



TO: Whom It May Concern

FROM: Pamela S. Worner, President, Green Dog Enterprises, Inc.

DATE: January 26, 2014

RE: Ninebark Design Build Project Verification

Pamela S. Worner of Green Dog Enterprises, Inc., has verified the whole-house remodel of the single-family home at 4007 49th Ave S. in the Seward Park neighborhood of Seattle as meeting the requirements for a 5-star Remodel under the Built Green® program of King & Snohomish Counties (certification pending).

This home represents an outstanding example of energy-efficient and environmentally responsible construction, using such state-of-the-art practices as extensive use of reclaimed and recycled materials, LED lighting, high-performance foam insulation beyond code requirements, and heat recovery ventilation to provide a constant source of pre-conditioned fresh air throughout the homes.

Project address: 4007 49th Ave. S., Seattle WA 98118

Designed by: Ninebark Design Build LLC

Built by: Ninebark Design Build LLC

Certification pending: 5-Star Built Green Remodel

Verified by: Pamela S. Worner
Green Dog Enterprises, Inc.



BUILT GREEN Possible Points		Built Green Remodel checklist - Ninebark Design Build LLC, Project Address: 4007 49th Ave S, Seattle WA	Points	Notes
ONE-STAR REQUIREMENTS This level of certification is no longer available.				
TWO-STAR REQUIREMENTS (80 points minimum for small remodel; 100 points minimum for remodels that include an addition)				
	required	All *items plus orientation	*	
	required	Attend a Built Green™ approved workshop within past 12 months prior to certification	*	
	required	Achieve a minimum of 15 points in each category	*	
	required	Perform a Built Green energy retrofit using the energy retrofit worksheet	*	
THREE-STAR REQUIREMENTS (150 points minimum for remodel; 180 points minimum for remodels that include an addition)				
	required	Meet 2-Star requirements	*	
	required	Perform an energy retrofit resulting in whole building energy performance equal to code (exception: walls must be R-13 or better)	*	
	required	Achieve a minimum of 20 points in each category	*	
FOUR-STAR REQUIREMENTS (250 points minimum for remodel; 280 points minimum for remodels that include an addition)				
	required	Meet 3-Star requirements plus point minimum	*	Yes
	required	Achieve a minimum of 25 points in each category	*	Yes
	required	3 rd party verification required (See reference)	*	Green Dog
Site & Water	required	No copper on external structure of building (See action item 1-15)	*	Site visit
Site & Water	required	Landscape with plants appropriate for site topography and soil types, emphasizing use of plants with low watering requirement [drought tolerant] (See action item 14-15).	*	No lawn, rain gardens
Site & Water	required	Select Bathroom Faucets with GPM Less than Code (See action item 8-9)	*	WaterSense
Energy	required	Final project must perform 15% above energy code or equivalent with approved performance scoring tool	*	Meets ES 3.0
IAQ	required	Use only low-VOC/low-toxic interior paints and finishes for all surface areas (including doors, windows, trim) (See action item 13-35)	*	B. Moore Zero VOC
IAQ	required	Use effective ventilation with approved method after each new interior finish is applied (See action item 13-38)	*	See Exhibit D
Materials	required	Use a minimum of 6 different materials with recycled content anywhere in project	*	Listed below
	required	Choose one of the following:	*	
IAQ		Provide built in walk-off mat and shoe storage area (See action item 1-44)	*	
IAQ		Use plywood and composites of exterior grade or with no added urea formaldehyde in both subflooring and cabinetry (See action items 4-4 and 13-27)	*	Site Visit
