

Builder

The Magazine of
The National Association
of Home Builders

→ Despite concern of a looming downturn, most builders and economists don't believe it will be led by housing

WHAT LIES



PLUS

INDUSTRY EXPERTS
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EXPAND ON THEIR
VISION 2020
PREDICTIONS ABOUT
SUSTAINABILITY IN
HOUSING

PAGE 34



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Contents

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DEPARTMENTS

12 Editor's Notes

Up Front

18 Pulse
28 Design Trends
30 Products
34 Vision 2020

Projects

42 Striving for Sustainability

NAHB Notes

57 Chairman's Letter
58 Home Innovation Research Labs
60 Dietz's Economy
64 Last Detail



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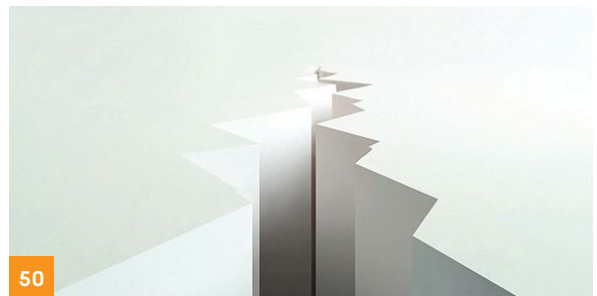
FEATURE

50

The Great Divide

When it comes to the housing market, builders walk the line between being cautiously optimistic about entry-level profits while still bracing for a possible economic downturn.

By Joe Bousquin



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Two Publics Become One

BIG MERGERS AND ACQUISITIONS IN HOME BUILDING INCLUDE at least two stories. One is about the deal itself, and the other is about consolidation, concentration, who's for sale, who's buying, etc. The \$2.4 billion combination recently announced as Taylor Morrison agreed to purchase William Lyon Homes is no different. It's a relatively rare, public-to-public merger by one of home building's more dynamic organizations of the past five years, with implications for both public peers and privately owned players who happen to play in Taylor Morrison's suddenly massive footprint of markets stretching from coast to coast.

We'll speculate on what the deal—which signals the moment is ripe for M&A activity in the current economic environment—means in the world of single-family housing and community development, and why that matters for decision-makers, investors, operators, and myriad industry partners.

In an agreement that would enable Taylor Morrison to leapfrog KB Home into the No. 5 spot in our Builder 100 rankings, the home builder in November announced its move to buy 65-year-old William Lyon Homes. Sheryl Palmer, Taylor Morrison CEO, told me this is the right fit at the right time for a firm that's grown fast with six meaningful acquisitions since its IPO in 2013.

One of Palmer's points about timing is that, after 2018's big—possibly temporary—backslide in momentum and continued talk of a

possible 2020 recession (see p. 50), acquisition target prices may have moved off their peak levels. And the Fed's signals that it may have reached an equilibrium level for its prime lending rates may also factor into deal flow timing.

Cost of capital in Japan, China, and Canada, from which we've seen a number of strategic buyers in the past several years, also continues to be lower than it is for those who access the U.S. debt markets.

As signs come clearer that there may be continued headroom for U.S. housing momentum—especially if builders and developers can bend buyers' cost curves lower and open up homeownership to more first-time and entry-level customers—big players have a renewed appetite for extended land pipelines, deeper local scale, and more lower-priced product for their portfolios.

Now let's review a few would-be seller motivators. The macro trend to note here is the home building world, as we've known it, is shrinking, where fewer more powerful players account for a greater volume of new-home sales activity.

Small-cap publics—namely Green Brick Partners and New Home Co.—rank high on target lists because their nimbleness and ability to scale their business and operations models are constrained by a shorter leash on capital. This makes it harder to be agile and long-term value-focused when quarter-to-quarter financial interests carry so much weight. Private builders in the top 10 on our Local Leaders new-home market list, and with strong exposure to entry-level or first-time move-up buyers, may look at now as a moment to sell, if only to access the kind of capital they will need if they want to go back into land acquisition and development mode.

Age demographics are also a motivator. Many private firms are family-run, by principals who've reached “a certain age,” and they may need a succession plan that doesn't involve a family member.

It may not be one of the busiest M&A periods in terms of volume, but it's certain more deals are ahead. **B**

John McManus
Editorial Director,
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NEW DIRECTIONS FOR DECKS AND RAILINGS

Manufactured products offer consistent quality, fewer warranty issues and a wide variety of design choices.

Site-built wooden guardrails used to be the rule on residential decks. However, as of 2019, they had fallen to roughly 40% of the market, according to a report by Principia Consulting.¹ And while 40% of a \$2.1 billion market is still considerable, that percentage continues to shrink. Site-built wooden rails may eventually become a specialty product like custom-made doors.

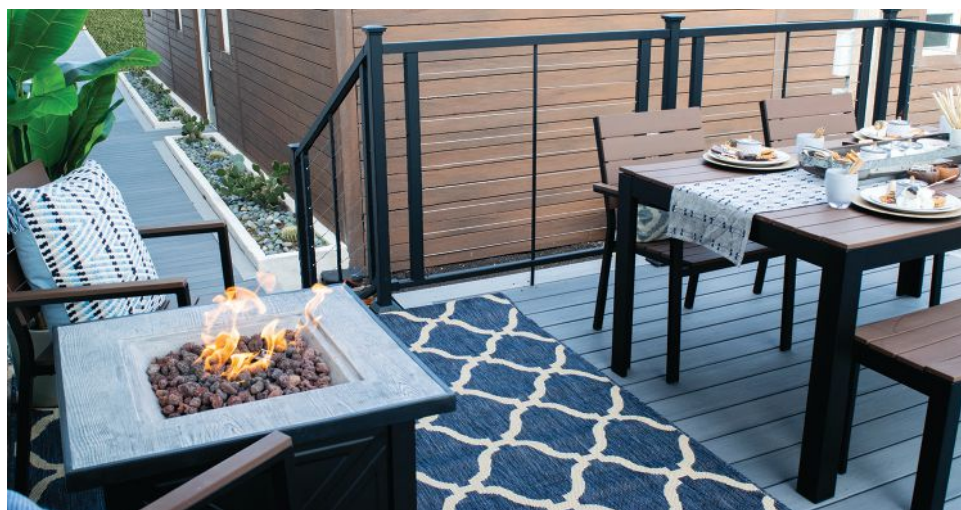
That's already happening in places. Reading, Pennsylvania contractor Matt Breyer says that few homeowners still want wood. "We might build five wooden rails for every 100 decks." The rest of the market is manufactured products made from metal, wood-fiber composites and even glass. Their popularity might seem unlikely—a site-built wood rail can be 1/3 the cost of a manufactured rail—but cost isn't everything.

REAL BENEFITS FOR BUILDERS

Not only do manufactured railings take less time to install, making them a viable solution for contractors short on help, but the quality is more predictable than custom railings built in the weather.

Building inspectors also prefer manufactured. That's because code requires that all guards—including deck guardrails—be able to resist a live load of 200 lbs. in all directions, but it doesn't specify how to achieve that.

Glenn Mathewson, a code consultant and Founder of the BuildingCodeCollege.com, says that he and a coalition of deck industry people have submitted structural details for site-built guardrails to the ICC for consideration in the next code update. In the meantime, many manufactured products have been tested to ASTM D7032, which certifies that they meet the 200 lb. requirement. "That gives the



building inspector assurance that the product will resist the code's loading," he says.

MEETING DESIGN TRENDS

But the biggest reason for these products' rising popularity is the aesthetic choices they offer. James Moylan of Design Builders, Inc. in Laurel, Maryland wrote in a recent blog that customers are using railings to make "big design statements," and that glass panels and cable rail are especially popular. "These are great if you're trying to preserve a view or if you just want a contemporary, clean, streamlined look."

Manufacturers are driving the trends. Fortress Building Products—which makes aluminum, glass-panel, iron and cable rail products—publishes a guide to help buyers to mix and match materials by walking them through the process of choosing infill panels, then posts, then personalized touches like designer caps and lighting.

Some contractors like to blend custom and manufactured elements. Bobby Parks of BP

Consulting and Design in Winston Salem, North Carolina was in the custom deck business for 25 years (he is now an industry consultant) and was known for railing systems that combined materials such as wood, aluminum and PVC.

PRODUCTION BUILDERS TAKE NOTICE

Production home builders looking to provide upgrades, differentiate their homes, and meet outdoor living trends are taking a closer look at decks.

Tim Kampert, a building performance specialist with IBACOS, a quality assurance firm that works with production builders across the U.S., says that a lot of production builders save money by not adding decks to the homes they build. However, Kampert says that production builders who do include decks with manufactured railings see them as a quality advantage that brings happier customers and fewer warranty issues. "The craftsmanship is better since the units are manufactured in a controlled setting."

For more information about deck and railing products for home builders, visit FortressBP.com.

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Inviting the region's top dignitaries, Department of Energy executives and Realtors to tour the grand opening of a model home on the year's hottest day may not be the smartest idea. What chance does the builder have of wowing influential market makers when the walk-through is a steam bath?

Plenty, actually. Because this house interior stayed within *two degrees* of the 70-degree set point in spite of constantly opening doors. Just as important, the dignitaries and guests experienced a level of whole-home air quality that might be expected from a home many times this one's upper \$300s price point.

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Welcome to building science in action. Sophisticated mechanical strategies once

reserved for commercial construction now offer profit-minded homebuilders like Epstein a powerful selling edge.

EXCITING TIMES

For years, evolving code and building practice have resulted in ever-tighter homes, says David Maruna, an executive at Ingersoll Rand, parent company to Trane, a historic HVAC product manufacturer. Unfortunately, best practice for designing HVAC solutions hasn't kept up with exterior envelope construction. That lack of coordination often results in a needlessly costly, let's-overspec-just-to-be-on-the-safe-side HVAC system which can lead to pre-mature failures, as well as comfort issues, which result in costly call-backs for builders.

"You expect to see advanced mechanicals and design features in high-end luxury homes. Today we're seeing it in sub-\$400,000 homes. This is definitely a tipping point for the high performance housing industry," Maruna, a former U.S. Navy SEAL, explains.

WHY NOT NET-ZERO READY?

The hitch: Just how do you bring those proven ideas to work for affordable home builders? A growing circle of home

builders have found a way, says Maruna. "Home builders in Minneapolis, Austin, Texas, Williamsburg, Va. and other regions now engage experts in manual J load calculations and the coordination of products, manufacturers, and installers. Who says a home builder can't offer healthy, net-zero ready homes at popular prices?"

Maruna says his company will soon offer home builders a consultative service called Tranquility by Trane. Tranquility presents builders with scaled whole-home approach to build a healthier, high-performance home affordably. The service will include load calculations, coordinating with other building envelope manufacturers, and facilitating relationships with installers, testers and raters without the price tag expected in a consultative relationship.

"Tranquility is an opportunity for local, regional, and national home builders to leapfrog competitors with a unique whole-house solution that delivers a healthier, high-performing home," Maruna says.

How high performance? Home builder Epstein promises energy bills that average just \$1.50 a day.

To learn how Tranquility by Trane helps differentiate your brand with whole-home comfort, wellness, and affordability, visit trane.com/builders.

Bob McLeod Masters Master Planning

NEWLAND FOUNDER BOB MCLEOD'S APPROACH TO communities that marry the essence of a place with the dreams of its inhabitants evolved art, science, and alchemy as developers' tools. To honor his decades-long career and contributions to the industry, in October he received the Master Plan Hall of Fame award at the FuturePlace conference in Miami.

