LIVING

SPRING 2015

BEST IN AMERICAN

REDEFINING HOME AND COMMUNITY

TEN HOT TRENDS

FROM THE BEST IN AMERICAN LIVING AWARDS

HOW TO THRIVE

FIRST-RATE UNIVERSAL DESIGN

OUR COMMUNITY OF THE YEAR

NAHB®
Published by the National Association of Home Builders
www.nahb.org

LIVING™

BEST IN AMERICAN

ON THE COVER:
This stunning Austin, Texas, home took the Gold award for One-of-a-Kind Custom or Spec Home up to 4,000 square feet in this year's Best in American Living Awards. Judges loved the dazzling mix of glass, steel, wood, and concrete.

NAHB®
A PUBLICATION OF THE NATIONAL ASSOCIATION OF HOME BUILDERS

EDITOR-IN-CHIEF
Debbie Bassert

ASSISTANT EDITOR
Claire Worshtil

ASSOCIATE EDITOR
Deana Moore

CONTENT EDITORS
Paul Emrath
Jaclyn Toole

CONTENT COORDINATOR
Linda Wade

REPRINTS AND BUDGETING
Debra Lesesne

SPONSORSHIP/AD SALES
Harris Floyd

MANAGING EDITOR
Melissa Bailey

GRAPHIC DESIGN
LTD Creative

BALA

15 HOT TRENDS

Each year we see the industry's fastest-growing trends in the Best of American Living Awards entries and winners. Don't miss these top ten.

MEDIA KIT

CONTENTS

STAYING POWER

By Stephen Paul

Mid-Atlantic Builders consistently works with outside custom architects to ensure its designs are current—and better than its competitors'.

The builder highlights features like its "Owner's Suite Spa Baths" to serve as a unique brand advantage.

Mid-Atlantic Builders is a mid-sized, single-market, privately held builder that has endured more than a few challenges since its founding 35 years ago. Here the company shares the secrets to its resilience and longevity.

Mid-Atlantic Builders has been building and developing award-winning communities and homes in the metropolitan Washington, DC, area since 1979. In 2006, NAHB named our company America's Best Builder, one of the industry's highest honors. With over 150 years of combined management experience, our executive team of land development and homebuilding professionals has learned that nothing promotes, supports, and nurtures good business like a commitment to process and structure.

We are often asked the secrets to surviving the ups and downs inherent in our industry. Simply put, we focus on five key areas: creating uniquely designed products, utilizing technology to increase efficiency, maintaining strong financial reporting systems, participating as an NAHB Builder 20 member to compare best practices, and upholding a commitment to continuous team training and development.

Since the company offers a wide array of home customization, it maintains a detailed option job cost portfolio to protect profit margins.

CREATE PRODUCTS THAT **EXCEED EXPECTATIONS**

First, always look for ways to differentiate your company by offering better products than your competitors. At Mid-Atlantic, we consistently work with outside custom architects to ensure that our designs are fresh and current—and better than the competition. We highlight features like our Owner's Suite Spa Baths to serve as a unique brand advantage that draws buyers. If your market is filled with large national builders, look for features you can offer that the public builders can't: Our customization program allows our clients to personalize their homes to a greater extent than our national builder competitors. Clients can customize their floor plans and exteriors and even adjust the position of their homes on their home sites. We also provide a design studio consultant who doesn't just show clients their selections—she offers professional advice as though our clients have hired an interior designer. Our clients can feel confident as they tailor-fit the finishes of their homes to their personal lifestyles and preferences.

If at all possible, diversify your product line by type and location—you want to offer homes that appeal to a broad range of the market. In our case, we've introduced a new product line this year called the Urban Townhome series, targeted to generations X and Y.

EMBRACE THE **POWER OF TECHNOLOGY**

Using technology will increase your company's overall efficiency and help you better manage through good times and bad. At Mid-Atlantic, we custom designed our sales software to match our sales process and implemented a customer relationship management system (CRM) to automate and streamline our marketing efforts. Building these personalized systems has given our company the ability to meet unique needs that are not addressed in off-the-shelf business software. In addition, we provide computers and tablet devices to our sales and construction management teams.

Today's customers want lots of information before they even speak with a salesperson. Use technology to let them sell themselves on your company *before* they visit your community. We created an easy-to-navigate website that allows prospective buyers to generate their own customized floor plans through an interactive floor plan module. Buyers have the tools and information to decide what they want in a home and how it should be designed. The website is truly the hub of our company marketing program.

CAPTURE AND USE **FINANCIAL DATA**

Never neglect to perform systematic financial monitoring and measurement of your company's performances. Mid-Atlantic conducts financial monitoring on a weekly, monthly and quarterly basis. We use job cost reconciliations to monitor the quality and performance of each house budget. Since we offer a wide array of home customization, we also maintain a detailed option job cost portfolio to protect profit margins. Our automated subcontractor purchase order system allows trade partners to get specific work orders and pricing electronically along with scheduling instructions. Construction schedules are reported weekly and available daily through an online trade contractor portal. Additionally, always closely monitor soft costs, including field indirect, sales, model home, advertising, warranty, and general and administrative expenses with monthly accounting reports.

IMPROVE OPERATIONS THROUGH **BEST PRACTICES**

For over twenty years, Mid-Atlantic Builders has been a member of an NAHB Builder 20 Club. This group of 20 similar-sized builders from all around the country meets twice a year to discuss best business practices. Each meeting serves as a forum for company executives to share product ideas, marketing, finance, and business management practices, as well as benchmarking of their financial

performances. Every builder that wants to improve its bottom line should be a member of an NAHB Builder 20 Club. Participating as a member of this group and learning from similar builders from across the country has been a huge contributor to our survival and success.

TRAIN AND DEVELOP YOUR **TEAM**

Keep an open mind to attract and retain the best employees. Mid-Atlantic Builders has had much success in recruiting college graduates. Providing these hires with extensive career development and skills training has given us many opportunities to facilitate internal promotion and career advancement. The company encourages team members to think and work as entrepreneurs within an organized company structure.

It's also important to set up corporate procedures, so that expectations and goals are clear to all employees. Providing this overall framework supports success, responsibility, and accountability. At Mid-Atlantic, we maintain a company intranet that allows employees easy access to the corporate operations manual, procedural forms and training materials, ensuring that employees have access to all relevant information regardless of their physical locations.

Mid-Atlantic created an easy-to-navigate website that allows prospective buyers to generate their own customized floor plans through an interactive floor plan module—before they even visit a community.

LOOKING **FORWARD**

Mid-Atlantic Builders proudly remains a leader in the creation of beautiful communities and quality-built homes in the metropolitan Washington, DC area. Looking forward, we will continue to grow across different sectors by diversifying products and pursuing opportunities in new locations. We will build resources with a college-educated workforce and will continue to evolve technologically. Integrating technologies such as mobile applications and touch screen displays into our sales and production processes will ensure that employees are able to best serve our company and its customers.

Stephen Paul is Executive Vice President of Mid-Atlantic Builders in Rockville, Maryland.

‘WOTUS’ the Big Deal

Redefining the Jurisdictional Scope of the Clean Water Act

The EPA and Army Corps of Engineers want to change the definition of “waters of the United States” and expand federal jurisdiction under the Clean Water Act. The new distinctions will be burdensome to builders and do little to protect the environment.

The Clean Water Act of 1972 (CWA) gives the federal government authority to regulate “navigable waters,” which are defined by the statute as simply “waters of the United States” (“WOTUS”). Unfortunately, determining what might be “WOTUS” and, in turn, the scope of federal jurisdiction has never been easy or predictable. And while two U.S. Supreme Court cases, *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (2001) and *Rapanos v. United States* (2006), have made it clear that there are limits to federal authority under the CWA, perhaps the only thing all parties agree on is that the current regulatory definition of “WOTUS” is too vague. The result has been confusion, inconsistent application, and questionable jurisdictional interpretation.

