

NEW HOME CHECKLIST

2007



Green Built Home™ is a national award-winning green building initiative that reviews and certifies new homes and remodeling projects that meet sustainable building and energy standards.



WISCONSIN
ENVIRONMENTAL
INITIATIVE

Green Built Home is implemented in partnership with the Madison Area Builders Association in cooperation with other participating builders associations, leading utilities and organizations that promote green building.

www.greenbulthome.org

Green Built Home Registration

Company Name _____

Address _____

City _____ State _____ Zip _____

Contact _____ Phone _____ Fax _____

Email _____ Web site _____

Submittal Requirements per home

Site Address _____ City _____

Estimated completion date: _____

Please circle one: **Wisconsin ENERGY STAR® Home** **REScheck + 15% home**

- Complete Green Built Home Checklist**
- Site Plan:**
 - Provide erosion control methods and locations.
 - Indicate the limit of site disturbance.
 - Show building footprint and driveway location.
- Architectural Floor Plans:**
 - Floor plans drawn to scale and fully dimensioned.
 - Provide dimensions of roof eaves and overhangs.
- Architectural Elevations:**
 - All elevations drawn to scale.
 - Elevations shall show proposed finished elevation of floor and roofs on all levels.
- Architectural Cross Sections:**
 - Show cross section to provide internal detail to evaluate construction technique and materials used.
- Product/Materials Information:**
 - Provide a list of materials used for this project (e.g. paints, solvents, adhesives, etc.)

- Verification that the home meets Wisconsin ENERGY STAR® Homes standards (if applicable)**
- REScheck +15% documentation, including testing results (if applicable)**

Fee Schedule

Please circle one		
Home Registration Fee	HBA member \$75 per home	Non-HBA member \$100 per home
TOTAL FEE:	\$ _____	\$ _____
Bulk Home Registration	HBA member \$50 per home	Non-HBA member \$75 per home

Please mail Checklist, submittals, and payment to:
Green Built Home
 16 N. Carroll St., Suite 840
 Madison, WI 53703
 608-280-0360
 Fax 608-280-0361
www.GreenBuiltHome.org

Builders certifying all their homes from a Green Built Specifications Checklist will be charged a reduced home registration fee. Please see page 3 of the checklist for more information on this option and contact us at 608-280-0360 for more information.



Tired of filling out Checklists?

Upon demonstrating consistent compliance with submittal requirements and program standards, builders may elect to submit a “baseline” Green Built Specifications checklist that will qualify all homes for Green Built Home certification notwithstanding site specific or customer criteria and without the need to complete a Checklist for every home. Please contact us for more information on this option on how to certify all your homes and save time and reduce paperwork.

- Develop and sign off on one set of Green Built specifications per year
- Engage Green Built Home in an auditing process to ensure standards are met
- Certify all of your homes according to this set of specifications
- No need to fill out checklists for every home certified
- Call or e-mail us with the home’s address and estimated completion date
- Fax or e-mail Wisconsin ENERGY STAR Homes or REScheck +15% documentation
- Mail \$50 home registration fee
- Certification materials will be sent to your office or your client’s home

Do you build REScheck +15% homes that consistently meet testing standards?

Upon consistently meeting air infiltration testing standards Green Built Home may, at the program’s discretion, reduce the number of homes required to be tested according to established criteria. This can save you the time and expense of having all your homes tested while still maintaining program credibility. Please contact us for more information on this option.

- All homes must be certified as Green Built Homes
- All homes will be tested until at least five in a row meet the air infiltration testing standards
- Air infiltration tests must achieve results of 0.25 CFM/sq.ft. of building surface area or less for consideration of reduced testing requirements
- Homes will be randomly tested after reducing the testing requirement
- If a tested home does not meet the air infiltration standard, builders will be required to take corrective action and subsequent homes will be tested until the standard is met again.
- Homeowners will be notified if their home has not been tested.

Quality Control

Green Built Home and/or its partners will review completed Checklists, plans, and other submissions as well as work with participating builders to verify that all Basic Requirements are met for every home entered into the program. Verification that Wisconsin ENERGY STAR Homes or REScheck +15% standards have been met will also be required for every home. Builders whose homes do not initially meet program standards will be expected to take corrective action.

Green Built Home and/or its partners will randomly inspect at least 10% of registered homes to maintain quality control and program credibility. Inspection will include a site visit, may include further testing, and may also require the builder to provide information such as: ratings certificates, spec sheets, invoices, labels, product literature and safety data sheets (MSDS) as documentation. **Builders and homeowners will also have the opportunity to request a site visit or energy testing of their registered home at any time.**

Builder Responsibilities

Builders will certify to the homebuyer that each registered home meets the minimum standards as set forth by the Checklist by providing: 1) a signed copy of the completed Checklist or 2) a fact sheet or Green Built Specifications document that establishes that all the Basic Requirements and related green building features have been incorporated into the home. Builders will also provide the homebuyer with documentation that the home has met Wisconsin ENERGY STAR Homes standards or REScheck + 15% testing standards.

Valuable Green Built Home Resources:

Want to learn more about “green” building practices? Have a question about a Checklist item? Looking for a particular “green” building product? Browse the **Green Built Home Interactive Checklist** located at www.greenbuilthome.org for technical details, explanations, and more information.

The Green Built Home **Buyer’s Guide** is also a valuable resource. It provides a priority ranking of measures to reduce the environmental impact of home building and lets you know where you might get the best environmental result for the money.

Interested in learning more about green remodeling? Green Built Home now features information, resources and a project certification **Remodeling Checklist** for **do-it yourselfers and remodeling contractors** at www.greenbuilthome.org.