McLeod's gracious, gentle side is no act, and the think-before-you-speak deference is real. Still, people who've worked with him for years report flashes of an alter-ego. McLeod, who founded and built one of the most powerful and meaningful brand names in American residential real estate, has known precisely when and how to turn loose a tenacious, uncompromising warrior. On getting to know him, one finds that trait to be just as authentic as his diffident humility.

"You'd see it in charettes when we'd set the level of ambition for what we needed to do to make a new community the kind of place it could be," says an executive close to McLeod, knowledgeable about the development secret sauce that has become Newland's hallmark since its founding in 1985. "Then, finance and operations folks would start clamoring for more density to monetize the parcel. I remember him slamming his fist on the table and saying, 'No! We've got to prove that this place is real if we expect people to feel drawn to it over the next 10 or 15 years.' The devil was in the details, and no detail was too trivial for Bob to ignore. He'd look at a native tree and its canopy in a particular spot on an undeveloped tract, and he'd see something there, something magical few of us had seen. Perhaps, under that tree, a young couple might experience their first kiss."

That's a master at master planning.

Whenever the business came to decisions, intention, and investment that relates to making a place for people, McLeod's unwavering, iron-willed self could be counted on to rear up.



Newland executive chairman Bob McLeod accepts the Master Plan Hall of Fame award from Meyers' Research managing principal Tim Sullivan in October at FuturePlace in Miami.

"Each Newland community is different," says Teri Slavik-Tsuyuki, a well-known residential community strategist who served under McLeod for 11 years as head of marketing at Newland. "Each starts with foundational questions: Who will live here? How will they want to live? What's it like to live here? Everything we did was on purpose. Over the years, people came to see that there was a Newland way of doing things."

For McLeod, who recently shifted to a consultative and advisory role as executive chairman, master planning involves mastery of a never-ending mindful pursuit. It's both what he loses sleep over and awakens others to by the force of his yin and yang nature, an evolving equilibrium between people's most profound needs to flourish at home, and a parcel of land's most basic requirement for regeneration and vitality.

"Who's always the most important person for a business?" asks McLeod as he reflects on the company, the industry, and the community-making practice he cultivated and grew during an influential half-century career trajectory. "It's the customer, right? Well, the other thing we discovered was how to recognize who customers were going to be, what they value, what changes, and what stays the same as it always was."

Born in Cleveland, McLeod graduated in 1965 with a degree in business administration from the University of California at Berkeley. In the late '60s, he was working his way up in business management at Chrysler Corp. dealerships, where he was "helping them better understand their market and how to match the product, whether it be new car sales, service, resale, financing, etc., with their local market area," he says. "We showed them how to make money by looking at marketing reports, competitive data, marketplace characteristics, and segmentation insights, and all of this was kind of new to these guys. We got a reputation for doing well at that and it led to a district business manager job in Los Angeles."

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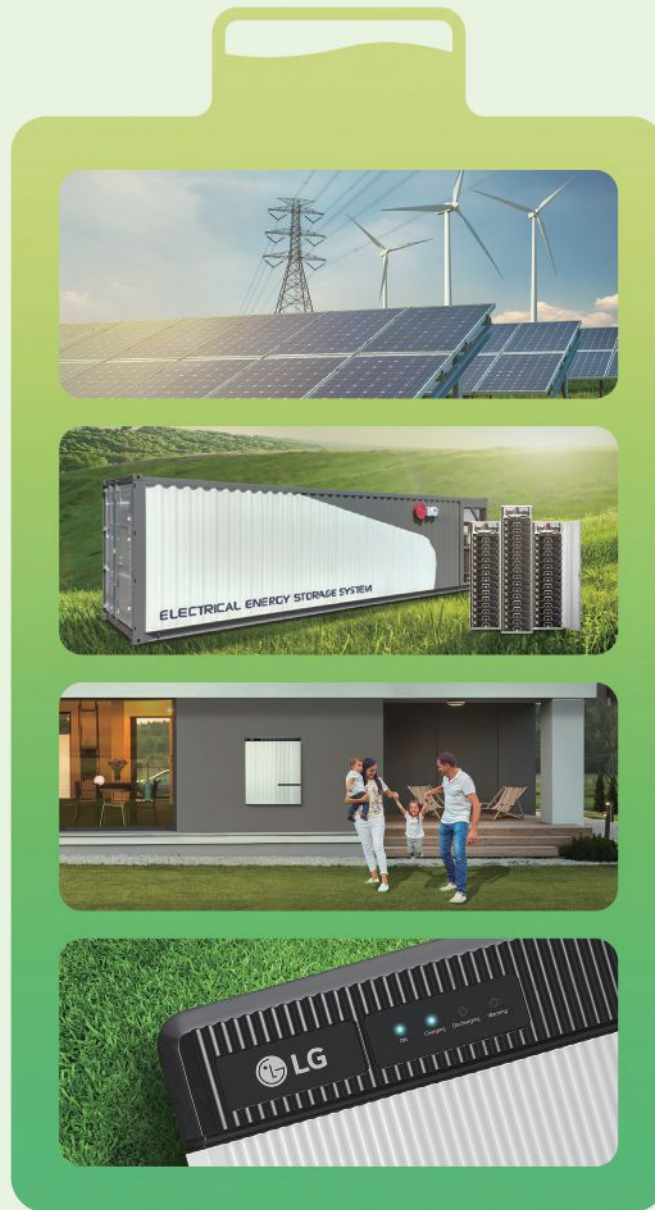


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SOLUTIONS**

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LEADING THE CHARGE IN SUSTAINABLE ENERGY

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His success drew outside attention, and he moved to mechanical contracting firm University Industries in 1969. In 1972, he joined Mondex, a diversified real estate company, as vice president of land planning and development. Eight years later, he returned to University Industries as vice president of residential development until 1982, when he became president and CEO of Genstar Southwest, a subsidiary of Genstar U.S.

As he worked in real estate with civil engineer and land planning and construction maven Zev Cohen in Florida in the early 1970s, Cohen set McLeod to work bringing his first parcels of land online. “You have to get entitlements to develop these pieces of property,” Cohen told me,” recalls McLeod. “I said to him, ‘What’s an entitlement?’”

He would learn. And, in time, he would discover where his understanding of what motivates customers converged with the art of bringing raw land across multiple processes and workflows to where people would be motivated to live there. McLeod then added a third leg to his career-signature stool: Timely capital partnerships.

From his Genstar perch, McLeod formed The Newland Group as Houston-based American General partnered with him to buy Genstar’s U.S. property portfolio in 1987. The American General partnership dissolved in 1994, and McLeod recast Newland and began managing new residential project opportunities. The firm received impetus from an initial allocation of \$60 million from the California Public Employees Retirement System (CalPERS), which is widely vested in real estate. The name was changed to Newland Communities in 1999. A year later, the company, along with Institutional Housing Partners, purchased Genstar Land Co. By the end of 2002, CalPERS’ investment to Newland had grown to over \$500 million.

In the ‘90s, the CalPERS relationship “was all about helping the builders reboot coming out of a downturn,” says McLeod. “We teamed up around new ideas that it would be more sustainable for everybody if we expanded the land parcels, and in one large community offered seven different price points in different neighborhoods, with different builders doing their best product in each price point.”

In 2010, CalPERS strategists pivoted toward exiting residential development. Meanwhile, one of Japan’s largest home builders, Sekisui House, began its foray into North America. That year, Newland and North America Sekisui House acquired a 492-acre addition to master plan community Cinco Ranch in Houston, with more project partnerships to follow. As distinct and different as are the business cultures and pedigree, the firms align on two non-negotiables in their communities: placing customers at the center of their goals, and insisting on sustainable, constantly improving quality in their work.

Today, Newland’s numbers speak for themselves. Thirteen states, 31 active communities, 143 mixed-use projects, and 115 projects completed, and still McLeod believes the art, science, and alchemy of communities are in their early learning curve days.

“We have all of this sophisticated data now that can tell us who a consumer is and what makes them tick,” McLeod says. “But in this business, all of that is always changing, so the biggest challenge continues to be who will that consumer be 10 years from now, and how will they want to live their lives? I believe they’ll want community, even more so than they’re going to want this house or that house. The connection—to each other inside and outside their homes, and to nature and resources—is what master plan communities do well.” —JOHN MCMANUS

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Courtesy Quadrant Homes

New Standards

Quadrant Homes renews its standard smart home tech package

Quadrant Homes, a member of the TRI Pointe Group, has introduced the third iteration of its standard smart home tech package, HomeSmart, to be included in all of its newest homes.

The Bellevue, Wash.-based builder was among the earliest to incorporate smart home technology into its newly built homes as a standard feature. Existing HomeSmart tech package features include the Ring Pro Doorbell, Caseta voice-controlled lighting systems, a smart learning thermostat, and a Wi-Fi enabled front-door lock.

For the third iteration, Quadrant Homes has made EV outlets, available as an upgrade option since 2011, a standard feature in all new homes. And regardless of whether buyers have electric vehicles, all homes will be pre-wired to support a Type 2 charger.

The builder has also introduced the eero Home Wi-Fi system, which uses TrueMesh technology to provide fast, consistent Wi-Fi across the entire home, and partnered with

Amazon to provide a suite of Amazon Echo devices, including the Amazon Echo Show 5. Also included is Amazon Expert Activation, which will assist homeowners in connecting their appliances and devices to the Echo system.

Additional smart features are available as upgrades, including automated window shades and Wi-Fi enabled garage door openers.

"Seattle is one of the most tech-savvy markets in the country, and our buyers want to be a part of all that innovation—some of them even work at those major tech companies," a Quadrant Homes spokesperson says. "In the two years since we introduced our groundbreaking home tech package, we have already updated it twice with really exciting new offerings. It may present some operational challenges to do that, but it's the only way to go if you want to stay ahead of the market."

Quadrant's most recent developments include new townhome communities at Varese, close to Google and Tableau in Kirkland, Wash.; and Lario, located in Bellevue's new Spring District. Both communities are expected to open in early 2020, and will include the new suite of smart home features.

"We are driven to build homes that arrive in the future, just ahead of what the buyer expects," says Ken Krivanec, president of Quadrant Homes. "We are excited to define the new standard." —MARY SALMONSEN

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Lakewood Ranch No. 1 in Housing Starts

LAKEWOOD RANCH—A 31,000-ACRE, AWARD-WINNING MASTER PLANNED community located in Sarasota and Manatee counties on the west coast of Florida—was No. 1 in the U.S. for annual housing starts for the third quarter of 2019.

Lakewood Ranch's 1,467 new-home starts exceeded those of other top-selling communities in Florida, Nevada, Arizona, and California. And it's not the first time the ranch has been in the pole position.

"This is the second quarter in a row that LWR has claimed the top spot," says David Cobb, Metrostudy regional director for the South Florida, Sarasota, and Jacksonville markets.

Some of the nation's top builders are working on the ranch's 17 actively selling villages, including the three newest additions: Kolter's Cresswind, The Palisades from Freedom Homes by D.R. Horton; and Woodleaf Hammock, featuring M/I Homes and Meritage Homes. Prices at the ranch range from \$200,000 to \$1 million, with a product mix that includes condominiums, paired villas, and single-family homes.

The buyers are coming from in-state as well as from New York, New Jersey, Pennsylvania, Virginia, and Maryland. At the ranch, more than 25% of new-home sales come from existing homeowners who are on their second, third, and even fourth home.

"As a community builder, this is a very rewarding statistic, as it tells us that our residents have truly made Lakewood Ranch their lifelong home," says Laura Cole, senior vice president at LWR Communities.

