

Additional photos can be viewed at www.icfmag.com.



Maryland Net Zero Home

Imagine an attractive, late-model automobile with this unique feature: it would create as much fuel as it consumes, and would never need a fill-up. That type of vehicle would receive unprecedented coverage from the world press, and demand would overwhelm production centers overnight.

Yet across North America, thoughtful builders are designing homes of this type—attractive, spacious, supremely livable homes that produce as much energy as they use.

This home, a net-zero energy house on the outskirts of

Baltimore, is the latest to showcase how to make this possible. Bill Naegeli, who provided and stacked the ICF forms for the project, gives most of the credit to the homeowner. “He knew exactly what he wanted,” Naegeli says. “He told me from the beginning that he wanted to get as close to net-zero as possible.”

The formula they chose was this: ICF + geothermal + photovoltaics = net zero.

Of course, in practice it wasn't nearly that simple. The homeowner's floorplan was ambitious, to say the least. The 11,000 sq. ft. home has 41 corners in the exterior walls, 24 of them 45 degree angles. Naegeli says the longest straight run was barely 20 feet. His crew had to deal with bucking out about 85 windows—accomplished with IntegraSpec's EPS IntegraBuck—including multiple arched openings as well. The most challenging were the 18-foot tall arched windows in great room.

Excavators unearthed other challenges almost immediately after ground was broken. Large boulders and chunks of bedrock lay just beneath the surface. Some of it had to be blasted out. The remaining rock made traditional footing forms impossible to set. So Naegeli turned to Form-A-Drain; a footing form, drainage, and radon venting system. The first courses of IntegraSpec ICF were supported on wires over the Form-A-Drain.





“Then we went ahead and graveled inside it,” he explains, “and got our plumbing, insulation, and radiant heat tubes installed. We were able to pour the footer, two feet of wall, and the inside of the slab all in one shot. We probably saved a thousand dollars just in pumping fees by combining those pours.”

The 12,000 sq. ft. of ICF took slightly more than a month to install, and used a tremendous amount of concrete. In total, the home used a staggering 387 cubic yards.

“Concrete is the reason that house is net-zero,” says Naegali. “It’s not just ICFs; it’s the thermal mass inside the walls.” The roof is sprayed with 6 inches of expanding urethane foam.

The heating and cooling is accomplished with in-slab hydronic radiant heat, coupled to geothermal heat pumps and solar hot water panels. Photovoltaics provide power for whatever additional electrical needs arise.

Naegali says one of the neatest things about the project is that it can be duplicated by just about anyone, using off-the-shelf technology and at a reasonable cost. “But you have to have ICF walls, and you have to have the [high-efficiency] roof system. I challenge anybody, anywhere to come up with a more economical, efficient, and effective building envelope.” ■



Project Statistics

- ♦ Location: Cockeysville, Maryland
- ♦ Type: Private Residence-Net Zero Energy Home
- ♦ Size: 10,750 sq. ft.
- ♦ ICF Use: 12,300 sq. ft. (all exterior walls)
- ♦ Cost: Undisclosed
- ♦ Total Construction: 290 Days
- ♦ ICF Start-to-Finish Time: 30 Days

Construction Team

- ♦ Owner: Mr. Poon
- ♦ General Contractor: GNP, Inc
- ♦ ICF Installer/Distributor: IntegraSpec Chesapeake
- ♦ Architect: Phil Gugliuzza
- ♦ ICF System: IntegraSpec

Fast Facts

- ♦ Photovoltaics, geothermal heat pumps, and solar hot water
- ♦ One of the first net-zero homes in the state
- ♦ 41 corners (twenty-four 45° and seventeen 90°)
- ♦ The longest straight run was barely 20 feet
- ♦ Multiple arched openings, including two-story tall arched windows in great room monopoured footers with basement walls
- ♦ Lead story in a trade magazine



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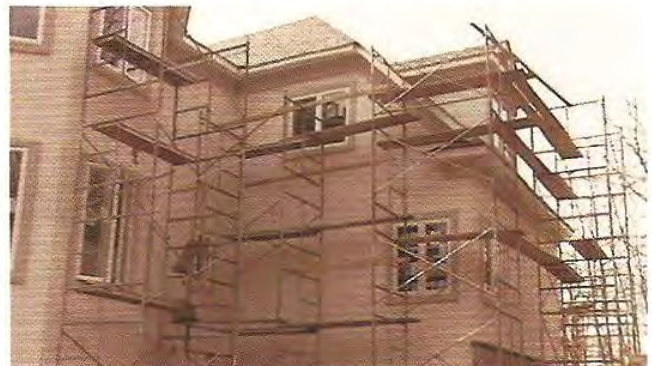
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- Monopoured footers with basement walls
- Lead story in at least one trade magazine



How the Entries Were Judged

Judging was based on a project's complexity, architecture, and how well it serves to advance the industry and draws positive attention to ICFs. The criteria for the 2011 contest is the same as the 2010 contest; it favors project creativity, significance, and difficulty of build more heavily than other criteria.