Since these Supreme Court decisions, the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps)—the federal agencies with joint authority to administer the CWA—have made several attempts to address the confusion by issuing interim guidance and agency directives. Unfortunately, the implementation of these interpretive tools has proven

By Owen McDonough, Ph.D.

SHUTTERSTOCK.COM © PESHKOVA

burdensome and unpredictable. At the same time, the underlying uncertainty persists, leaving home builders, developers, and other stakeholders at a loss for knowing whether or not their land contains federally protected areas.

Most recently, on April 21, 2014, EPA and the Corps published a proposed rule to define "WOTUS." The agencies claim the proposal provides clarity and does not expand federal jurisdiction. Regrettably, the proposal misses the mark. For example, it is littered with ambiguous and undefined terms, fails to define the point at which any connection between a water and a traditional navigable water becomes "significant"—a crucial point made by the Supreme Court—and extends federal jurisdiction far beyond what was envisioned when Congress enacted the statute in 1972.

Further, although the agencies claim the proposed rule does not expand the scope of federal jurisdiction, the overly broad definitions include nearly all ditches and man-made conveyances, as well as all waters found within subjectively identified and potentially expansive "floodplains" and "riparian areas." These extend well beyond the areas over which the agencies have traditionally taken control. What's more, even if a feature does not fall within one of the specific categories of waters, the agencies could still assert jurisdiction using the all-encompassing "other waters" provision. In the end, many landscape features that exhibit few attributes of "waters" will be swept into the federal regulatory net.

The sheer scope of these new definitions and the vast acreage they will bring under federal scrutiny raise significant concerns for the home building industry. By their very nature, land development and home building involve substantial earth-moving activities. Because Section 404 of the CWA requires a permit for the discharge of dredged or fill material into "WOTUS," builders and developers must often obtain CWA permits to complete their projects. As the definition of "WOTUS" expands, more activities will trigger Section 404. If the definition is finalized as proposed, activities discharging into features such as isolated wetlands, man-made drainage features, and streams that only flow when it rains would now require a permit.

Obtaining these permits is no small task. A 2002 study, for example, found that it takes an average of 788 days and $271,596 to obtain an individual CWA wetland permit and 313 days and $28,915 for a "streamlined" nationwide permit.[1] Importantly, these values do not take into account the cost of mitigation, which can add up quickly. Perhaps even more costly, however, can be discharging (knowingly or not) into a "WOTUS" without a CWA permit—a violation that can cost $37,500 a day.

Unfortunately, the proposal provides little comfort in knowing which land areas may be federally regulated or certainty that the Corps or EPA will agree with a landowner's or consultant's determination that an area falls outside the federal purview, potentially setting up more landowners for unknown CWA violations. The agencies conveniently disagree that the proposal generates confusion, suggesting that by including most every wet area, they are providing the consistency and predictability the regulated community has requested.

The opportunity to comment on the proposed rule closed on November 14, 2014, but not until after the agencies had received over one million comments from the public. Even as the agencies work to finalize the rule, Congress continues to raise concerns over the manner in which it was developed, holding bicameral hearings on the Hill and introducing stand-alone legislation to block it. Nonetheless, the agencies have announced they aim to finalize the rule as early as April 2015. If that happens, rest assured "WOTUS" will wind up in the courts yet again.

Under the proposed rule, EPA and the Corps will assert jurisdiction over:

(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters, including interstate wetlands;

(3) The territorial seas;

(4) All impoundments of waters identified in paragraphs (1) through (3) and (5);

(5) All tributaries of waters identified in paragraphs (1) through (4);

(6) All waters, including wetlands, adjacent to a water identified in paragraphs (1) through (5); and

(7) On a case-specific basis, other waters, including wetlands, provided that those waters alone, or in combination with other similarly situated waters, including wetlands, located in the same region, have a significant nexus to a water identified in paragraphs (1) through (3).

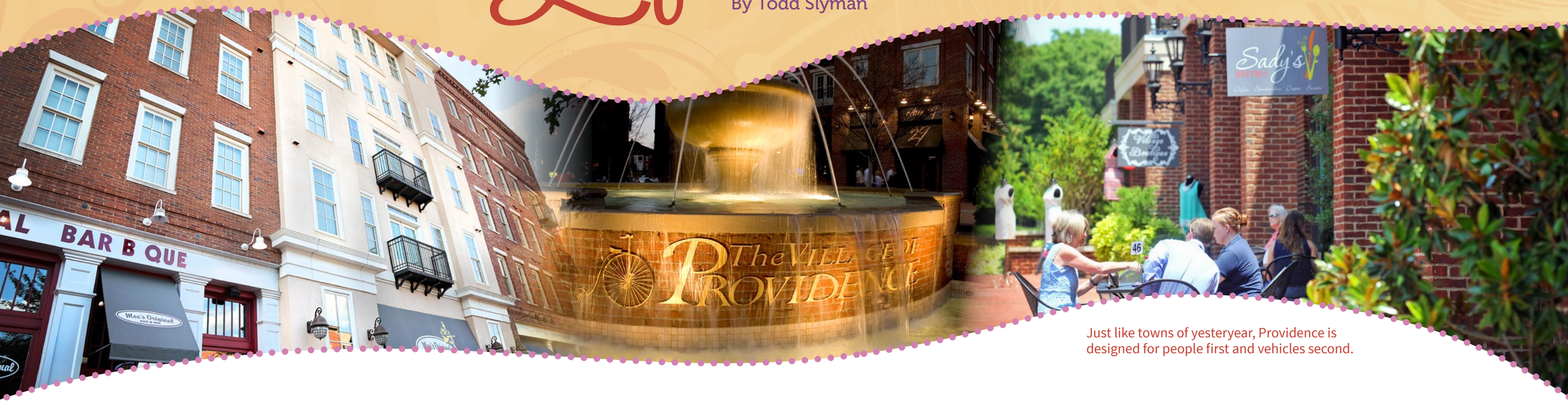
Owen McDonough, Ph.D., is a Program Manager, Environmental Policy at NAHB.

[1] David Sunding and David Zilberman, "The Economics of Environmental Regulation by Licensing: An Assessment of Recent Changes to the Wetland Permitting Process," 2002.

Creating the Sweet Life

By Todd Slyman

Superb planning and strict adherence to high design standards combine to give The Village of Providence a special charm—all of which led to it being named 2014 Community of the Year in the Best in American Living Awards.



Just like towns of yesteryear, Providence is designed for people first and vehicles second.

Like a glass of sweet tea on a hot August day, the Village of Providence in Huntsville, Alabama, is positively filled with southern charm. Whether strolling down the sidewalk or driving the tree-lined streets, one feels a sense of being in that perfect hometown that grandparents still talk about. Picturesque homes are intermixed with brownstones, traditionally styled townhomes, and apartments, as well professional offices, stores, and businesses.

This mixed-use traditional neighborhood development came about in a not-so-traditional way. Developers David and Todd Slyman had a specific vision: they wanted to create a place for families that was reminiscent of their childhood neighborhood as well as other great places they visited such as San Francisco, New York, and the great towns and villages of Europe. They sought to establish a neighborhood that would be more than a collection of houses and yards—a place where families would be part of a close-knit and active community.

The Slymans got their chance in 2000. They had been working tirelessly with city officials to convince them to build schools on the west side of Huntsville. When the officials heard the developers' vision for a mixed-use pedestrian-oriented neighborhood, they were sold on building the schools and other infrastructure improvements in the area. Now came the challenge of bringing the vision to life.

Tight architectural standards ensure that a neo-gothic style home built 10 years ago will blend with one built today.

DESIGNING A TOWN

Like most cities, Huntsville already had standards for residential and commercial developments; but they were for modern subdivisions and commercial developments, not for a traditional neighborhood concept. Providence was different, and making it happen would require buy-in from city planners, area residents, and city government. The Slymans, referred to as the "Town Founders," would have to educate the stakeholders and decision makers, get them engaged in the concept development, and make them a part of the process of creating Providence.