IAQ		Train subs in implementing a healthy building job-site plan for the project (See action item 2-15)	*	See Exhibit D
IAQ		Use high efficiency pleated filter of MERV 12 or better, or HEPA (See action item 7-26)	*	N/A
IAQ		Install sealed combustion heating and hot water equipment (See action item 7-29)	*	Site visit
FIVE-STAR REQUIREMENTS (400 points minimum for remodel; 430 points minimum for remodel that includes an addition)				
	required	Meet 4-Star requirements plus point minimum	*	Yes
	required	Achieve a minimum of 40 points in each category	*	Yes
Site & Water	required	Amend disturbed soil with compost to a depth of 10 to 12 inches to restore soil environmental functions (See action item 14-5)	*	Site visit
Site & Water	required	Use pervious materials for at least one-third of total area for driveways, walkways, and patios	*	Yes
Site & Water	required	Reduce existing turf grass by 50% or more and replace with drought tolerant or native landscaping (See action item 14-13)	*	No lawn, rain gardens
Site & Water	required	Preserve existing native vegetation as landscaping	*	Yes
Site & Water	required	Retain 30% of trees on site	*	Yes
Energy	required	Minimum R-26 wall	*	Min. R--28
Energy	required	Use NFRC certified windows with a U-factor of 0.32 or better for new or replaced windows (See action item 5-1)	*	U-.28 weighted ave.
Energy	required	Use advanced framing: 24-in OC for all new walls and 2-stud corners (See action item 1-50)	*	Site visit
Energy	required	Pre-wire or pre-install conduit for future photovoltaic use (See action item 9-20)	*	Site visit
Energy	required	Install a 70% minimum of hard-wired fluorescent fixtures (See action item 9-15)	*	90%+, mostly LEDs
Energy	required	<u>Alternate:</u> In Lieu of above energy requirements demonstrate home energy performance 30% beyond code per action item or equivalent with approved performance scoring tool.	*	
IAQ	required	Detached or no garage, or garage air-sealed from house with automatic exhaust fan (See action item 1-33)	*	Site visit - exhaust fan
Materials	required	Achieve a minimum recycling rate of 70% of waste by weight (See action item 2-1)	*	90%+
Materials	required	Use a minimum of 10 different materials with recycled content anywhere in project	*	Listed below
CODES & REGULATIONS				
Req	required	Meet Washington state water use efficiency standards	*	Yes
Req	required	Meet stormwater/site development standards	*	Yes
Req	required	Meet Washington state energy code	*	Yes
Req	required	Meet Washington state ventilation/indoor air quality code	*	Yes
Req	required	Provide owner with operations and maintenance kit	*	Yes
Req	required	Prohibit burying construction waste	*	Yes
Req	required	Do not dispose of topsoil in lowlands or wetlands	*	Yes
Req	required	When construction is complete, leave no part of the disturbed site uncovered or unstabilized	*	Yes
Req	required	Dispose of non-recyclable hazardous waste at legally permitted facilities	*	Yes
Req	required	Prepare a waste reduction and jobsite recycling plan, and post on site	*	Yes
Req	required	2 - 3 Stars: Install CO detector (hardwire preferred) for all houses with a combustion device or attached garage	*	
Req	required	4 - 5 Stars: Install CO detector (hardwire required) for all houses with a combustion device or attached garage	*	Yes
Req	required	Follow "best practices" for removal/disposal of asbestos-containing materials	*	Yes
Req	required	Follow "best practices" for removal/disposal of lead-containing materials	*	Yes
LEGEND OF ENVIRONMENTAL CATEGORIES				
	Site and Water Environmental Category			
	Energy Efficiency Environmental Category			
	Indoor Air Quality Environmental Category			
	Materials Efficiency Environmental Category			
SECTION ONE: DESIGN				