Judges first divided the entries into the categories listed below:

Small Residential: Homes totaling less than 3,000 sq. ft.

Large Residential: Residential construction ranging from 3,000 to 6,000 sq. ft.

Unlimited Residential: Single Family Homes or Duplexes with more than 6,000 sq. ft. of living space.

Multi-Family: Apartment complexes, condominiums, hotels and similar projects.

Light Commercial: This category encompasses all commercial construction, except multifamily, with a total cost of less than \$5 million (USD).

Heavy Commercial: This category is for commercial construction, except multifamily projects, costing more than \$5 million (USD) to construct.

A judging panel then ranked each entry on a scale of 1-10 on each of the following criteria, which were weighted to reflect their importance.

Complexity and Creativity: (20%) A project with many angles, wall thicknesses, or other construction considerations scores higher than a simple rectangular footprint. Creativity refers

to how the designer and contractor used ICFs to find innovative solutions to construction challenges and advance the industry.

Percentage ICFs: (15%) Exterior ICF walls will get some points, but projects that use ICFs for interior walls, or for EPS floors and/or the roof will score even higher.

Architecture: (15%) Winning entries illustrate that ICF projects are more than bunkers or simple boxes. Aesthetics and architecture are important factors in advancing the industry.

Construction and Site Considerations: (15%) Overcoming construction challenges, like tight schedules, tight budgets, difficult lots, wet springs, cold winters, new crews, extreme installation weather, etc. show the advantages ICFs can bring to the table.

Significance/Visibility/Advances the Industry: (15%) So-called "milestone projects" that advance the industry by setting new standards, opening new regions or segments of the construction markets, or attract national attention are significant for the entire industry.

Size: (10%) Bigger projects are usually more visible, and more difficult. Note that all ICF aspects of the project, such as a detached garage or shop, retaining walls, swimming pool, etc. are considered.

Sustainability: (10%) Daylighting, site use, insulation, heating systems, recycled content, water use and other factors are considered. LEED or other green building certification programs are also considered.

Sample Score Chart

	Complexity 20%	% ICF 15%	Architecture 15%	Site Condition 15%	Visibility 15%	Size 10%	Sustain- ability 10%	Total Score 90%
Light Commercial								
Whitney Health Foods	8	9.5	9	6	7	7.5	7	
	1.6	1.43	1.35	0.9	1.05	0.75	0.7	7.775

Welcome to the 2011



January 25th, 2012

Printed Program Courtesy of



MTE

More Than Engineering

❧ Welcome ❧
to the

7th Annual

ICF Builder Award Ceremony

I want to personally welcome you to the biggest ICF event held at the biggest construction trade show in North America. Thank you for coming.

We hope you'll unwind, socialize, and learn about a few of the amazing projects that have been built with ICFs. The presentation will conclude by 6:15 p.m., but feel free to linger as long as you want.

This year's contest was extremely popular. We received a flood of top-notch entries; every single one was noteworthy and impressive. So the projects on the following pages—the finalists—truly represent the best-of-the-best in the ICF industry. They are showcased on the following pages for your review.

Many of the individuals who made these projects a reality are here this evening to receive some well-deserved praise. I hope you'll offer them your congratulations, and take advantage of the unparalleled networking opportunities this event presents.

As for the judging (explained in greater detail on the next page) a panel of experts selected a winner and two runners up in each category. Which would you pick?