The Green Built Home **Project Guide** outlines environmentally responsible solutions for nine common building and remodeling scenarios such as: **building a new home or addition, installing flooring, installing a new roof, painting a room, installing insulation, replacing windows, re-siding your house, remodeling a kitchen or bath, and landscaping with native plants.**

The **Green Built Home Multifamily Checklist** is now available for larger condominium, apartment and mixed use buildings.

Qualifications:

To qualify as a Green Built Home, each home must earn a minimum of 60 points by meeting the specified criteria.

All homes must fulfill the Basic Requirements listed below and must meet the minimum point requirements in Sections B, C, D and E. The remaining points can be earned from any combination of additional checklist Sections. For homes that do not rely on conventional mechanical heating and cooling strategies, alternatives to the Wisconsin ENERGY STAR Home or REScheck+15% standards can be discussed on a case by case basis.

GreenGuide Label:

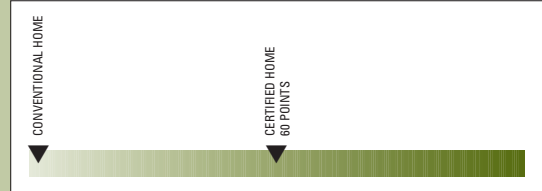
A GreenGuide Label will be provided for each home certified by the Green Built Home program. This label, similar to the yellow Energy Guide labels found on appliances, will provide the homebuyer with information on the number of points earned from the Checklist.

Please enter the point totals for each criteria selected on the line provided and enter the subtotals as directed.

GreenGuide

ADDRESS:

BUILDER:



60 points are required for Green Built certification. A certified Green Built Home™ meets comprehensive energy efficiency and sustainable building requirements. Houses scoring more than 60 points have exceeded these requirements.

www.greenbuilthome.org

Basic Requirements

1A. Wisconsin ENERGY STAR Home (10 points)

Home must comply with Wisconsin ENERGY STAR Homes program standards regarding energy efficiency, ventilation, combustion safety and indoor air quality. For information contact Wisconsin ENERGY STAR Homes at 1-800-762-7077 or visit www.focuseonenergy.com

OR

1B. REScheck +15% (1 point)

Home must be 15 percent more efficient than required by the Wisconsin Uniform Dwelling Code and demonstrate compliance using the REScheck Software (available on the Web at www.energycodes.gov), a HERS rating of 86, or another approved method. Builders selecting REScheck +15% must also comply with combustion safety and air tightness requirements as follows:

- Sealed or power-vented heating and water heating equipment must be installed or combustion equipment must be isolated from the conditioned space.
- Carbon monoxide detectors must be installed with a minimum of one detector per floor in any building with an attached garage or any combustion appliance within the conditioned space. Detectors can be hardwired or plug-in models.

AIR INFILTRATION TESTING:

- A Diagnostic multi-point blower door test indicating 0.25 cfm/sq.ft. of building envelope area or less is required for all REScheck +15% homes. Builders whose homes do not initially meet the testing standard will be expected to take corrective action. Upon demonstrating consistent compliance with testing standards, the requirement for testing may be reduced at the program's discretion according to established criteria. Please contact us for more information.

VENTILATION EQUIPMENT:

Ventilation equipment must be installed to maintain overall house ventilation. Please note that the actual, rather than rated, exhaust flows must meet the following minimums.

- Ventilation minimums:
 - Kitchen: 40 CFM vented to the outside
 - Bathroom: 20CFM (continuous) or 50 CFM (spot) vented to the outside
- Whole house minimum:

One of the exhaust fans or ports (excluding kitchen) must have a minimum actual flow equal to or greater than 10 CFM plus 10 CFM per bedroom
- Ventilation system options:
 - Balanced heat or energy recovery system
 - Central exhaust system with make-up air
 - Upgrade bath fans

Fireplace Safety:

- Gas fireplaces must be direct vent only with outside combustion air
- It is highly recommended that wood fireplaces have sealable, gasketed doors, and be fitted with outdoor combustion air supply

The purpose of these specifications is to reduce the potential for back-drafting of combustion byproducts into the home. Homes with high ventilation exhaust capacity, such as central vacuum systems, large capacity kitchen range hoods, clothes dryers, or multiple bathroom exhaust fans, are potentially vulnerable to back-drafting when the units are operating.

- 2. ENERGY STAR QUALIFIED APPLIANCES: (1 point)

All appliances (clothes washer, dishwasher and refrigerator) provided are ENERGY STAR qualified or each appliance performs in the top 50% of its Energy Guide rating. If appliances are not included a list of ENERGY STAR-rated appliances is provided. For lists of ENERGY STAR rated appliances see www.energystar.gov.
- 3. EROSION CONTROL: (1 point)

Builder must comply with the erosion control plan required for building permits by the local municipality.
- 4. RECYCLING: (1 point)

Builder must recycle cardboard as required by state law and use at least one recycled-content material (minimum 50% recycled content). See the Interactive Checklist at www.greenbuilthome.org or call 608-280-0360 for clarification.
List _____
- 5. TROPICAL HARDWOODS: (1 point)

No Luan or other tropical hardwoods (plywood, doors, flooring, etc.) are allowed unless certified by Forest Stewardship Council, Smart Wood or approved "third party" organization.
- 6. PRESENT "GREEN BUILT HOMEOWNER HANDBOOK" TO HOMEOWNER: (1 point)

This handbook will be prepared by the GBH program and provided by the builder as part of the homeowner certification folder.
- 7. PROVIDE CERTIFICATION PLAQUE AND GREEN GUIDE LABEL: (1 point)

This wood plaque and label will be prepared by the GBH program and provided to the builder as part of the homeowner certification folder.
- 8. MERCURY THERMOSTATS: (1 point)

No permanently installed mercury thermostats are allowed. All thermostats must be programmable set-back models with an "on" switch for furnace fan to circulate air.