Water/Site				
1-1	5	Develop comprehensive site assessment and plan (submitted to Built Green)	5	See attached comprehensive site plan
1-2	5	Develop comprehensive water assessment and plan (submitted to Built Green)		
1-3	5	No increase to the existing building footprint		
1-4	4	Retain 100 % of existing healthy trees on site	4	Site visit
1-5	2	If Building Near Wetlands, Shorelines, Bluffs, and Other Critical Areas, Preserve & Protect Beyond Code		
1-6	2	If building in an Environmentally Critical Area, build away from the protected area.		
1-7	3-10	Use Low Impact Foundation System, Such as PIN Systems or Post and Pier, for at least 50% of the Foundation		
1-8	10	Design to effectively infiltrate all storm water on site with zero runoff	10	Site visit
1-9	4	Install a water management system that allows groundwater to recharge	4	Site visit
1-10	3	Reduce existing impervious hardscape surfaces by 50% or more	3	Site visit
1-11	7	Eliminate all impervious surfaces outside building footprint		
1-12	5-15	Install a vegetated roof system of at least 200 sq. feet to reduce impervious surface (e.g. Green-Roof)		
1-13	3	Install strategies to move rainwater effectively away from foundation (see handbook for details)	3	Site visit
1-14	1	New roofs are pitched properly	1	Site visit
1-15	1	No copper on external structure of building	1	Site visit
Energy Conservation				
1-16	5	Home performance test prior to initiation of construction		
1-17	10-70	Model energy improvements beyond code and a reduction in space conditioning energy using approved modeling software	30	Per Prescriptive Requirements: HERS Rating Pending
1-18	3	Use airtight building method, such as SIP, ICF, or Strawbale		
1-19	2	Do not install skylights	2	Site visit
1-20	1	Centrally locate heating / cooling system to reduce the size of the distribution system	1	Site visit
1-21	2	Use clerestory for natural lighting in addition/remodel	2	Site visit
1-22	2	Use light tubes for natural lighting and to reduce electric lighting		
1-23	6-12	Passive solar design, basic/advanced features installed		
1-24	3	Model solar design features using approved modeling software		
1-25		Use building and landscaping plans that reduce heating/cooling loads naturally		
1-26	10	Solar water heating system sized to provide a minimum of 40% hot water designed energy use		
1-27	5-25	House powered by photovoltaics		
1-28	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		
1-29	50	Build a zero net energy home that draws zero outside power or fuel on a net annual basis		
1-30	5	Assist homeowners with chemical sensitivities to identify preferred IAQ measures and finishes		
1-31	5	Project team member to have taken Built Green/ALA of Washington "Health House Professional Training" Course, or other approved IAQ class with 8 hours of curriculum minimum		
1-32	2-6	Optimize air quality in family bedrooms to basic or advanced level (perform all measures listed in handbook for basic or advanced level)	6	Site visit
1-33	5	Detached or no garage, or garage air-sealed from house with automatic exhaust fan	5	Site visit - exhaust fan
1-34	7	Completely condition crawlspace		
1-35	2	Roof overhangs are at least 24" inches		
1-36	2	Protect windows and doors on tall walls with additional overhang protection		
1-37	3	Design and install moisture management details for all new or replaced below grade walls beyond code, such as dimple drainage mat at exterior face and capillary breaks		
1-38	2	If installing new 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		
1-39	4	Remove existing wood burning fireplace and do not replace	4	
1-40	3	Do not install a wood-burning fireplace inside house	3	Site visit
1-41	2	Do not install gas-burning appliances inside of house		
1-42	5	Provide balanced or slightly positive indoor pressure using controlled ventilation		
1-43	2	Provide for cross ventilation using operable windows in addition/remodel	2	Site visit
1-44	3	Design a shoe removal vestibule at major entrances to house (front, back, garage)		
1-45	5	Develop a comprehensive waste management plan for demolition and new construction waste	5	See Exhibit B
1-46	3	Develop a written comprehensive reuse plan and/or invite company/contractor to perform a re-use audit	3	
1-47	5,7,9	Design and build for deconstruction		
1-48	1	Use stacked floor plans	1	Site visit
1-49	3	Use engineered structural products and use no new dimensional 2xs larger than 2x8, and no 4xs larger than 4x8	3	Site visit
1-50	3	Use advanced framing: 24-in OC for all new walls and 2-stud corners	3	Site visit
1-51	2-5	If adding a garage, minimize garage size	5	Site visit - 1-car
1-52	2	Do not install food garbage disposal	2	Site visit
1-53	1	Install materials with at a 50 year life cycle; minimum of 5 finish applications	1	Site visit - siding, roof, concrete floors, concrete countertops, slate
1-54	1	Reuse windows (excluding single-pane)		
1-55	2	Reduce Interior Walls Through Open Plan for Kitchen, Dining, and Living Areas	2	Site visit
1-56	3	Install a special bike storage area or other design features to encourage bike ownership & use	3	Site visit - in garage
1-57	10	Add a permitted accessory dwelling unit or living quarters		
1-58	4	Provide a new covered front porch of at least 50 square feet	4	Site visit
SECTION TWO: OPERATIONS				
Recycling and Materials				
2-1	Req	Prepare a waste reduction and jobsite recycling plan, and post on site	Yes	Site visit
2-2	2-20	Use deconstruction to dismantle existing building(s) for reuse	10	See Exhibit B
2-3	3	Enroll the project in the local utility's renewable energy program	3	SCL GreenUp
2-4	1	Use suppliers who offer reusable/recyclable or no packaging for major materials	1	
2-5	1-3	Use suppliers that operate a "take back" program	3	drywall, paint
2-6	2	Require subcontractors and contractor's employees to participate in waste reduction efforts	2	
2-7	1	Sell or donate wood scraps	1	Site visit - wood box
2-8	5	Purchase used or salvaged building materials for your job; minimum of 5 applications		
2-9		Recycle by source separation with an 85% minimum recycling rate (applies to all demolition waste that is appropriate for recycling and all new construction waste):		
2-9h	4	Asphalt roofing		
2-9i	1	Carpet padding and upholstery foam		
2-9j	2	Glass		
2-9k	2	Land clearing and yard waste, soil and sod	2	Recycling facility/Cedar Grove
2-10		Send at least 85% of jobsite waste (by weight, excluding concrete) to a commingle recycling facility with a:		
2-10a	5	50% recycling rate		
2-10b	10	75% recycling rate		
2-10c	20	90% recycling rate	20	See Exhibit C
2-11	1	Install materials with longer life cycles	1	Cedar, concrete
2-12	2-6	Install locally produced and sourced materials; minimum of 5 applications	2	cabinets, lumber, etc.
2-13	4	Use no pressure treated lumber	4	See Exhibit D
Health and Air Quality				