The ranch is also trying to reach beyond home sales to keep customers satisfied by organizing social functions including an expanded farmers market, a "mindful triathlon," cornhole leagues, food trucks, house tours, and other club-related events.—SCOTT SOWERS

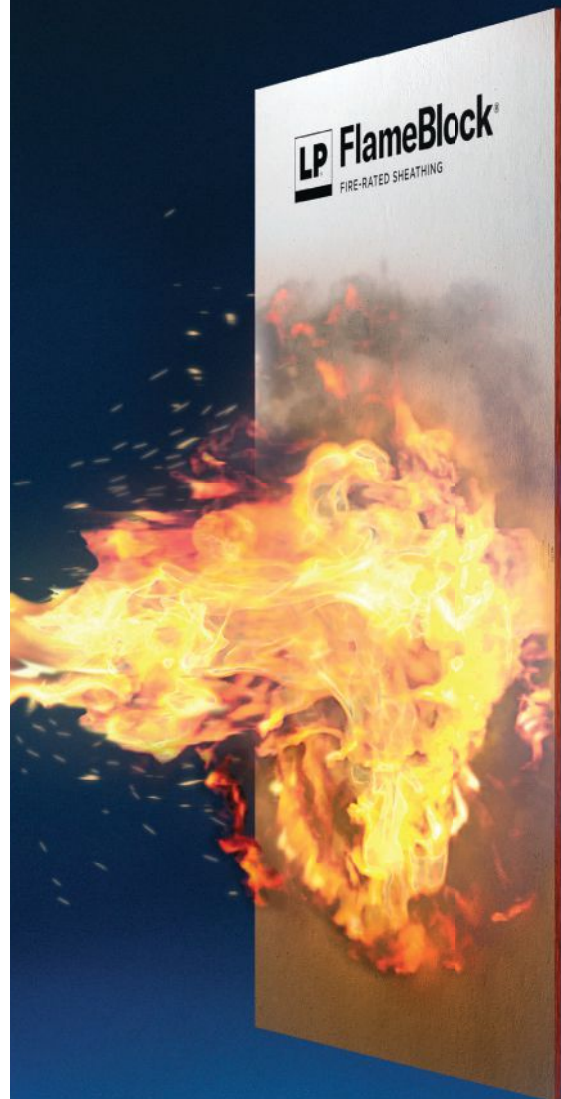


Courtesy John Unrue

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WHAT HOME BUILDERS NEED TO KNOW ABOUT THE FUTURE OF ECO-FRIENDLY CONCRETE

New solutions increase strength, curb carbon emissions.



Robert Niven, CEO and founder of CarbonCure | Courtesy CarbonCure

Sometimes, the best solutions to the world's biggest problems are also the simplest. That's the case with new, eco-friendly concrete mixes, which are rapidly evolving to combat climate change.

Take Nova Scotia-based CarbonCure, a company that allows ready-mix concrete producers to inject carbon dioxide into their recipes, which simultaneously reduces their emissions footprint while increasing strength by as much as 20%. It does so by adding a "snow" of recycled industrial CO₂ to the mix, which instantly mineralizes and is trapped, forever, inside the concrete. Due to the increased strength, ready-mix firms can use less cement—the largest source of carbon emissions in concrete—to reduce their carbon off-gassing even more, with no reduction in quality.

Why is that a big deal? Because while energy-efficient buildings have reduced environmental impacts once they're built, the same can't be said for the building process itself, including the manufacturing of construction materials. Indeed, the built environment now accounts for 40% of all CO₂ emissions globally, with cement alone contributing 7%, or nearly one-third of all industrial emissions.

Put another way, these "upfront" or "embodied" emissions represent half of the CO₂ footprint of buildings today. That means you can build the best, most energy-efficient home on the planet and still only address half the problem.

"It's a blind spot within the construction industry," says Robert Niven, CEO and

founder of CarbonCure. "Everyone's looking at renewable energy and energy efficiency, but if we don't target embodied carbon, all the other work will be for naught."

The good news is, CarbonCure and other firms such as Blue Planet, Solidia, CarbiCrete and HeidelbergCement Group are rapidly deploying solutions to make procuring and using eco-friendly concrete easier than ever for builders.

CarbonCure's system can be installed at a ready-mix plant in a single day, with no cost or production stoppage for the plant itself. The firm, which is backed by Bill Gates' Breakthrough Energy Ventures fund, now has 150 locations in the U.S. and Canada, and recently expanded into Asia.

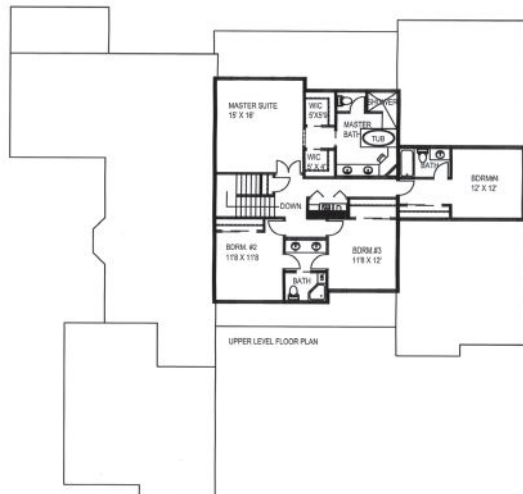
Ready-mix companies pay CarbonCure to license the technology, but the reduction in cement offsets those fees, which means the overall price of the concrete remains the same. "It's a win-win," Niven says.

Meanwhile, cities and states are quickly moving to bolster the use of eco-friendly concrete. At the 2019 U.S. Conference of Mayors meeting, the group adopted a resolution to urge its 1,400 city members to source eco-friendly concrete in public projects.

"This is something that's evolving extremely quickly," Niven says. "Many of your readers may not have ever heard of this process before, but soon, it will just be the industry standard. The fact is, we don't have to compromise to affect climate change. You can get the same or better product, with a lower carbon footprint, for the same or better price."

Sounds like a remarkably simple approach to a complex, global problem.

To learn more about building with concrete visit BuildWithStrength.com.



Party With the In-Laws

Why multigenerational layouts also make the best entertaining spaces

by **AURORA ZELEDON**

HERE'S A FRESH TAKE ON MULTIGENERATIONAL DESIGN: MAKE it fun. Instead of the usual locations above a garage or banished to the basement, the guest suite in this upscale home plan is integrated within the main floor. And also unlike most plans with in-law apartments, this one includes expansive room for entertaining. Just take a look at the kitchen island, which rivals the one in the main part of the home for space (including room to seat five). A cozy fireplace adds ambiance, just like in the main great room. And visitors even get a private covered porch.

Also ready to party is the spacious recreation room on the right side of the home—no need to trek upstairs to a bonus space when challenging visitors to a game of pool. Connected storage space comes in handy as a place to stash seasonal decorations or other household supplies.

Of course, a plan with guest accommodations this spacious may tempt the homeowners to claim the suite as their own. Given how smooth that would make aging in place, why not?

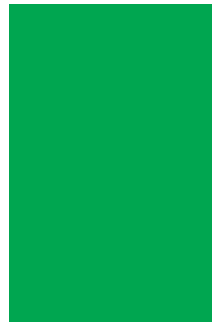
See more house plans with impressive guest suites at go.hw.net/BD1219-plans. **B**



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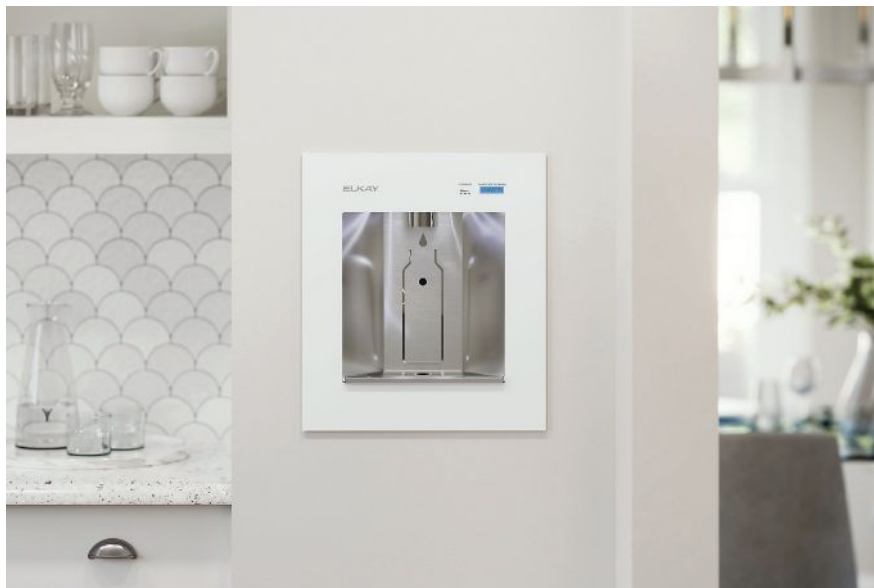
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Form and Function

The latest kitchen and bath fixtures break the mold in design and operation

by **MARY SALMONSEN**

▲ ELKAY

The newest iteration of Elkay's commercial ezH2O bottle fillers is the ezH2O Liv, made for residential use. It is designed to fit between two wall studs, and may be placed anywhere in a new or existing home with access to water and electrical hookups. The dispenser is sensor-activated, with an automatic, timed shut-off to prevent accidental spills. Its long-lasting filter is NSF-certified to reduce lead and other harmful contaminants. Optional features include a drain connection from the drip tray and a safety lock preventing unsupervised use. elkay.com



◀ KOHLER

The Betello two-piece toilet is equipped both with Kohler's Revolution 360 flushing technology, which rinses the entire bowl surface, and ContinuousClean, which dispenses a small amount of toilet bowl tab cleaner during each flush. The CleanCoat surface treatment repels water and dirt, and prevents the formation of bacteria, mildew, and mineral deposits. The toilet is WaterSense labeled, and features a separate skirted trapway that enables the same installation process as a non-skirted toilet. kohler.com

▼ LENOVA

The FST01SS Freestanding Tub Faucet is crafted from 304 stainless steel and features a bold, angular transitional design that is at once sculptural and modern. The spout stands 40 inches tall, with an 11 7/16-foot reach, and requires a minimal footprint, recommended for small spaces. The faucet has zero lead content, and includes a ceramic cartridge to prevent drips. The fixture offers both a tub spout and a handshower attachment. lenovasinks.com



▼ ISENBERG DESIGN LAB

The Infinity Wall Mount Faucet breaks from traditional bath faucet placement with a wall-mounted spout designed to frame a bathroom mirror on either the left or the right. The full fixture measures 34 inches high with dual mounting brackets, separate wall-mounted flow and temperature controls, and a 9-inch spout projection from the wall and into the sink. The faucet features a hidden aerator for cleaning, and operates at a flow rate of only 1.2 gpm. isenbergfaucets.com



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▲ HANSGROHE

The Metris and Talis faucet collections now include a combination of two functions in the Select 2-Spray configuration. Users can pause the faucet's water flow using the Select button on the faucet head, or control and switch between spray modes—traditional and laminar—using another button on the faucet head side. Both are available in HighArc or Prep configurations, and feature Hansgrohe's QuickClean surface coating, which allows limescale and dirt to be easily removed. hansgrohe.com



▲ KOVA

KOVA Select, Kattera's new premium building product line, includes a total of 24 new plumbing fixtures and modular system components, which allow installers to arrange KOVA products in a variety of configurations. The line's fixtures—including a tub spout, kitchen and bath faucets, wall- and ceiling- mount shower arms, and showerheads and handles—feature a slim, cylindrical design aesthetic. All are CALGreen certified and are available in a polished chrome, satin nickel, or matte black finish. kovaproducts.com

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VISION

Illustrations
by

Jason
Schneider

2020

IN 2012, HANLEY WOOD, BUILDER'S PARENT COMPANY, EMBARKED ON A Vision 2020 editorial research initiative. It brought together renowned experts representing 10 critical focus areas of sustainable design and construction, with the goal to map a path and course of action toward sustainability for the housing industry by 2020.

