

Application

PARTICIPANT INFORMATION

Company Name: The Chuba Company

Contact Name: Duane Kozitka

Address: 19276 Vernon St. NW #100

City: Elk River

State: MN Zip: 55330

Phone: 763-441-4488

Email: duane@chubaco.com

Website: www.chubaco.com

CATEGORY ENTRY (check one category)

- ☒ Single Family Homes (over 3,000 sq. ft.)
☐ Single Family Homes (under 3,000 sq ft.)
☐ Multifamily
☐ Agricultural
☐ Institutional / Industrial / Commercial
☐ Renovations
☐ Affordable Housing

PROJECT INFORMATION

Project Name: The Newman residence

Address: 6712 West River Road

City: Brooklyn Center

State: MN Zip: 55430

Date completed: 1/13/2011

Total cost of project (exclusive of land): \$655,000.00

Dimensions of building (all floors of multi-story building):

LL 52'x21', ML 78'x21' & 24'x10', UL 48'x21' & 24'x10'

Asking price/purchase price (Affordable Housing only): NA/Pre-Sold

BUILT BY (if different than applicant)

Company Name: Same as applicant

Contact Name:

Address:

City:

State: Zip:

PANELS MANUFACTURED BY (members only)

Company Name: Enercept Inc. Watertown SD

DESIGNED BY (if different than applicant – SIPA will only recognize members)

Company Name: Mackey-Malin Architects

Contact Name: Pat Mackey

Address: 5200 Washburn Ave. So.

City: Minneapolis

State: MN Zip: 55410

Please answer each question with as much detail as possible.
Attach additional pages if necessary.

Describe the end use of the building:

Single family residence

How did SIP construction help you get this job?

See attached

Continued

Please answer each question with as much detail as possible to help in the judging process

SIP wall thickness and core material: 6" - EPS

SIP roof thickness and core material: NA/Truss with open cell spray foam

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs, or energy?

See attached

Describe any innovative design elements or structural engineering involved:

See attached

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

NA

HERS Index (residential projects): 7

Blower door test results (ACH50) (residential projects): 1.01

Describe the HVAC system used on the project:

See attached

Please list any energy-efficient products or design features other than SIPs:

See attached

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc.:

See attached


Any additional comments on the project:

See attached

CHECKLIST

- ☒ My company is a SIPA member. Panels for this project were manufactured by a SIPA member.
- ☒ I have answered ALL the questions completely
- ☒ I have enclosed the two required electronic images of the completed project meeting the requirements stated in the SIPA Building Excellence Awards guidelines
- ☒ I have indicated the HERS Index as determined by a RESNET certified home energy rater (residential projects)

PLEASE CONFIRM: I have read and understand the rules for this competition. This entry is structural insulated panel construction as defined in the SIPA Building Excellence Awards guidelines. I understand by making this submission that my pictures will be used by the Structural Insulated Panel Association (SIPA) to promote the use of structural insulated panels. I hereby give permission to SIPA to use the enclosed pictures for any use they see fit in that endeavor. I understand that where possible, SIPA will give credit for pictures used to my company as listed above.

Signature: 

Date: 3/16/12

Entries that do not contain all required materials or are received after March 22, 2012 will not be considered

Complete application and submit electronically to cschwind@gmail.com

Or send hard copy applications to SIPA office:

P.O. Box 1699 Gig Harbor, WA 98335
For FedEx or UPS Deliveries ONLY:
6659 Kimball Drive NW, D-404
Gig Harbor, WA 98335
253.858.7472

The Chuba Company
Duane Kozitka
19276 Vernon St. NW #100
Elk River, MN 55330
763-441-4488
duane@chubaco.com
www.chubaco.com

Category entry:
Single Family Homes (over 3,000 s.f.)

Project Information:
The Newman residence
6712 West River Road
Brooklyn Center, MN 55430

Completed: 1/13/2011

Total cost (exclusive of land): \$655,000.00

Dimensions of building: lower level 52' x 21'
 main level 78' x 21' & 24' x 10'
 upper level 48' x 21' & 24' x 10'
Total conditioned area (house): 3,882 s.f.