20 **ICF** 11
BUILDER
AWARDS

**BEST UNLIMITED
RESIDENTIAL**



MARYLAND NET ZERO HOME

by

INTEGRASPEC CHESAPEAKE

concretehomes

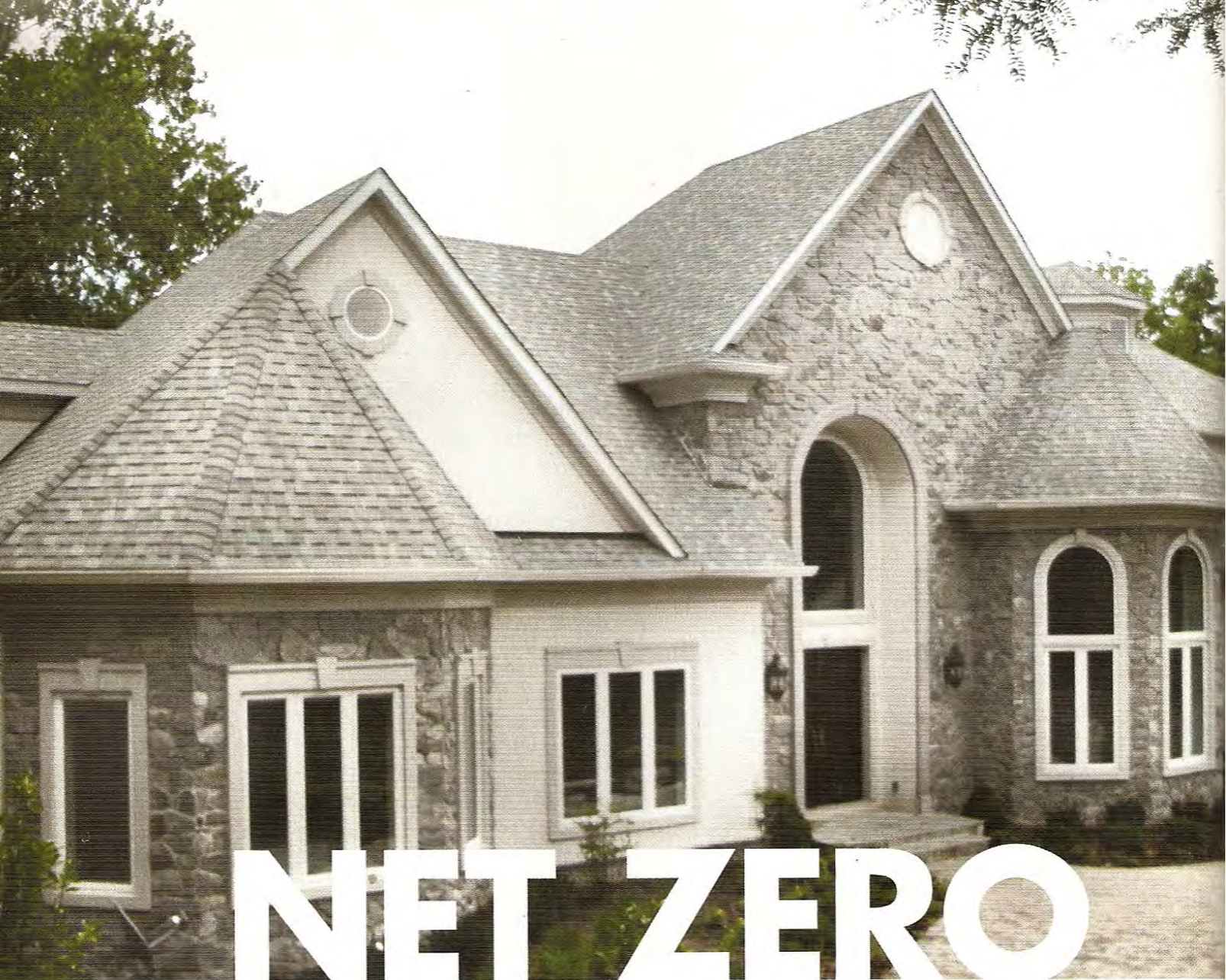
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September 2011

NET ZERO

Maryland ICF puts all the pieces of the energy efficiency puzzle together



NET ZERO

MARYLAND ICF PUTS ALL THE PIECES OF THE ENERGY EFFICIENCY PUZZLE TOGETHER TO REACH NET-ZERO GOAL

text by ANGELA RUTHERFORD

photography by BILL NAEGELI

MARYLAND HAS ITS FIRST NET-ZERO-ENERGY HOME, ACCORDING TO INSULATING CONCRETE FORMS (ICF) CERTIFIED INSTALLATION SPECIALIST BILL NAEGELI OF GNP INC., A RESIDENTIAL AND COMMERCIAL ICF BUILDER IN ANNAPOLIS, MD.

