Kickapoo Mud Creek Residence: Design Program:

October 28, 2002

General Information:

- Owners: Kent and Kathy Lawrence
- Architect: Thom Greene, Greene & Proppe Design, Inc.
- Interior Designer: Rick Proppe, Greene & Proppe Design, Inc
- Contractor: Rick McCanse, McCanse Builders
- 105 South Daysville Road, Oregon, Il 61061
- (815)757-5665
- Site: 60 acres in Oregon, IL
- Building Location: Top of North facing hill, fairly dense wooded area
- Building: 2200 SF, including 300 SF loft and a 330SF garage

Project Priorities:

- Design building with a sense of belonging to the site.
- Design for minimal use of non-renewable sources.
- Protect and enhance site and ecosystem
- Select low-impact, resource-efficient materials
- Recycle all material not used during construction. No waste to landfill

Project Goal:

- To build a residence, utilizing sustainable architecture means and methods to create a model for future building.

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Site:

- Protect and enhance the site and ecosystem
- Building design for "sense of belonging" to site
- Ecological survey of land conducted to help decide what to protect
- Landscaping will restore/enhance existing natural ecosystem, no exotic vegetation to be introduced

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Materials:

- Products made form renewable sources and recycled materials wherever possible.
    - Fiber-cement siding
    - Recycled decking
- Use locally available materials & installers
- Certified sustainable framing lumber/plywood
- Lumber locally harvested and milled when other options are unavailable
- Low VOC exterior stains and sealants
- 2 x 6 framing for maximum R-value
- Cardboard cellulose as alternative to foam
- Roofing:
    - Metal system
        - Local distributors
    - Drip edge/perimeter gravel bed for roof water run-off
    - Framing members for span
        - Max R value/venting
    - Explore Glue-lam beams with framing infill

Energy:

- Minimize use of fossil fuels.
- Mechanical systems integrated in to the architecture
- Passive solar design including:
    - *Trombe* wall/heat mass system
- Heat Pump system to be explored
- Renewable energy systems used:
    - Solar panels,
    - Wind generator
- Residence remains on grid: Possible buy back program with Com Ed
- Radiant floor heat system used
- Highly insulated building envelope including high performance windows
- Fresh air exchanger
- Air to air heat exchange system

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- Tankless "on demand" water heater
- Deep cell/DC inverter system
- Zoned heating/cooling
    - Avoid heat/cooling of unused spaces

Daylighting:

- Roof/window orientation designed specifically for day lighting
- Passive solar transoms

Indoor Air Quality:

- Materials chosen to promote high indoor air quality
- Avoid use of CFC's or formaldehyde
- AMF sealants and paints used to avoid VOC's
- Passive solar ventilation
- Ceiling fans
- HEPA system

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Waste:

- Soil Waste:
    - Holding tanks w/septic field
        - Pea gravel vs plastic
- Utilize all materials, recycle unused materials, send no material to landfill
- Wood waste to be chipped, reused or burnt
- Rigid insulation cut to size at factory, avoid job site waste.
- Provide recycle waste bins/system
- Organic waste/composting

Other:

- Water conserving plumbing fixtures
- High efficiency appliances, light fixtures

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Project Consultants:

- Mechanical: Tom Weber, Weber Consultants
- Structural: Tim Kaye, Halvorson Kaye Structural Engineering
- Energy and Renewable Energy Systems:
  Bob and Sonia Vogl
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