Green Building Options Checklist

"GREEN" construction

is a holistic approach to building and remodeling that encompasses healthy air quality, sustainable building materials, water conservation, energy efficiency and environmentally friendly landscaping. Investing in green construction for your project will help protect the environment and often save you money over the life time of the improvements.

Exterior

For decks: use wood made with 50 percent or more recycled content. Make sure the product has been tested and approved for use in Minnesota. Or use treated wood that does not contain chromium or arsenic, check the label or ask your lumber salesperson if the connectors are compatible with it. **www.ci.minneapolis.mn.us/inspections** click on "Applications, forms & handouts" then "wood decks"

For pitched roofs: choose 40-year shingles or install a metal roof.

Buy the best windows you can afford: for energy efficiency in insulating and preventing infiltration and durability. Insist on third-party documentation of the "U value" (the lower the better) and air-tightness rating. **www.eere.energy.gov/consumer/tips/windows.html**

When using oriented strand board (OSB) make sure it is low or zero formaldehyde.

Consider structurally insulated panels (SIPs). These are pre-fabricated panels made of rigid insulation sandwiched between oriented strand board. SIPs can be used for walls or roofs or floors. **www.eere.energy.gov/consumer/your_home/insulation_airsealing/index.cfm/mytopic=11740**

For poured concrete walls consider insulated concrete forms (ICFs) or thermal mass concrete walls - the insulation becomes an integral part of the poured concrete wall. **www.icc-es.org/News/ICF_public_notice.pdf**

Only use certified sustainably harvested wood. The Forest Stewardship Council is one of the recognized certification organizations. **www.fsc.org/en**

Protect trees and prevent soil erosion. If topsoil is moved during your project, save it and reuse it on the site.

Reduce waste: Use aluminum foundation forms or "ICFs" or reuse form boards when working with concrete.

Reuse materials: Salvage materials if an existing structure must be torn down to build new. Re-use salvaged materials (except as structural members) or contact a company specializing in reuse. **www.greeninstitute.org** **www.tchabitat.org/content/view/212/1**

Recycle waste: When hiring a solid waste hauler (e.g.: to rent a dumpster) make sure to check their recycling record. Waste haulers report this number to the county so the information should be available from the dumpster company.

Interior

Choose insulation that is formaldehyde-free and/or made of recycled materials.

Green flooring options include: reusing salvaged materials or re-milled lumber, natural linoleum, rapidly renewable materials such as cork and bamboo, sustainably harvested and certified wood, U.S. made ceramic tiles with 50 percent or more recycled content.

Use cabinet fronts made from reclaimed or re-milled wood. **www.buildingmaterials.umn.edu/06415_lc.html**

Use countertops made from recycled materials.

Choose low or no volatile organic compounds in primers, paints, varnishes, adhesives, caulks and sealants. **www.toolbase.org/Technology-Inventory/Interior-Partitions-Ceilings/low-voc-paints**

Major Appliances and Fixtures

Install a high efficiency heating system: At least 90 percent efficient with sealed combustion. You can use an integrated system that also heats your hot water. Make sure the system is the right size for your space and the amount of insulation you have. **www.commerce.state.mn.us** click on "Energy Info Center"

Install water efficient fixtures: Look for these specifications: 1.6 Gallons Per Flush toilets, 2.0 Gallons Per Minute showerheads, 1.5 Gallons Per Minute faucet aerators

Install a water heating system that conserves fuel: options include a high efficiency water heater, an instantaneous water heater, an integrated system with a furnace or boiler, solar hot water heating.

Install Energy Star appliances and lighting fixtures: these have been third-party tested to insure real savings. Look for Energy Star certification when choosing a refrigerator, dishwasher, washer, dryer, lighting etc. **www.energystar.gov**

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Look for these symbols on building materials.

A product is marked with this symbol was manufactured with some recycled material. Generally, additional information is conveyed with the symbol. When a percentage is indicated within the symbol, that percentage of the product has been made from recycled materials.

RPET

Plastic materials are recycled into building materials. Resins that have become a recycled product, are identified with an R in front of their component designation in order to denote that the material has been recycled.

FSC

The Forest Stewardship Council (FSC) certifies sustainably managed forestry operations, and tracks their timber through the supply chain to the end product, which can then carry this FSC ecolabel.

GREEN SEAL

A Green Seal-certified mark on a product means that it has gone through a stringent process to show that it has less impact on the environment and human health.

To obtain an energy audit of a property contact your utility provider.

Minimizing Storm Water Runoff

Note: Minneapolis has financial incentives for you to control your storm water. **www.ci.minneapolis.mn.us/stormwater/fee/** click on "applying for storm water quality or quantity credits"

Reduce impervious surfaces: An impervious surface is not absorbent — rainwater washes off it. Driveways and rooftops are prime examples. The ground runoff can be reduced by using specially shaped pavers for the driveway and walkway that allow the rainwater to pass between them into the soil. Rooftop runoff can be absorbed by having a rooftop garden. A roof top garden is a designed system using special light weight growing materials and a water proof roof membrane. Turning roofs into green space also helps diminish the heat island effect found in cities. **www.epa.gov/hiri/strategies/greenroofs.html** or **www.mngreenroofs.org**

Plant a rain garden: Rain gardens are landscaped and designed and constructed as a low point in a yard to collect rain water and filter it before it goes into the water table. They prevent rain runoff into storm sewers. Often swales (shallow ditches) are incorporated along the property line to direct runoff away from structures and neighboring property. Use the swales to divert the runoff from your roof and driveway to the rain garden. **www.ci.minneapolis.mn.us/stormwater/green-initiatives/rain-garden.asp**

Attach a rain barrel to your gutter: It attaches to your gutter from your roof and has a faucet so you can attach a hose and water your garden with the captured rain water. This prevents storm water runoff and could save you money on your water bill. **www.ci.minneapolis.mn.us/stormwater/green-initiatives/rain-barrel.asp**

Landscaping for Conservation

Plant trees to winter-protect and summer-cool your home: Use evergreens to the north to block wind and green leafy trees to the south for summer cooling. They'll lose their leaves for winter, so they won't block the sun in winter.

Plant a native garden: A native garden uses plants that are natural to our area — natural to the prairie. Native plants are adapted to our weather and soil conditions, reducing the need to use fertilizer, herbicides and irrigation. Use native plants in a planned landscaping design. **www.extension.umn.edu/distribution/horticulture/DG6065.html**

Plant low-maintenance grass: A low-maintenance grass is similar to a native garden in that the grass is hardy in our conditions. **www.extension.umn.edu**

For more information on building GREEN try these Web sites:

www.ci.minneapolis.mn.us or call 311– info on City programs: permits, recycling, financing and incentives, rain barrels, rain gardens, transportation and more. To view the expanded view of Green Building Options, type Green Building into the City's website search box.

www.mngreenstar.org Minnesota Green remodeling/building certification program

www.epa.gov/woodstoves U.S. Environmental Protection Agency wood stoves and inserts

www.greeninstitute.org Minneapolis Re-Use Center, Green Building Program and more

www.usgbc.org U.S. Green Building Council-Leadership in Energy and Environmental Design (LEED) certification

www.greencommunitiesonline.org sustainable home construction and low-income housing development

www.moea.state.mn.us/greenbuilding/index.cfm State of Minnesota green construction

www.iccsafe.org International Code Council building codes, new construction products

www.eere.energy.gov lots of recommendations for energy savings

www.commerce.state.mn.us or Call the Minnesota Energy Info Center at 651-296-5175 for info and brochures