2-14	1	Provide weather protection for stored materials	1	Site visit
2-15	4	Train subs in implementing a healthy building job-site plan for the project	4	See Exhibit D
2-16	1	Educate workers and subs in using VOC-safe masks when applying VOC containing wet products and N-95 dust masks when generating dust	1	
2-17	2	No use of unvented combustion heaters during construction	2	Site visit
2-18	3-5	Take measures during construction operations to avoid moisture problems later	5	Max 10%
2-19	2	Protect exterior building components from water or moisture damage; address any existing problems	2	Site visit
2-20	2	Use a non-toxic mold inhibitor to prevent future mold		
2-21	2	Clean ductwork and furnace thoroughly at job completion		
2-22	1	Use low toxic cleaners	1	
SECTION THREE: SITE/FOUNDATION				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
3-1	1-5	Use alternative fuel equipment on-site (5 Points for 100% excavation equipment using alternative fuel, 1 point for any additional vehicle frequently on site)		
Site Preservation				
3-2	1	Use compost or wood chips to stabilize disturbed slopes		
3-3	1	Take extra care to establish and maintain a single stabilized construction entrance (quarry spall or crushed rock) or use existing driveway	1	Site visit - existing driveway
3-4	3	Preserve existing native vegetation as landscaping (excluding trees)	3	Site visit
3-5	2	Take extra precautions to protect trees during construction	2	Site visit
3-6	5	Bring in a consulting arborist to evaluate tree protection on-site and carry out instructions	5	Arborist - Eric Gale Certified # PN-1639A
3-7	1	Locate dumpster drop to minimize site impact	1	Site visit
3-8	1	Wash out concrete trucks in slab or pavement subbase areas	1	
3-9	3	Establish and post clean up procedures for spills to prevent illegal discharges. Conduct sub-contractor orientation to promote good jobsite housekeeping and reduce hazardous waste issues.	3	Site visit
3-10	3	If disturbing top soil, set aside and protect for re-use on site	3	Site visit
3-11	2	Construct tire wash, establish and post clean up protocol for tire wash		
3-12	1	Grade to drain away from home		
3-13	2	No clearing or grading during wet weather months (Oct. 31 to April 1)		
Foundations				
3-14	5	Use fly ash or blast furnace slag for 25% by weight of cementitious materials for all concrete (20% for flat work)		
3-15	1	Use recycled concrete, asphalt, or glass cullet for base or fill for new foundation; minimum of 35%		
3-16	2	Install working vent system to eliminate potential moisture, methane, and radon problems in crawl space or under slabs on grade		
3-17	2	Install a minimum of R-10 rigid Insulation beneath any slabs on grade for additions		
3-18	2	Design foundation slabs to double as a finished floor	2	Site visit
3-19	2	Use less toxic form releasers	2	No releasers needed
3-20	2	Perform calcium chloride moisture test on all new slabs on grade prior to installing any finish flooring in conformance with product warranties		
3-21	3	Comprehensive crawl space improvement		
SECTION FOUR: FRAMING				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
4-1	1	Use energy heels of 6 in. or more on trusses to allow added insulation over top plate		
4-2	1	Addition wrapped with an exterior air infiltration barrier to manufacturer's specifications	1	Site visit
Air Quality				
4-3	2	Inside the house, use only low-VOC, low-toxic, water-based, solvent-free sealers, caulks, adhesives for framing	2	
4-4	3	Use plywood and composites of exterior grade or with no added urea formaldehyde (for subfloor use)	3	
4-5	2	Have crawl space, attic, and garage building performance tested for disconnection to the living space of house		
Resource Conservation				
4-6	3	Provide (to framer) and use layout and cut plan	3	
4-7	1	Use central cutting area or cut packs	1	Site visit
4-8	2	Reuse lumber	2	Site visit - old 2x4 framing lumber used for car decking
4-9	3	Use no endangered wood species	3	Site visit
4-10	3	Use environmentally preferable products with third-party certification, minimum of three applications (excluding carpet and wood)		
4-11	1-5	Use salvaged lumber (1 point for every 500 board feet)	5	See Exhibit E
4-12	3	Use urban or forest salvaged lumber, minimum 200 board feet	3	See Exhibit F
4-13	3	Use finger-jointed framing material (e.g. plates and studs); minimum of 500 board feet		
4-14		Use third-party certified sustainably harvested wood (Tier levels outlined in the handbook):		
4-14a	7	Dimensional lumber, Tier 1; 50% minimum (of non-salvaged)		
4-14b	1	Dimensional lumber, Tier 2		
4-14c	5	Sheathing, Tier 1; 50% minimum		
4-14d	1	Sheathing, Tier 2		
4-14e	3	Beams, Tier 1; 50% minimum		
4-14f	1	Beams, Tier 2		
4-15	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		
4-16	1	Use Recycled-Content Sub-Floor		
Framing Alternatives				
4-17	3	Use factory framed wall panels (panelized wall construction) for all new walls		
Moisture Control				
4-18	1-6	For any newly sided wall install a capillary break between siding/trim and building paper or house wrap (1 point per every 200 sf)	6	Site visit - did on entire house
4-19	2-8	Install a sloped sill pan with end dams and back dams for windows, and back dams for all exterior doors exposed to the weather	8	Site visit - all measures met
4-20	3	Install metal flashing at all windows and at heads of all doors	3	Site visit
4-21	3	Hose test first installed windows to verify resistance to wind driven rain		
4-22	3	Envelope inspection by a qualified professional prior to installing insulation		
SECTION FIVE: WINDOWS				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
5-1	3	Use NFRC certified windows with a U-factor of 0.32 or better for new or replaced windows	3	U-.30 max
5-2	4	If replacing windows no vinyl windows	4	
5-3	3	Use wood/composite or fiberglass windows	3	Site visit - Fiberglass-clad fir
5-4		Use wood windows that are third-party certified sustainably harvested wood that meet:		
5-4a	4	Tier 1 requirements (As outlined in handbook)		
5-4b	1	Tier 2 requirements (As outlined in handbook)		
SECTION SIX: ROOFING				
	Req	Follow jobsite waste reduction and recycling plan		
6-1	1	New roofs are flashed properly	1	Site visit
6-2	3	Use SIP Structurally Insulated Panels for all new roofing		
6-3	2	Use light colored roofing	2	Site visit
6-4	2	Use recycled-content roofing material for new/replaced roofing	2	Site visit

