Std 62.2	IEQ 1	Prerequisite
				4.2		Dedicated Outdoor Air System (w/ Heat Recovery)	IEQ 1	2
				4.3		Third-Party Testing of Outdoor Air Flow Rate into Home		1
				5.1	Local Exhaust	Meets ASHRAE Std 62.2	IEQ 1	Prerequisite
				5.2		Timer / Automatic Controls for Bathroom Exhaust Fans	IEQ 1	1
				5.3		Third-Party Testing of Exhaust Air Flow Rate Out of Home		1
				6.1	Supply Air Distribution	Perform Duct Design Calculations	IEQ 1	Prerequisite
				6.2		Third-Party Testing of Supply Air Flow into Each Room in Home		2
				7.1	Supply Air Filtering	≥ 8 MERV Filters, w/ Adequate System Air Flow	IEQ 1	Prerequisite
				7.2		≥ 10 MERV Filters, w/ Adequate System Air Flow		1
				7.3		≥ 13 MERV Filters, w/ Adequate System Air Flow		2
				8.1	Contaminant Control	Seal-Off Ducts During Construction	IEQ 1	1
				8.2		Permanent Walk-Off Mats OR Shoe Storage OR Central Vacuum		2
				8.3		Flush Home Continuously for 1 Week with Windows Open		1
				9.1	Radon Protection	Install Radon Resistant Construction if Home is in EPA Zone 1	IEQ 1	Prerequisite
				9.2		Install Radon Resistant Construction if Home is not in EPA Zone 1	IEQ 1	1
				10.1	Garage Pollutant Protector	No Air Handling Equipment OR Return Ducts in Garage	IEQ 1	Prerequisite
				10.2		Tightly Seal Shared Surfaces between Garage and Home	IEQ 1	2
				10.3		Exhaust Fan in Garage		1
				10.4		OR Detached Garage or No Garage	IEQ 1	3
				0	Sub-Total			
Y / Pts		No	N/A	Awareness and Education (AE)		(Minimum of 0 AE Points Required)	OR	3
				1.1	Education for Homeowner	Basic Occupant's Manual and Walkthrough of LEED Home		Prerequisite
				1.2	and/or Tenants	Comprehensive Occupant's Manual and Multiple Walkthroughs / Trainings		1
				1.3		Public Awareness of LEED Home		1
				2.1	Education for Building Mgrs	Basic Building Manager's Manual and Walkthrough of LEED Home		1
				0	Sub-Total			
0			Project Totals (pre-certification estimates)		<i>Estimated Performance Tier:</i>		130	



for Homes

Project Checklist, Addendum A Prescriptive Approach for Energy and Atmosphere (EA) Credits

Detailed information on the measures below are provided in the companion document "LEED for Homes Rating System"				Max Points Available		
Y / Pts	No	N/A	Energy and Atmosphere (EA)	(Minimum of 0 EA Points Required)	OR	38
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2.1 Insulation	Third-Party Inspection of Insulation, At Least HERS Grade II	EA 1	Prerequisite
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	2.2	Third-Party Inspection of Insulation, Grade I ANL 5% above code	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.1 Air Infiltration	Third-Party Envelope Air Leakage Tested \leq 7.0 ACH50 (CZ 1-2)	EA 1	Prerequisite
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.2	Third-Party Envelope Air Leakage Tested \leq 5.0 ACH50 (CZ 1-2)	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3.3	OR Third-Party Envelope Air Leakage Tested \leq 3.0 ACH50	EA 1	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.1 Windows	Windows Meet ENERGY STAR for Windows (See Table)	EA 1	Prerequisite
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.2	Windows Exceed ENERGY STAR for Windows (See Table)	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.3	OR Windows Exceed ENERGY STAR for Windows (See Table)	EA 1	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.1 Duct Tightness	Third-Party Duct Leakage Tested \leq 4.0 CFM25 / 100 SF to Outside	EA 1	Prerequisite
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.2	Third-Party Duct Leakage Tested \leq 3.0 CFM25 / 100 SF to Outside	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.3	OR Third-Party Duct Leakage Tested \leq 1.0 CFM25 / 100 SF to Outside	EA 1	3
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	6.1 Space Heating and Cooling	Meets ENERGY STAR for HVAC w/ Manual J & refrigerant charge test	EA 1	Prerequisite
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.2	HVAC is Better than ENERGY STAR	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.3	OR HVAC Substantially Exceeds ENERGY STAR	EA 1	4
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	7.1 Water Heating	Improved Hot Water Distribution System		2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.2	Pipe Insulation		1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.3 Water Heating	Improved Water Heating Equipment	EA 1	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.1 Lighting	Install at Least Three ENERGY STAR labeled Light Fixtures (or CFLS)	EA 1	Prerequisite
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.2	Energy Efficient Fixtures and Controls	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	8.3	OR ENERGY STAR Advanced Lighting Package	EA 1	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.1 Appliances	Select Appliances from List	EA 1	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.2	Very Efficient Clothes Washer (MEF > 1.8, AND WF < 5.5)	EA 1	1
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	10 Renewable Energy	Renewable Electric Generation System (1 Point / 5% Reduction)	EA 1	10
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	11 Refrigerant Management	Minimize Ozone Depletion and Global Warming Contribution:		1
0			Sub-Total			

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been met for the indicated credits and will, if audited, provide the necessary supporting documents.

Responsible Party's Name

Company

Signature

Date

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed, and will provide the project documentation file, if requested.

Rater's Name

Company

Signature

Date

By affixing my signature below, the undersigned does hereby declare and affirm to the USGBC that the required inspections and performance testing for the LEED for Homes requirements, as specified in the LEED for Homes Rating System, have been completed, and will provide the project documentation file, if requested.

Provider's Name

Company

Signature

Date