As we're about to enter 2020, we at BUILDER couldn't help but wonder whether housing has followed that path toward sustainability as predicted by our industry experts. As such, we caught up with a few of the original Vision 2020 thought leaders to see how accurate their 2012 predictions were, and how they feel about the future of high-performance housing in the years to come.

Reflecting on this editorial initiative with us are: Mary Ann Dickinson, president and CEO of the Alliance for Water Efficiency, and Peter Mayer, principal of Water Demand Management and senior technical adviser at the Alliance for Water Efficiency; Sam Rashkin, author, "Retooling the U.S. Housing Industry"; Alex Wilson, founder of BuildingGreen and the nonprofit Resilient Design Institute, and Peter Yost, founder of building performance consulting firm Building-Wright; Michael Dickens, partner at IBACOS; and Anthony Guida, Edward Mazria, and Vincent Martinez from Architecture 2030.



Residential water consumption continues to drop toward the goal of 20 gallons per capita per day.

by Mary Ann Dickinson and Peter Mayer

"By 2020 our homes and communities will consume much less water than today, using the latest technologies to record individual water use and minimize waste. By combining high-efficiency fixtures and appliances, structured plumbing design, weather-based irrigation controls, and graywater reuse systems, residential consumption will drop from 60 gallons per capita per day (gpcd) down to 20."

Today, our homes and communities do use less water than in 2012, largely through the installation of high-efficiency fixtures and appliances. While we have not achieved 20 gpcd, the 2016 "Residential End Uses of Water" study by the Water Research Foundation found that average indoor per capita use is now below 60 gpcd and on a clear trajectory toward 40 gpcd or less. Water consumption data assembled by the U.S. Geological Survey further confirms the significant declining trend in municipal water use.

To further extend residential water-use reductions and build sustainability in new developments, the Alliance for Water Efficiency is promoting water-neutral development concepts through Net Blue to minimize water demand as communities grow. The project includes approaches communities can tailor and customize to create a water demand offset approach meeting local needs and further reducing water consumption.

As we look toward 2030, a goal of 20 gpcd indoor residential demand is within reach. Many people have already adapted their water use to this level. Additional efficiency is expected going forward as new homes with structured plumbing systems are built and as water providers use advanced metering technology to detect leaks in the water system and in customers' homes.

Learn how to save more water at allianceforwaterefficiency.org.



CODES, STANDARDS, & RATING SYSTEMS

Two things about my 2012 prediction: One, it was spot on. Two, the zero movement is part of larger disruptive forces looming ahead. **By Sam Rashkin**



“By 2020, the housing industry will adopt a ‘house-as-a-system’ perspective addressing energy-efficient, healthy, durable, water-

conserving, and disaster-resistant performance. As a result, new homes will be built zero-net-energy ready, with energy loads so low that small renewable energy systems will offset most or all of the balance of annual energy demand. Builders, manufacturers, and architects will collaborate to deliver these ultra-high-performance homes in markets across the country. This market transformation process will be driven by codes, standards, and rating systems working together to embrace proven innovations.”

There are over 22,000 zero-energy and zero-energy-ready homes in the U.S. and Canada, according to Team Zero, a coalition that promotes a path to zero-energy homes. The U.S. DOE Zero Energy Ready Home program has had certifications double for three straight years and is set for growth in 2019. Some states, like California and Oregon, have committed to zero-energy and zero-energy-ready codes, with others on track or planning to move in this direction. Our national energy

codes have gotten more rigorous, providing a solid foundation for zero-energy-ready performance where annual energy consumption can be offset by on-site or purchased renewable energy. So, I feel good about my 2012 vision.

However, for the past six years, I’ve been engaged in an unintended research project. Based on my book, I invite builder executives to events where we explore a framework for optimizing the consumer experience. My goal has been to ensure high-performance home builders are positioned to be successful. Extensive vetting of the content, feedback, and ongoing research has informed a more comprehensive vision of the housing industry. It’s clear changes are looming ahead, driven by five crises converging on the industry.

First, the more-informed home buyer is creating a consumer experience imperative. Think of other products or services—if you don’t deliver compelling, five-star peer reviews, your business is at a disadvantage.

Second, affordability has reached its tipping point. Nearly 80% of U.S. households are living paycheck to paycheck, and 40% cannot afford an unexpected \$400 expense.

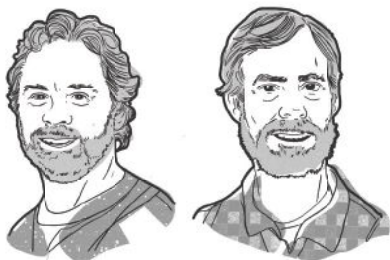
Even more compelling is the disparity in the escalating costs of homes versus the slight increase in household income.

Third is the pervasive skilled labor problem, which includes lack of availability, training, and quality, while costs keep rising.

Fourth, Labor Department statistics reveal that all other nonfarm industries have about three times more productivity gains since the ’70s. A McKinsey study reports this productivity gap for the construction industry adds up to \$200 billion.

Finally, there is an innovation crisis as housing lags behind other industries in leveraging digital technology. The compelling benefits of speed, quality, accuracy, efficiency, and system integration can no longer be ignored.

So what disruptions loom ahead in response to these crises? They are a transformation from a first cost to a consumer experience-driven business model, with mass customization that optimizes repeatable design building blocks integrated with world-class expert solutions, off-site construction, and software as a service providers who deliver digital solutions to the industry.



PRODUCTS & PERFORMANCE

A section-by-section look to see how much building products and performance have evolved. by Alex Wilson and Peter Yost



By 2020, the rapid pace of change in residential design and construction will transform building products and performance. A sustained focus on both energy and water will transform building science from the sidelines to a leading role for both practitioners and manufacturers. Products will be integrated into systems as a matter of course, and Vision 2020 builders and manufacturers will be as resilient as the homes they design and build to the demands of both a new economic and environmental climate.



GLOBAL WARMING POTENTIAL OF BUILDING MATERIALS

We predicted that the high global warming potential blowing agents used in spray polyurethane foam (SPF) and extruded polystyrene (XPS) insulation would be replaced with fourth-generation blowing agents that have little or no impact on global warming by 2020. We're glad to report that we're nearly there. The SPF industry has now converted to HFO blowing agents, and the XPS industry is moving in that direction as well. We may not have completely phased out the bad blowing agents by 2020, but we'll be close.

INDOOR AIR QUALITY AND TRANSPARENCY

We were correct in our prediction that health impacts of the indoor environment will have gained more attention by 2020. Since 2012, the Well Building Standard has been launched, which is sharpening our focus on the health of our indoor environments. Manufacturers are increasingly producing Health Product Declarations for their products through a growing trend toward transparency. Just as Anheuser-Busch is now labeling ingredients on Bud Light, more and more building product manufacturers are now divulging what exactly is in their products.

ENERGY EFFICIENCY

In 2012, we predicted continuing progress with low-energy buildings, and this is happening at least in certain places. Starting in January 2020, new homes in California will have to be net-zero energy—meaning that they generate as much energy as they consume. This is huge, especially because California represents such a large housing market and because it often sets trends that catch on nationally. This is a big win for the environment.

WATER EFFICIENCY

In 2012, we pointed out what a huge challenge water will become in many areas and predicted that water efficiency standards will become more stringent. The challenge remains as great as ever, but California—again leading the charge—has adopted the EPA WaterSense plumbing fixture standards as state-wide code. This includes a maximum 1.28 gallons per flush for toilets, 2 gallons per minute for showerheads, and 1.5 gallons per minute for bathroom faucets.

RESILIENCE

While we didn't address resilience directly when we wrote our predictions in 2012, not long after that Superstorm Sandy struck the New York City area and thrust resilience onto the front burner. This new focus on resilience adds another significant design criterion for our buildings that will become more important in the years and decades ahead. It is now generally agreed that the climate is changing, and we need to be designing homes and other buildings that are better adapted to changing conditions. Keeping their occupants safe is a fundamental requirement of buildings, and we are seeing increasing focus on this today.



BUILDING SYSTEMS

The significance of building science still holds—it is the foundation of advancement in our industry. **By Michael Dickens**



“By 2020, every new home will meet much higher performance standards, delivering outstanding comfort, indoor environmental quality, energy efficiency, and value. Homes will become more sophisticated in how they are designed, engineered, produced, tested, sold, and serviced—and more like other advanced products in our lives, such as our iPhones and our cars. Building science will be at the heart of the equation, understood and embraced by everyone in the home building industry.”

Great strides have been made in recent years to improve business processes across all facets of the industry. Digital technologies and software have contributed significantly to advancing building information modeling, which continues to change the way we design and build homes. Homes can be “toured” before they’re built thanks to virtual reality, and with platforms like Zillow and others, buyers can shop for a home from the comfort of their couch.

In 2012, we said “building science is critical to the future of the industry.” Building science is now the foundation of advancement in our industry. The building codes have leveraged years of building performance research to justify higher performance requirements in the 2015 and 2018 energy codes, and state and local jurisdictions continue to push these limits based on building science principles.

Codes have pushed performance, although we see a shift occurring as higher energy-efficiency targets become less cost effective to achieve than adding renewable energy systems. In California, for example, the state energy code will require that all new homes, with some exception, be equipped with solar energy systems as of Jan. 1, 2020. We are also seeing government and industry organizations, state and local public utility commissions, and utilities themselves re-envision the electric utility grid. This is a fundamental shift in mindset to envision a net-zero future on a broad scale.

Building science also is helping to drive innovation within home building. With increasing pressures to improve productivity and address

the steady decline of skilled labor, housing providers are exploring new ways to improve the efficiency of home design and delivery. To do so, we need to balance performance, cost, and productivity—and sound building science is essential to ensuring our homes will be comfortable, healthy, safe, durable, and efficient.

Airtightness in homes continues to improve, including awareness of the need to “build it tight and ventilate right.” The EPA Indoor airPLUS program has defined a path to achieve good indoor air quality, and the International WELL Building Institute is working to improve human health and well-being in buildings.

We had thought traditional ducted HVAC systems would become less effective at providing ventilation, humidity control, and filtration. Today, we believe forced air systems will remain the dominant heating and cooling systems in residential new construction. Yes, less air is needed to condition homes due to the increase in home energy performance standards, but every room needs conditioned air. How we deliver and feed air into each room needs to be innovative.

Energy Star has moved toward addressing aspects of the operational performance of homes by requiring some measure of commissioning oversight of HVAC systems in certified homes. While this isn’t measuring actual performance, it goes further to ensure that the home will perform as designed. DOE has developed a Building Performance Database to store actual performance data for commercial and residential buildings, which could become a resource for creating an operational “rating” system for homes. However, there’s little evident progress in the industry to introduce something of this nature.

One area we didn’t predict was where HVAC systems would be located in the home. In the Sunbelt region, the typical location of air handlers and ductwork is the attic. Homeowners, HVAC contractors, and builders are finally realizing units in such locations have been causing headaches for those who install and service them. This will be the fastest moving trend in the next five years. California’s Title 24, as well as the national I-Codes, are pushing builders to locate HVAC systems in conditioned space.