For the next several months the Slymans did an exhaustive global search for a planner who had the necessary experience and reputation. This led them to Duany, Plater-Zyberk and Company (DPZ) in Miami, Florida. After several meetings they decided that DPZ would come to Huntsville to conduct a design charrette. The charrette would also serve as a key step in engaging the community on the project.

The Slymans assembled an inclusive team of city and county officials, business leaders, and members of the community to participate in designing Providence. Three separate DPZ groups developed three different designs and presented them to the team for review and comment. After several days of critiques and revisions, DPZ and the developers created a conceptual design for presentation to the city. After the city review, they held a public meeting—complete with heavy local media coverage—to present the concept.

Providence is designed for people first and vehicles second. The streets are narrower, the radius of street corners, and the placement of trees and sidewalks all make walking the priority. Planners sited homes on each lot with care, making them both inviting and private. The community's architects designed front porches to be inviting but allow enough distance for seclusion. Commercial buildings continue the look and feel of the community using traditional architecture that blends into the overall aesthetic.

SELLING THE CONCEPT

Because it was a departure from the familiar, the pedestrian-centric design required an education process. The "Town Founders," took city officials to other traditional neighborhood developments to help them understand how they function. They organized numerous presentations, expert consultations, and site visits to other traditional neighborhood developments and old towns to educate stakeholders. The lesson: with careful planning, Huntsville could accommodate its city requirements without sacrificing the design of the

The Village of Providence hosts community events like July 4th fireworks, outdoor concerts, and an annual Christmas tree lighting.

community. Once the stakeholders understood the vision and saw it in action elsewhere, they enthusiastically supported the development.

On February 24, 2003, the Slymans broke ground for The Village of Providence and opened the first phase of 100 lots for development. Because homebuyers in a traditional neighborhood development are often hesitant to purchase in an area without shopping and amenities already in place, the developers prepared themselves for a challenge. But when the layout of the first phase was complete, almost half the residential lots sold in the first two weeks—proof that Huntsville was ready for the Slymans' vision.

THE VALUE OF DESIGN

Fast-forward more than a decade: the careful focus on quality of design that created the Village of Providence has proven worth the effort. The pedestrian-oriented development adheres to that original 2002 master plan with few deviations. Its architectural standards and building codes work—architects follow them carefully to ensure accuracy of designs and quality of structure.

For example, a Greek Revival home displays the correct proportions, column sizing, and appropriate entablature. These tight standards ensure that homes built 10 years ago fit in with homes completed this year. The continuity of design and quality of materials guarantees these houses will last for decades.

An architectural review board and a builder's guild review and supervise new construction in Providence. The architectural review board assures that new homes fit into the community aesthetically but are also true to their respective styles. The task of actually building falls to one of the guild member builders. Guild members are vetted and strive to ensure the best quality of construction. The review board and builders guild consider every aspect of all homes, reviewing, evaluating, and constructing them to ensure they will last for generations. As its "Town Founders" envisioned, The Village of Providence will remain—and retain its charm for years to come.

THE VALUE OF COMMUNITY

Providence strives to be more than a collection of residences and businesses; it brings people together as part of a larger community. The village is known for hosting special events like Fourth of July fireworks, concerts in the park, movie nights, and the annual Christmas tree lighting the day after

An architectural review board and builders guild at Providence review, evaluate, and construct the homes to ensure they will last for generations.

Architects must carefully follow architectural standards to ensure historical accuracy of designs.

Thanksgiving. These events bring residents, businesses, and the local community together on a regular basis.

"The places we love the most always offer a unique balance," said David Slyman. "Whether that's things we need and things we want or the comforts of your home with the amenities of a city, The Village of Providence offers that balance in ways that separate us from most any other similar neighborhoods across our country."

PROVIDENCE TODAY

Providence now has over 200 homes, 226 apartments, and numerous restaurants and businesses. More than 450 people work in the village every day and are part of the local community. The next phase of development recently opened with an additional 52 home sites.

The Village of Providence started as a dream to capture the lifestyle of a small town with the convenience of city living. And while its success is apparent on many levels, it may be best measured by its recent recognition as the 2014 Community of the Year in NAHB's Best in American Living Awards, recognizing excellence in community development and design.

PROJECT FACTS

DEVELOPER: Placemakers North America, LLC

BUILDERS: BT Neely Construction, Jimmy Bryan Homes, VTS Home

ARCHITECT: Steve Mouzon and Bob Martignoni

LAND PLANNER: Duany Plater-Zyberk & Company

ACRES:305

DENSITY: 6.25

CURRENTLY: 200 single-family, 20 townhomes, 6 Live/Works, 226 apartments, and 42 condos. Upon project completion: 700 single-family, 200 townhomes, 20 Live/Works, 600 apartments, 100 condos

SQUARE FOOTAGE OF NON-RESIDENTIAL BUSINESSES & OFFICES: Currently 400,000, upon completion 750,000

Todd Slyman is Principal at Placemakers North America, LLC, in Huntsville, Alabama.

Picturesque homes in Providence are intermixed with brownstones, traditionally styled townhomes, and apartments, as well professional offices,stores, and businesses.

AN Emergency Housing Prototype GROWS IN BROOKLYN

Katrina and Sandy showed us that post-disaster housing is not up to par. Now there's a solution.

By Matthew Hoffman

New York City's population density and geography make it particularly vulnerable to coastal storms. Over eight million people live on approximately 305 square miles of land with 578 miles of waterfront. To compound the risk, the potential for severe storms hitting New York City is expected to increase due to more frequent, more intense, and more northerly storms attributed to global climate change. The city faces many challenges during and after such storms, but one of the most difficult is the possibility that hundreds of thousands of people could lose their homes.

Superstorms like Hurricane Katrina and Hurricane Sandy proved that conventional disaster housing solutions aren't adequate. In response, New York City's Office of Emergency Management secured funding from FEMA and the U.S. Army Corps of Engineers to address the issue. The city wanted to create reliable interim housing for people who could no longer live in their homes after a storm.

The result: The Urban Post Disaster Housing Prototype, a solution that represents a critical step forward in the way cities respond to disasters. It streamlines the city's efforts, maximizes the effect of its resources through mass production, and provides expedient and environmentally-conscious accommodations to those in need. The multi-story, multi-family units can be deployed in less than 15

PHOTOS © ANDREW RUGGE/ARCHPHOTO

hours, in various arrangements calibrated for challenging urban conditions.

The project was preceded by more than six years of research on emergency housing by the city, according to James Garrison, Principal of Garrison Architects, which created the prototype. “Aside from providing shelter after a disaster,” he said, “the prototype allows residents to stay in their own communities instead of being displaced for months, or even years.”

“This concept of ‘shelter in place’ helps residents maintain their support networks—their friends and their families,” Garrison continued. “Keeping neighborhoods intact is crucial for successful rebuilding.”

The prototype uses the latest construction technology in conjunction with stringent requirements for safety, sustainability, durability, and universal design. The modules are infinitely flexible—they can be deployed in vacant lots, private yards, or public spaces. When needed, they are simply trucked to a site, craned into place, and plugged into utilities. Because the units are prefabricated, they cause minimal disruption to the local community during and after deployment.

“The beauty of the units lies in their inherent flexibility. They can be stacked like Lego’s to create row housing, or they can be interspersed between existing homes and structures,” said Garrison. “And these modules aren’t just for New York City—they were designed to meet the strictest zoning requirements in the US, so they can quickly be sent anywhere in the country.”

For the prototype project, five modules were fabricated in Indiana by Mark Line Industries. They were then trucked to New York City and installed at the corner of Cadman Plaza East and Red Cross Place in Brooklyn by American Manufactured Structures and Services, general contractor for the project.

With one- and three-bedroom configurations, every unit features a living area, bathroom, fully equipped kitchen, and storage space. Units are built with completely recyclable materials, cork floors, zero formaldehyde, and a double-insulated shell. In addition, floor-to-ceiling balcony entry doors with integrated shading lower solar-heat gain, provide larger windows, and add more habitable space. The units can be equipped with photovoltaic panels, which will not only alleviate pressure on the city grid but also ensure the units are self-sustaining.