Asking price; NA (pre-sold)

Built By: Same as applicant

Panels Manufactured By:
Enercept Inc.
3100 9th Ave SE
Watertown, SD 57201

Designed By:
Mackey-Malin Architects
Pat Mackey
5200 Washburn Ave So.
Minneapolis, MN 55410

Describe end use of building:
Single family residence

How did SIP construction help you get this job?
Green product
The High performance/Energy efficiency aspect of entire system
Very durable structure & exterior building envelope
Low potential for mold or moisture in wall
No significant design limitations vs. conventional framing
Owner viewed it as an upgraded product vs. conventional construction for very little difference in cost.

SIP wall thickness and core material: 6" – EPS foam

SIP roof thickness and core material: NA – truss roof with open cell spray foam

Describe the benefits of using SIPs on this project. Did SIPs help save time, labor, construction costs or energy?

1. SIP (structural insulated panel) exterior wall system reduces overall material usage and jobsite waste in turn reducing construction costs.
2. Because of the SIPs construction method the shell in/dry in time was significantly reduced creating a time savings for the construction schedule and providing a higher quality end product by reducing exposure time to the outside elements.
3. All of the SIP benefits noted above (time savings, labor, construction cost) result in a net energy savings.

Describe any innovative design elements or structural engineering involved:

1. Efficient floor plan with low impact footprint.
2. Covered or protected entry's to reduce water intrusion and long term rot.
3. Roof overhangs sized for the climate.
4. The cantilevered upper deck framing - half deck, half flat roof in the upper great room.
5. Roof angle optimized for solar PV array.
6. Heating is geothermal, but so is the unconditioned/ uninsulated wine cellar. Natural "passive" geothermal wine cellar.
7. The whole feat of keeping the existing "mechanical dungeon" for the detached shop/office more or less in place and operating during construction.
8. Upper great room can be fairly easily converted into a new master suite and closed off from existing master suite (which reverts to a bedroom).
9. Main floor suite designed for aging-in-place or extended family stays.

Please list any certifications the project received, such as Energy Star, LEED, National Green Building Standard or local green building programs. Only list certifications that are completed:
NA

HERS Index: 7 (*see attached report*)

Blower door test results (ACH50) (residential projects): 1.01 (*see attached report*)

Describe the HVAC system used on the project:

1. Ground source geothermal with closed vertical loop field. Electronically zoned balanced forced air system with ERV air exchanger and source pointing high humidity areas.
4. All ductwork located within conditioned spaces of the home.
5. Sealed ducts and plenums to reduce air leakage.
6. Return air ducts in all rooms with doors to ensure proper air circulation.
7. Energy Star rated exhaust fans ducted to outside in all bathrooms and laundry rooms
8. High efficiency air filter inserts.
9. Humidistat to control whole house humidification - steam humidifier.

Please list any energy-efficient products or design features other than SIPs:

1. Re-use of part of the old foundation that houses mechanical equipment for a detached shop/office. (this project was a tear-down of an outdated, failing structure).
10. Tear down of existing structure, no new lot development, minimal cut/fill or soil disturbance.
11. Maintain stringent erosion control measures on site.
12. Perimeter foundation drain system for below grade water/moisture management
13. Gutter/downspout system to divert water away from foundation to established control areas.
14. Water/weather resistant barrier (house wrap) at exterior walls behind siding.
15. Ice/water protective barrier at roof edges (under all areas with steel roofing)
16. Enhanced foundation waterproofing membrane for long term protection.
17. Flashing details at doors, windows, valleys, decks and roof/wall intersections.
18. Home is constructed well above minimum energy standards.
19. Computerized analysis of heating/cooling loads to ensure maximum performance.
20. TMASS foam core mass poured foundation wall.
21. Advanced air sealing package (sill seal, caulk wall plates, ensure exterior air barrier continuity, foam or seal all exterior penetrations and attic access, use sealed IC rated recess lights, install sealed combustion gas fireplace and gasketed doors on wood unit, seal frame openings at windows and doors.
22. Energy Star Rated doors/windows.
23. Geothermal (ground source) heating and cooling system. Vertical loop field.
24. All ductwork located within conditioned spaces of the home.
25. Sealed ducts and plenums to reduce air leakage.
26. Return air ducts in all rooms with doors to ensure proper air circulation.
27. Energy Star rated exhaust fans ducted to outside in all bathrooms and laundry rooms
28. Whole house instantaneous (tankless) water heater
29. Desuperheater installed in conjunction with Geothermal heating system.
30. Hot water delivery aided by on-demand water heater.
31. Energy Star water conserving appliances.
32. Water efficient faucet aerators and shower heads.
33. Ultra low flow dual flush toilets.
34. Rainwater collection/distribution system.
35. All combustion based equipment utilizes direct vent technology.
36. All space heating/water heating equipment located in separate room with combustion air intake.
37. Use direct vent gas fireplace and wood burning fireplace with gasketed doors.
38. Tightly sealed door between house and garage, continuous air barrier between house and garage.
39. Particle board, OSB and plywood meet low formaldehyde emission standards.
40. HVAC outlets cleaned prior to startup of primary heat system.
41. Kitchen range hood vented to outside of home.
42. Balanced home ventilation system using Energy Recovery Ventilator (ERV)
43. High efficiency air filter inserts.
44. Humidistat to control whole house humidification - steam humidifier.
45. Sub-slab depressurization system (to provide for radon mitigation if necessary).
46. Bathroom/laundry exhaust connected to whole house ventilation system.
47. Moisture resistance backer board behind tile and in wet areas.
48. Vapor retarder installed directly under concrete slabs.
49. Protection of moisture sensitive materials during construction, covering, storing off of ground.