Built
Environment

The importance of how we plan to build and rebuild communities.

By Anthony Guida, Edward Mazria, and Vincent Martinez

“More than half the world’s population, or 3.5 billion people, live in cities. By 2020, this number is expected to rise to 4.25 billion, and by 2030 to 5 billion. By 2030, a staggering 900 billion square feet of new building space will be constructed in cities worldwide (including the replacement of old buildings), an area equal to three times the total U.S. building stock. We have a choice. How we plan to build and rebuild our communities will determine whether this unprecedented growth will promote sustainability and enhance our quality of life, or accelerate environmental degradation and lead to increased human suffering.”

Seven years later, Architecture 2030’s projections about the scale and importance of the building sector still hold true. On operational emissions, we have witnessed remarkable progress driven by the commitments, programs, and code improvements that the 2030 Challenge set in motion—most notably a sustained leveling of U.S. building sector energy consumption, as well as substantial CO2 emissions reductions in the building sector, despite adding 3 to 4 billion square feet to our building stock every year.

Since 2012, resources in low-carbon design, like the 2030 Palette and the AIA+2030 Online Series, have launched and are in wide use. These initiatives are instrumental in driving building practice and policy to meet critical carbon reduction targets at the local, national, and international levels. In March, the CarbonPositive’20 Conference will share the means and methods for planning, designing, building, and manufacturing a built environment that goes beyond carbon neutral, today.

We recognize the need to expand our approach to mitigating the emissions associated with infrastructure and building materials, particularly in the face of unprecedented construction and urbanization—an amount equivalent to doubling the world’s existing building stock over the next four decades.

AIA Contract Documents

Real projects start with the industry standard

Before starting the project, Adrian Smith + Gordon Gill Architecture will ensure their design of a new condo tower, **Una Residences**, is protected with AIA contracts.

AIA Contract Documents used: B109–Owner/Architect Agreement for a Multi-Family Residential or Mixed Use Residential Project.

Learn more about the Una Residences project at aiacontracts.org/builder-una

Rendering ©Hayes Davidson

 **AIA**® Document B109
Standard Form of Agreement Between Owner and Architect
Residential or Mixed Use Residential Project

AGREEMENT made as of the _____ day of _____
in the year _____
(In words, indicate day, month and year.)

BETWEEN the Architect's client identified as the Owner:
(Name, legal status, address, and other information)

BUILDER INTEL

INTERIOR
LOGIC GROUP

THE SURPRISING TRUTH ABOUT DESIGN STUDIOS

Leading Texas homebuilder scores profits and insights with an outsourced solution.

Homebuilder Bryan Havel believes he has a bit of an unfair sales advantage.

He knew his new design studio was going to help close incremental business and provide useful home-buyer insight. What the Texas-based builder didn't figure is how many boxes his new outsourced design studio emphatically checked, circled, and underlined.

A flood of buyer insight, for example, is just one of the outcomes that has "blown away" Havel, president of the central Texas division of fast-rising William Lyon Homes, ranked #18 on the 2019 Builder 100 list. His central Texas team is on a roll, expected to deliver just under 1,000 homes this year.

ZERO TO 100

William Lyon Homes specializes in entry-level homes, priced in the \$270,000s. Building to that price point doesn't allow for extensive buyer options. In fact, up to about a year ago, the builder William Lyon acquired to enter the Austin market offered strictly option-free inventory homes. Lyon management decided to gingerly open the door to options this year. "We wanted to broaden our marketplace with more options. But we had to do it in a way that preserved affordability and delivery dates," Havel explains.

There was just one hitch: William Lyon had no central Texas design studio to market upgrades to flooring, wall tile, cabinets, appliances, countertops, and window coverings. Havel reasoned its new design studio had to check at least seven boxes:

- ☐ **1. Moderation.** Entry-level buyers have enough on their mind. Manage the feature-selling process to keep budget parameters in check.



- ☐ **2. Tight Purchasing Integration.** Create a seamless ordering, inventory, and delivery environment to eliminate surprises, schedule disruptions, and buyer disappointment.
- ☐ **3. Easily Scalable.** With nearly 20 new homes coming on line each week, and likely an even faster tempo next year, the design studio has "... to go from zero to 100 really quick," Havel says.
- ☐ **4. One-and-Done Ordering.** "I've worked in sales environments where buyers would shop multiple times or change their minds after 30 or 60 days. We can't afford that," he explains.
- ☐ **5. Winners Only.** "What are winning options for cabinets, countertops, or flooring? We

needed reliable third-party expertise and judgment," observes Havel.

- ☐ **6. Comprehensive Reporting.** What do buyers prefer? How does that vary by community? By sales agent? By vendor brand? Lyon management expected monthly market intelligence that would support confident decision-making.
- ☐ **7. Hands-Off Administration.** The focus has to be on maintaining aggressive construction schedules and keeping quality high, not worrying about design-studio staffing and operations.

Fortunately, Havel's solution was hiding in plain sight: Their vendor for interior finishes, Interior Logic Group, is also the industry go-to for interior design studio services. Today ILG operates more than 120 design studios nationwide.

NEW INCOME, NEW INSIGHT

"Partnering with an expert like ILG is a big win for us. We expect to add seven to eight percent in option revenue this year. Remember, this is an entirely new income. The market intelligence is incredible. To be able push monthly reports like that upstream is great," Havel says.

Unfair advantage? Havel just smiles. His central Texas team now controls a money-making solution that checks all the boxes.

To learn more about what an outsourced design studio could mean for your business, visit <https://interiorlogicgroup.com>



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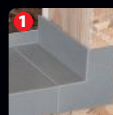


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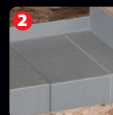
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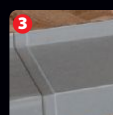
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One-piece molded corners block leaks before they can damage the framing and sub-floor.



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Eco-Friendly Living

The 16-unit community achieves net-zero energy through a combination of energy-efficient building practices and an 82-kilowatt rooftop solar array.





Striving for Sustainability

Tillamook Row brings a 16-unit net-zero community to Portland, Ore.

by **SYMONE GARVETT**
photography by **BILL PURCELL**

IN SEARCH OF A SMALL COMMUNITY WHERE SEVERAL older couples could age in place together, the brothers who run Portland, Ore.-based BCMC Properties were tapped by their parents and four of their friends to find the right piece of land. The developer duo had a property in mind in Northeast Portland's rapidly changing Eliot Conservation District, but it was a large lot that could house more than the five desired units.

The BCMC team pitched to develop the property with five owner-occupied units and 11 additional units, which would be listed as rentals. Thus, Tillamook Row was born, a 16-unit community with five buildings, including a 2,000-square-foot Common House, and a mix of owner and renter units with front porches and balconies oriented around a central courtyard.

With both the developer and client interested in building and living sustainability, local design-build firm Green Hammer—known for its work with green building practices—agreed to construct the project and strive for it to be the city's first net-zero multifamily community.

GOING GREEN

Designed in accordance with Passive House standards, Tillamook Row's community buildings will achieve net-zero energy, meaning the total amount of energy used on an annual basis is equal to the amount of renewable energy created on-site.

"The developer is very focused on sustainability and climate change, and they want to do everything that they can to make sure their developments are ... moving in a positive direction," says Erica Dunn, director of design at Green Hammer. "Also, they are interested in showing other developers that this kind of a development can work. They



TILLAMOOK ROW

Location

Portland, Ore.

Developer

BCMC Properties,
Portland

Architect/Builder

Green Hammer,
Portland

Project Size

24,444 square feet

Number of Units

16

Construction Cost

Withheld

want to push that envelope a little bit more.”

As a result, the following green features were included in Tillamook Row’s construction:

- Solar panels are located on all south-facing roofs, totaling 82kW of energy produced annually.
- Triple-paned windows block out external sound and limit the amount of hot and cold air that usually transfers through windows.
- A super-insulated, airtight building envelope, including thick insulation in the walls, roofs, and underneath the slab on grade, reduces the heating and cooling loads by nearly 90%.
- Energy-efficient heating and cooling systems also reduce the high energy demand. Plus, each unit continuously supplies filtered air to bedrooms and living spaces and extracts from bathrooms and kitchens through heat recovery ventilators.
- Transcritical hot water heat pumps cut water energy use down by half. This type of heat pump uses CO₂ as the refrigerant, which also reduces the global warming potential of the system.
- Energy Star-rated appliances and LED light fixtures help reduce energy demand.

Due to the community’s dependence on the solar array, a battery backup system in the Common House stores power generated from the solar panels, allowing the building to serve as a resiliency center for the neighborhood in case of a power outage. Additionally, each unit has a dedicated plug that will allow residents to pull electricity directly from the PV system in the event of a blackout.

A custom energy dashboard in the Common House displays energy use by unit, allowing residents to establish energy goals and adjust their behavior as necessary to meet their budgets. With the energy use for all units on display, it creates both healthy



ON-TREND LAYOUT

Inside, residents will find an open floor plan with a combined kitchen, dining, and living space and large, triple-paned windows to let in natural light.

REDUCE & REUSE

Three large rain cisterns can store up to 3,600 gallons of water, which is used to irrigate the community's garden and landscaping needs.



competition among residents as well as an easy way to identify community members who might have tips and tricks for keeping energy use low.

Besides reducing energy, three 1,200-gallon sterns on-site collect rainwater from the various roofs. The collected water is used for irrigating the nearby landscape as well as shared raised garden beds for residents to grow vegetables.

DEVELOPING THE DESIGN

In an area that transitions between large-scale commercial and small-scale residential, the designers at Green Hammer used observations of neighborhood building forms and typologies as a jumping off point for the community's design. Their goal was to create "a cohesive, modern interpretation of the courtyard housing pattern woven throughout the conservation district to increase housing density," says Dunn.

Two-story townhouse units with architectural details, such as steep-facing gable roofs with minimal eaves, rectangular bay windows, and recessed entries, mirror the neighborhood's two-story Victorians, but with a modern interpretation.

Siding changes from a horizontal, dark-stained cedar siding on the podium base to white lap siding on the two-story upper units, while an accent of vertical, clear-stained cedar expresses the building entries. Standing seam metal roofs were chosen for the project due to their ability to coordinate well with the solar panel installation.

The design team also focused on the role of architecture in strengthening a community. To create a diverse resident pool, the development includes a mix of unit types, ranging from 750-square-foot, one-bedroom plans to 1,430-square-foot, four-bedroom townhomes. The larger units encourage families with children to be part of the community, and each unit includes a ground floor bedroom and accessible bathroom to allow older residents to age in place.

"We care deeply about Portland and are extremely proud of what this project has achieved," says Andrew Woodburn, manager at BCMC Properties. "We hope Tillamook Row will inspire more sustainable development of this kind within the city." **B**





④ SHARED SPACE

The property's shared outdoor courtyard invites residents to spend time with one another and meet other individuals living in the community.

④ HEALTHY DESIGN

Concrete floors were chosen for the unit's first-floor interiors because of its ability to not harbor dust mites, mold, or harmful chemicals that can off-gas over time.

④ PHYSICAL FITNESS

An on-site exercise room in the community building offers space for yoga classes or daily cardio and strength workouts.



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BUILDER INTEL



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TIME-TESTED, VERSATILE PERFORMERS

Plywood structural panels stand up to moisture, wind, weight, and insects.

Time-tested, versatile performers, plywood structural panels have been a staple in home construction for more than 70 years. From roof decks to subfloors and wall sheathing, plywood's strength, stiffness, resistance to moisture, tight grip on nails and screws, and ability to be pressure treated make it a solid choice.

