

Achs Net-Zero Home

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Building at a Glance

Name: Achs Net-Zero Home

Location: Port Byron, Ill.

Design/Construction: Blue Planet Carpenter/Evergreen Construction LLC

Use: Single Family Residence

Owners/Occupants: Jack and Molly Achs

House Plan: 4 bedroom, 3 bath, ranch with vaulted ceilings and loft, 2085 ft², livable space (MF+Loft) with a 1279 ft² finished basement, plus 786 ft² attached 3 car garage. Total conditioned space 4,279 ft² (MF, Loft, Upper Storage Rms, Basement).

Features: Net-zero energy, LEED Platinum Certification, Energy Star v3 Certification with Indoor airPLUS, exceptionally insulated with 12 in. structural insulated panel (SIP) roof (R-55.56), 6in. SIP walls (R-29.41), 4in. XPS under basement slab (R-20), *Thermomass* foundation walls and insulated basement (R-21), super sealed infiltration of only 392cfm@50pa which equates to .52ACHn (Passive House Stds), Energy Recovery Ventilation (ERV) unit providing fresh air into the house, 7.15 kW DC grid-connected solar PV with a roof pitch of 10/12 (39.81 degrees), clerestory overhang with optimal orientation for solar design (passive heat gain into the living room), 36,000 BTU (3-ton) Air Handling

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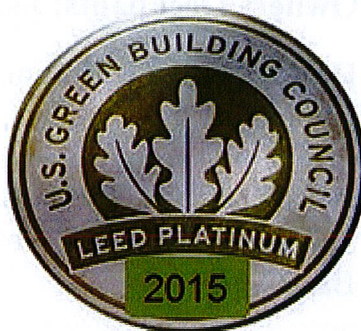
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Unit connected to a 36,000 BTU (3-ton) 20 SEER Heat Pump with variable speed, 85% permeable lot with zero runoff, 1,700 gallon rainwater collection cistern, 88% reduction irrigation, ADA compliant, EPA *WaterSense* fixtures and fittings, structured plumbing system with R-4 insulation, Energy Star appliances & ceiling fans, FEMA designed 5'x6'8" storm shelter, 100% LED lighting, and 86.6% high efficiency/55,000 BTU wood burning fireplace both EPA certified and Washington State approved with only 3.7 gr/hr emissions. Note: Landscaping scheduled for Phase 2 and Energy Star steel roof scheduled for Phase 3 construction.

Ground Breaking: September 2014

Estimated Occupancy: April 2015

Estimated Certification: September 2015



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