Full time farm living. The project is a celebration of the straightforwardness that the farm requires. The house takes all its clues from the great things about 19th century barns and updates them for a fully sustainable 21st Century.

With a goal of being modern yet acceptable in a rural community where families have lived for generations, the architects sought the following:

Barn siding with Barn Light.
Few, but large, openings
"Hay" loft
Barn Space: an open 2-story room with under-and over spaces.
Farm tech
farmer common sense.

Blair, WI
BARN HOUSE

Warped Walls.
Hay Loft w/ pulleys still visible.

The Owners’ red barn
Interior light filtering through cracks
big sliding doors and doors within doors
sheltered basement w/ grade access.
BARN 1900
Animals and mushrooms.

POLE BARN
Tools and salvaged stuff.

BARN 2010
People and dogs.
Program:
Full time house for a rural family doctor and his cabinet-maker wife.
3 Bedrooms, 2-1/2 baths and durable enough for farm life.

1850 sf finished. 2600 gross w/ storage spaces.

Budget: completed all-in for $360,000 in 2010 (including geothermal), or $138/sf.


White TPO Roof to reflect sun, slopes to recessed gutter on south edge.

Hayloft-Bedroom

4/4 rough-sawn white oak rainscreen siding harvested locally. 2 coat white semitransparent stain

Ground source heating system

Concrete thermal mass floors w/ infloor heat.

Staggered stud thermal break framing w/ polyurethane insulation throughout

This window shares morning light to BR and Kitchen below

Richlite recessed entry (black) and hayloft window wrap (ochre)

Integral gutter to rainwater cistern

Warped south facade

Porch screened from Western sun
Master Bedroom Hayloft window.
Board-formed concrete foundation wall at south side. Black foundation coating all around.

Roof truss
31-1/2" nom. heel
18" nom. heel

2x10's w/ 5/8" floating floor and staple-up hydronic heat. Insulate below.

Building Section @ Stair
2x6
2x6

12 TJI's w/ 1 1/2" poured conc. top coat (radiant heat in slab)
4" poured conc. slab (radiant heat in slab)

8" conc. wall
8" conc. wall

INTEGRAL GUTTER
Board-formed concrete foundation wall at south side. Black foundation coating all around.
Siding based on traditional barns: simple overlap and airspaces.
Diurnal Changes: morning light. Afternoon lantern. Doors can be adjusted to block western sun or allow light to penetrate all the way to the kitchen.
11 ga. Hot-dipped Galvanized steel sill: 3/16" Hot-dipped Galvanized steel Head: see above. Predrill 1/2" mounting holes on wall side 12" o.c. Pitch 1/8" / ft min. to exterior.

custom galvanized steel gutter: 6" wide x 5" deep, nom. 5" front lip. Note: front lip of gutter slopes according to roof edge condition. Reader to verify gauge, details w/ architect. (Epdm lined?)

Paired 12 ga. Hot-dipped galvanized Angle brackets. Pullout attachment: (2) #14 galv. lag (4) #14 galv. screws to lapped 2x4 adapted as req'd by wall slant.

Richlite window wrap: 3/8" thick (verify) w/ 8" x 3/8" trim frame. Note: front lip of gutter slopes according to roof edge condition. Roofer to verify gauge, details w/ architect. (Epdm lined?)

Porch Awning. Operable to control porch light.

Entry Awning. Cable, galvanized steel sheet, Unistrut “Rain gutter.”

Warped Facade. Recessed gutter + downspout to cistern.

Thermal and weather-wrapped structure shown shaded gap by 1/8" at ends. Align and join ends as req.

7/16" x 2" galv. lag screws and washers at 12" o.c. 2x4 (steel or firw) & seal w/ silicone.

TYPICAL BRACKET NOTE

hinge point for post angling
Strip window, galvanized awning above.
Porch awning in full open position.

3" pulleys bolted to post
1/2" ø holes, 5" o.c.

1/2" ø holes, 4-1/2" o.c.
3" pulley mounted on paired 1/4" x 1-1/2" x 10" side-lapped extension of truss. Note: side supports are extended to retain rope so it won’t slip off.

Continuous stainless piano hinge

1" x 1-1/2" steel tube, hot-dipped galvanized, open ends

3/4" sisal rope

3" pulleys bolted to post, continuous stainless piano hinge

2-1/2" x 2-1/2" galvanized steel angle wrap, weld onsite to fix warped window to match wall. Cold galvanize weld areas as req’d.

Hand Crank Winch

PULLEY SPEC:
McMaster-Carr #3165T43
(833)833-0300 ($28 ea.)
galvanized wheel w/ bronze bore for 3/8" ø galv steel bolt.

Note: pulleys may need galvanized sheet metal strap to help retain rope. Verify on installation.

Strip window: galvanized awning above.
Porch awning in full open position.
Over-Under Space. Various ceiling heights create a hierarchy of spaces both open and enclosed within a fairly small shell.
Bag Lights.
Designed and executed by the architect, fabricated from stock parts and insect screen layered to create a moire screen against the bare dimmable fluorescent bulbs.
IKEA cabinetry. Customized with simple variations in hardware. Richlite counters.

Ash Loft Sheathing. Executed by the owner, inexpensive ash was resawn and left with a planed, unfinished surface.

Morning Light. The angled cut back in the 2nd floor allows east light to filter down into the kitchen.
Post: 2-1/2" DOM w/.1875 wall or
XX 2" pipe 2.38" O.D. w/.218 wall

CROTCH cold saw or mill 24" line in pipe. 3/8" hole at end of crotch. Heat-bend legs.

CAPITAL laser cut 1/4" top plate w/(2) 1/4" countersunk holes for 1/4" ovalhead stainless screws. Drill and blind weld from topside to post.

Baseplate CAD file provided by Architect

4" x 1/4" slip collar (silicone in place)

BASE buried in concrete

1/2" ø holes, 5" o.c.
1/2" ø holes, 4-1/2" o.c.

1'/x 1-1/2" crossbar bolted to top of truss. See 4/6.0 for length.
1'/x 1-1/2" steel tube. hot-dipped galvanized. open ends

Wrought iron window hardware

3" pulleys bolted to post. note: pulleys may need galvanized sheet metal strap to help retain rope. verify on installation.

PULLEY SPEC: McMaster-Carr #3165T43 (630)-833-0300 ($28 ea.) galvanized wheel w/ bronze bore for 3/8" ø galv steel bolt.

Hand Crank Winch
3" pulley
3" pulleys

Verify on installation.
Salvaged Fir Flooring. Executed by the owner, it has a yellow stain.
Folded Space
Hot rolled steel.
White-stained ash plywood.
Perforated steel mesh.
Ramps not completed in this photo.