6-5	4	Install a metal, tile, concrete or slate roof	4	Titan Cool Roof/ 24 Gauge
SECTION SEVEN: HVAC				
	Req	Follow jobsite waste reduction and recycling plan		
Design				
7-1	5	Locate heating / cooling equipment, ducts and the distribution system inside the conditioned space	5	Site visit
7-2	5	Size heating/cooling system to 130% using manual J or D, or other approved software (REM,Rate, Energy Gauge, HVI duct plan)	5	REM Rate
7-3	3-4	Select high efficiency heat pumps instead of electric heat (0.85-0.9)		
7-4	10	Install geothermal heat pumps		
7-5	5	Convert home heating system to natural gas	5	Site visit
7-6	2	No air conditioner	2	Site visit
7-7	1	Balance airflow system based on filter being used		
Energy Efficiency				
7-8	3	"Tune up" HVAC system(s) as outlined in handbook		
7-9	3	Select Energy Star® heating/cooling equipment or documented equivalent	3	Triangle Tube boiler
7-10	2-3	If installing a furnace, install with a variable speed fan (Extra points for ECM)		
7-11	2	Install power venting for combustion furnaces and water heating equipment (cannot be taken in addition to action item 7-29)		
7-12	2	Retrofit existing wood fireplace with EPA certified fireplace insert	2	Site visit
7-13	3	Install an AFUE rated sealed combustion direct vent natural gas hearth product as part of an integrated heating system	3	Site visit
7-14	3	Install a heat recovery ventilator	3	Venmar HE 2.6
7-15	5 or 10	Install hydronic heating systems, point range based on boiler efficiency	10	98%
7-16	3	Install individual thermostatically controlled zones for radiant systems	3	Hydronic radiant
Ductwork				
7-17	2-4	Install only rigid ductwork		
7-18	2	Create individual return pathways for air in bedrooms		
7-19	2	If existing duct insulation is less than R-6, insulate ducts to R-11		
7-20	4	Use advanced sealing of all ducts using low-toxic mastic (including existing ductwork, new ductwork, and furnace box)		
7-21	1	No Sound Insulation or Other Fibrous Materials Installed Inside Ducting		
7-22	1	Install ducting/damper for fresh air intake		
Air Quality				
7-23	5	Properly install a hybrid heating system		
7-24	2	Do not install electronic, metal mesh, horse hair, or non-pleated fiberglass filters		
7-25	1	Use medium efficiency pleated filter, MERV 10		
7-26	5	Use high efficiency pleated filter, MERV 12 or better, or HEPA		
7-27	1	Install furnace and/or duct-mounted air cleaner or high efficiency air filter (non-electronic)		
7-28	1	Install exhaust fans in room where office equipment is used		
7-29	3	Install sealed combustion heating and hot water equipment	3	Site visit
7-30	1	Install central vacuum, exhausted to outside		
Testing				
7-31	3,5,7	Performance test ducts for air leakage meets third-party review and certification achieving less than 10%, 6%, or 3% loss of floor area to total flow		
7-32	1	Flow test all fans in the house	1	
7-33	1	Limit kitchen exhaust fan to 300 CFM maximum (unless you have appropriate make up air or doesn't depressurize building more than 2 pascals and fan is 2.5 sones or less)	1	Site visit
SECTION EIGHT: PLUMBING				
	Req	Follow jobsite waste reduction and recycling plan		
Design				
8-1	2	Plumb for graywater or rain water for irrigation		
8-2	3	Stub-in plumbing to use greywater or rainwater for toilet flushing		
