

Application

PARTICIPANT INFORMATION

Company Name: _____

Contact Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

Fax: _____

Email: _____

Website: _____

CATEGORY ENTRY *(check one category)*

☐ Single Family Homes (over 3,000 sq. ft.)

☐ Single Family Homes (under 3,000sq ft.)

☐ Multi-Family

☐ Agricultural

☐ Institutional / Industrial / Commercial

☐ Renovations

PROJECT INFORMATION

Project Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Date completed: _____

Total cost of project (exclusive of land): _____

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

BUILT BY *(if different than applicant)*

Company Name: _____

Contact Name: _____

Address: _____

City: _____

State: _____ Zip: _____

PANELS MANUFACTURED BY *(members only)*

Company Name: _____

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

Company Name: _____

Contact Name: _____

Address: _____

City: _____

State: _____ Zip: _____

PLEASE ANSWER EACH QUESTION WITH AS MUCH DETAIL AS POSSIBLE TO HELP IN THE JUDGING PROCESS

Describe the end use of the building (attach additional pages if necessary)

How did SIP construction help you get this job?

Continued

Specify unique features of why the project is deserving of recognition (new construction techniques, customer problems solved, time / labor savings, financial savings, etc.)

What energy-efficient or green building products and / or techniques were incorporated into the building? Please list any local or national energy-efficient or green building certifications earned (ENERGY STAR, LEED, Built Green, etc.)?

HERS Index:

Which elements of the building (floors, walls, roof) were built with structural insulated panels? What thicknesses of SIPs were used?

Comments you would like in a news release on this building?

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 as defined in the SIPA Building Excellence Awards guidelines.

OPTIONAL

- ☐ I have enclosed photographs that display different stages of the building project
- ☐ I have enclosed a floor plan drawing (no larger than 17" x 22" in size)
- ☐ I have enclosed a letter from the building owner regarding the building project
- ☐ I have enclosed a list of local publications (name and full contact information) for press release distribution

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: _____

Entries received that do not contain all required materials will be returned.

Entries received after Tuesday, March 1, 2011 will not be considered

Complete and return to the 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

FOR OFFICE USE ONLY

Entry Number _____

Date Received _____

Northwest Net Zero Residence



House exterior, south (before first spring planting)



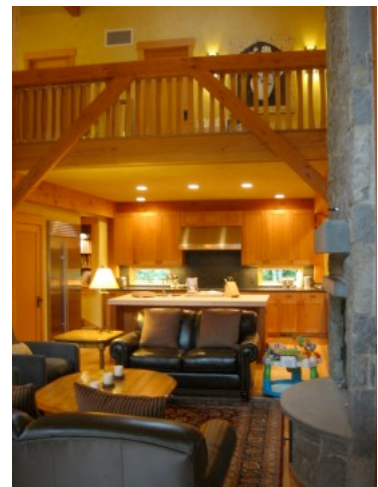
Rear dining patio



Garage exterior

The owners of this new residence requested a Northwest lodge style house of durable commercial-grade construction to bear up to the elements and stand the test of time. Significantly, their goal is net zero energy usage and net zero water usage, which means that all the energy and water the family uses inside the house will come only from the sunshine and rain that fall on its roof .

The home rests on a gently sloping corner lot almost fully encircled by existing trees and foliage, providing privacy from the adjacent streets and neighbors. Save for the clearing required for