Constructed of IntegraSpec ICFs, the home boasts six inches of closed-cell spray foam in the roof, a geothermal heating system, a 5-kilowatt photovoltaic solar panel system, a solar thermal hot water heater with two storage tanks and propane backup, and PEX tubing radiant-heat flooring. The owner "has combined some cutting-edge technologies," Naegeli said.

"He knew exactly what he wanted."

Construction of the 10,776-square-foot home that features 12,300 square feet of ICF walls began in late spring 2009. The owner, Thaw Poon, and his family moved into the completed home in December 2010 and received their first net-zero electric bills in May and June 2011.

NET ZERO GOAL

"I gotta give Poon a lot of credit," Naegeli said. "He told me from the beginning, 'Look, Bill, I want to try to go for net-zero. Maybe we won't get it, but we'll get near zero...that's what I'm going for.'"



The kitchen is part of the path to net-zero status with energy-efficient appliances. Opening off the kitchen is a butler's pantry, a formal dining room, a breakfast area and a combination pantry and laundry room.

In less than six months, Poon achieved his goal.

Moreover, Poon anticipates that tax reductions will reduce his energy expenditures by 50 percent, allowing him to see a return on his investment in just two years. The geothermal system cost \$82,000, the PV solar system cost \$39,000, and the solar hot water system cost \$8,000, Poon said.

The house is located on three acres in the Baltimore suburb of Cockeysville, Md., where average temperatures range from a high of 87° in July to a low of 23° in January, with an annual average of 55° and about 210 sunny days a year. Naegeli said the Poon residence is “just blowing everything away” in terms of energy-efficiency.

THE CONCRETE FACTOR

“Concrete is the reason that house is net-zero. It’s not only because of the ICF; it’s because the house has this huge amount of concrete inside the walls that’s creating thermal mass for the walls. It’s storing energy,” he said. “Combine that with renewable energy and combine that with geothermal combined with the solar thermal hot water, and [Poon has] just created a path to net-zero. And that’s what everybody is concerned about: ‘What’s the path to net-zero?’ Well, the easiest one is concrete houses – ICF concrete houses specifically.”

A total of 387 cubic yards of 3,500 psi pea-gravel mix concrete with 4 percent air was used to pour the footers, garage and basement slabs, and to fill the ICF walls, Naegeli said. Because of issues that arose while excavating for the walkout basement, Naegeli simultaneously poured the slab, the 12-inch by 24-inch footers, and two feet of the ICF walls all the way around.

“Basically what happened was there was so much stone in the bottom...when we dug it out, we actually had to blast some of the stone out of [the ground],” he said. “The ram hoe

wasn’t even breaking it up...so we had to bring in blast caps.”

Further complicating the situation was the fact that spikes used to fasten the kickers for the ICF bracings could not be hammered into the dirt. “We were going to have to drill [the spikes],” Naegeli said.

To compensate, Naegeli chose the permanent 3-in-1 Form-A-Drain system, which provides foundation footings, drainage and radon venting.

“We’d run these tracks across [the Form-A-Drain system] – basically make railroad tracks on top of it – and we were able to put our forms – like 2-foot-high of forms – all the way around it,” he explained. “Then we went ahead and graveled the inside of it, so we were able to pour the footer, two feet of wall, and the inside of the slab all in one shot.”

Plus, the one-shot pour saved money. “Every time you do a pour with ICF, or even with slabs or footers like that, you have to have a pump truck, and pump trucks are at least a thousand dollars every time they show up. So the more items you can combine on a pump, the better off you are,” Naegeli said. “We basically combined two pours into one.”

BLOWING THROUGH THE ICFs

At this point, the rest of Naegeli’s portion of the project – which involved the shell package and included excavation, footers, slab, ICF walls, floor systems, window installation, and the roof system, minus the spray foam – progressed smoothly. Excavation work began in late May 2009, and “We were done mid-September,” he said, despite a three-week period of heavy rain.

Of those approximately three and a half months, ICF construction took only about a month. “We blew through the ICFs,” Naegeli said.



Concrete is the prime reason the utility bill is \$0 each month because the concrete in the walls is creating thermal mass and storing energy. Adding to that net-zero achievement is a geothermal system, a PV solar system prominent on the back roof of the house, and a solar hot water system on the roof near the garages – all expected to return the investment within two years.