BASIC REQUIREMENTS Subtotal _____

Each registered home MUST meet all the Basic Requirements and accumulate a minimum total of 60 points.

If the Wisconsin ENERGY STAR Homes method of energy compliance is selected, the home must include a minimum of 43 additional points from the categories listed below. The additional points must include minimum point totals for:

- Landscape Conservation and Stormwater Management (3 points)
- Energy Efficiency (10 points)
- Materials Selection (6 points)
- Indoor Air Quality (5 points)
- Waste Reduction and Recycling (1 point)

If the REScheck +15% method of energy compliance is selected, the home must include a minimum of 52 additional points from the categories listed below. The additional points must include minimum point totals for:

- Landscape Conservation and Stormwater Management (3 points)
- Energy Efficiency (10 points)
- Materials Selection (6 points)
- Indoor Air Quality (5 points)
- Waste Reduction and Recycling (1 point)

Each item is valued at (1), (2), (3), (4), or (5) points. Please check all that apply and note the point totals on the line provided.

SECTION A: SITING AND LAND USE

- 1. (1) Home built on an infill lot in an existing established neighborhood.
- 2. (3) Home built in a brownfield (land re-use) development.
- 3. (1) Home located within 0.5 miles of a bus stop, bike route, or transit stop.
- 4. (1) Home located within 0.5 miles of shopping/offices/ retail.
- 5. (1) Home located within 0.5 miles of a school.
- 6. (1) Home located in a Traditional Neighborhood Development (TND).
- 7. (1) Home located in a conservation minded or low impact development.
- 8. (1) No garage.
- 9. (1) Patio, porch or deck located on south side of house to create sunny, wind sheltered outdoor space.
- 10. (1) Screened porch is provided to create an unconditioned, sheltered outdoor space.
- 11. (1) Home located in a Green Tier or LEED-ND certified development.
- 12. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION A Subtotal _____

SECTION B: LANDSCAPE CONSERVATION AND STORMWATER MANAGEMENT

(At least 3 points required for all homes)

- 1. (1) Use of redundant straw bale and silt fencing in areas with steep slopes (greater than 12% grade) or areas of concentrated runoff flow.
- 2. (1) Protect on-site storm sewer inlets with straw bales, silt fencing or equivalent measures.
- 3. (1) Save and reuse all site topsoil.
- 4. (1) Trees and natural features on site protected during construction.
- 5. (1) Home placement saves east and south lot areas for outdoor use.
- 6. (1) Chip and reuse site-cleared wood and brush as mulch.
- 7. (1) Wash out concrete trucks in slab or pavement sub-base areas.
List Location _____
- 8. (1) Balance cut and fill to eliminate earth removal from site.
- 9. (2) Replant or donate live trees from the site.
- 10. (2) Site disturbance limited to within 20 feet of structures and paved areas.
- 11. (1) Permeable materials such as brick pavers, flagstones, porous paving or limestone fines for 40% of all walkways, patios and driveways.
- 12. (1) Grass that uses less water such as blue gamma, fescue, or 'no-mow,' min. 75% of turf areas.
List type/supplier _____
- 13. (1) Native landscape planting min. 20% of non-paved areas.
List landscape contractor _____
- 14. (2) Native landscape planting min. 40% of non-paved areas.
List landscape contractor _____
- 15. (3) Native landscape planting min. 60% of non-paved areas.
List landscape contractor _____
- 16. (1) Rainwater recovery from roof for watering, min. 50 gal. storage capacity.
- 17. (3) Provide infiltration system for rooftop run off (e.g. rain gardens, drain tile, bioswales, ponds, etc.).
- 18. (1) Edible landscape planting/plan for food garden.

- 19. (1) Provide a list of native, non-invasive plants to homeowners.
- 20. (1) Limit turf grass other than 'no mow' mixes or prairies to 25% of landscaped area.
- 21. (2) No turf grass other than 'no mow' mixes or prairies.
- 22. (1) Provide information to homeowners on how to minimize fertilizer and pesticide use.
- 23. (1) Installed irrigation system includes a soil moisture or rain sensor or is a drip type system.
- 24. (1) Installed irrigation system is zoned separately for turf and bedding areas.
- 25. (2) Restore damaged ecosystem such as existing prairies or wetlands.
- 26. (1) Participate in a wildlife conservation program.
- 27. (4) Installed vegetated or "green" roof system minimum 100 sq. ft.
- 28. (1) Establish and maintain a single stabilized construction entrance.
- 29. (1) Provide onsite supervision and coordination during site clearing, grading, trenching, paving, and installation of utilities to ensure that green building measures are implemented.
- 30. (1) Use of recycled materials in lieu of silt fencing.
- 31. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION B Subtotal _____

SECTION C: ENERGY EFFICIENCY

(At least 10 points required for all homes)

SITE DESIGN

- 1. (2) Home oriented with long dimension facing within 15 degrees of south.
- 2. (1) Home massing respects solar access of adjacent properties.
- 3. (1) Garage sited between house and prevailing winter winds to act as a buffer (garage to the north or west of house).
- 4. (1) New deciduous tree(s) provided on south side or evergreens on west side of house such that when mature they will shade the house. Native species, min. 2.5" caliper, 3'-0" high.
- 5. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

INSULATION AND AIR SEALING

- 6. (1) Energy heels of 7" or more on trusses.
- 7. (1) Advanced sealing package in addition to basic sealing practices (sealing at top and bottom plates, corners and between cavities at penetrations).
- 8. (2) Blower door test with 0.15 CFM/sq.ft. or less. - determined at completion of home.
- 9. (3) Blower door test with 0.10 CFM/sq.ft. or less. - determined at completion of home.
- 10. (1) Sill plate sealed with caulk (sill plate to foundation and rim to sill plate).
- 11. (1) Gaps between can light housings and drywall caulked.
- 12. (1) Gaps between exhaust fan housings and drywall caulked.
- 13. (1) All penetrations to the exterior are sealed both inside and outside
- 14. (2) Can lights in insulated ceilings are sealed and insulated.
- 15. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

