



Noel Cross+Architects

# "GREEN" BUILDING ALTERNATIVES

The following is a partial list of some of the environmentally friendly, sustainable, or "green" building design concepts that we here at Noel F. Cross Architect AIA incorporate into our architectural practice. There are several alternatives/categories available when choosing Earth friendly design, so there is sure to be something that applies to almost anyone's level of "environmental commitment":

<b>GREEN BY DESIGN:</b> <ul style="list-style-type: none"> <li>▪ basic passive solar design techniques</li> <li>▪ natural flow through ventilation</li> <li>▪ south facing glass, limited north glass</li> <li>▪ interior mass walls and floors</li> <li>▪ calibrated overhangs/fins/sun shades</li> <li>▪ basic building siting/orientation</li> <li>▪ landscape placement/protection</li> <li>▪ basic daylighting techniques</li> </ul>	<b>STRUCTURAL/SYSTEMS ALTERNATIVES:</b> <ul style="list-style-type: none"> <li>▪ fly ash in structural concrete vs. cement</li> <li>▪ manufactured strand lumber vs. standard</li> <li>▪ TJI floor, ceiling and roof joists vs. "sticks"</li> <li>▪ demolition &amp; construction recycling</li> <li>▪ cotton or cellulose insulation vs. fiberglass</li> <li>▪ rain water reclamation systems</li> <li>▪ high efficiency furnaces/boilers</li> <li>▪ ACQ pressure treated lumber vs. ACZA/CCA</li> </ul>
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<b>FINISH MATERIAL ALTERNATIVES</b>	
<ul style="list-style-type: none"> <li>▪ bamboo flooring vs. oak hardwood flooring</li> <li>▪ recycled content tile vs. imported stone</li> <li>▪ anything but carpet as floor material</li> <li>▪ linoleum or cork tile vs. sheet vinyl</li> <li>▪ wheat board vs. particle board</li> <li>▪ metal roofing/slate/tile vs. shakes</li> <li>▪ composite siding vs. redwood/cedar</li> </ul>	<ul style="list-style-type: none"> <li>▪ concrete countertops vs. granite</li> <li>▪ low-e windows/french doors vs. standard</li> <li>▪ non-formaldehyde content anything</li> <li>▪ compact fluorescent light fixtures/bulbs</li> <li>▪ low/zero VOC adhesives/sealants</li> <li>▪ low/zero VOC paints/stains/finishes</li> <li>▪ recycled/reclaimed lumber vs. standard</li> </ul>

<b>ENERGY EFFICIENT ACTIVE SYSTEMS</b>	
<ul style="list-style-type: none"> <li>▪ photo-voltaic solar for electricity loads</li> <li>▪ wind generator for electricity loads</li> <li>▪ hot water solar vs. gas fired</li> <li>▪ ground source heat pump system</li> </ul>	<ul style="list-style-type: none"> <li>▪ BIPV (Building Integrated Photo Voltaics) roofing, siding and glazing</li> <li>▪ radiant floor heating vs. forced air</li> <li>▪ pool/spa heating w/solar panels</li> </ul>

<b>100% FUNDAMENTALLY ENVIRONMENTAL BUILDING SYSTEMS</b>
<ul style="list-style-type: none"> <li>▪ rammed earth wall system</li> <li>▪ PISE (pneumatically impacted stabilized earth)</li> <li>▪ straw bale/plaster wall system</li> <li>▪ SIP (structural insulated panels) wall and roof systems</li> <li>▪ recycled lumber and strand lumber framing</li> </ul>

**Materials, products, method, and processes are evaluated for their overall environmental Life Cycle costs. Criteria considered in a Life Cycle analysis include:**

- Resource Extraction –How is the product raw material extracted from the Earth?
- Transportation Costs –How far away does it come from, what transportation is involved?
- Manufacturing/Installation –What comes from the process of making the product, are there any harmful by-products or pollution?
- Use/Durability/Offgassing/Maintenance –What happens to it after it's installed?
- End Game Disposal –What do we do with it when it's time to dispose of the material?

Noel F. Cross Architect AIA also lives and works according to these ecological guidelines. We recycle disposable goods as much as possible (blueprint paper, office paper, bottles, cans, etc.) and two of my staff of five use alternative methods of getting to work (city bus, bicycle). All of our stationery is printed on recycled content paper w/soy based inks. We have been listed in the National Green Pages and regularly participate in environmental seminars and programs. Mr. Cross is building his own personal residence using passive solar design, rammed earth walls, radiant floor heating with a ground source heat pump, reclaimed lumber, and photo-voltaic solar panels.