



High Performance Project



Perkins Residence

Perkins Residence



Participant information

EPS Building

Bob Weinert

Graettinger, IA 51342

Phone: 712-859-3275

Email Address: n/a

Website: www.epsbuildings.com

Category

Single Family Single Family Homes under 3,000 sq. ft.

High Performance: Yes

Project information

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5571 Charlie Ray Drive

Grand Forks, ND 58201

Date Completed: June 2018

Total cost of project (exclusive of land): \$800,000

Dimensions of building (all floors of multi-story building): n/a

Asking price/purchase price (Affordable Housing only): n/a

Total sq. ft. of conditioned space: 2,534 sq ft

Built By (if different than applicant)

Holm Sweet Home Construction

Jeramy Holm

16112 13th St NE

Buxton, ND 58218

Phone: 701-740-3792

Panels Manufactured By

Company Name (members only): EPS Buildings



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Designed By (if different than applicant - SIPA will only recognize members)
Dandelab Design and Energy Laboratory, LLC
Mike Christenson, Malini Srivastava
612-209-0764

Describe the end use of the building: Residential dwelling

How did SIP construction help you get this job? The homeowners were looking for the most energy efficient and cost effective way to build a house.

SIP wall thickness and core material: 12" wall with 11" core with neopor
SIP roof thickness and core material: 12" roof with 11" core with neopor

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy? It saved time, labor, cost and energy. Before deciding on SIPs, the homeowners had contemplated going with a double studded wall to achieve a higher R value. So when we factored in the amount of time, cost of labor and material, the SIPs were more cost effective and a better end product.

Describe any innovative design elements or structural engineering involved: The design of the home is quite unique. It was designed to have maximum energy efficiency and an efficient use of space. The emphasis was on nature and natural materials, so the home incorporates almost no plastics or synthetics.

Please list any certifications the project received, such as ENERGY STAR, LEED, National Green Building Standard, WELL, Passive House, Green Globes or local green building programs. Only list certifications that are completed:
LEED Platinum, ENERGY STAR

HERS Index (required only for High Performance Category and recommended for residential projects): 27
Blower door test results (ACH50) (required only for High Performance Category and recommended for residential projects): ACH50 infiltration rate: 0.42.
Energy use intensity in kBtu/ft² (required only for High Performance Category and recommended for commercial projects): Estimated energy use annually: 38.25

Describe the HVAC system used on the project:
Mitsubishi extreme heat pump, multi head/split mini

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Describe any other energy-saving materials used in the building envelope other than SIPs. List U-values of windows used and the U or R-value of any insulation materials. (judged only for High Performance Category):

Triple pane H windows with argon fill and warm edge spacer. Direct set fixed windows $U_w=0.18$, Tilt/turn windows $U_w=0.18$,

Awning/casement windows $U_w=0.25$, Nordic outswing doors $U_d=0.25$

Neopor foam filled SIPs R60

Please list any energy-efficient products or design features, such as lighting, hot water heating, appliances, passive solar (judged only for High Performance Category): LED light fixtures, energy star/high efficiency appliances, passive solar, high-efficient Gasifying wood burning fireplace

Were any solar panels installed on the project? If so, indicate the size of the system (judged only for High Performance Category): Yes. LG 10Kw Solar array with a LG Chem RESU 10 Lithium Ion battery

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc. (judged only for High Performance Category): The floors are made from recycled hickory and beech barn wood, recycled porcelain and bamboo. The counter tops are made of recycled paper. All paints, glues and finishes were low-VOC. The yard is planted with native prairie grasses and wildflowers.

Any additional comments on the project: The project has the only LEED platinum certification for residential dwelling in North Dakota and South Dakota.

