

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

4 MAJOR PRINCIPLES OF “GREEN”

- Environment

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

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- Environment
- Energy Efficiency

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

4 MAJOR PRINCIPLES OF “GREEN”

- Environment
- Energy Efficiency
- Health
- Community

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

- **Water conservation**
 - Dual-flush toilets
 - Rain barrels
- **Stormwater management**
 - To reduce volume and stress on streams and creeks, which causes downstream flooding
 - Allows water to filter naturally and directed into aquifers



SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

- **Reduction of landfill waste**
 - Dismantling for reuse vs. demolition
 - Recycling materials means less packaging waste
- **Preservation of trees, shrubs etc.**
 - Reduces runoff & erosion/stabilizes ground
 - Natural aspiration of rain water to atmosphere
- **Air quality**
 - All of these points contribute to cleaner, healthier air

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

GREEN MATERIALS

Bamboo & Cork

- Cabinetry
- Flooring
- Ecological substitute for wood
- Rapidly renewable resource

Image: Smith&Fong Plyboo



SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

GREEN MATERIALS

Paper Stone

- 100% recycled cardboard
- Reduces mining, trucking



Image: Paperstone Products

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

SALVAGED AND LOCAL MATERIALS

Recycled Hardwood Floors

- Reduces landfill waste
- Reduces use of new materials



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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

SALVAGED AND LOCAL MATERIALS

Stone used from site

- Reduces quarrying energy
- No trucking new stone, reducing carbon emissions



Built by Janiczek Homes

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

SALVAGED AND LOCAL MATERIALS

Recycled and Preserved Materials From a Local Abandoned Barn

- Reduced landfill waste
- Reduced use of new lumber, saving trees



Built by Janiczek Homes

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

SALVAGED AND LOCAL MATERIALS

Recycled door and door surround



Built by Janiczek Homes



SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING ENVIRONMENT

SMART MATERIALS

- Recycled floor
- Recycled cabinetry
- Reclaimed brick wall
- Concrete Countertops
(utilizes fly ash)



Built by Janiczek Homes

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

THOROUGH AIR SEALING AND INSULATION

SIPs Panels

- Structural Insulated Panels
- Made from recycled content
- Ultimate in energy efficient wall construction



Images: murus.com

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

INSULATION

BioBased soy insulation



Images: BioBased, flickr

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

INSULATION

Denim insulation

- Recycled jeans
- Natural cotton



Images: Bonded Logic, Inc.

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

INSULATION

Well insulated sealed windows

- EnergyStar rated
- Low-E glass



Did You Know?

- Draw shades on the north side of your house in the winter, open them on the south side.
- Do the opposite in the summer.

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ENERGY SAVING DEVICES

CFL (compact fluorescent)
lightbulbs

EnergyStar appliances and fixtures

Tankless hot water heaters



Did You Know?