GLAZING

- 16. (1) Windows throughout are ENERGY STAR qualified or have a U value ≤ 0.35 (NFRC label).
List manufacturer _____

- 17. (2) Windows throughout have a U value ≤ 0.26 (NFRC label).
List manufacturer _____

- 18. (1) Windows throughout have an air leakage rating ≤ 0.06 cfm/ft.
List manufacturer _____

- 19. (1) 25% of windows fitted with insulated window coverings.
- 20. (1) No metal frame windows in house, including basements, unless thermally broken.
- 21. (1) East facing glass NFRC label solar heat gain coefficient (SHGC) less than 0.40.
List manufacturer _____

- 22. (1) West facing glass NFRC label solar heat gain coefficient (SHGC) less than 0.40.
List manufacturer _____

- 23. (2) South facing glass shaded by exterior shading in May, June and July at 12 noon.
- 24. (1) Use clerestory windows for natural lighting.

- 25. **(1-5)** Utilize an approach not listed that meets the goals of this section.
List approach _____

MECHANICAL SYSTEMS

- 26. **(1)** Install a 90%-94% efficiency furnace (ENERGY STAR label encouraged).
List manufacturer & model # _____
- 27. **(2)** Install a 95% or higher efficiency furnace (ENERGY STAR label encouraged).
List manufacturer & model # _____
- 28. **(1)** Furnace located to minimize length of total duct runs.
- 29. **(1)** Install a 92% or higher efficiency condensing boiler.
- 30. **(2)** Furnace is equipped with an electronically commutated motor (ECMs) - (variable speed motor).
List manufacturer & model # _____
- 31. **(1)** High efficiency air conditioner or heat pump (ENERGY STAR qualified, SEER 14+ or COP 4.5+) if A/C provided.
List manufacturer & model # _____
- 32. **(2)** No ductwork located in unconditioned space or exterior walls.
- 33. **(1)** Ductwork in unconditioned space or exterior walls insulated (R-13 min.).
- 34. **(1)** Duct design complies with Manual D or equivalent.
- 35. **(2)** HVAC supplies and returns are fully ducted (no use of building cavities).
- 36. **(1)** All ductwork joints sealed (mastic or aluminum tape).
- 37. **(2)** Airflow for each duct run measured and balanced to within 15 cfm of design value.
- 38. **(1)** High efficiency whole house fan installed with R-38 min. insulated cover.
- 39. **(1)** Two properly supported ceiling fans installed (ENERGY STAR label encouraged).
- 40. **(1)** Ceiling fan pre-wires provided in habitable rooms (min. 2 prewires not including bedrooms).
- 41. **(2)** Heat Recovery Ventilator (HRV) installed.
List manufacturer _____
- 42. **(3)** Energy Recovery Ventilator (ERV) installed.
List contractor _____

- 43. **(3)** Geothermal heat pump. (ENERGY STAR labeled encouraged).
List contractor _____
- 44. **(1-5)** Zoned HVAC system (1 point per additional zone).
- 45. **(4)** No air conditioning.
- 46. **(1)** Whole house electricity monitoring system installed.
- 47. **(1)** Document proper sizing of HVAC system using Manual J or equivalent.
- 48. **(1)** High efficiency fireplace such as direct vent gas, Rumford, or masonry heater or no fireplace installed.
- 49. **(1-5)** Utilize an approach not listed that meets the goals of this section.
List approach _____

APPLIANCES

- 50. **(1)** Provide gas rough-in for appliances.
- 51. **(1)** Appliances performing in top 10% of the Energy Guide rating (score one point for each appliance).
___ dishwasher ___ refrigerator
___ washing machine ___ microwave
Other: list _____
- 52. **(1)** Provide exterior clothesline.
- 53. **(1-5)** Utilize an approach not listed that meets the goals of this section.
List approach _____

LIGHTING AND ELECTRICAL SYSTEMS

- 54. **(1)** Light-colored interior walls, ceiling and soffit. Mid tone to light color flooring/carpet (min. 75%).
- 55. **(1)** Install ENERGY STAR qualified light fixtures (min 4 fixtures).
- 56. **(1)** Furnish five compact fluorescent light bulbs to homeowner. (ENERGY STAR labeled encouraged).
- 57. **(1)** Compact or linear fluorescent lighting in place of incandescent down-lights.
- 58. **(1)** Install lighting dimmers, timers, or motion detectors (min. 4 fixtures).
- 59. **(1)** Motion detector activators or photocells/ timers on all exterior lighting.
- 60. **(1)** Solar powered walkway or outdoor area lighting (min. 6 fixtures).
- 61. **(1)** Solar tubes for interior daylighting.
- 62. **(5)** Solar electric (photovoltaic) system installed (5 pts per kW of generation capacity).
Generation capacity _____

- 63. (2) Provide at least 400 sq.ft. of roof area that is within 15 degrees of south and tilting between 20 and 70 degrees from the horizontal for a future solar electric system. The roof area should be less than 5% shaded over an annual basis. Also install a conduit from the attic to the utility panel that is clearly labeled "future solar electric system wiring" for easy identification at a later date.
- 64. (3) No can lights in insulated ceiling.
- 65. (3) Home has an ENERGY STAR Advanced Lighting Package (ALP).
- 66. (2) LEDs used in lieu of CFLs or incandescents for general, task or accent lighting
- 67. (5) Fuel cell installed for electricity generation (5 pts per 5 kW of generation capacity).
- 68. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