The prototype will remain onsite for one or two years, undergoing occupancy tests by the Polytechnic Institute of New York University and Pratt Institute in Brooklyn. Guests will be invited to live in the units for five-day intervals to fully explore their functionality.

© ANDREW RUGGE/ARCHPHOTO

The multi-story, multi-family disaster housing units can be deployed in less than 15 hours, in various arrangements calibrated for challenging urban conditions.

“We spent months honing all of the technical details for the prototype,” said Garrison. “Now we’re enjoying the process of investigating the intricate details of living in the units full time.”

Matthew Hoffman is Marketing Director at Garrison Architects.

INNOVATIVE Green Building Product Designs

The International Builders Show was brimming with cutting-edge sustainable products.

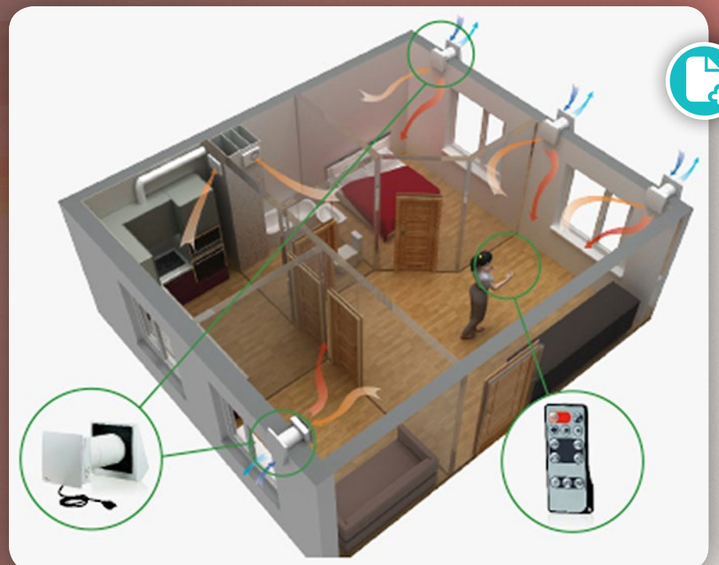
By Jaclyn S. Toole, Assoc. AIA, CGP

This year's International Builders' Show (IBS) was packed with great new products for green building. In fact, NAHB's annual Best of IBS Awards introduced a Green Building Product category to its line-up this year and received a whopping 61 entries in the new category alone! Green building products typically contribute to at least one green building practice in one of these categories: energy efficiency, water efficiency, resource efficiency, and indoor environmental quality. We'll reveal the winner—but not before sharing some of the judges' favorites.

Jaclyn S. Toole, Assoc. AIA, CGP, is Senior Program Manager, Sustainability & Green Building at NAHB.

ENERGY EFFICIENCY

Any effective approach to improved energy consumption involves a threefold strategy—conservation, efficient consumption, and alternative energy generation. Conservation focuses on the building envelope—the walls, floor, and ceiling—including insulation levels, window, door, and other penetration options, as well as the effectiveness of the air barrier. Efficient consumption includes the energy used for heating and cooling as well as lighting, appliances, and water heaters. And finally, alternative energy generation pertains to other additional sources of energy such as solar panels. Here are some innovative products featured at IBS that can contribute to energy efficiency:



◀ TwinFresh Comfo RA1-50-2

TwinFresh energy recovery ventilation system recovers heat and moisture to reduce heating costs in winter and air conditioning costs in summer. The ventilator is designed for both extracting air from the interior as well as supplying fresh ventilation from the exterior—and it's extremely quiet.

Blink LED Flush Mount Lighting Fixture ▶

This sleek, low profile LED flush-mounted lighting fixture features LED technology that produces a wide light distribution and thus requires fewer lighting fixtures. Using only 13W of energy, the fixture is available in several finishes, Energy Star certified, damp location listed, and dimmable.

10 HOT TRENDS

from the Best in American Living™ Awards

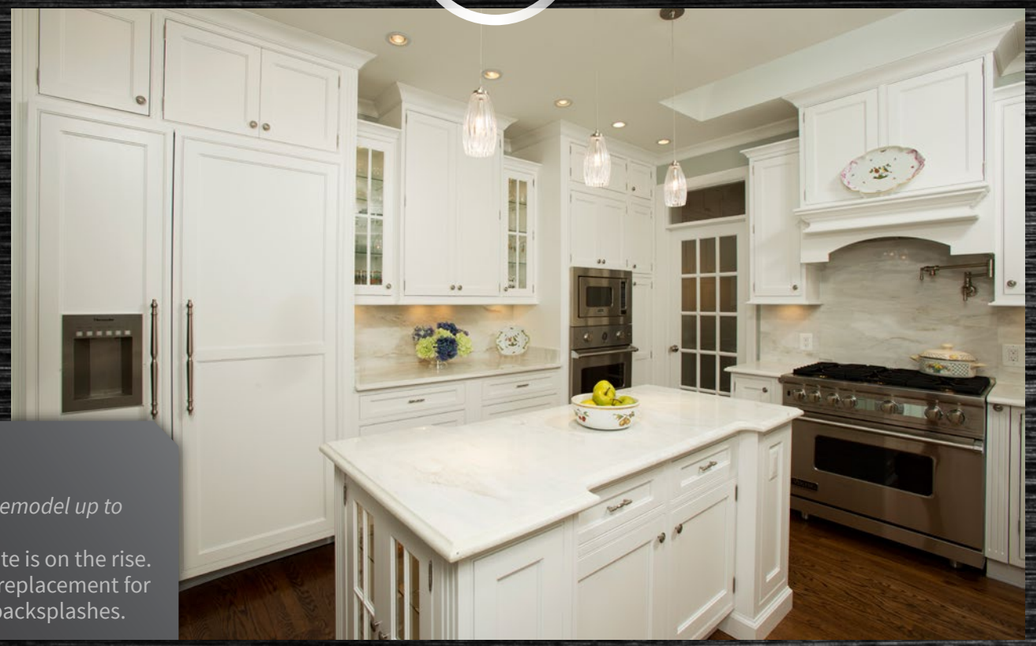
This year's Best in American Living Awards winners illustrate many of today's hottest trends in design. Here are ten you won't want to miss.

By Deana Moore

Palos Park
Palos Park, Illinois
Gold for One-of-a-Kind Custom or Spec Home 4,001 to 6,500 square feet

Many kitchen designs in this year's awards featured white cabinets, topped with white counter tops finished off with white back splashes and white trim.