STRENGTH AND STIFFNESS

The stiffness of a plywood subfloor or underlayment minimizes deflection between the joists when the floor is walked upon. That helps prevent a soft, "spongy" feel underfoot as well as those annoying squeaks and creaks. It also helps keep hard flooring surfaces, such as tile, from cracking.

In areas with heavy snow loads, plywood roof decks have the necessary strength. "When you'll have two feet of snow sitting on top your house for a part of the year, plywood can handle the weight," said Chris

Harris, a buyer of Southern Yellow Pine plywood for UFP Purchasing Inc.

MOISTURE TOLERANCE

In a perfect world, structural panels—regardless of type, would not be exposed to the elements. But despite home builders' best efforts to keep them dry, panels are frequently subjected to rain, snow and high atmospheric humidity before a home is fully buttoned up. It's simply unavoidable. And when they get wet, they swell.

If panels used for a subfloor or underlayment remain swollen, they can telegraph through the floor covering above. Using plywood panels, such as SmartCore Rated Sheathing and SmartCore Sturd-I-Floor, can help prevent this.

"Plywood is more tolerant of moisture. It's more forgiving," Harris said, explaining that the panels will return to their nominal thickness as they dry, helping ensure an even finish floor.

A TIGHT GRIP

In hurricane zones, a plywood roof deck can enhance a home's resiliency. Plywood holds on tight to nails and screws, helping keep roof sheathing and roofing materials anchored in place in high winds.

RESISTANCE TO INSECTS, ROT AND DECAY

Southern Yellow Pine plywood also can be chemically pressure treated to resist insects and fungi, Harris noted. Treated panels are a wise choice for wall sheathing, roof decks and subfloors in areas where these structural elements must be protected from mold, mildew and destructive pests.

For more than 70 years, home builders and their clients have turned to plywood structural panels for quiet, solid floors with no telegraphing through the finish floor, roofs that can take the weight, and the ability to repel bugs and rot.

To learn more about plywood vs OSB for your project, visit <https://royomartin.com/>

THE

→ Builders walk the line between being
CAUTIOUSLY OPTIMISTIC about entry-level profits
while still bracing for a **POSSIBLE RECESSION**

by
JOE BOUSQUIN

GREAT

LOOKING AT THE HOUSING MARKET at the beginning of 2019, Brent Anderson didn't like what he saw. Mortgage interest rates had jumped from the high 3s to flirting with 5% for the first time in a decade. Sales of higher-end move-up homes—the bread and butter of this home building cycle—had suddenly tanked, as potential homeowners felt “buying fatigue” in the face of ever-rising prices. It seemed that the sales spigot, which had only been turned on in fits and starts since the end of the Great Recession, had finally been tapped out.

To top it off, the Federal Reserve had been on a hawkish tightening spree, with at least two more interest rate hikes anticipated for 2019. At the same time, economists were calling for a general economic pullback. With a slower housing market

typically being a leading indicator of recession, all signals seemed to be in place for exactly that to happen.

So when Anderson, vice president of investor relations at Scottsdale, Ariz.-based Meritage Homes, considered Question No. 23 of his annual Builder 100 survey—“What is your outlook for housing in your markets for 2019?”—he ticked off “Mostly Negative.”

“We saw a pretty choppy market in the third quarter of 2018, and then in the fourth quarter, it weakened even more,” Anderson recalls. “The market seemed to be getting very soft, very quickly.”

What a difference half a year makes.

“I wouldn't respond the same to that question today,” Anderson said in July. “Now, the outlook isn't so scary.”

Instead, coming off of Meritage's

breakout second quarter earnings report—where the company reported a swift sales pace for the entry-level home product it pivoted to in 2017, which produced even better profit margins than its higher-priced, move-up homes—Anderson was all smiles. And who wouldn't be? Following its report, Meritage's stock jumped 18% in a single day.

“We knew the results were good, but we didn't know we'd get that reaction,” Anderson says. Indeed, while existing home sales were still flagging at mid-year, new-home sales had risen 2.2%, compared with 2018, and gained 4.5% in June alone, compared with the same month a year earlier.

Meritage's turn toward more affordable homes targeted at entry-level home buyers, as well as Anderson's still

DIVIDE

photo illustration by
C.J. BURTON



cautious, but brightening outlook to the environment ahead, is emblematic of how builders view the evolving home building cycle in the months to come and what they're doing to prepare for it.

While economists still see a potential slowdown ahead for the economy in general, new-home builders are operating with guarded optimism, bolstered by a strong spring selling season along with promising signs that they've finally cracked the code for building—and making a profit from—entry-level homes (see sidebar, p. 53). But they're also hyper-focused on staying vigilant for any signs of trouble on the horizon, reading the market, and staying ahead of it.

The 'Pivot'

TAKE THE RECENT PULLBACK IN PRICES in 2018 and how builders like Meritage and others reacted to it going into the spring selling season of 2019. With the tailwinds of a newly dovish Fed, which signaled in January it would back off its rate-hiking regime, builders didn't rely on lower rates alone to save them. Instead, they proactively went to market to lure buyers back in.

"Builders got pretty aggressive in terms of altering their mix to a more affordable product and increasing incentives, or, where needed, even reducing prices on product that wasn't moving," says Carl Reichart, home building analyst and managing director at New York-based investment bank and brokerage BTIG. "Builders did not wait around. They entered the spring selling season with deals available, and buyers took advantage of that."

For Alex Barron, senior research analyst at El Paso, Texas-based Housing Research Center, that reaction to the market illustrates a growing willingness on builders' parts to be nimble and stay in front of market trends when they see them.

"The Fed pricked the bubble that was developing in new-home prices by raising rates in 2018," says Barron. "For builders to watch interest rates go up and see their



*"We made the strategic decision a little over two years ago to focus entirely on **ENTRY-LEVEL** and **FIRST-TIME MOVE-UP BUYERS**, rather than try to be everything to everyone."*

— BRENT ANDERSON, MERITAGE HOMES

sales start to slow, I think it was a wake-up call. It started feeling like 2006 all over, and it was like, 'Do we really want to go through this whole cycle of impairments again? Or do we maybe go back to the drawing board and reexamine our core assumptions that we can't make money at the entry level?'"

One builder that did that kind of soul searching was Meritage. After building its business post-Great Recession focused on the second- or third-time move-up buyer, Meritage began retooling its product offerings in 2017 to stay ahead of the demand curve.

"We made the strategic decision a little over two years ago to focus entirely on entry-level and first-time move-up buyers, rather than try to be everything to everyone," Anderson says. "We've really reengineered the whole business to sup-

port those buyers and did a lot of research to redesign the product for them."

Whereas first-time buyers made up just 24% of Meritage's customers in 2016, in second quarter 2019, they accounted for more than 52% of the builder's sales. "This cycle kind of got turned on its head, because the move-up buyers came back first, and entry-level buyers came back after that," Anderson says. "It may mean we end up building more of this entry-level product for a longer period of time."

This isn't to say home builders—or economists—believe we're out of the economic woods yet. "Certainly, everyone's talking about when the next recession occurs," says Robert Dietz, chief economist for the NAHB. "If the laws of the business cycle haven't been repealed, at some point we're going to have some kind of downturn."

Dietz notes that his own economic tables don't show an actual recession ahead yet, but more of a general slowing or what he calls a "soft patch." And he emphasizes that in a post-Great Recession world, it's critical to think about what a recession in today's market would really look like.

"The problem is, when you use the word 'recession' today, people immediately think we're going to have another Great Recession," Dietz says. "But that was a once-in-a-multidecade event, marked by the combination of both an economic downturn and an old-school financial panic. When we think about a downturn in the current economy, we're talking about something like the early 1990s or 2000s, where there were maybe a couple quarters of negative growth and some slow or negative job creation."

A Stronger Second Half?

AGAINST THAT BACKDROP, BUILDERS during the summer anticipated a stronger market in the back half of 2019, while still preparing for the pullback they know must eventually come. Having learned hard lessons from the Great Recession, these builders are staying conservative in their outlooks, paying down debt while keeping land in check, and segmenting projects into smaller chunks, rather than the 1,000-lot takedowns of the past. They're paying more attention to their local businesses, simplifying their products and processes to appeal to today's price-conscious home buyers, and keeping a close eye on how many spec homes, which they are building again, are in the market at any given time.

Take Pat Neal, president and founder of Sarasota, Fla.-based Neal Communities, which closed 1,148 homes in 2018. He's anticipating 2019 ending stronger than it began, to build momentum going into 2020. But he currently holds only 2,000 lots—just under two years' supply—and he's used proceeds from his sales this year to pay off all of his bank debt, electing instead to sell bonds that won't reach maturity until 2024.

PROFIT STARTERS

→ Faced with a mounting housing affordability crisis, builders for years have said they couldn't build entry-level homes profitably. While there have been some exceptions—most notably D.R. Horton's Express brand—many builders focused on the luxury move-up market instead.

So what changed in 2019 that enabled firms like PulteGroup, Meritage, KB Home, and Lennar to be able to cater to the lower end of the market, while posting margins that in some cases were as good as or better than their higher-priced luxury offerings?

"It was more a matter of focus and will than not being able to," says Alex Barron, senior research analyst at Housing Research Center in El Paso, Texas. "They've discovered that there actually is still cheap land on the outskirts of most metros if they go looking for it."

From the perspective of Larry Webb, executive chairman at Aliso Viejo, Calif.-based New Home Co., home builders only switched their focus to entry-level when the buyers of more expensive move-up homes dried up.

"No matter what builders as a group professed over the last few years, I think we were still seeing success in the move-up market," Webb says. "So we were less motivated to really start spending a lot of time, money, and energy on new designs targeting first-time buyers, or even first move-up buyers."

In 2018, New Home pivoted from targeting "executive" move-up buyers—New Home's average selling price in 2017 was \$2 million—to catering to the more affordable end of the market. By the second quarter of 2019, the firm's ASP had come down to \$950,000; it expects further reductions to \$500,000 by 2021. "By the end of 2021, we think 85% of our homes will fall under FHA guidelines," Webb says.

The company is getting its prices

down by buying lots farther inland, and by building more attached product. At Bedford in South Corona, about 50 miles east of Los Angeles, the firm is building "paired" homes, priced in the high \$300s and low \$400s.

That change in market focus has forced New Home to rethink its product. "When you're dealing with 5,000-square-foot homes with ocean views ... you have more margin for error because every home already has great sex appeal," Webb says. "When you're dealing with 800 to 1,200 square feet, every single foot has to be well-drawn."

At Meritage, vice president of investor relations Brent Anderson says the firm is offering option packages to keep its building process efficient and on budget. "Regardless of what you put into a home, you have to meet a price point," he says, adding that the professionally curated packages for flooring, cabinets, countertops, backsplashes, and paint make it "a lot easier to decide."

Meritage also is building more specs to cater to entry-level buyers' needs. "Most first-time buyers are coming out of an apartment, so they've got a 30- to 60-day window in which to move," he says, noting the firm is diligent in making sure it builds only what it can sell.

For Barron, the shift in focus to entry-level marks a newfound resolve among builders who, having learned from the Great Recession, aren't willing to fall on the sword of high prices in the face of declining sales.

"If you just keep raising prices, you eventually price your customers out of the market, and that's not the best strategy to grow," he says. "Now, builders are asking themselves how can we cut costs and build homes better, faster, and cheaper? As this transformation happens from move-up homes to starter homes, we're going to see a huge amount of housing sales rebound."—J.B.