INTEGRATED CLIMATIC DESIGN

- 69. (4) Passive solar heating design package (includes orientation, south glazing/ floor area ratio, orientation specific low-e tuning, summer shading, and thermal mass design).
- 70. (4) Passive cooling design package (includes orientation, summer shading, thermal mass, attic ventilation, additional ceiling fans, heat recovery ventilation and natural ventilation design).
- 71. (5) Project is LEED certified
- 72. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION C Subtotal _____

SECTION D: MATERIALS SELECTION

(At least 6 points required for all homes)

EXTERIOR

- 1. (1) Design house features to reduce materials consumption (e.g. patios in place of decks).
- 2. (1) Masonry and stone salvaged.
List source _____
- 3. (1) Masonry and stone regionally produced (within 500 miles).
List supplier _____
- 4. (1) Decks, site furnishings and/or other outdoor structures constructed with sustainable, low-toxicity materials: reused wood, certified sustainable yield wood, or recycled plastic/ wood fiber composites.
List product _____

- 5. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

BELOW GRADE

- 6. (1) Recycled fly ash concrete (min. 15% flyash content).
List contractor _____
- 7. (2) Cast-in-place insulating concrete forms.
- 8. (3) Insulated pre-cast concrete foundation systems.
- 9. (2) Cast in place footing forms with integral drainage features.
List product _____
- 10. (1) Reusable foundation forms used to reduce waste (e.g. metal rather than site built wood forms).
- 11. (1) Low toxicity form release agents used on concrete form work.
List product _____
- 12. (1) Non-asphalt based damp proofing.
List product _____
- 13. (1) Water based waterproofing systems.
List product _____
- 14. (2) Frost protected shallow foundation.
- 15. (1) Reusable foundation bracing not constructed of framing lumber used.
- 16. (1) House built on 3'9" foundation walls (90% of foundation walls).
- 17. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

STRUCTURAL FRAME

- 18. (1) Provide weather protection for stored materials.
- 19. (1) No use of 2x10 or greater dimension solid lumber in floors or roof systems.
- 20. (1) Use prefabricated insulated headers.
- 21. (1) Engineered wood "I" joists or truss joists used for floors.
- 22. (1) Trusses or "I" joists used for roofs.
- 23. (1) Engineered lumber products for beams, joists or headers.
- 24. (1) Finger-jointed studs, engineered stud material, or plate materials.

- 25. **(4 points possible)** Optimum Value Engineering (O.V.E) advanced framing package (e.g. 24" O.C. studs, 3 stud corners, etc.) as developed by the NAHB. **For every three strategies selected receive 1 pt:**
 - frame greater than 16" centers,
 - single top plate,
 - optimized header sizes,
 - 2'-0" framing module,
 - centralized cutting areas,
 - detailed job-site framing plans,
 - two stud corners,
 - ladder backing/ drywall clips,
 - header hangers,
 - reduced cripples/ jacks,
 - optimized sheathing,
 - reduced waste factor
- 26. **(3)** Use of reused timber or framing lumber (min. 25% lumber usage).
- 27. **(2)** Use of energy efficient 2x4 exterior wall system.
- 28. **(2)** Use of panelized construction.
- 29. **(4)** Use of alternative building systems with significant environmental performance features such as SIPS, ICFs, Fasswall, Autoclaved Aerated Concrete.
List system _____
- 30. **(5)** Other climate appropriate natural building system such as strawbale.
List system _____
- 31. **(2)** Structural wood that is regionally grown, milled, and produced (at least 50% of wood used).
- 32. **(3)** Structural wood from (FSC, Smart Wood or equivalent) certified sustainably managed forests (at least 50% of wood used).
- 33. **(1)** Advanced rim joist insulation (prefabricated insulated rim joist, spray foam insulation, or other similar technique).
- 34. **(1)** Recycled content steel framing with adequate thermal break used instead of wood
- 35. **(1-5)** Utilize an approach not listed that meets the goals of this section.
List approach _____

ENVELOPE, WALLS AND CEILING

- 36. **(1)** Large roof overhangs to extend life of siding finishes: 24" horizontal projection min.
- 37. **(1)** Use of non-sealed insulating glazing or sash designs that allow for insulated glazing unit replacement without requiring sash replacement.
- 38. **(1)** Fiber-cement or wood composite siding (min. 50% of siding used).
- 39. **(2)** Recycled content sheathing (min. 50% pre- or post-consumer recycled content).
List product _____

- 40. **(1)** Recycled content siding (min. 50% pre-consumer).
List product _____
- 41. **(2)** Recycled content siding (min. 50% post-consumer).
List product _____
- 42. **(1)** Recycled content fascia, soffit, or trim (min. 50% pre-consumer).
List product _____
- 43. **(2)** Recycled content fascia, soffit, or trim (min. 50% post-consumer).
List product _____
- 44. **(1)** Metal siding with long-life factory finish. (min. 25% of siding used)
- 45. **(1)** Natural cementitious stucco.
- 46. **(2)** Continuous drainage plane behind siding.
- 47. **(3)** Vented rain screen behind siding.
- 48. **(2)** Drywall with at least 90% recycled-content gypsum.
List product _____
- 49. **(1)** High strength 1/2-inch drywall substituted for 5/8 drywall on ceilings.
List product _____
- 50. **(3)** Plywood, OSB or other sheathing from (FSC, Smart Wood or equivalent) certified sustainably managed forests (at least 50% of sheathing used).
- 51. **(2)** No vinyl siding, soffit, fascia, trim, or windows.
- 52. **(1)** Factory finished wood, fiber cement, or composite siding.
- 53. **(1)** Siding and exterior trim primed on all sides.
- 54. **(1)** Brick or stone siding on 75% or more of the home's exterior.
- 55. **(1)** Flexible, self adhering rubber flashing installed around all windows and integrated with drainage plane.
- 56. **(1)** Insulated sheathing used.
- 57. **(1-5)** Utilize an approach not listed that meets the goals of this section.
List approach _____

INSULATION

- 58. **(1)** Recycled content insulation (min. 25% recycled content and min. 50% of insulation).
List product _____
- 59. **(2)** Blown/sprayed-in insulation used at walls.
- 60. **(3)** Natural insulation (cotton, bio-based foam, etc) used (min. 50% of insulation).
- 61. **(1)** Below slab insulation installed.