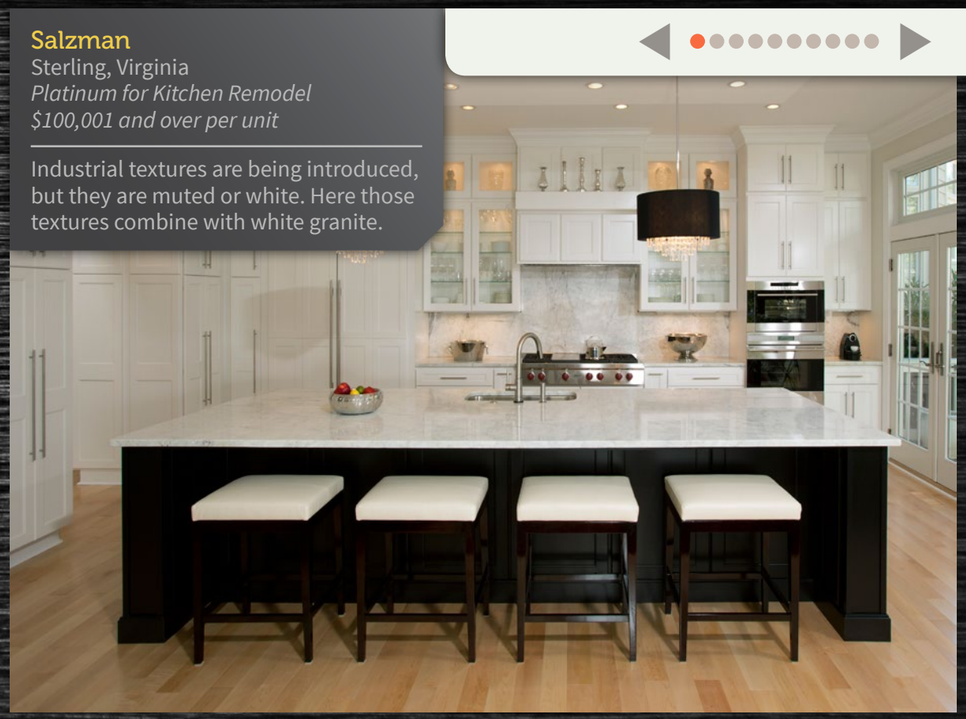
1 White on White Kitchens



Polk
McLean, Virginia
Platinum for Kitchen Remodel up to $100,000 per unit
The use of white granite is on the rise. It is even becoming a replacement for more traditional tile-backsplashes.

Salzman
Sterling, Virginia
Platinum for Kitchen Remodel $100,001 and over per unit

Industrial textures are being introduced, but they are muted or white. Here those textures combine with white granite.



THE ULTIMATE IN UNIVERSAL DESIGN

The Universal Design Living Laboratory showcases the best and brightest universal design ideas in both the home and the garden. And oh yes, it's green, too. Here, the home's co-creator shares the story behind this remarkable home.

By Rosemarie Rossetti, Ph.D.

Hardwood flooring, five-foot turning radiuses, and multi-height counters make this spacious home both beautiful and practical.

Rosemarie Rossetti and Mark Leder relax in their great room. Their home has achieved three national universal design certifications and the NGBS Gold rating.

Designing and building the Universal Design Living Laboratory has been a fulfilling labor of love that began with a terrible accident nearly 17 years ago. On June 13, 1998, my husband, Mark Leder, and I went for a bicycle ride on a rural wooded trail in Granville, Ohio. After riding for a few minutes, Mark thought he heard a gunshot and slowed down to investigate. As he scanned the scene he saw a large tree falling. He shouted, "Stop!" But the warning was too late. Instantly, I was crushed by a 3-½ ton tree and paralyzed from the waist down.

Coming home from the hospital in a manual wheelchair after my spinal cord injury, I realized how my two-story home intensified my disability. There were a myriad of things I was unable to do: I couldn't come and go out of any door independently, roll my chair on the carpet, or fit through bathroom doorways. I couldn't reach the clothes in my closet, nor glasses and dishes in the kitchen. I couldn't use the oven or microwave, get food out of the freezer, nor access food in the pantry. I couldn't take a shower or bath independently, do the laundry, get to the second floor or basement, and I couldn't access any of the landscape. My husband and I knew that we had to sell our home and find something more suitable.

In September of 2004, we hired architect Patrick Manley to draw plans for our new home in Columbus, Ohio. A few months later, Mark and I were encouraged by our mastermind group to make our house a national demonstration home and garden, acquire corporate sponsors, and open it for tours to the public. Sponsors would help us by contributing products and services in order to make construction feasible. We wanted to share our home for others to see so they could borrow a few good ideas.

We hired S. Robert August, a Denver-based consultant,

The 3,500-square-foot Universal Design Living Laboratory home, on a 1.5 acre lot in Columbus, Ohio, has educated and inspired thousands of people about the importance of universal design.

in October 2005 to help us with branding, marketing, and contacting international and national corporations to partner with us by contributing products and services. He named our home the Universal Design Living Laboratory. (www.udll.com)

Mark and I bought an acre-and-a-half lot in December of 2006 and continued with the planning and design process. We hired interior designers Mary Jo Peterson and Anna Lyon. On September 23, 2009, we broke ground.

Nearly 220 companies and individuals contributed products and services to the home. Mark and I have personally funded the UDLL and served as the general contractors, with Mark doing much of the work himself.

On May 18, 2012 we moved into "the lab," our new home.

The team's efforts to create a green and universal design home exceeded even my own high hopes. The home achieved *three* national universal design certifications: Livable Design, ZeroStep, and Life-Flex Home. In addition, we followed the guidelines for green building construction including LEED for Homes, ENERGY STAR, and the ICC 700-2008 National Green Building Standard, for which the home received a gold rating.

Best of all, we've been able to educate and inspire thousands of people about the importance of universal design through home tours, our website, presentations I have delivered, articles, and social media. More than 1,475 people have toured our home since June 2011, and we've raised thousands of dollars in public tour proceeds given to The Ohio State University Wexner Medical Center in Columbus for spinal cord injury research. We are continuing to give tours to groups by appointment.

THE KEY TO UNIVERSAL DESIGN: CREATING INDEPENDENCE

I learned many invaluable lessons about universal design throughout the planning and building of our home, but mainly that independence, accessibility, safety, convenience, and usability features need to be top of mind in the design phase of any new home or remodeling project. Attention to these factors will help create homes that make life easier for the homeowner—especially if that person uses a wheelchair for mobility.

To create independence, there should be no-step exterior entrances at all doors or a minimum of one no-step entrance. Door thresholds should be low, less than one-half inch. Exterior and interior doors should be 36 inches wide. In the Universal Design Living Laboratory, we used a lot of sliding pocket doors. Pocket doors take up less space in a room compared to a hinged door. They are easier to open and close, especially if you are seated in a wheelchair.

For multiple-story homes, an elevator or stair lift will be needed. Our elevator is sized to hold a person using a power wheelchair or scooter and boxes. It is quiet and has self-closing car gates, allowing total independence to get from floor to floor. There is ample room to turn my manual wheelchair in a circle in the cab, as well as room for boxes that I transport with me.

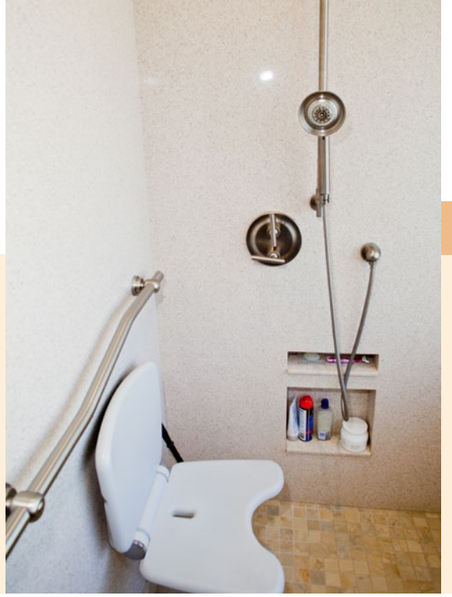
A side-hinged oven and side-by-side refrigerator allow access for those who are seated.

Raised 18 inches off the floor, the dishwasher height is more convenient for both Rosemarie in her wheelchair, and her husband Mark, who is tall.

Of course, hard-surface flooring such as hardwood, tile or linoleum is preferred by people who use wheelchairs to get around. In our Living Lab, we've found that hardwood flooring, wide door openings, and an open floor plan accentuate our home's airy feel.

UNIVERSAL DESIGN FEATURES IN THE KITCHEN

Universal design features in the kitchen include the overall design of the circulation pattern, cabinet design, countertop height, and appliance selection. Allow for a five-foot turning radius throughout the kitchen to allow a person who uses a wheelchair the ability to do a 360-degree turnaround. Here again, spreading things out adds a luxuriously spacious feeling to our home.



Locating all the burner control knobs at the front of the cooktop saves a seated person from having to reach over a hot surface.

The master shower features a bench, an adjustable height nozzle, and a toiletry niche just 10 inches from the floor.

People who use wheelchairs are likely to prefer 30-inch counter heights with knee space underneath.