The basement was waterproofed with Carlisle Coatings & Waterproofing Inc.'s MiraDRI 860/861, a peel-and-stick membrane designed for below-grade use, and required 5,562 square feet of 13-inch ICFs with an 8-inch core. The garage slab, as well as the first and second floor walls, all used an 11-inch ICF with a 6-inch core. The garage slab required 1,100 square feet of ICFs, the first floor walls used 4,325 square feet of ICFs, and the second floor totaled 1,313 square feet of ICFs. The project called for 1 ton of No. 5 rebar and 4 tons of No. 4 rebar.

Completion of the ICF portion of the project was rapid even though the house design included 24 45° angles and 17 90° angles. "The design of the house was really kind of wild," Naegeli said. "The longest run we had wasn't even 20 feet."

The number of angles required "a lot more cutting" during the ICF portion of construction, Naegeli said, adding that the work "would have been challenging even for a framer."

The complex roof system features three 45° turns as well as multiple gables, dormers, valleys and hips, and took one and a half months to complete. "The roof system was outrageous. We had a few trusses come out. The rest of it was stick-framed onsite."

In addition to six inches of closed-cell spray foam, the roof system is finished with a light-gray architectural shingle. According to Naegeli, the owner "went with a light gray shingle that's going to reflect [the heat]," a decision that contributed to the home's energy-efficient performance.

Overall, Naegeli said he was pleased with the production time of the shell package. "That's a pretty quick turnaround... probably just as fast as if it were stick-framed."

From the beginning, Poon said he knew that ICF construction was the best option in terms of achieving energy-effi-

ciency, which was his primary concern in building this home. In the event of a national energy crisis, Poon said he needed to know, "How can I beat this problem?" To answer that question, Poon spent two years researching energy-efficient systems, such as geothermal heating, by attending seminars, touring factories, and visiting construction sites.

The effort, he said, "is worth it," especially because he is already seeing results from the combined energy-efficient systems.

In addition to energy-efficiency, age-in-place and handicap-accessible features were another top consideration for Poon when designing the house, Poon included an elevator that runs from the basement to the second floor as well as two master suites, one of which is located on the first floor and would allow Poon to live entirely on the first floor, if necessary.

CLASSIC TOUCHES

The stucco and stone home, which borrows from French Colonial architecture, features:

- Three fireplaces, including a see-through fireplace and a dual-fuel fireplace
- About 85 windows
- Six bedrooms and six full bathrooms, including the two master suites
- Two half-baths
- A two-story marble foyer
- An attic playroom
- A sunroom, a study, and a living room
- A formal dining room, a kitchen with a butler's pantry and a breakfast area
- A combination pantry and laundry room
- A mudroom that is located off the three-vehicle garage
- A great room

- 3,374 square feet on the first floor and 3,140 square feet on the second
- 3,374 square feet of finished space in the basement
- 888 square feet of semi-finished space in the garage

“That [great] room is all clerestory,” ICF builder Naegeli said. “It’s 28 feet to the very top of where that chandelier is, noting that the chandelier is on a pulley system to accommodate cleaning.”

Each window in the great room is about 18 feet tall and is positioned within a 45° angle. “The windows were so tall, we had to stop halfway up in pouring,” Naegeli said. “You can’t pour that all in one shot. We did the first floor all the way up to the top, and then we had to stack scaffolding to move the bracing to do the next floor. We did that pour with the second level.”

Even with the complexities involved in constructing the great room, Naegeli said he was pleased with the results. “It’s just a really cool room,” he said.

The same statement could apply to the house in general.

According to Naegeli, everything is contained within an “enclosed airtight envelope,” and the ICF walls are “performing beyond an R-50.” Furthermore, the entire project is “way, way beyond anything that’s written into code right now.”

“We are so far beyond code construction right now that we might as well be Christopher Columbus setting sail for the edge of the ocean, for the edge of the world. Even the engineers don’t know how to recalibrate for the ICF walls. They don’t know how to calibrate for the thermal mass.”

In fact, thermal mass is the key to Poon’s home achieving net-zero energy status, and concrete creates thermal mass, Naegeli said. In addition, the home “has perfect sunlight...it’s just the perfect setup. I didn’t know it was going to be that good when we first placed the house on the lot.”

Plus, by achieving net-zero energy status, Poon has “created a hedge against future utility increases,” Naegeli said. “It’s the coolest hedge fund you could ever come up with. That’s exactly what [Poon has] done. But the cool thing is, you can do that just by using ICF with spray foam and...everything else is traditional – regular HVAC, regular everything else.