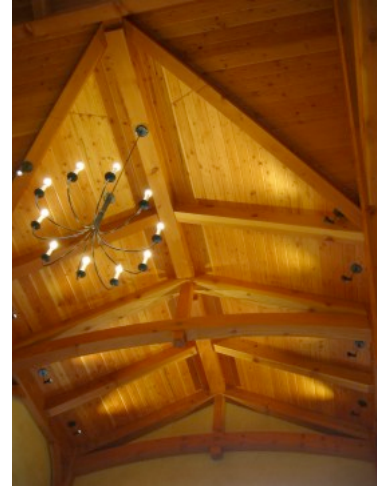


Living room

driveway access at the southwest, this buffer was preserved. Placement of the home on the site required a delicate balance in order to remain inside the setbacks and existing tree drip line while being far enough to the north for optimal solar exposure. Digital modeling of these conditions served as a valuable tool during design. The house is oriented just 3.5 degrees west of due south. The form of the house is a main gable covering 8 timber frame bays with the double height living room bay extending out beyond the main volume as a cross gable portico. This simple structure is well suited to true timber frame construction as well as SIP panel walls and roof. The attached workshop and garage are advanced framed structures with truss roofs. The timber frame is crafted from Douglas fir, using modern power tools to fabricate traditional mortise and tenon joints fixed with oak pegs. Each member was numbered at the factory, delivered to the site, and assembled into large bents as wide and tall as the house. Each bent was then raised by crane and fastened in place by the crew. When complete, the timber frame formed the structural skeleton for the house. Its strength and beauty are exposed to view on the finished interior.

Enclosing the timber frame are Structural Insulated Panels, made from plywood and OSB skins and an EPS foam core. These too were fabricated at a factory and then raised on site using a crane. The SIPs are 8-1/4" thick and provide R-30 insulation at walls and roof. Their joints are splined, which eliminates most thermal bridges from the interior to the exterior, a source of significant heat loss in typical houses. SIPs are extremely airtight as well, and special attention was paid during construction to seal all gaps that might leak indoor air to the outside. The tightness was confirmed at 1.7 ACH50 using a blower door apparatus and a thermal camera.

Windows are made from Douglas fir with an extruded aluminum finish on the exterior. U-0.22



Living room vault

The house is capped by prefinished steel roofing which is both durable and specially formulated to reflect unwanted solar heat in summer, as well as providing the best surface from which to collect rainwater. Siding is cedar shingles recovered from stumps, relics of century-old logging. True stone accents the exterior at the living room and faces the fireplace and chimney.'

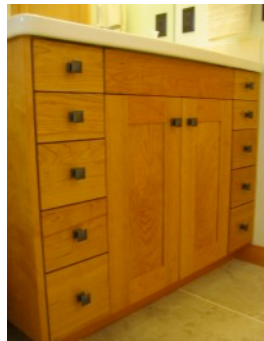
Interior finishes feature cherry flooring, cherry cabinets, and Douglas fir trim, all certified by the FSC to be sustainably harvested. Most walls are finished with integrally colored Venetian plaster that never needs painting. Ceilings in principal rooms are FSC certified Douglas fir. Flooring at the wet rooms is slate tile.



Kitchen to dining



Kitchen



Vanity cabinet in
bathroom



Kitchen
island

Targeting net zero energy required first reducing the demand to 10,000 kWh annually and then installing an 8.6 kW PV array to supply that demand. Energy Star appliances and equipment were selected throughout. LED and compact fluorescent lighting are used for all but three fixtures. Motion sensors also serve to minimize wasted watts. The house is served by a dedicated ventilation system filtered to surgery room (HEPA) levels. Heat and hot water are generated by heat pumps which are 3 times as efficient as electric resistance devices. The house is wired with an energy monitoring system that continuously logs usage from two dozen sensors throughout the house, providing the homeowners with real time feedback on how they are tracking towards their zero goal.

The rainwater harvesting system will meet the net zero water goal. In addition to irrigation, toilet flushing, and laundry uses, rain will also provide water for bathing, cooking and cleaning, and drinking. A 5000-gallon buried tank will store winter rain to last through the dry summer. Rain falling on the metal roofing will pass through three progressively finer filters before being sterilized with UV light to render it potable for the 80,000 gallons the family will use annually.



Rain chains in action



Rain chain and concrete gutter



Rain tanks, prior to burial (tip of iceberg)