Side-hinged ovens are preferred to those hinged at the bottom. Place ovens where they can be reached by someone who uses a wheelchair.

Typically, kitchen countertops are installed at 36 inches. Consider having multiple countertop heights—40, 34 and 30 inches—to accommodate a diverse population. A person who remains seated is likely to prefer a 30-inch countertop with knee space underneath.

Be mindful of where electrical outlets and light switches are located to ensure that the seated person can also reach them. Plan to have at least 50 percent of the storage space accessible from a seated position. Include pull-out drawers and shelves in the cabinets so people have an easier time reaching the contents. Our Living Lab home is chock-full of pull-outs in the kitchen, including pull-out spice racks, a pull-out pantry cabinet, and a pull-out closest organizer for cleaning supplies. We also have a rolling cart for food preparation and serving that is stored under the counter in the pantry.

The cooktop and sink need to have knee space underneath for access. This knee space can be in the initial design of the lower cabinets, or the cabinet doors can be removed later to accommodate the wheelchair user.

Cooktop controls need to be at the front so users don't reach across a hot surface. If possible, place cooktop surfaces side-by-side so seated cooks can reach them without reaching over hot surfaces. One of my favorite features in our Living Lab home is an in-counter steamer/pasta cooker that has a drain at the cooktop to make it safer to drain scalding hot water. The control panel for the ventilation fan and light is at waist height, but there is also a panel above on the range hood for Mark's convenience.

Raising a dishwasher 15 to 18 inches off the floor eliminates the need to bend down low when loading and unloading. A side-by-side refrigerator/freezer is reachable from a seated position. Ours has pull-out shelves and drawers so I can reach things easily.

UNIVERSAL DESIGN FEATURES IN THE BATHROOM

A curbless shower is a must-have feature in the bathroom. The shower needs to be large enough to accommodate an easy transfer for a person with a disability. Be mindful that an assistant may be needed, so provide space for this person. A shower chair/bench could be mounted on the wall, or the person can use a portable one. Install an adjustable height, hand-held shower nozzle. Use blocking or plywood on the walls in the shower and next to the toilets for the installation of grab bars. Toilets with seats that are 17 to 18 inches from the floor are easier to get on and off.

Finally, consider lowering lots of things. For example, by the shower chair in our master shower, we have a niche for toiletries 10 inches above the floor.

UNIVERSAL DESIGN FEATURES IN THE LAUNDRY ROOM

In our home, we incorporated the laundry room into the master closet, making it super easy for both Mark and I to do

As in the kitchen, the master closet includes lots of storage space that is accessible while seated—including shoe racks and hanging rods.

laundry and get the clothes back where they belong. As in the kitchen, we included lots of storage space that is accessible while seated—including shoe racks and hanging rods.

Regardless of where you put the laundry room, make sure there is navigation space with a five-foot turning radius throughout the room. A front-loading washer and dryer on pedestal drawers positions these appliances to be accessible for a standing or seated person. For washing clothes by hand, it is convenient to have a sink with knee space underneath.

IMPROVED QUALITY OF LIFE BEYOND INDEPENDENCE

By following universal design guidelines, a home will provide an improved quality of life for all occupants, not only those with disabilities. In addition to having more independence in a home due to universal design, a home may also provide improved health, safety, privacy, and restore human dignity.

Rosemarie Rossetti, Ph.D., president of Rossetti Enterprises Inc., is an internationally known speaker, consultant, and author. To contact Rosemarie and learn about her speaking services, go to: www.RosemarieSpeaks.com To learn about her home, the Universal Design Living Laboratory, go to: www.UDLL.com

Products Used at the Universal Design Living Laboratory

- Cabinetry – **KraftMaid**
  The cabinetry in the UDLL was contributed by KraftMaid. We selected their Passport series because of the 9" high by 6" deep toe kick. All cabinets were standard sizes, and it was easy to have the kitchen cabinets made so there were multiple heights of countertops.

- Closet Storage System – **ClosetMaid**
  Closet rods for hanging clothing as well as clothing and shoe storage shelves were installed at various heights to accommodate a person who uses a wheelchair as well as a tall standing person.

- Elevator – **Garaventa Lift**
  A Garaventa Lift, model Elvoron HR residential elevator, 42" wide by 60" deep, three-stop elevator with automated clear acrylic accordion car gates; roped/hydraulic drive.

- Hardwood Flooring – **Mannington**
  Hickory 5" wide plank engineered hardwood flooring is used throughout the UDLL, making wheelchair travel easy.

- Ironing Board System – **Iron-a-Way**
  This ironing board is stored on the wall in a wood cabinet. The board can be adjusted for a person who is seated or standing.

- Microwave, Ventilation Hood — **Thermador**
  The microwave has a side-hinged door and is also a convection oven.

- Oven, Cooktop, In-counter Steamer/Pasta Cooker – **Gaggenau**
  The controls for the three gas burners and the steamer are in the front of the cooktop.

- Refrigerator/Freezer, Icemaker, Beverage Refrigerator & Dishwasher – **KitchenAid**
  The side-by-side refrigerator/freezer has shelves and drawers that roll out for ease in reaching items. An icemaker and beverage refrigerator were installed in the pantry.

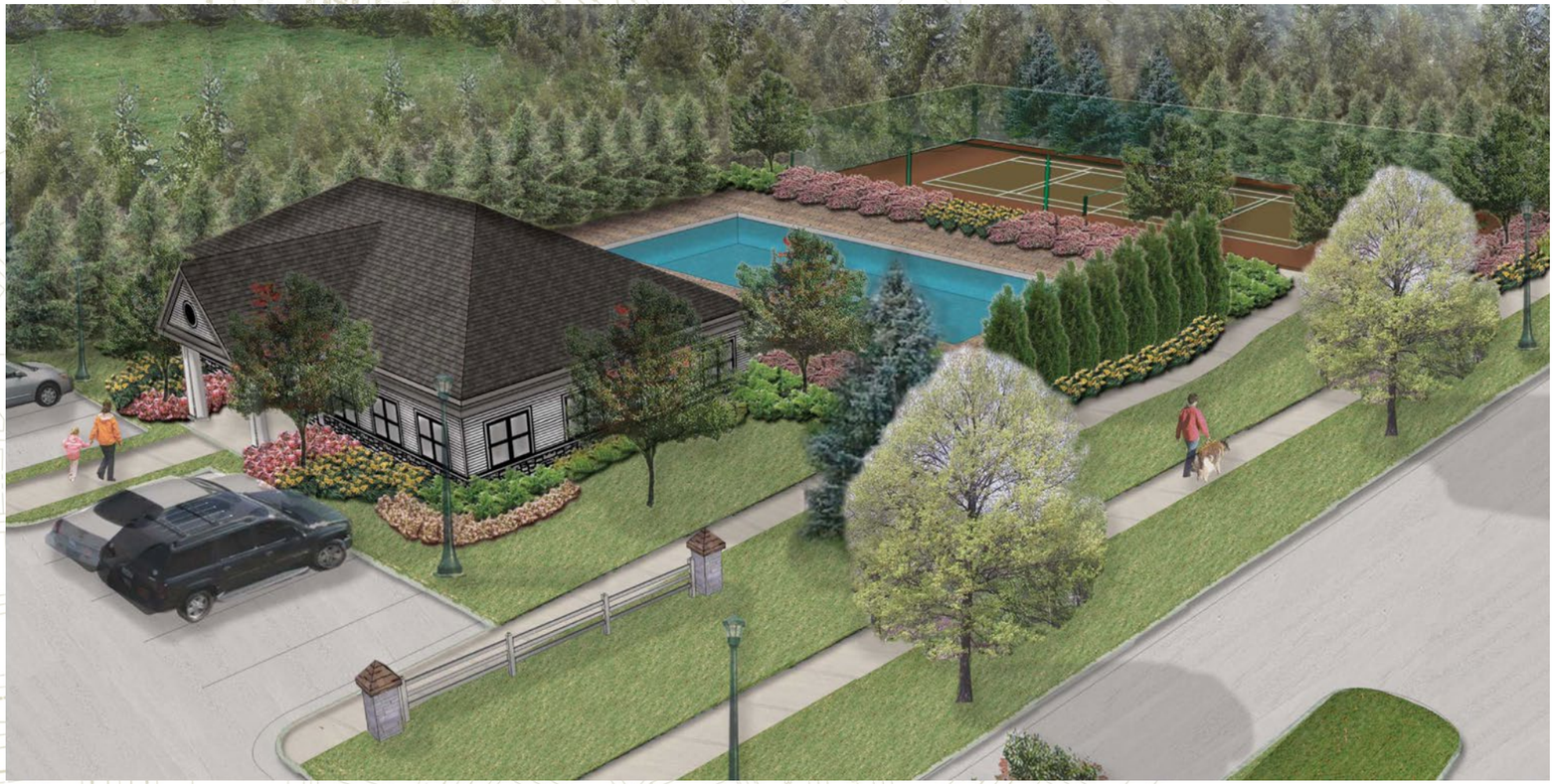
- Sinks, Toilets, Shower & Faucets – **Kohler**
  All plumbing fixtures at the UDLL, including toilets, sinks, faucets, and the step free shower stall, were from Kohler. The toilets are Comfort height with the seats 17" to 18" from the floor. This provides for an easy transfer. They only use about a gallon of water per flush. The sinks are stylish and allow access for knees. The hand-held shower nozzle is lightweight and conserves water, yet is powerful in delivering water where you need it. The Freewill barrier-free shower stall came complete with the fold down shower bench and grab bars.