8-3	10	Use Graywater or rainwater for internal potable water substitute		
8-4	2	Install water heater inside the heated space (electric, direct vent, or sealed venting only)	2	Site visit
8-5	2	Use a recirculating pump with a "home run" manifold water pipe configuration		
8-6	1	Remove existing undersink garbage disposal		
8-7	1	Install floor drain or catch basin with drain under washing machine and/or water heater	1	Site visit
Fixtures/Water Efficiency				
8-8	1	Reuse plumbing fixtures that meet or can be modified to meet code	1	Lav sink
8-9	1	Select Bathroom Faucets with GPM Less than Code	1	1.0 GPM See Exhibit G
8-10	1	Select Kitchen Faucets with GPM Less than Code	1	1.5 GPM/ See Exhibit G
8-11	2-5	Select low flow shower heads (1.6 gpm or better) for primary bathroom	2	1.75 GPM/ See Exhibit G
8-12	2-8	Install dual flush or flush star qualified toilet	6	Toto dual flush
8-13	10	Install composting toilets		
8-14	2	Locate water heater within 20 pipe feet of highest use	2	Site visit
Water Quality				
8-15	3	Install a whole house water filter system		
8-16	1	Install showerhead filter		
8-17	1	If installing water filter at sink, select one with biodegradable carbon filter		
8-18	3	Use no PVC piping for plumbing	3	
Energy Efficiency				
8-19	1	Insulate all hot water pipes and install cold inlet heat traps on hot water heater	1	
8-20	1	If not replacing, inspect and insulate existing hot water heater		
8-21	2	Upgrade electric water heater to air to water heat pump or de-superheater on central pump system with an EF of 10.9 or greater		
8-22	2	Replace electric water heater with Energy-Star rated water heating equipment	2	
8-23	2-7	Upgrade gas or propane water heater efficiency to EF 0.62, 0.83, or 0.90	7	98% Triangle Tube
8-24	4	Install tankless water heater that meets an energy factor of 0.83		
8-25	1	Install a timer to regulate standby hot water loss in water heater	1	
8-26	1	Install small diameter PEX pipe	1	
8-27	1	Drainwater heat recovery system (DHR)		
8-28	2	Install on-demand point-of use hot water supply		
Solar				
8-29	2	Pre-plumb for solar water heater		
SECTION NINE: ELECTRICAL				
	Req	Follow jobsite waste reduction and recycling plan		
Energy Controls				
9-1	1-2	Install thermostat with on/off-switch or smart timer for furnace fan to circulate air		
9-2	2	Install programmable thermostats and pre-program	2	Site visit
9-3	3	Install timer control integrated with thermostat on continually running HRV	1	Site visit
9-4	1	Use heating system controls that are free of mercury	1	Site visit
9-5	1	Install 60-minute timer switches or humidistat for bath exhaust and laundry fans or HRV override switch	1	Site visit
9-6	2	Install exhaust fan in attached garage on timer or wired to door opener or no garage attached	2	Fan wired to opener
9-7	3	Install photo cells, timers, and/or motion detectors (interior)	3	Site visit
9-8	2	Install photo cells, timers, motion detectors (exterior)	2	Site visit
Fixtures				
9-9	2	Install whole house fan beyond the code requirements	2	HRV
9-10	3	Replace all existing vent fans with higher efficiency units (quiet and rated to 1.5 sones or less), with smooth ducting (minimum of 4 inches) or other quite ventilation strategy	3	WhisperGreen
9-11	2	Install Energy Star® exhaust fan	2	WhisperGreen

