MILWAUKEE CRAFTSMAN LLC

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Green Design Checklist

Green Design or Green Architecture is the design, construction and operation of buildings that are energy efficient, built from sustainable resources, and promote the user's health and safety.

We encourage everyone building (or remodeling) a home to practice green design. Below is a checklist that can assist you in planning and constructing your home. Achieving all the items on this list may not be practical, but it will help you make better decisions throughout the building process.

LOCATION AND LAND USE

- ❑ **Seek out in-fill development lots or land reuse sites instead of participating in urban sprawl.**
- ❑ **Locate near mixed-use or commercial zones where automobile use can be minimized.**
- ❑ **Locate near public transportation, bicycle or walk paths to minimize automobile use.**
- ❑ **Avoid building on sites that will impact wildlife habitats or wetlands.**
- ❑ **Situate building on its site to benefit from existing vegetation and landforms.**
- ❑ **Situate building on its site to optimize natural ventilation.**

SITE AND LANDSCAPING

- ❑ **Practice proper erosion control methods when doing site work.**
- ❑ **Protect existing trees during construction.**
- ❑ **Save and reuse topsoil during construction. Balance the cut and fill on the site to avoid removing or trucking in additional fill.**
- ❑ **Landscape with as much permeable surface as possible.**
- ❑ **Landscape with native or non-invasive plantings.**
- ❑ **Minimize fertilizer and pesticide use.**
- ❑ **Allocate a space on your site for composting.**

GENERAL BUILDING DESIGN

- ❑ **Don't over build. It is more important to have a quality home than a large one.**

- **Incorporate passive solar, day lighting and natural cooling to minimize the use for mechanical systems.**
- **Simplify the building geometry to minimize waste during construction. Simplify framing and roof planes. Avoid cluttered facades.**
- **Collect rooftop water or redirect it in a way to avoid the impact of storm water on the surrounding area. Consider using collected rainwater for irrigation if possible.**
- **Minimize the use of dimensional lumber in floor and roof framing. Engineered lumber, "I joist" and trusses are preferred.**
- **Optimize header and beam sizes.**
- **Provide large roof overhangs.**
- **Provide a minimum of an 8" heel on all roof trusses.**
- **Use high quality window and door systems.**
- **Avoid metal frames that are not thermally broken on exterior walls.**
- **All exterior glazing should be gas filled, double or triple glazed, insulated glass with a low E film.**
- **Provide convenient spaces for collecting and storing recyclables. Recycling containers should be provided in the kitchen.**
- **Detach the garage from the house when ever possible.**
- **If the garage is not detached, provide weather-sealed doors between garage and home. Garage should be well ventilated.**
- **Provide a locked chemical storage cabinet outside the living area.**
- **Operable windows should be located on 2 or more walls in each room.**
- **Provide an exterior clothes line.**
- **If radiant floor slabs are used, be sure to provide adequate insulation under the slab, thermal-breaks around the perimeter and a vapor barrier.**
- **Avoid installing a garbage disposal.**

MATERIAL SELECTION

- **Construct decks from sustainable, low toxicity materials, reclaimed wood, or plastic/wood fiber composite material.**
- **Consider using foundation systems that combine poured in place concrete with insulated forms.**
- **Use non-asphaltic foundation damp proofing systems.**
- **Use locally produced masonry and stone.**
- **Use cement fiberboard siding and trim products over solid lumber wherever possible.**
- **Avoid vinyl siding products.**
- **Use a minimum of 30 year roofing material.**

- **Use roof, floor, and wall sheathing made from fast growth lumber.**
- **Hard surface flooring such as bamboo, cork and natural linoleum are preferred over hardwoods.**
- **Investigate using hard surface flooring from reclaimed material such as stone, hardwood, or masonry.**
- **Avoid using vinyl flooring and base products.**
- **Use hard surface flooring over carpet wherever possible.**
- **Carpet, when used, should be of natural fibers and tacked in place, not glued.**
- **Use MDF board with wood veneer rather than solid lumber.**
- **If needed, use hardwood from sustainably managed forests.**
- **Use formaldehyde-free sub-floor and underlayment material.**
- **Use wheat or straw board materials in lieu of particleboard.**
- **Avoid PVC piping wherever possible.**
- **Avoid using insulation made with HCFC's. Use formaldehyde-free insulation.**
- **Encapsulate all batt insulation within wall and roof construction.**
- **Use non-toxic spray foam insulation where foam insulation is needed.**
- **Use water based low VOC adhesives where adhesives are required.**
- **Use low VOC or non-toxic zero VOC paints.**
- **Use water-based urethane finishes on wood where transparent or semi-transparent finishes are desired.**

MECHANICAL SYSTEMS

- **Use 95% or higher high-efficiency, multi-zone furnaces.**
- **Use programmable set-back thermostats in each zone.**
- **Provide high-efficiency air conditioning systems.**
- **Provide high-efficiency water heating.**
- **Use furnace or duct mounted HEPA filters within easy access for changing.**
- **Install all ductwork within the insulating envelope.**
- **Locate the furnace to minimize the length of duct runs.**
- **Locate the water heater to minimize the length of hot water piping.**
- **Insulate water piping.**
- **Use a heat recovery ventilating system.**
- **Install water-conserving plumbing fixtures.**
- **Select gas appliances over electric.**
- **Select appliances with high-efficiency ratings.**
- **Install high-efficiency light fixtures wherever possible.**

- **Do not install recessed can lights in insulated ceilings.**
- **Install lighting dimmers, timers and motion detectors wherever possible.**
- **Fireplaces should have outside combustion air.**
- **Wood burning fireplaces should have sealable gasketed doors.**

CONSTRUCTION PRACTICES

- **Seek out a contractor who understands and voluntarily participates in green design practices. A contractor who participates in programs or is a member of green design associations.**
- **Seek out responsible suppliers of lumber and other materials. Use lumber from independently certified, well-managed forests. Avoid lumber from old growth timber.**
- **Have your builder prepare an erosion control plan to minimize onsite erosion during construction. The site should be submitted to the local municipality for approval. Visit the site during construction to verify that erosion control measures in the plan are being followed.**
- **Have you contractor prepare a recycling plan. Include containers or an area for materials such as cardboard, wood and rubble. Reuse concrete and asphalt rubble in backfilling and grading.**
- **Avoid having material and equipment packaged for shipping with plastic and cardboard whenever possible. Request that suppliers use reusable packaging that they can take back.**
- **Dispose of any non-recyclable or hazardous material at a legally permitted facility.**
- **Select locally produced and manufactured materials and equipment whenever possible.**
- **Use salvaged or reclaimed materials whenever possible.**
- **Provide weather protection for stored material.**
- **Insulate all voids in the exterior wall construction including between headers, corners, and around plates.**
- **Caulk sill plates at foundation and rim boards.**
- **Caulk all gaps around ductwork, wiring, and plumbing that penetrate exterior walls.**
- **Supply workers with VOC masks when working with finishes.**
- **Meet with your contractor periodically during construction to discuss green design practices being used.**
- **Use environmentally friendly cleaning products during final cleaning and throughout the operation of your home.**