- Washer and Dryer – **Whirlpool**
  The Duet model was selected. These appliances are on top of drawer pedestals, making the front loading doors easy to reach. The washer is High efficiency and ENERGY STAR rated.

- Windows & Patio Doors — **Marvin Windows and Doors**
  Casement windows were installed throughout the UDLL. The window cranks fold in place and are easy to operate. The window locks are reachable from a seated position. The windows are energy efficient, with Low-E window glazing and argon gas between the double panes of glass. Windows rotate to clean the outside of the glass from inside the home.

Going Green in Cleveland

Ohio Prepares for its First NGBS Green Certified Community



With amenities like a clubhouse, pool, and tennis court, the Lakes of Orange may look like an ordinary community—but its four-star NGBS Certification makes it stand apart.

The Lakes of Orange could have been a typical suburban new-home community. Instead, its developer is doing everything it takes to attain four-star NGBS Green certification.

By Cindy Wasser

Situated 14 miles from downtown Cleveland in Orange Village, The Lakes of Orange might have been any developer's stock-in-trade—a 95-acre development of 150 single-family homes built by four builders on one-quarter to three-quarter-acre lots.

Developer Randy Kertesz has done more than a few of those, and this time, well, he just wanted to do things differently.

So he's using low-impact development techniques, adding a nature preserve, and building green homes. And as a result, The Lakes of Orange is in the process of becoming NGBS Green Certified at the Four-Star level, the highest certification level bestowed by Home Innovation Research Labs, and also the first green certified community in Ohio.

Kertesz, CEO/President of Kertes Enterprises, Inc., purchased the land for the community over 30 years ago. At the time, the site was primarily used for hunting. There were only three structures on the site then—two traditional homes and an old barn that had been converted into a home. Throughout the years, his vision for the land changed with the market. Plans for the community shifted from condominium, cluster development, then to a suburban green community. In 2009, Kertesz learned about the land development provisions of the National Green Building Standard (NGBS), which had recently been approved by ANSI and made available nationwide, and began designing a community that could seek NGBS Green Certification.

When the housing market began to recover, Kertesz was ready to execute his newfound vision. By that time, his company had been building and developing in the region for nearly 35 years, with a mission to build custom homes at a

Above: The Lakes of Orange lets residents enjoy the natural landscape and views with a walking trail and lakeside gazebo.

Right: Homes are clustered to provide wide open green spaces and views of the conservation area and lake, while minimizing land use and deforestation. Thirty acres will be protected long-term as a wildlife corridor.

conventional price. The Lakes of Orange will be the company's first community to carry out that company vision using green, sustainable building practices community-wide. Kertesz says he wants The Lakes of Orange to offer a unique living experience for residents and be the "crowning jewel" of his company's work.

THE MAKING OF AN NGBS GREEN COMMUNITY

The NGBS provides practices for the design, planning, and certification of residential and mixed-use communities, as well as the construction of all types of residential buildings. The program offers four levels of green certification for site design and land development—one, two, three or four stars—depending on the number of green practices successfully incorporated into the project. Third-party certification is provided by Home Innovation Research Labs, a full-service accredited lab and certification agency that supports the residential construction industry, and an independent subsidiary of NAHB. To be certified, all NGBS practices must be visually inspected by a Home Innovation accredited NGBS Green Verifier.

Kertes Enterprises sought third-party green certification to distinguish The Lakes of Orange from more conventional developments. It was neither required nor incentivized by the local government. Kertesz says he selected the NGBS as his green rating system of choice because of its specialized focus on residential construction and development. As an active NAHB member, he understood that the NGBS was developed solely for residential projects, eliminating the need to "translate" commercial development principles and practices to fit his residential application.

Cost, of course, was also important to Kertesz, and he saw that the compliance and certification costs associated with the NGBS Green program were far less than LEED, in part because the NGBS is specifically designed for residential applications. Green construction methods added some upfront cost, but maintenance requirements for the community will be greatly reduced by features like natural landscaping.

The Lakes of Orange features a green development plan on 65 acres of the 95-acre site. The homes are clustered to provide wide open green spaces and views of the conservation area and lake, while minimizing land use and deforestation. The community offers opportunities for residents to enjoy the natural views and landscape, with a walking trail and lakeside gazebo. Other amenities include a community clubhouse, pool, and tennis court. The remaining 30 acres will be protected long-term as a wildlife corridor through a partnership with a local conservation group.

Some of the green features that have put the community on a trajectory to earn the NGBS's highest level of certification include:

- **Erosion Control & Stormwater Management:** The development company controlled erosion by limiting clearing and grading and aligning roadways with natural topography. The community's natural design features will support long-term stormwater management. Existing ponds, the riparian stream, and wetlands were restored and preserved. Community walking trails were surfaced with permeable materials.
- **Repurposing of Existing Structures/Materials:** Materials from the three existing structures on the site were recycled into the new development. Bricks and blocks were crushed and used for temporary roadways during construction. Old paving bricks were excavated from a local road for use in walkways.
- **Carefully Planned Landscaping:** Landscaping will feature low-maintenance native plants, trees, and shrubbery once construction is completed.

Left: Kertes controlled erosion by limiting clearing and grading and aligning roadways with natural topography.

Below: The developer used recycled construction materials throughout the community and featured boulders collected on the site in landscaping.

To get started with the certification process, Kertesz first connected with a local verifier to gain understanding of the requirements and practices that best aligned with the concept for the community. He hired Craig Cawrse of Cawrse & Associates, a land planner in Chagrin Falls, Ohio, who had prior experience with green community development, and they collaborated on the plan. When they scored the project to the NGBS, the community achieved four stars with room to spare, aligning perfectly with Kertesz's philosophy: "If you want to do something, you might as well do it right," he says.

Periodic inspections are being conducted during the development process to ensure that all NGBS practices are met. When the first phase of the community is complete, the verifier will conduct a final inspection, which will be submitted to Home Innovation for review and certification. Subsequent phases of the community will follow the same process.

NOT JUST ABOUT THE LAND

In addition to the green community features, the approximately 150 homes in The Lakes of Orange are subject to strict architectural guidelines and must be third-party certified to the NGBS or another national program. Homes built by Kertes Enterprises feature building products with recycled content, energy recovery ventilators for superior indoor quality, LED lighting with occupancy sensors, high-quality insulation, zoned

The Lakes of Orange community features a central lake and views of a 30-acre wildlife preserve.

heating and cooling, water efficient appliances and fixtures, and optional solar panels.