Front view

Perkins Residence



Rear view

Perkins Residence



Interior view

Perkins Residence



Interior view

Perkins Residence



Interior view

Perkins Residence



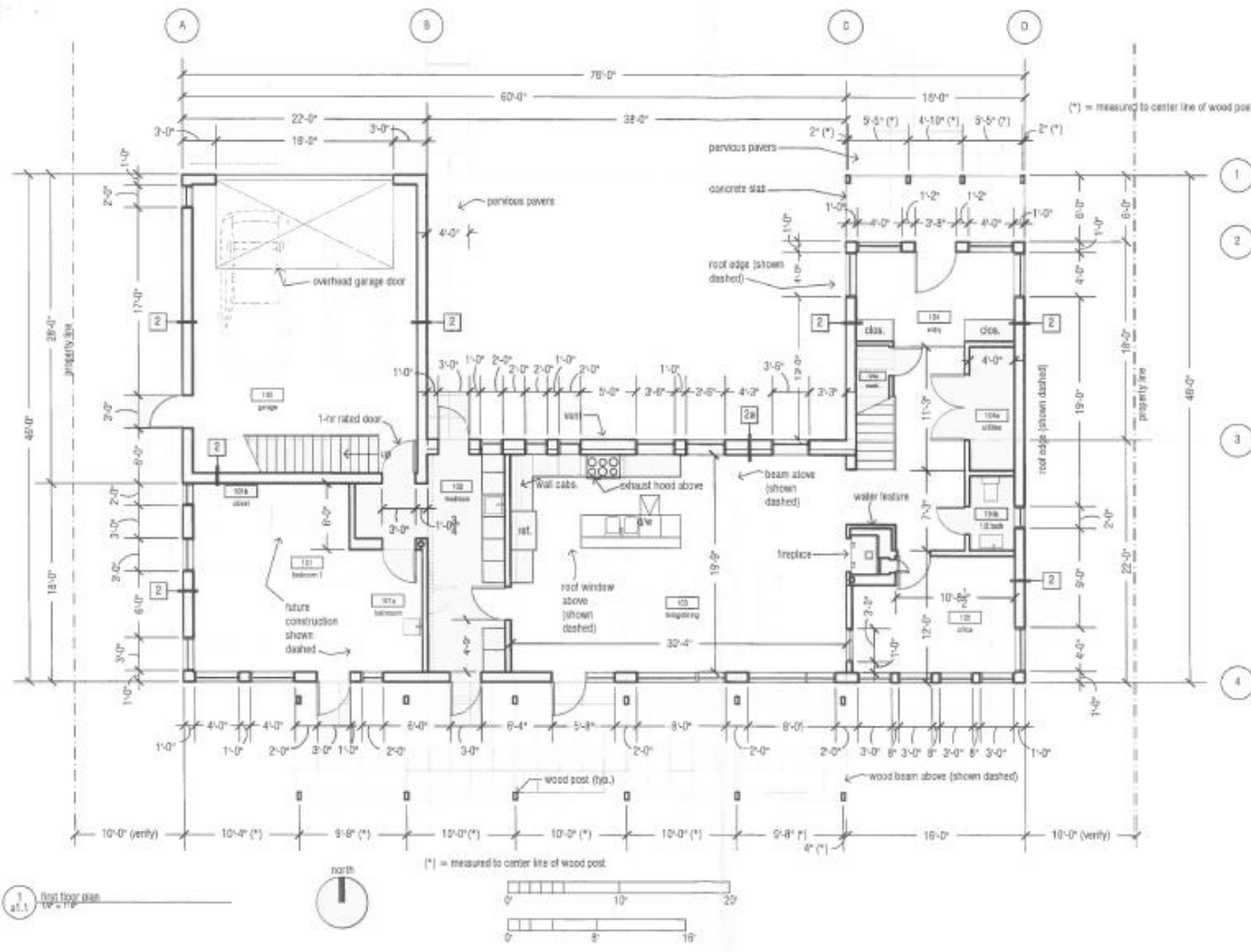
Interior view

Perkins Residence



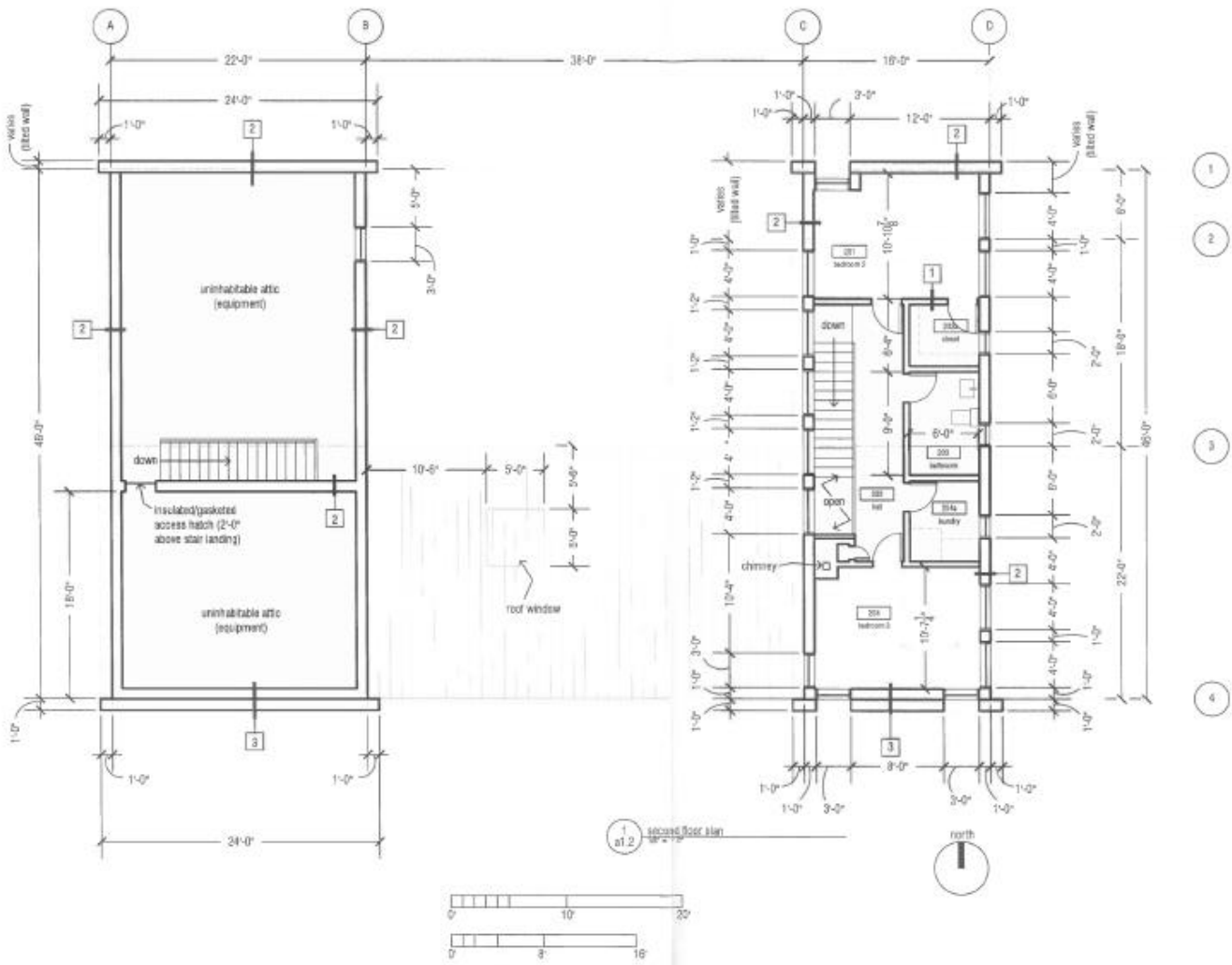
Plans

Perkins Residence



Plans

Perkins Residence



Front view

Perkins Residence