- Electric rate hikes in 2010



Images: flickr,
EnergyStar, Nortiz

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ALTERNATIVE ENERGY

- Wind

Look for a future Sustainability Series presentation on alternative energy



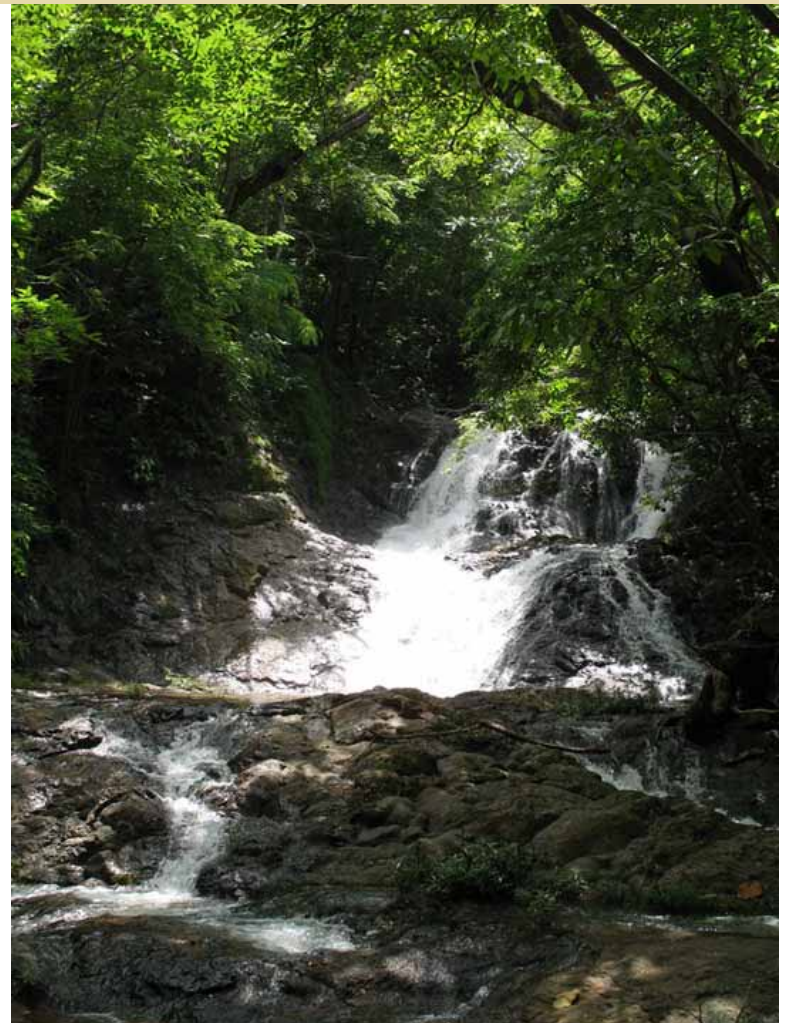
SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ALTERNATIVE ENERGY

- Wind
- Hydropower

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ALTERNATIVE ENERGY

- Wind
- Hydropower
- Geothermal

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ALTERNATIVE ENERGY

- Wind
- Hydropower
- Geothermal
- Solar

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

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SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

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Geothermal Heating

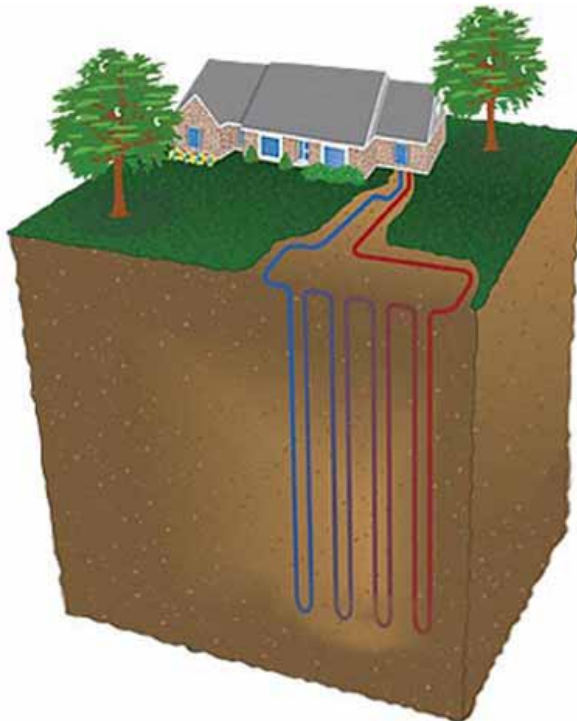


Image courtesy of ClimateMaster



Did You Know?

- Solar and Geothermal qualify for state funding and tax credits

Image: greenedmonton.com

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ALTERNATIVE ENERGY

Solar Panels PV (photovoltaic)



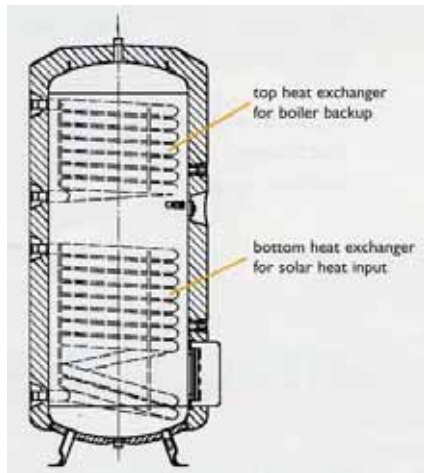
Images: flickr

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

ENERGY EFFICIENCY

ALTERNATIVE ENERGY

Solar Hot Water Heating



Images: Eagle Mountain

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

INTERIOR SPACES

- Low VOC (volatile organic compounds) paints, materials, adhesives
- Carpeting is recycled content or natural wool, non-formaldehyde, low VOC