9-12	1	Properly install one or more Energy-Star rated ceiling fan(s)	1	Site visit
9-13	1	Reuse electrical fixtures that meet or can be modified to meet code		
9-14	4	Lighting avg is 1.1 watts/sq ft. with all exterior, garage, closet, utility room and under counter lighting are CFLs or LEDs.	4	100%, almost all LED
9-15	1-10	Install hard-wired fluorescent fixtures, with 1 point for each 10% of Lighting	4	Site visit
9-16	2-5	Use compact fluorescent bulbs, ballast, or fixtures; or LEDs in three high-use locations	5	Site visit
9-17	1	Furnish four compact fluorescent light or LED bulbs to owners	1	
9-18	3	No recessed can lights	3	Site visit
Misc.				
9-19	Req	Install CO detector	Yes	
9-20	2	Pre-wire or pre-install conduit for future photovoltaic use	2	Site visit
9-21	2-3	Provide infrastructure for electric/hybrid vehicle charging	2	Dedicated 20 amp
SECTION TEN: INSULATION				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
10-1	3	Add wall insulation	3	to R-28 min.
10-2	2	Add floor insulation	2	to R-30
10-3	1-3	Insulate entire accessible attic (see handbook for details)	3	R-44 SIP roof
10-4	1	Fully insulate at interior/exterior wall intersection in addition/remodel structures	1	Site visit
10-5	3	If using fiberglass insulation, use formaldehyde-free fiberglass insulation or Greenguard certified product	3	Expanding spray foam
10-6	4	Insulate with alternatives to fiberglass insulation	4	Expanding spray foam
10-7	1	Use recycled-content insulation (all insulation to have a minimum of 40% recycled-content)		
10-8	3	Use continuous rigid insulation on interior or as exterior sheathing		
10-9	3	Use environmentally friendly foam building products (formaldehyde-free, CFC-free, HCFC-free, brominated flame retardant-free)	3	Site visit
10-10	2	Verify seal at doors, windows, and plumbing and electrical penetrations against moisture and air leaks		
10-11	2	Perform a blower door test at the appropriate point in construction (see handbook for details)	2	1.1 ACH50 (490 cfm)
SECTION ELEVEN: DRYWALL				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
11-1	3	Airtight drywall approach for framing structures	3	Site visit
11-2	2	Inside the house, use only low-VOC, low-toxic, water-based, solvent-free adhesives, and additives for drywall and joint compound	2	See Exhibit D
SECTION TWELVE: EXTERIOR				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
12-1	2	Reuse Siding	2	
12-2	1	Reuse Decking	1	
12-3	3	Use siding with reclaimed, or recycled material on at least 20% of solid wall surface		
12-4	2	Use 50-year siding product for new or replaced siding	2	Cedar
12-5	1	Use regionally-produced stone or brick	1	Reclaimed brick
12-6	4	If replacing siding and/or exterior trim no vinyl siding or exterior trim	4	Site visit
12-7		Use wood siding that is third-party certified sustainably harvested wood, on at least 20% of solid wall surface that meets:		
12-7a	5	Tier 1 requirements (As outlined in handbook)		
12-7b	1	Tier 2 requirements (As outlined in handbook)		
SECTION THIRTEEN: FINISHES AND INDOOR AIR QUALITY				
	Req	Follow jobsite waste reduction and recycling plan	Yes	
13-1	1	Provide an outdoor clothesline or drying rack		
13-2	1	Use any amount of rapidly renewable building materials and products made from plants harvested within a ten-year cycle or shorter	1	Bamboo flooring
13-3	3	In three applications, use rapidly renewable building materials and products made from plants harvested within a ten-year cycle or shorter		
Flooring				
13-4	2	Reuse flooring	2	All wood used was reclaimed
13-5	4	No vinyl flooring	4	Site visit
13-6	1	Use any amount of rapidly renewable flooring products with a ten-year harvest cycle or shorter (excluding carpet)		
13-7	3	On more than 250 square feet, use rapidly renewable flooring products with a ten-year harvest cycle or shorter (excluding carpet)	3	Bamboo flooring
13-8	1	Use pre-finished flooring	1	
13-9	5 or 15	Add no new carpet in addition/remodel	15	No carpet in home
13-10	1	If using carpet, specify products certified by third-party for good indoor air quality		
13-11	1	Use recycled-content carpet pad		
13-12	1	If installing and/or replacing carpeting, install natural fiber carpet (e.g. jute, sisal, wool)		
13-13	1	Use recycled, renewed carpet or wool carpet		
13-14	2	If using carpet, install by dry method		
13-15	1	Use replaceable non-vinyl carpet tile and backer		
13-16	3	Use 40% recycled-content or salvaged hard surface tile, 75 square feet minimum	3	Salvaged tile in shower stalls
13-17	3	Use natural linoleum		
13-18		Use flooring that is third-party certified sustainably harvested wood that meets:		
13-18a	5	Tier 1 requirements (As outlined in handbook)		
13-18b	1	Tier 2 requirements (As outlined in handbook)		
Millwork: Trim, Doors and Cabinets				
13-19	2	Reuse trim	2	All wood used was reclaimed
13-20	1	Use regional trim products, 50% minimum	1	
13-21	3	Use finger-jointed or MDF trim with no added urea formaldehyde, 90% minimum		
13-22	4	Use only shelving, window trims, door trim, base molding, etc., with no added urea formaldehyde	4	Solid wood
13-23		Use trim that is third-party certified sustainably harvested wood, minimum of 50%		
13-23a	3	Tier 1 requirements (As outlined in handbook)		
13-23b	1	Tier 2 requirements (As outlined in handbook)		
13-24	1	Reuse doors	1	
13-25	1	Use reconstituted or recycled-content doors		
13-26	1	Reuse cabinets	1	Site visit
13-27	4	Install cabinets made with no added urea formaldehyde board and low-toxic finish	4	Site visit
13-28	2	For cabinets, use regional products, 90% minimum		
13-29		For cabinets use wood that is third-party certified sustainably harvested wood, minimum of 50%		
13-29a	3	Tier 1 requirements (as outlined in handbook)		
13-29b	1	Tier 2 requirements (as outlined in handbook)		
13-30	2-3	Use cabinet casework and shelving constructed of agricultural fiber with no added urea formaldehyde		
13-31	1	Use wood veneers that are third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook, 50% minimum		
13-32	2	Use countertops that are salvaged, recycled, or third-party certified sustainably harvested wood that meets the Tier 1 requirements outlined in the handbook		
13-33	1	Reuse hardware	1	Site visit
Air Quality				
13-34	2	Inside the house, use only low-VOC, low-toxic, water-based, solvent-free sealers, grouts, mortars, caulks, adhesives, stains, pigments, and additives for tile and grout	2	
Air Quality				
Resource Conservation				
13-35	5	Use only low-VOC/low-toxic interior paints and finishes for all surface areas (including doors, windows, trim)	6	B. Moore Zero VOC