“You can do the same thing...but you have to have the ICF walls; you have to have the spray-foam roof system; you have to have the envelope. Period. And the best envelope today, bar none, is an ICF envelope. And I challenge anybody, anywhere, to come up with a more economical, efficient and effective building envelope. I challenge them. It’s not out there.”

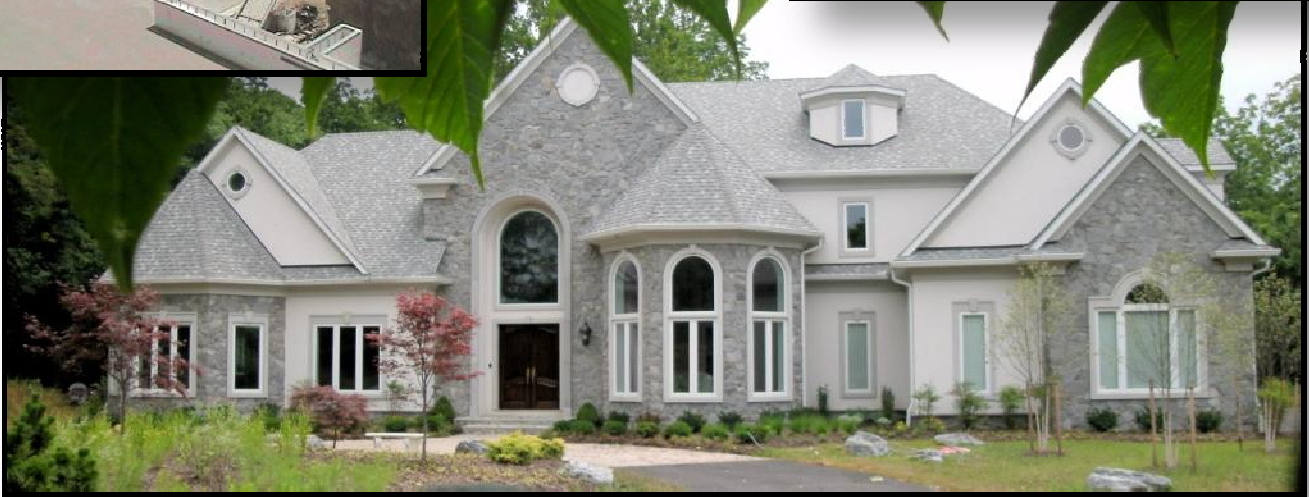
In short, Naegeli said, Poon’s house is “the whole package. If that house isn’t net-zero, then nobody’s gonna be net-zero. Period.” **CH**

Angela D. Rutherford has 13 years’ experience as an editor and designer in the newspaper industry. She most recently spent four years as an editor and writer with a large health-education company.

INTEGRASPEC[®]

"The User Friendly ICF"

FEATURE PROJECT



Project: Dr. Poon Residence

Cockeysville, Maryland

Architect: Phil Gugliuzza, Creative Outlooks

Taneytown, Maryland

ICF Installer: Great Naegeli Properties, Inc.

Riva, Maryland

IntegraSpec Distributor: IntegraSpec Chesapeake

Riva, Maryland

Features: First Net-Zero Energy Home built in Maryland, 10,750 ft² Luxury Custom Built Home. Completely finished basement and attics. This six bedroom residence features 5½ baths, 10' main level ceilings and basement ceilings of 8'. Dr. Poon requested radiant floor heat throughout and extensive ceramic tile to enhance the comfort and economical benefits of owning this home. Total ICF construction, Geothermal HVAC, PV-Solar, and Solar Thermal Hot Water.

"This project represents everything we have been searching for. When you consider the size of this zero energy project and compare it to the automotive industry, you have the equivalent of a luxurious, powerful SUV driving from LA to NY with zero energy consumption. Truly amazing!"
Mr. Allen Winters, President of Winters Concrete in Sebastopol, California

"We impressed all parties with the thirty day speed and accuracy of the IntegraSpec foundation and tall main floor walls. The exterior envelope sections were completed in one step, and provide the insulated thermal mass and air infiltration control that is the platform of zero energy."
Mr. Bill Naegeli, President of IntegraSpec Chesapeake



Winner of 2011 ICF Builder Award – Best Unlimited Residential – World of Concrete, Las Vegas, Nevada

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January 31, 2012

NEWS RELEASE

IntegraSpec ICF Zero Energy Home Wins Coveted Unlimited Residential Award World of Concrete, Las Vegas, Nevada - January 25, 2012

IntegraSpec ICF was honoured to receive another ICF Builder Award at the World of Concrete, Las Vegas, Nevada. This award celebrates an impressive 10,750 ft² home, the first Zero Energy residence in Maryland.