Continued....

50. No plumbing supply lines in exterior walls.
51. Verify moisture content of wood before it is enclosed on both sides.
52. Operation, maintenance and homeowner education. Provide comprehensive homeowner manual and orientation.

Please list any sustainable materials or design features not listed above, such as recycled materials, low-VOC finishes, landscaping, etc.:

1. No significant tree cutting because of house orientation
2. Design & construction of rain gardens to reduce site runoff and erosion.
3. Underground rainwater collection system, water to be used for irrigation and spa water. Pervious pavers
4. Finger jointed studs and/or timber strand engineered lumber studs for framing.
5. FSC certified framing material.
6. Building dimensions to reduce material waste from cutting
7. Salvage materials from existing building where possible.
8. Sort waste materials for recycling when possible.
9. Use recycled content materials in construction - seamless steel panel roofing.
10. Use of renewable building materials at many phases of project - wood floors, etc.
11. Use of low or no VOC paints, sealants and adhesives

Any additional comments on the project:

Beauty is definitely more than skin deep in this custom built home. This home utilizes a hybrid system of high performance, green materials and methods. This 3,800 + square foot residence is on the cutting edge of high tech construction and is designed to consume less energy/resources than other homes half its size. This home features all of the top tier cosmetic finishes and amenities but it is what's "under the hood" of this home that homeowners will truly learn to love as years go by.

Duane Kozitka

Subject: FW: Homeowner comments

From: Bill Newman [<mailto:BNewman@rnasinc.com>]
Sent: Monday, March 19, 2012 6:41 PM
To: Duane Kozitka; Pat Mackey
Subject: Homeowner comments

Duane – I never got around to writing a few comments in a letter for the SIPA contest. So I guess you will have to settle for an email?

Needless to say I love the new house. The layout is perfect for enjoying the river and the river views. The combination of indoor and outdoor entertaining space is fantastic. We had the SKOAC kayak club party on Saturday and comfortably had 40 guests enjoy the house. It is hard to separate out the energy use of the house from the separate home office, lab and shop. However the combined SIPs panel construction, T-mass basement walls and ground source geothermal heating and cooling has been very comfortable and very inexpensive.

The lab, shop and solarium office is of course much smaller than the house, but the solarium office no doubt is a bit hungry for heating and cooling energy. In spite of all that glass I have been able to heat and cool the combined square footage of about 4,700 square feet for less than \$200/month during the coldest below zero Minnesota weather, and I believe the highest cooling cost was about \$50/month for the relentless 100 degree heat that we had for much of last summer. All that while keeping the thermostat set in the 65-75 degree range. No need to dial the thermostat up or down, even in the dead of winter or during the hottest summer day the heating and cooling system kicks in only infrequently while keeping within a very comfortable temperature range.

The spray foam roof insulation, the T-mass basement and SIPs construction are all very quiet as well. I never hear any outside traffic noise and there is never a problem with any noise from rain or hail on the metal roof. Make sure you include the information on rainwater capture, the rain garden and the hopefully soon to arrive “no mow lawn”. I have also swapped out all the lighting with the exception of decorative lighting over the stairs and dining room table with LED and CFL lighting. I saw in some of the other home listings on the SIPA site that efficient lighting was one of the items listed.

I hope this helps. Let me know if you need anything else.

Bill Newman
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Brooklyn Center, MN 55430
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