13-36	3	Use only low-VOC/low-toxic interior paints and finishes for large surface areas		
13-37	1	Use only paints and finishes without cadmium or lead	1	
13-38	3	Effective ventilation with approved method after each new finish is applied	3	See Exhibit D
13-39	1	Do not install products with brominated flame retardant	1	
13-40	1	Substitute products that require solvent-based cleaning methods with solvent-free or water-based methods		
Appliances				
13-41	1	Install gas clothes dryer	1	Whirlpool Duet
13-42	3	Install front loading Energy Star® washing machine	3	Whirlpool Duet
13-43	1	Install an Energy Star® dishwasher	1	Site visit
13-44	2	Install Energy Star® refrigerator	2	Liebherr
13-45	2	Install gas stove/cooktop (requires a Carbon Monoxide detector) or	2	Site visit
13-46	2	Install an induction electric cooktop		
Other				
13-47	1	Sell or donate reusable finish items	1	
13-48	1	Use recycled or "reworked" paint and finishes in addition and for any re-painted surfaces		
13-49	1-3	Use natural wall finishes, like lime paint and clay		
13-50	1	Install moisture alarms under sinks and dishwasher		
13-51	1	Educate homeowners on keeping hazardous cleaning and maintenance products, separate from occupied space	1	
13-52	4	Provide homeowners with maintenance checklists (furnace filters, under the fridge, etc.)	4	Site visit
SECTION FOURTEEN: LANDSCAPING				
	Req	Follow jobsite waste reduction and recycling plan		
Water Conservation				
14-1	10	Install landscaping that requires no potable water for irrigation whatsoever after initial establishment period (approximately 1 to 3 years)	10	Site visit
14-2	2	If installing an irrigation system, provide a water budget, test irrigation system to verify coverage and flow rates, and provide a landscape maintenance plan to home owners		
14-3	2	Sub-surface or drip systems used for irrigation		
14-4	5-15	Install rainwater collection system (cistern) for reuse (minimum of 500 gallons)	5	500 gal.
Soils				
14-5	4	Amend disturbed soil to a depth of 10 to 12 inches to restore soil environmental functions	4	Site visit
14-6	3	Grind landclearing wood and stumps for reuse on site	3	Wood stumps
14-7	2	Mulch landscape beds with 2 inches of organic mulch	2	Site visit
Plantings				
14-8	3	Replant or donate removed vegetation for immediate reuse, or place in established healing bed for reuse on site or donation	3	Site visit
14-9	2	Use plants donated from another site	2	Site visit
14-10	2	Remove existing plants listed as noxious or obnoxious weeds as defined by WA state agricultural extension office	2	Site visit
14-11	3	Establish landscape as a backyard wildlife sanctuary through the WA Dept. of Fish and Wildlife		
14-12	2	Use slow-release organic fertilizers to establish vegetation	2	Site visit
14-13	5	Reduce existing turf grass by 50% or more and replace with drought tolerant or native landscaping	5	Site visit
14-14	10	No turf grass	10	Site visit
14-15	5	Landscape with plants appropriate for site topography and soils, emphasizing use of drought tolerant plants or plants with low watering requirements	5	Site visit
14-16	1	Educate owners/tenants about fish friendly moss control and landscaping practices	1	
14-17	3	Retain or install continuous forested and native vegetation "buffers" adjacent to lot edges, fencelines, waterways, wetlands, and steep slopes.		
14-18	2	Take part in a city re-tree program, if one exists in your area	2	Seattle program
14-19	4	Retain (or add) deciduous trees South and West of house	4	Site visit
Materials				
14-20	2	Reuse concrete or masonry items on site	2	
14-21	3	Use pervious materials for at least one-third of total area for driveways, walkways, patios	3	100% pervious
14-22	3	Provide public amenities adjacent to streets, such as a bench, shade or fruit trees, wildflower garden, art, or make environmental features visible from the street.	3	rain gardens
14-23	2	Do not use pressure treated wood in landscaping	2	
14-24	2	Use reclaimed or salvaged material for landscaping walls	2	salvaged City sign posts
14-25	1	Solar powered walkway or outdoor area lighting		
END OF PROJECT				
15-1	5-10	Blower door test results better than 0.30 ACH (5 points), 0.25 ACH (10 points)	10	1.1 ACH50 (490 cfm)
15-2	1	Provide a cleanable doormat at major entrances to house (front, back, garage)		
15-3	Req	Provide home owner kit and maintenance manual to homeowner along with Built Green Certificate	Yes	
PROJECT TOTALS				
		Site and Water Environmental Category	133	123 pts verified (92%)
		Energy Efficiency Environmental Category	166	160 pts verified (96%)
		Indoor Air Quality Environmental Category	131	110 pts verified (83%)
		Materials Efficiency Environmental Category	144	117 pts verified (81%)
		PROJECT TOTAL:	574	