- 62. (1) Exterior foundation walls insulated with min. 1" of foam insulation.
- 63. (2) Exterior foundation walls insulated with min. 2" of foam insulation.
- 64. (1) Variable permeance or "smart" vapor retarder installed.
- 65. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

ROOF

- 66. (1) Recycled content roofing material (min. 25% recycled content).
List product _____
- 67. (2) Minimum 40-year roofing material including asphalt, concrete, slate, clay, composition, metal, rubber or fiberglass.
- 68. (3) Minimum 50-year roofing material including asphalt, concrete, slate, clay, composition, metal, rubber or fiberglass.
- 69. (3) Plywood, OSB, or other roof decking from (FSC, Smartwood or equivalent) certified sustainably managed forests (at least 50% of decking used).
- 70. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SUB-FLOOR

- 71. (1) Recycled content underlayment (100% of underlayment used).
List product _____
- 72. (3) Plywood or other subfloor from (FSC, Smart Wood or equivalent) certified sustainably managed forests.
- 73. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

FINISH FLOOR

- 74. (1) Bamboo flooring (min. 100 sq.ft).
- 75. (1) Cork flooring (min. 100 sq. ft.).
- 76. (2) Flooring made from reclaimed (recycled) wood (min. 50% of wood flooring).
- 77. (2) Recycled content ceramic tile (min. 50% of tile used).
- 78. (2) Salvaged stone or masonry flooring.
- 79. (1) Recycled content carpet pad (100% of pad used).
- 80. (1) Recycled content carpet — tacked not glued (min. 50% of carpet used).

- 81. (2) Carpet provided by a company that agrees to take it back for recycling at the end of its useful life.
- 82. (3) Flooring from (FSC, Smart Wood or equivalent) certified sustainably managed forests (min. 50% of wood flooring).
- 83. (2) No vinyl flooring or base trim.
- 84. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

DOORS, CABINETS AND TRIM

- 85. (1) Recycled content doors or MDF.
List manufacturer _____
- 86. (1) Domestically grown interior wood panel doors.
- 87. (1) Finger jointed trim or MDF (min. 75% of trim stock).
- 88. (1) Domestic hardwood trim (min. 75% of trim stock).
- 89. (1) Recycled content countertops (e.g. Environ, Richlite).
- 90. (1) Concrete, regionally produced, or regionally quarried countertops.
- 91. (2) Use of reused hardwood trim, cabinets, and/or doors (min. 25% of stock).
- 92. (3) Hardwood trim from (FSC, Smart Wood or equivalent) certified sustainably managed forests(min. 50% of wood trim).
- 93. (3) Finish grade plywood from (FSC, Smart Wood or equivalent) certified sustainably managed forests(min. 50% of finish plywood).
- 94. (2) Wheat or strawboard materials used in place of particleboard.
- 95. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION D Subtotal _____

SECTION E: INDOOR AIR QUALITY

(At least 5 points required for all homes)

- 1. (1) Take measures to avoid air pollution or IAQ problems due to construction dust.
- 2. (2) Garage physically separated from house.
- 3. Measures taken to reduce carbon monoxide infiltration using one of the following four methods **(maximum of one point)**.
 _____ continuous air barrier separation
 _____ weather-sealed door
 _____ exhaust fan in garage on timer or wired to door opener
 _____ garage ventilated to neutral pressure

- 4. (1) Foundation drainage system tied to sealed sump pit for potential radon mitigation.
- 5. (1) Locked, vented chemical storage cabinet provided outside of living space.
- 6. (1) Operable windows on two walls for rooms with two exterior wall surfaces.
- 7. (1) High efficiency media air cleaner such as April Aire 2200/2250/2400.
- 8. (1) Furnace and /or duct mounted electronic air cleaner such as April Aire 5000.
- 9. (1) Furnace and /or duct mounted HEPA filter.
- 10. (1) All ductwork joints sealed with water based, low V.O.C. mastic (< 30g/l) or metalized tape.
- 11. (2) Hydronic heating system (serving min. 75% of conditioned space).
- 12. (1) Central vacuum system vented to the exterior (excludes garage).
- 13. (1) ENERGY STAR qualified residential ventilating (bath) fans used.
List manufacturer & model # _____
- 14. (4) House meets American Lung Association Health House standards.
- 15. (1) Automatic tub/shower room fan controls such as timers or humidistats.
- 16. (1) Bath fans installed with smooth ducting and short, straight runs.
- 17. (1) Spring loaded, weather stripped fan dampers installed.
- 18. (2) Whole house dehumidification system installed.
- 19. (1) Free-standing, high efficiency, high capacity dehumidifier with built-in heater.
- 20. (1) Use non-toxic cleaners.
- 21. (1) Ventilate the home after each new finish is applied.
- 22. (1) Clean ducts and furnace thoroughly just before the homeowner moves in.
- 23. (1) Washed stone installed under basement slab for potential radon mitigation.
- 24. (1) Rough-in venting provided for potential radon mitigation.
- 25. (1) UV light in supply duct.
- 26. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

IAQ MATERIALS

- 27. (2) Formaldehyde-free insulation.
- 28. (1) GreenGuard or equivalent certified low formaldehyde insulation.