Kertes Enterprises has been doing pre-marketing of the community over the last year with very favorable feedback and interest from local residents. Kertesz says that while many prospective home-buyers he encounters are familiar with the elements that make a home green, most are particularly curious about and interested in the elements that make the community itself green. He sees this as validation for his decision to develop the community sustainably, being, as he says, "mindful of the environment throughout the development process."

Green home features are key attributes sought by many younger home buyers in the region, Kertesz said—they're seeking the potential health advantages, reduced maintenance, and long-term environmental benefits provided by

green certified homes. In fact, because of the high volume of younger home buyers they've seen during the pre-marketing phase for the community and the positive response from that demographic, Kertesz adjusted the community's lot plan to build more homes geared toward young families and reduce the number of homes designed for empty-nesters.

FIND OUT MORE

While The Lakes of Orange community is on track to be the first NGBS Green Certified community in Ohio, Home Innovation Research Labs has already certified 20 land developments, representing over 1,500 lots, nationwide. Information on other certified and in-process NGBS Green developments (and homes/buildings) in your local area is available at www.HomeInnovation.com/FindYourGreenHome. More information on the NGBS Green Certification program, including land development certification, is available at www.HomeInnovation.com/Green. All of NAHB's green building information may be found at nahb.org/NAHBgreen.

Cindy Wasser is the Green Building Programs Manager at Home Innovation Research Labs in Upper Marlboro, Maryland.

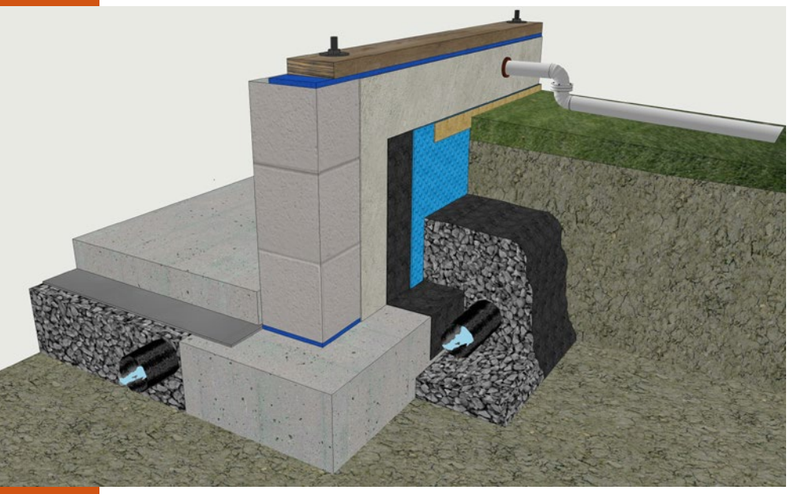
It's all in the details

Keeping Rain and Groundwater Where it BELONGS

By Gary Ehrlich

Proper protection against water intrusion is crucial to the durability of a home, especially with today's energy efficiency requirements. Here's how to keep your homes dry.

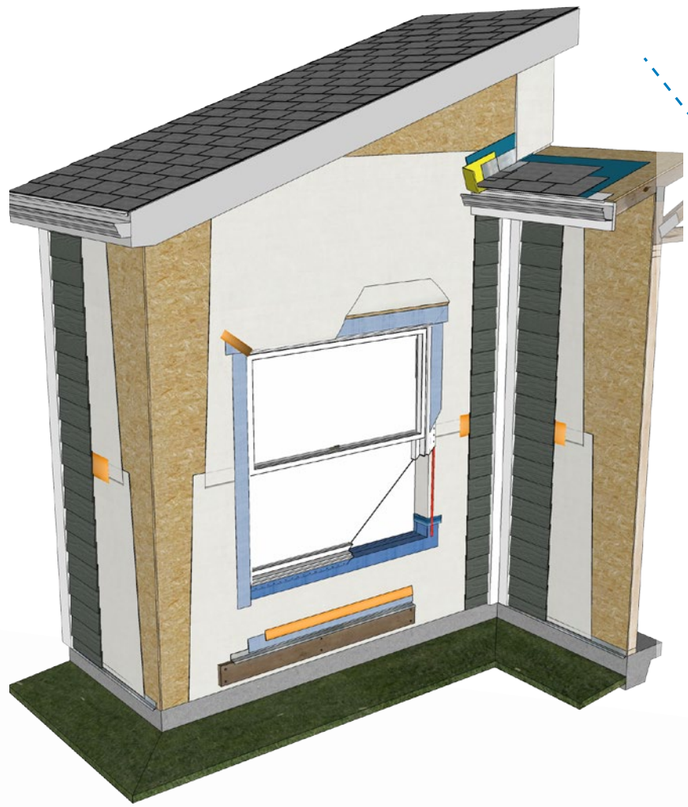
Despite significant changes in the design and construction of houses, water intrusion remains one of the most common causes of building damage. Rainwater that finds its way into a house and its walls can lead to condensation, mold, and decay and poor indoor air quality and can adversely affect the durability of the home. Groundwater entering a basement or crawl space can cause problems not only in those spaces but in upper floors due to increased relative humidity inside the house.

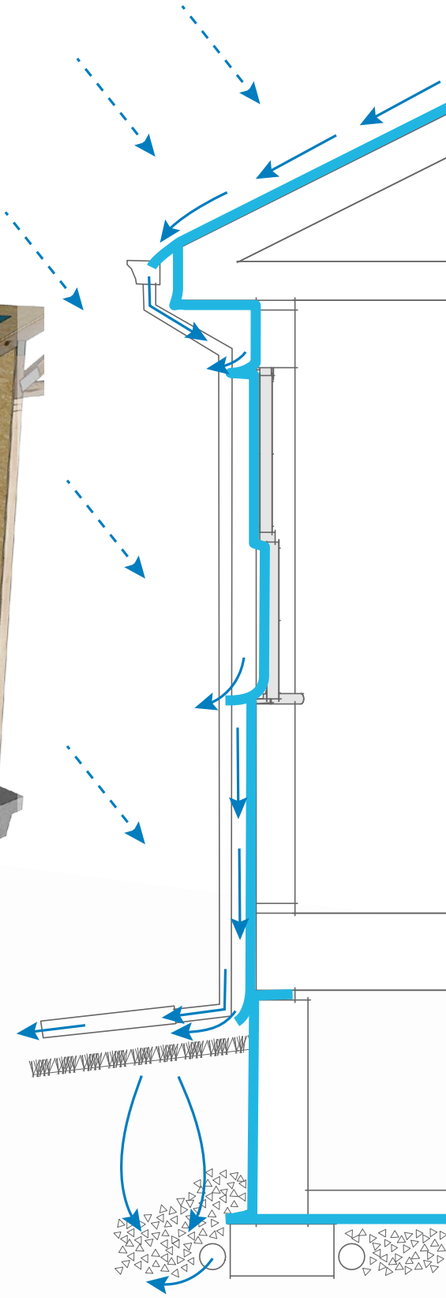


Additionally, today's houses are far more air-tight and use more insulation than older homes. Water that gets into walls due to insufficient flashing or gutters or that finds its way through other leaks can be trapped inside the framing or insulation with no way to dry. Thus, even minor omissions during design or construction can lead to significant water damage.

The Home Innovation Research Labs recently released a Tech Note on Rain and Groundwater Management: Reducing the Risk of Water Intrusion and Damage. This brochures is fourth in a series highlighting best practices to enhance the performance and durability of houses built to the energy efficiency requirements of today's codes. Among Home Innovation's recommendations:

1 Rain and groundwater should have a continuous path from the roof to the foundation, to flow or drain down and away from the house. Plans and specifications should show all drainage and flashing details and installation sequences.





Gary Ehrlich serves as Senior Program Manager, Construction Codes And Standards at NAHB.