Mr. Clark Ricks, Director, ICF Builder, Mapleton, Utah, presented the Award to Mr. Dave Kellam, North America Manager, IntegraSpec ICF, on behalf of Dr. Poon, home owner, and William Naegeli, IntegraSpec Distributor. The Judging criteria considers; Use of ICFs, Architecture, Construction and Site Considerations, "Milestone Nature", Size, and Sustainability.

Mr. Allen Winters, President of Winters Concrete in Sebastopol, California, states, "This project represents everything we have been searching for. When you consider the size of this zero energy project and compare it to the automotive industry, you have the equivalent of a luxurious, powerful SUV driving from LA to NY with zero energy consumption. Truly amazing!"

Mr. Bill Naegeli, President of IntegraSpec Chesapeake proudly states, "We impressed all parties with the thirty day speed and accuracy of the IntegraSpec foundation and tall main floor walls. The exterior envelope sections were completed in one step, and provide the insulated thermal mass and air infiltration control that is the platform of zero energy."

The prestigious award is a very welcome addition to the numerous Energy Efficiency, ICFA Excellence, Healthy Home, Global Traders, EnviroHome, Environmental Excellence, EnerQuality Corporation Design Excellence, Earth Preserver, and ICF Builder Awards received for IntegraSpec ICF projects and products since 1997. IntegraSpec ICF wallsystem is on permanent display in the National Museum of Science and Technology. IntegraSpec ICF has numerous North American and International manufacturing locations, and is recognized globally as a leader in Insulated Concrete Form Technology.



IntegraSpec ICF products are Patent Protected.



















































2010 ICF BUILDER AWARDS

Entry Notebook

General Information

Project Name: Dr. Poon Residence Location: Cockeysville, MD.

Category:

- | | |
|---|---|
| <input type="checkbox"/> Light Commercial (less than \$5 million) | <input type="checkbox"/> Small Residential (3,000 sq. ft. or less) |
| <input type="checkbox"/> Heavy Commercial (\$5 million or more) | <input type="checkbox"/> Large Residential (3,001 to 6,000 sq. ft) |
| <input type="checkbox"/> Multi-Family (Duplex, Apartment, Hotels) | <input checked="" type="checkbox"/> Unlimited Residential (Over 6,000 sq. ft) |

Submitted by:

Name: William W. Naegeli Jr. Company: GNP Inc.
 Street Address: 3061 Centre Rd. City: Riva
 State/Province: Maryland Country: USA ZIP/Postal Code: 21140
 Phone: 443-223-5164 Fax: _____ Email: bill@gnpbuild.com

Payment Method

(Cost is \$90 for the first Notebook, \$50 for each additional Notebook)

Check Attached Paid when Entry Notebook was Requested

Credit Card     Expires ___/___

Card Number _____ Auth Code: _____

Important Note:

The information on pages two, three, and four of this notebook, along with the photographs you provide, are the only information the judging panel will have to evaluate this project. Therefore, please provide as much information as is relevant. The figures after each heading indicate the percentage that each area represents in the final score (e.g. "Architecture 15%" means that the architecture of the project makes up 15% of the final score.) Use additional pages if needed. The final two pages (five and six) request contact information for team members, and allows the panel to verify the information provided.

Project Specifications (15%)

Project Completion Date Dec 2010 Total Project Cost: \$ >1ml

Size (Total Sq. Footage) 10,776 Use: Personal Residence

If residential, note unfinished areas. If commercial or multi-family, note uses of structure and sq. footage.

Sq. Footage of ICF Walls: 12,300 Percent of Exterior Walls built with ICFs 100 %

Other Uses of ICFs on this project:

Interior Walls (Note square footage) _____

Underslab Insulation

Landscaping (Note square footage) _____

Floor Decking

Retaining walls, swimming pools, outbuildings, etc.