Built by Janiczek Homes



Image from AFM

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

AIR QUALITY

- **Air filtration**
 - Hepa filters
- **Fresh air / ventilation**
 - Heat recovery ventilation systems
- **Elimination of mold growth through proper water drainage**
 - Exhaust fans at all bathrooms, laundry rooms, garage, closets
 - Maintain positive grades at exterior perimeter of house, shed water away from foundation

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

MATERIALS

American Clay & Milk Paint



Image from American Clay

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

MATERIALS

American Clay & Milk Paint

- Natural, organic materials



Image from American Clay

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

MATERIALS

American Clay & Milk Paint

- Natural, organic materials
- No offgas, no VOCs



Image from American Clay

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

MATERIALS

American Clay & Milk Paint

- Natural, organic materials
- No offgas, no VOCs
- Use all natural dyes

Image from American Clay



SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

HEALTH

MATERIALS

American Clay & Milk Paint

- Natural, organic materials
- No offgas, no VOCs
- Use all natural dyes
- Beautiful texture

Image from American Clay



SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING HEALTH

CONCLUSION

Using healthy, natural products reduces problems such as asthma, allergies, and immune disorders.

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING COMMUNITY

FRIENDS OF THE



WILLOWS COTTAGE

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING COMMUNITY

FRIENDS OF THE WILLOWS COTTAGE

Preserving historic structure

Adaptive reuse

Will be restored using green
building practices



FRIENDS OF THE



WILLOWS COTTAGE

Photo: Colin Gardner

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING COMMUNITY

FRIENDS OF THE WILLOWS COTTAGE

The Cottage:
Base for an upcoming
Community Sustained
Agriculture project (CSA)

The Skunk Hollow
Community Farm

FRIENDS OF THE



WILLOWS COTTAGE



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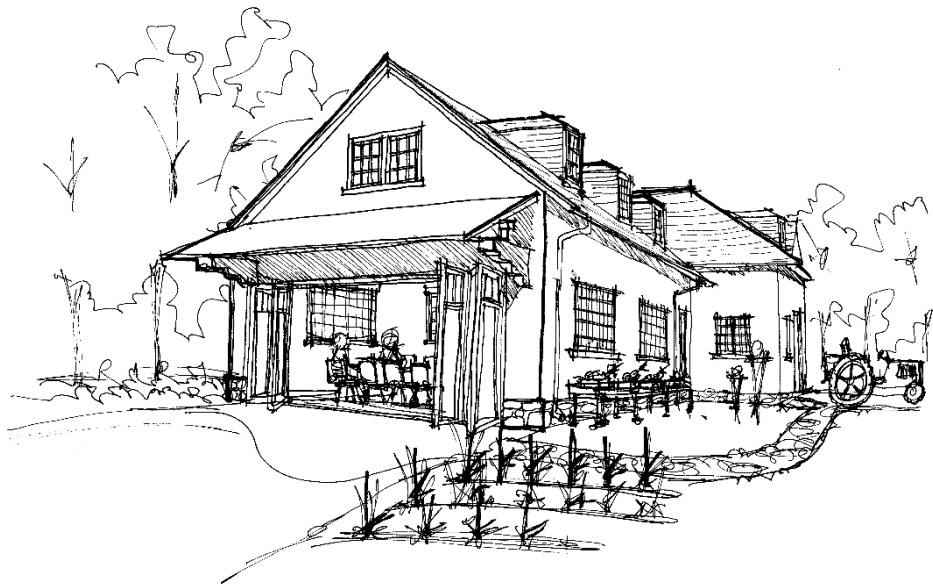
WILLOWS COTTAGE

Map: Warren Claytor Architects



SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING COMMUNITY

FRIENDS OF THE WILLOWS COTTAGE



FRIENDS OF THE



WILLOWS COTTAGE



Renderings by John Marshall

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING COMMUNITY

FRIENDS OF THE WILLOWS COTTAGE

The Skunk Hollow
Community Farm

Radnor's first
Community farm

Coming this year

FRIENDS OF THE



WILLOWS COTTAGE



Photos: Greener Partners, flickr

SUSTAINABILITY AND RESIDENTIAL GREEN BUILDING

COMMUNITY

BUY LOCAL!

Support local businesses



Did You Know?

Supporting Local Businesses:

- Will reduce energy consumption, Which reduces carbon emissions
- Builds social networks and relationships

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