- 29. (1) Batt insulation that is encapsulated or otherwise non-irritating.
- 30. (2) Non-toxic spray foam insulation.
- 31. (1) Urea formaldehyde-free sub-floor and underlayment material.
List product _____
- 32. (2) Use of hard surface floors such as wood, concrete, tile or linoleum (min. 50% of floor area).
- 33. (3) Use of hard surface floors such as wood, concrete, tile or linoleum (min. 90% of floor area).
- 34. (2) Natural linoleum with low toxic adhesives and backing in place of all vinyl flooring.
- 35. (2) Natural material carpet (wool, sisal, etc) - tacked not glued (100% of carpet used).
- 36. (1) Natural material carpet padding (natural rubber, wool, 100% of padding used).
- 37. (1) Carpet and Rug Institute Green Label IAQ label on all carpet used.
- 38. (2) Carpet and Rug Institute Green Label +Plus IAQ label on all carpet used.
- 39. (1) Hardboard content doors with MDI or non-toxic binders.
List supplier/product _____
- 40. (1) All cabinets, shelves, and countertops made with formaldehyde free materials: solid wood, formaldehyde free particleboard or MDF (medium density fiberboard), metal with natural or baked enamel factory finish.
List supplier/product _____
- 41. (1) All exposed particleboard containing formaldehyde sealed with non-toxic sealer.
- 42. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

IAQ FINISHES AND ADHESIVES

- 43. Low V.O.C paints (<150 g/l) used throughout.
One point each:
 ___ interior primer,
 ___ interior finish,
 ___ exterior primer,
 ___ exterior finish
 List supplier/product _____
- 44. Non-toxic zero V.O.C. paints used throughout (AFM Safecoat or equivalent). **Two points each:**
 ___ interior primer,
 ___ interior finish,
 ___ exterior primer,
 ___ exterior finish
 List supplier/product _____

- 45. Water based, "low V.O.C." adhesives used throughout.
One point each:
 construction adhesive,
 cove base adhesive,
 PVC adhesive,
 thinset mortar,
 other
 List supplier/product _____
- 46. (1) Water-based urethane finishes on wood floors.
- 47. (1) Water-based finishes on woodwork.
- 48. (1) Supply workers with V.O.C. safe masks if using high V.O.C materials.
- 49. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION E Subtotal _____

SECTION F: PLUMBING AND WATER CONSERVATION

- 1. (1) Front loading, horizontal axis clothes washer.
- 2. (1) Select bathroom faucets with GPM less than code or install low-flow aerators.
- 3. (1) Select kitchen faucets with GPM less than code or install low-flow aerators.
- 4. (1) Select showerheads with GPM less than code or install low-flow aerators.
- 5. (1) Manifold plumbing system with PEX tubing.
- 6. (2) Composting toilet.
- 7. (2) Rough-in for future greywater recovery system.
- 8. (4) Greywater recovery system installed.
- 9. (1) No garbage disposal.
- 10. (2) No PVC piping for drains, wastes and vents.
- 11. (1) All showers are equipped with only one showerhead.
- 12. (1) Dual flush or ultra low flow toilet with GPF less than code.
- 13. (1) Passive or loop hot water delivery system installed at the farthest location from hot water heater (lines must be insulated).
- 14. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

WATER HEATING

- 15. (3) Gas water heater with energy factor of more than .62 for direct vented.
List manufacturer & model # _____
- 16. (3) High efficiency central domestic hot water heating system.

- 17. (2) No use of electric domestic hot water heating equipment.
- 18. (1) Water heater within 20 pipe feet of dishwasher and clothes washer.
- 19. (1) All other fixtures within 20 pipe feet of water heater or provide heat trap.
- 20. (2) Insulate all hot water lines to minimum R-4.
- 21. (1) Insulate hot and cold water pipes 3 feet from the hot water heater.
- 22. (3) On-demand (tankless) hot water delivery system.
List manufacturer & model # _____
- 23. (1) Water heater heat pump.
List manufacturer & model # _____
- 24. (3) Drain water heat recovery unit installed.
- 25. (2) Combined high efficiency domestic hot water/ space heating system.
- 26. (2) Provide south roof area for future solar domestic hot water heating system (min. 300 sq. ft. within 15 degrees of south with the panels 20-60 degrees from the horizontal) and plumbing rough-in for solar water heating system (separate cold water supply plumbed to roof and hot water return plumbed to water heater).
- 27. (4) Active solar domestic hot water heating system installed (Min. 50% of water heating load).
- 28. (1) Water heater timer installed.
- 29. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION F Subtotal _____

SECTION G: WASTE REDUCTION, RECYCLING AND DISPOSAL

(At least 1 point for all homes in addition to items required by state law)

- 1. (1) Posted job site recycling plan.
 - 2. Recycle or reuse job site waste, **1 point for each material:**
 - glass, aluminum cans and plastic bottles (required by state law, no point)
 - cardboard (required by state law, no point)
 - ___ asphalt roofing (75% landfill diversion)
 - ___ wood scraps (75% landfill diversion)
 - ___ pallets (75% landfill diversion)
 - ___ metal (75% landfill diversion)
 - ___ gypsum wall board (75% landfill diversion)
 - ___ brick and block (75% landfill diversion)
 - ___ other
- List: _____

