



# GREEN

building & design  
the Krueger/Lefevre home



*From design through construction to finish, systems and landscaping, the Krueger/Lefevre home is an example of an energy-efficient, environment-friendly green home for Central Oregon.*

- Green building envelope
- Passive solar design
- Active solar systems
- Energy-efficient appliances and lighting
- Green finishes
- Desert-friendly landscaping

## J.B. Davis Construction

*Building finely detailed and energy efficient homes in Central Oregon for more than 15 years*

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## Cheryl Heinrichs Architecture

*A mind for building. An eye for beauty.*

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### the Krueger/Lefevre home

#### GREEN BUILDING ENVELOPE

- DURISOL® block walls. DURISOL® is a cement bonded wood fiber material. It is composed of specially graded recycled wood waste that is neutralized, mineralized, and bonded with Portland cement. A 3 inch layer of rock wool is added on the outer wall to minimized heat loss. This wall system is energy efficient, mold resistant, durable, and does not burn or out-gas.
- Structural Insulated Panel (SIPs) roof. Have a high R-value, prevent air transfer, and are easy to install.
- Metal roofing. Durable, zero-maintenance product

#### PASSIVE SOLAR DESIGN

- Solar room layout –Home orientation and window placement were carefully selected to capture the views and solar gain.
- Windows. Milgard fiberglass windows with increased solar heat gain coefficient are used on south facing windows to maximize solar gain in the winter. Remaining windows are well insulated glass to minimize heat gain and loss.
- Clearstory windows on South walls. Bring solar heat to North side rooms and create passive night-time cooling.
- Mass. Slab floors and Durisol blocks hold solar heat in winter and hold night-time cooling in the summer.
- Overhangs. Shade south windows in the summer and maximize solar gain in the winter.

#### ACTIVE SOLAR SYSTEMS

- Solar electricity. 1.8KWH photovoltaic system.
- Solar water heating. Provides hot water for heating and domestic uses
- Efficient heating and fresh air system. Lifebreathe heat-recovery ventilator/high efficiency forced air furnace with a solar hot water coil for added heat.
- On-demand hot water. Takagi instant water heater backs up solar hot water system.
- Circulating hot water. Provides hot water when required to avoid wasting water and save energy by shutting down when not in use.

#### ENERGY-EFFICIENT APPLIANCES AND LIGHTING

- Efficient appliances. Energy star rated appliances.
- Solar tubes. Provide natural lighting in window-less rooms.
- Naturally well lit rooms. Each room is daylite from at least two directions and most upstairs rooms have clearstory windows.
- Low energy lighting

#### GREEN FINISHES

- Long lasting & maintenance free products. Stucco finish w/ integral color, metal roofing, Trex decking, stained concrete floor and patios, stone flooring and patios, granite and tile counters.
- Recycled products. Trex decking (recycled wood/plastic), deck beams and roof beams.
- Green flooring. Wool carpet, cork, sustainably-harvested wood flooring.
- Green ceilings. Sustainably-harvested doug fir ceiling paneling
- Green walls. Low-VOC paints with non-toxic pigments, natural clay plaster,
- Green cabinets. Knotty alder cabinets with boxes constructed of EcoColors, a decorative M3 grade particle- board of FSC wood meeting environmental standards of low VOC with a natural acrylic surface
- Green closet shelving. EcoColors
- Clean air. In-wall vacuum system exhausts directly to the outside, minimizing dust

#### DESERT-FRIENDLY LANDSCAPING

- Preservation. The builder carefully preserved fragile desert eco-scape.
- Site walls. Local rock is used for all site walls.
- Preserving water. Zero-scape plants installed and water from the roof is directed to planting areas

#### ENERGY ANALYSIS

- This home exceeds the Oregon State Energy Department's requirements for a solar home. In addition, this home meets the Oregon State Energy Department's requirements for a o-Net Energy home.
- This home will only require heat 2 months and will not require air conditioning

*links to websites for the these materials and suppliers can be found at:*

[www.JBDavisConstruction.com](http://www.JBDavisConstruction.com)  
[www.CHArchitecture.com](http://www.CHArchitecture.com)