"I like to say we're always managing to the next downturn," Neal explains. "I don't see any immediate signals, but we need to be prepared for it. I'm managing my embedded expenses, keeping an eye on inventory, ensuring I don't have debt on land, marshaling my assets, and paying intimate attention to my business every day."

At Chicago-based Lexington Homes, principal Jeff Benach says he's focused on building smaller communities instead of the multihundred-unit communities he churned out before the downturn. Part of that is by necessity: Chicagoland still produces only around 6,000 starts a year, but it's also a more strategic vision.

"We used to do 1,000 units all by ourselves," Benach says. "We wouldn't do anything below 100 before. Now, we're more focused on 50- or 60-unit projects." He also likes building attached homes, which helps him keep his prices down in the \$300s.

At Judd Builders in Asheville, N.C., John Judd Sr. takes a similar approach. Concentrating on attached housing, he says, helps him diversify his risk among multiple buyers while developing just one lot and pouring a single foundation.

"This type of market lends itself more to a duplex or triplex play, rather than one big single-family home where you've got all your eggs in one basket, especially on a spec," says Judd. "Now, you've got three people who can qualify for just \$300,000, instead of one buyer who has to come up with \$1 million."

Those moves typify builders' current approach to the changing outlook in the market today. "Post-Great Recession, builders are more cautious," Dietz notes. "They're more focused on data. And they're hyper-aware of movements in the markets and interest rates."

Waiting for the Market to Turn

AT LOS ANGELES-BASED KB HOME, MARKET factors were definitely on the builder's mind as 2018's slowing sales took hold.

"Everyone in the industry in the back half of last year was conveniently calling

the slowdown in sales a 'pause,' " says Matt Mandino, KB's chief operating officer. "Well, that sounded great, but about three months into it, we started wondering, how long does a pause last? By January, we started asking whether this thing was actually going to turn. Fortunately, it did."

KB's second-quarter earnings walloped analysts' estimates, coming in at 51 cents a share versus a consensus projection of 38 cents. While KB has always had its roots in the entry-level market, it had also started to focus on introducing smaller plans to both new and existing communities in 2018, as buyers pulled back from higher-priced, larger homes. "In anticipation of the winds shifting, we wanted to be able to hit a lower price point in all of our communities," Mandino says. "So, if we had a community where we were offering 1,900- to 2,700-square-foot homes, we would add a 1,700-square-foot plan, too."

KB also started focusing on more attached or "paired" housing to get homes down in the more affordable price points. "There are markets such as Denver where we rely quite heavily on our duplexes, or paired homes," Mandino says. "In some cases, those homes might come in at \$100,000 less than a similar, single-family detached home nearby."

*"This will not be a housing-led
RECESSION. This next recession we
don't feel will be nearly
as deep as the previous recession.
Nonetheless, it's a recession, and
during recessions,
DEMAND FOR HOUSING tends to fall."*

—
MARK BOUD, METROSTUDY

Those moves resulted in 55% of KB's sales coming from entry-level homes in the second quarter of 2019, the highest level the firm has seen in that product range in a decade. And like Anderson at Meritage, Mandino sees the reemergence of the entry-level market and "family-friendly" housing in the suburbs and exurbs as a new wrinkle to the current housing story that, at the very least, could extend the cycle.

"We're hoping this really opens up for additional buyers who didn't even think they could get into a new home, who now look at what they're paying in rent versus what they can purchase for, and realize this is a great time to buy," Mandino says. "We're really hoping we see increasing velocity by being able to serve so many families who were priced out of the market until now."

But while he clearly saw potential in the market in 2019, like other builders, he hasn't forgotten the lessons of the past. Going forward, KB is approaching its land development in the same way it might open different phases of a new community, with smaller deals that develop one section at a time. And while building for entry-level means the firm has necessarily sought land farther out from the urban core, it's not venturing into the hinterlands, the hallmark of builders who expanded into far-flung territories just before the last crash.

"We're not buying 2,000 lots a half-hour from the nearest grocery store," Mandino says. "We're doing many more deals in the 100- to 150-lot range versus the 500-plus lot deals of the past. We feel this is a good environment to operate in. But it can change quickly, and we need to make sure as an organization we can adjust. We're taking a very disciplined approach to it."

That one-step-at-a-time approach can be seen with other builders, too. On PulteGroup's second-quarter earnings call, executives emphasized how the builder, which at one point had as much as seven years of land on its books post-recession, was at just three years of

owned lots today, while using options to control additional dirt.

"We continue to make excellent progress against our goals of three years owned and three years optioned," said PulteGroup CEO Ryan Marshall on the call, during which he also emphasized the builder's goals of growing its entry-level sales to 35% of its mix from 29% currently. It reported building 26% of its homes on spec, while keeping an eye on its land holdings to bolster its balance sheet. "Our field teams have just done an outstanding job in working on a local level on a transaction-by-transaction basis to really secure lots that are helping us to turn our assets faster and to minimize the risk that's associated with having too much land on the balance sheet," Marshall said.

Recalibrating Toward Entry Level

HOME BUILDERS' DISTINCT NEW EMPHASIS on entry-level offerings in 2019 has drawn attention back to the potential resiliency of the housing sector. In fact, with a consistent undersupply of homes—numbers range from a shortfall of 1.3 to 2.5 million units nationally—observers say conditions could be right for housing to act as an economic stimulator for the broader economy, instead of just being a beneficiary of it.

"If we're undersupplied the way I and others estimate it, it would stand to reason that housing might actually be a domain of growth for the economy," says Brad Dillman, chief economist at Atlanta-based multifamily owner, builder, and operator Cortland, who previously served as director of economic research at PulteGroup. "There could be more runway ahead, or at least the downside may not be as stark as some people think."

Even economists who do see a recession ahead say there will likely be a disconnect between the general slowing of the economy and what's happening in the housing market.

"This will not be a housing-led recession," says Mark Boud, chief economist at housing data analysis firm Metrostudy,

which is owned by BUILDER's parent company. Boud is calling for a recession in the broader economy to start in the later half of 2021—the same year he sees a peak in the current housing cycle—and cites the rising federal debt as his biggest long-term concern. But he also pushed the time of that recession out by two quarters after 2019's second quarter; at the end of 2018, Metrostudy projected a recession beginning in 2020-21. Now, it's saying it will come in 2021-22, and Boud has described it as a "soft landing."

"This next recession we don't feel will be nearly as deep as the previous recession," Boud says. "Nonetheless, it's a recession, and during recessions, demand for housing tends to fall."

Others still see more pressing signs of trouble ahead. With housing slowdowns typically being a leading indicator of recession in the general economy, some economists say the pullback in prices and sales in 2018 is already signaling a broader downturn.

William Emmons, lead economist for the St. Louis Federal Reserve Bank's Center for Household Financial Stability, sees recessionary signals taking hold by the end of 2019 or early 2020. He bases his outlook on four measures of housing health: mortgage rates; existing home sales; house prices; and contribution of residential investment to GDP growth.

At the end of 2018, he wrote on the St. Louis Fed's website that those measures signaled recession in the fourth quarter of 2019. In June 2019, he updated his post to say things only looked worse, but he didn't include second quarter results in his analysis. "All four of the housing indicators highlighted late last year are more concerning now, according to data through the first quarter of 2019."

A New Housing Cycle?

AND YET, WITH THE EMPHASIS ON LESS expensive plans, and builders' newfound ability to produce entry-level homes profitably, other observers see 2019's spring pivot as a sign that a fundamental change has occurred in the

housing market, one that takes it back to its roots of selling affordably priced homes to first-time buyers.

With the peak of the 80-million-strong millennial generation now reaching its 30s and finally showing a willingness to buy homes in the suburbs, 2019's early returns could signal a back-to-the-future swing for home builders, where they finally start producing the volume of homes seen prior to the Great Recession.

"What builders have found out is that the sales pace of these entry-level communities is tremendous," says Barron. "They're selling 10, 15, 20 homes a month versus the two or three sales that they were getting in their move-up communities. This could get us back up to the kind of volumes we used to see in previous cycles."

After crisscrossing the country during the spring selling season in 2019 to see activity in builders' communities firsthand, Barron put out a research note in July declaring the old cycle dead, with a new one just begun.

"Based on our field visits, and looking at 50 years of housing data, we concluded that the last housing cycle that began in 2011 actually ended in 2018," Barron says. "Everything points to a new cycle, marked by entry-level homes, that began in January of this year. So we are very bullish on housing."

He's not alone. Back at Meritage, after experiencing 2019's pivot firsthand, Anderson suddenly sees the market in a whole new light.

"Home price is the ultimate amenity," says Anderson, who notes that in addition to first-time buyers, Meritage also has been seeing a lot of baby boomer move-down buyers in its sales mix, another section of the market that he feels is ready for the lower-priced homes his company is now focused on.

"We see enough headroom in the markets to fuel additional growth," Anderson says. "The strategy is still new enough that we've got a ways to go, but we think we've got many years to enjoy this market before it plays out." **B**

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The Next Generation

NAHB works hard to showcase skilled trade career opportunities

by GREG UGALDE, NAHB CHAIRMAN OF THE BOARD

THE LATEST DATA FROM THE U.S. BUREAU of Labor Statistics shows about 380,000 unfilled jobs in the construction industry. Those unfilled jobs represent a tangible barrier to housing production and housing affordability. They also represent an opportunity to connect young people to great careers.

At jobsites across the U.S., home builders face delays and rising costs because they cannot find experienced building trade professionals for key parts of the building process. We must all commit to a collaborative effort and a wide range of potential solutions to address the housing industry's labor gap and develop the workforce of the future.

At NAHB, we're working hard to be part of the solution by partnering with educators, state and local home building associations, and other industry stakeholders. Policy-makers, and sound policies, must also be part of the answer.

NAHB supports expanding federal and state training and employment opportunities to prepare individuals for careers in construction, but there's still a bias against the industry. Funding for career and technical education lags far behind federal investment in academic and degree programs. Through the Home Builders Institute, the workforce development arm of NAHB, the association helps lead career-building programs that include Job Corps, Pre-Apprenticeship Certificate Training, and Residential Construction Superintendent Certification.

The Home Depot Foundation has partnered with HBI to expand trades training programs in high schools. Young people, veterans, displaced workers, and under-served

populations develop marketable skills through training programs across the U.S.

In support of Generation T, a movement to help rebuild the skilled trades in America, NAHB is working with Lowes Home Improvement and others to offer jobs and training programs to help close the job skills gap and connect people to opportunities in the skilled trades. February is Careers in Technical Education Month, and NAHB and local home builder associations are partnering to direct middle school students toward the skilled trades. These efforts help students learn about industry career opportunities.

Parents, teachers, counselors, and students need to recognize that a vocational education can offer a satisfying career path without leaving young people saddled with

student debt. It is time to reexamine the widely held belief that a college degree represents the only road to success.

Labor shortages slow the home building industry and push prices beyond the means of many home buyers. The strain of finding and retaining quality workers is a common thread among those of us in the residential construction industry, and demand for new workers in the housing industry is only expected to grow.

It is our collective responsibility to concentrate efforts on workforce development. Each of us must raise awareness about the labor shortage and help educate the public about opportunities in the trades. Together, we can recruit the next generation of skilled labor that will help make homeownership a reality for all. Visit nabh.org/workforce for more resources.

FINALISTS REVEALED FOR THE BEST OF 55+ HOUSING AWARDS

NAHB has announced the finalists for its 2020 Best of 55+ Housing Awards. A total of 107 entries were chosen as finalists and are eligible for either a gold or silver award from NAHB's 55+ Housing Industry Council.