- 3. (1) Obtain products from suppliers that use recyclable or reusable packaging or arrange to take back their packaging.
List supplier(s) _____
- 4. (1) Reuse or recycle asphalt or concrete rubble.
- 5. (2) Require subcontractors (contract language) to participate in waste reduction and recycling efforts.
- 6. (1) Dispose of non-recyclable hazardous wastes at legally permitted facility.
List waste: _____
- 7. (1) Install garage recycling center for homeowner use.
- 8. (1) Built-in kitchen recycling center to include two or more bins.
- 9. (1) Provide kitchen scrap compost bin.
- 10. (2) Track and prominently post waste reduction results on site.
- 11. (1) On site grinding of wood construction debris.
- 12. (1) Document substantial design strategies to reduce waste from construction.
- 13. (2) Design for disassembly, reuse, and recyclability.
- 14. (1) Donate excess materials to a non-profit organization or charity.
- 15. (5) Disassemble existing buildings and reuse or recycle the building materials (deconstruction) instead of demolishing. (at least 75% landfill diversion).
- 16. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION G Subtotal _____

SECTION H: BUILDER OPERATIONS

- 1. (1) At least 80% of homes built to Green Built Home standards annually.
- 2. (1) At least one recent action taken to visibly market Green Built Home program.
List action, location, and date _____
- 3. (1) Conduct homebuyer orientation during final walk-through (point out Green Built features, how to maintain them, operate them, etc).
- 4. (1) At least one recent training event conducted for realtors or sales staff.
- 5. (3) Provide homebuyer with guaranteed energy bills at least 25% below the average of that for a typical new home of the same square footage and features.
- 6. (1) Builder attendance at one recent green building related educational event.
List event, sponsor, and date: _____

- 7. (1-3) Builders own idea for innovation, education, and encouraging homeowners to take care of their home in an environmentally friendly way (Ex. Provide homeowners with environmentally friendly cleaning products).
List idea: _____
- 8. (1) Establish a "Green Team." Identify employees and/or subcontractors, their roles and how they relate to various phases of green development and building.
- 9. (1) Create and implement an integrated design process to increase communication between the owner, design team, general contractor, subcontractors, the city's building department and other stakeholders.
- 10. (1) Provide homeowner with information and enrollment materials for the local utility's renewable energy program.
- 11. (2) Provide the buyer with the first year enrollment costs of 100% of electricity provided by the local utility's renewable energy program.
- 12. (1-5) Use suppliers whose operations and business practices include environmental management system concepts (the product, plant, or company must be ISO 14001 or equivalent certified). 1 point per supplier, min. 50% of purchased material coming from each supplier.
List supplier/product _____
- 13. (1) Use products that are Cradle to Cradle Certified. (1 point per product.)
List products _____
- 14. (3) Builder's own operations and business practices include environmental management system concepts (the builder must be Green Tier, ISO 14001 or equivalent certified).
- 15. (5) Perform and review a life cycle assessment (LCA) to compare the environmental effects of building materials and home designs.
- 16. (3) Building systems commissioning conducted.
- 17. (1) Homeowner provided with an operations and maintenance manual.
- 18. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION H Subtotal _____

SECTION I: EFFICIENT USE OF SPACE

- 1. (1) Above Grade finished and conditioned space 2500-2250 sq.ft.
- 2. (2) Above Grade finished and conditioned space 2249-2000 sq.ft.
- 3. (3) Above Grade finished and conditioned space 1999-1750 sq.ft.

- 4. (4) Above Grade finished and conditioned space 1749-1500 sq.ft
- 5. (5) Above Grade finished and conditioned space <1500 sq.ft.
- 6. (1) Lot size less than 7,500 sq.ft.
- 7. (1) Provide an accessory dwelling unit (garage apartment, granny flat, etc.)
- 8. (2) Home designed for flexibility to allow for changing uses in the future (rough-ins for future bathrooms, finish flooring runs under partitions, reconfigurable spaces, etc.)
- 9. (2) Home utilizes incremental design techniques with documented provisions to expand to meet future growing needs (roof trusses designed for additions, room layouts configured for additions, etc.)
- 10. (1) Living space provided in a finished basement.
- 11. (1) Living space provided in a finished attic.
- 12. (1) Bonus room provided over garage.
- 13. (1) Home is a unit in a co-housing development.
- 14. (1) Home shares a common driveway with at least one other building.
- 15. (1-5) Utilize an approach not listed that meets the goals of this section.
List approach _____

SECTION I Subtotal _____

Basic Requirements subtotal	
SECTION A Subtotal	
SECTION B Subtotal	
SECTION C Subtotal	
SECTION D Subtotal	
SECTION E Subtotal	
SECTION F Subtotal	
SECTION G Subtotal	
SECTION H Subtotal	
SECTION I Subtotal	
TOTAL	

I certify that the preceding information is complete and accurate and that all requirements for Green Built Home certification have been met or exceeded.

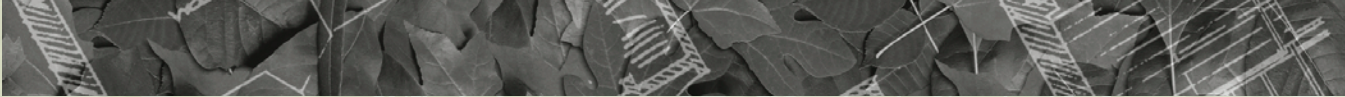
BUILDER'S SIGNATURE

DATE



WISCONSIN
ENVIRONMENTAL
INITIATIVE

16 N. Carroll St. Suite 840
Madison, WI 53703
Phone: 608-280-0360
Fax: 608-280-0361
E-mail: contact@greenbulthome.org
Web site: www.greenbulthome.org



Printing donated by MGE



WISCONSIN
ENVIRONMENTAL
INITIATIVE



Green Built Home was founded in 1999 by Wisconsin Environmental Initiative in partnership with the Madison Area Builders Association. Green Built Home is administered throughout the state of Wisconsin and reaches thousands of homebuyers and builders through our collaborations with Builders Associations and other affiliated organizations.