Project Details

ICF Installation Time 30 days Total Project Construction Time: 290 days

Time saved (if any) by using ICFs: 15-20 days

Additional Construction Cost (if any) by using ICFs: minimal

Major Suppliers (Brands) Used on the Project:

ICF System (Brand) IntegraSpec

Floor Joists standard

Wall Bracing WASS II

Exterior Finishes EIFS/Stone

Window/Door Block-outs IntegraBuck

Waterproofing Carlisle

Sustainability 10% Describe how this project maximizes the advantages of ICF construction. Be sure to include any elements of sustainable design incorporated in the structure. If the project has been energy tested, include the rating. Average monthly heating and cooling costs, if known, should be stated.

Dr.Poon, modeled the house to be Net Zero, after he added his PV-Solar panels and Solar Thermal ho water combined with the Geothermal Heat pump, he is Net Zero, which means at the end of the year the amount of energy he is producing is equal to or great than what the house is using.

Architecture 10% Describe the outstanding architectural features of the project, referring to photographs as necessary.

Clear-Story Great Room with 2 story arched windows

Complexity and Creativity 20% Describe the overall complexity of the project's design, challenges involved, and how they were overcome. For instance, wall heights and number of corners, unusual angles, roof connections, new materials or technologies uses, etc. Especially highlight innovative solutions to challenges to design and construction challenges:

A total of 41 corners, there was 24 - 45 degree angles and 17 - 90 degree corners, the longest straight run was barely 20ft

Construction and Site Considerations 15% Describe any construction difficulties the contractor dealt with, and how they were overcome. This includes budget constraints, project timelines, extreme weather events, poor soils or site topography, etc.:

Basically what happened was there was so much stone in the bottom...when we dug it out, we actually had to blast some of stone out of the basement area.

Further complicating the situation was the fact that spikes used to fasten the kickers for the ICF bracings could not be hammered into the stone. To compensate, we chose the permanent 3-in-1 Form-A-Drain system, which provides foundation footings, drainage and radon venting. We ran 22 gauge 2 1/2" metal c-channel(metal studs), Naegeli said. "We basically combined two pours into one." tracks across [the Form-A-Drain system] — basically make railroad tracks on top of it — and we were able to put our forms — 2-foot-high — all the way around it. Then we went ahead and graveled the inside of it, got our plumbing, insulation and radiant heat tubes installed, so we were able to pour the footer, two feet of wall, and the inside of the slab all in one shot.

Every time you do a pour with ICF, or even with slabs or footers like that, you have to have a pump truck, and pump trucks are at least a thousand dollars every time they show up. So the more items you can combine on a pump, the better off you are, we combined two pours into one.

Significance 15% Describe the project's significance to the region and the ICF industry as a whole. Be sure to mention new standards the project has set (if any), attention the project has received and how the project has advanced the industry as a whole:

Dr.Poon's house is the first Net-Zero Energy house in Maryland:
Combining ICF construction with Geothermal Heat and then sizing the renewable system correctly equipped his house to take FULL advantage of the renewables and since his house was built so energy efficient the cost of the renewable energy actually has a reasonable payback duration.

we have discovered the Path to NET-ZERO It Is
ICF + Geothermal + Renewable = Net Zero
Renewable energy in Dr Poons house was PV-Solar and Solar Thermal Hot Water

Background Information

Comment on the project's success (*Mention the owner's level of satisfaction, whether it was completed within time and budget constraints, the project's impact on the community, and any awards the project has won; such as LEED certification, recognition in the press, etc.*)

Dr. Poon was very involved with the project and much of the success should be attributed to his dedication and motivation, he was extremely knowledgeable about ICF construction and even turned down several builders who tried to talk him out of them. He knew what he wanted and he knew it would work and he stuck to his guns and got it done and he was a pleasure to work with as well.

Additional information about the project that should be considered regarding why the project deserves an ICF Builder Award.

Dr. Poons house is the first single-family house that has gone Net-Zero in the state of Maryland as far as we know no one has repudiated this claim and it has been published in "Concrete Homes Magazine" it was the lead article.

Marketing Efforts

Who made the decision to build with ICFs? Owner/Occupant Contractor Architect

Was this individual already familiar with ICFs? Yes No

Discuss how the contractor and ICF brand for the project were selected

GNP Inc is a builder in Maryland and also owns a distributorship for IntegraSpec blocks, we build about 4-5 houses p/year.

Discuss any sales techniques, marketing efforts, or relationship building that was used to convince the team to build with ICFs:

advertise in Homes Magazine, i am also a Real Estate agent, websites and emails