"The Best of 55+ Housing Awards honor builders and developers who create homes and communities that suit the specific needs of the mature buyer and renter," says Karen Schroeder, chair of NAHB's 55+ Housing Industry Council and vice president of Mayberry Homes in East Lansing, Mich.

Finalists were selected from entries

in 42 categories representing single-family homes, rental housing, service-enriched housing, lifestyle features that 55+ buyers look for, and marketing activity, plus three categories representing individuals and firms.

The 55+ Housing Council provides information, education, and networking opportunities for its members and provides advocacy support to NAHB on key 55+ housing issues.

Visit nabh.org/55plusawards for more details. Winners will be announced Jan. 21 during the NAHB International Builders' Show in Las Vegas.

Off-Site Predictions

A look at when and where off-site construction technologies will emerge

by HOME INNOVATION RESEARCH LABS



DURING A PRESENTATION AT NAHB'S 2019 BUILDING SYSTEMS Housing Summit in October, Ed Hudson, Home Innovation Research Labs' director, market research, provided insight as to when and where he believes off-site construction technologies are likely to have an impact in the coming years. The data presented were from a survey of builders Home Innovation conducted in August.

In the survey, four questions were asked on the topic of off-site housing technologies: two asking builders what off-site methods they anticipate using one and five years from now; one on barriers to using these technologies; and a final one seeking to understand the role labor played in their decisions regarding off-site housing. Here's a look at some summary findings from Hudson's presentation.

Looking ahead, builders anticipate using off-site construction methods, particularly roof trusses and open wall panels, more often. Modular and pre-assembled floors were also expected to be a more common part of builders' standard practice. Respondents said they were least interested in manufactured, or HUD code, homes.

For most off-site construction practices, production builders were two to three times more likely to increase their use compared with custom builders. Likewise, townhouse and multifamily builders were far more likely to increase their use of off-site practices than were single-family builders. No difference was observed in future use based on the price point of home construction—i.e., starter, move-up, or luxury.

When considering a firm's decision to use (or not use) prefabricated building systems and components, builders were asked about what role the availability of construction labor plays in that decision. They gave varied answers:

- None—already use them.
- No change—what we're doing now works fine.
- Unaware of the options.
- Need trustworthy local sources.
- Believe off-site technologies cost more than site-built.
- Workforce is unwilling/unable to change.
- It takes too much time and effort to change.
- Off-site alternatives require extensive pre-planning and long wait times for delivery.
- Have issues with local logistics for delivery, access to the site, or shipping.
- There's a negative perception of off-site in the market—homeowners see it as lower quality.
- Can't accommodate last-minute changes in home construction with off-site technologies.

Hudson's presentation included strategies and practices that off-site housing producers might consider to mitigate these barriers:

- Offer a turnkey materials-and-installation service—whether integrating upstream or downstream of their current operation.
- Create a decentralized production strategy
- Provide system, equipment, and software know-how to larger builders so they can create their own off-site solution.
- Provide training for local framers.
- Use 3D modeling/BIM and virtual reality so home buyers can better evaluate plans.

For more details, visit HomeInnovation.com/MarketResearchContact.



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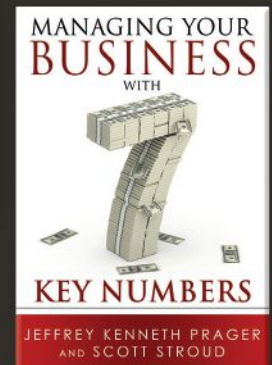
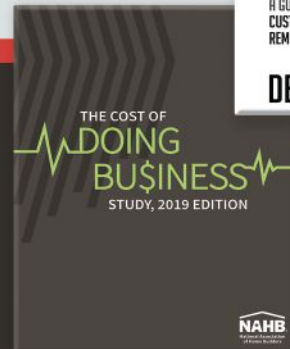
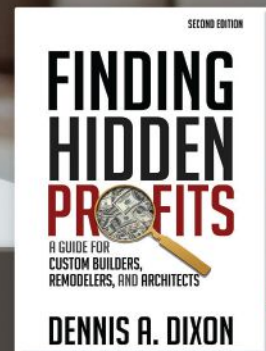
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The Misleading Middle

The attention being paid to the 'missing middle' has overlooked smaller single-family detached homes

by **ROBERT DIETZ, NAHB CHIEF ECONOMIST**

DUE TO YEARS OF UNDERBUILDING, A HOUSING DEFICIT EXISTS in the U.S. How large is the amount of undersupply? That's a subject of debate among economists. NAHB has estimated the nation is short about 1 million housing units, generating a housing affordability crisis—including home price growth that has outpaced income growth, rising rental burdens, and a doubling of the share of young adults who live with their parents. A separate Freddie Mac estimate of the deficit is even larger, suggesting a housing shortfall of 2.5 million residences.

As part of this discussion, a lot of attention has been given to the "missing middle." The argument is that the U.S. lacks lower density multifamily or types of clustered housing, including townhouses, duplexes, and certain kinds of low-rise multifamily housing. The claim is valid in that building more of this higher density housing is an efficient way to add additional for-sale and for-rent housing,

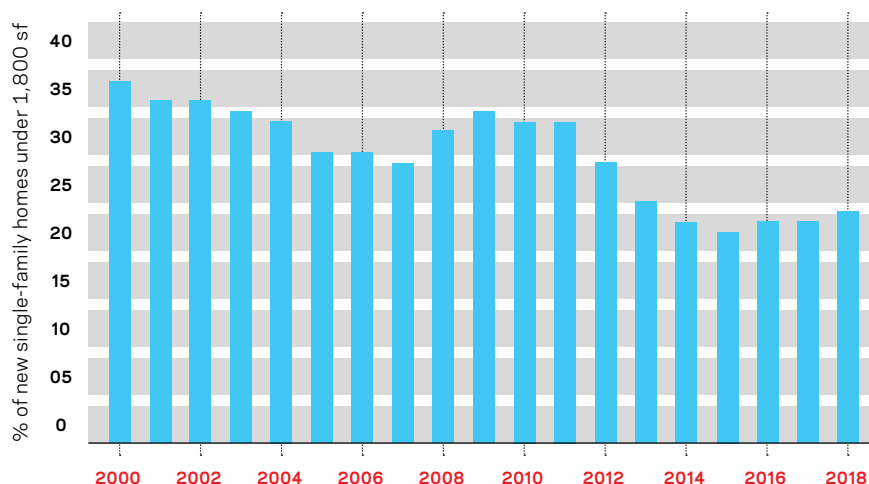
particularly in high-growth/high-cost metro areas that lack developable land.

But I am concerned that the marketing success of the missing middle has left an important gap: small, single-family detached housing. This housing type is a key source for enabling homeownership among entry-level and first-time buyers, and due to consumer preference and demographic needs, it plays a critical role in the housing market. And like low-density multifamily, it, too, is missing.

Consider recent Census data on single-family home construction. In 1999, 37% of newly built single-family homes had square footage of less than 1,800. Development of that kind of housing has declined considerably over the past two decades. By 2015, just 21% of new single-family homes were less than 1,800 square feet, for a total of 136,000 homes built. Due to gains for higher density single-family building, the share of new single-family homes built with less than 1,800 square feet has since increased modestly to 23%, or 192,000 homes.

Despite these gains in construction volume, this single-family market segment is a key part of the affordability crisis and housing shortfall. Yet this type of housing falls outside the common understanding of the missing middle. While initiatives should be deployed to expand the missing middle, it's vital that communities do not neglect single-family construction, notably entry-level, for-sale single-family housing that serves as a stepping stone to homeownership. This can be accomplished by lowering regulatory hurdles and improving zoning rules, such as fighting exclusionary zoning practices and the growing use of costly design requirements that crowd out entry-level single-family housing.

SHARE OF NEW SINGLE-FAMILY HOMES
(Under 1,800 square feet)



Source: NAHB analysis of Census data

builderonline.com

serves the information needs of residential construction professionals with breaking industry news, local housing data, provocative Web-first lists, industry blogs, product reviews, house plans, education & training and so much more.

The screenshot shows the Builder website homepage. At the top, there's a navigation bar with links for DESIGN, MONEY, BUILDING, LAND, BUILDER 100, PRODUCTS, VIDEOS, and RESOURCES. Below the navigation bar, there are several featured articles and sections:

- 2015 Builder 100**: A large blue banner announcing the 2015 Builder 100 award. Below it, a section titled "THE BUILDER 100 IS HERE" explains that this year's list is made up of a diverse group of companies, from perennial powerhouses to hard-working newcomers. A link "read more >" is provided.
- TRI-POINTE TAKES THE 2015 BUILDER OF THE YEAR AWARD**: A section featuring a photo of three men and text stating that Tri-Pointe Group says its home buildings "best generation," hence what that means. A link "read more >" is provided.
- TOP 10 INSIGHTS FROM THE PUBLIC BUILDER REPORT CARD**: A section with a "TOP 10" graphic and text stating that with another Public Builder Report Card in the rearview mirror, game Alvin shares his top insights. A link "read more >" is provided.
- The Pulse**: A section dated May 22, 2015, featuring several articles:
 - 01 ZILLOW**: Detroit Housing Experts Discuss City Trends...
 - 02 BUILDERS**: Huff Revamps Wieland's Operations
 - 03 GALLUP**: Millennials Trust Security of Privacy
 - 04 NEW YORK TIMES**: Disruptive Sleeper Trend? Airbnb Hits a Million...
- Work together. Win together.**: A section with a photo of two people working together and text stating "Become the ultimate sales and marketing power couple." A link "Take a Tour" is provided.
- The Builder Network**: A section featuring profiles of industry leaders:
 - JOHN BUCHANAN**: Recovery, Such That It Is, Continues (05/11/15)
 - JENNIFER GOODMAN**: New Line of Homes Targets Professionals (05/11/15)

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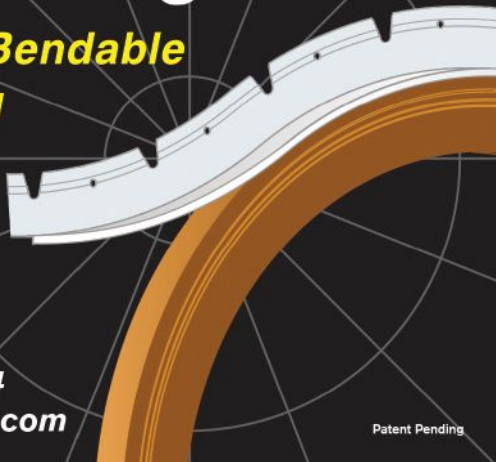
Advertiser	PG number
AIA Contract Documents	38
Better Home Products	31
Bosch Appliances	29
Bradford White	11
Builder House Plans	48
Builder Website	61
Chief Architect	22
DryerWallVent	32, 41
Endura Products	10, 33
Fortress Building Products	14-15
HIVE	24
Home Depot, The	13
Interior Logic Group	39
Jamsill	41
LG Chem	20
LP Building Solutions	19
LP FlameBlock	25
LP TechShield	23
LP WeatherLogic	21
NAHB	6-7, 26, 40, 56, 59
National Ready Mixed Concrete Association	27
RAM Commercial Trucks	C3
Roy O Martin	49
Safety Maker	8
Samsung	C2-1
SES Foam	9
Sierra Pacific Windows	2-3
SoftPlan	8
Trane	16-17
Western Window Systems	C4
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Nothing But Net

by SYMONE GARVETT

WITH A CLIENT PASSIONATE ABOUT MOVING TO DENVER'S River North Art District, also known as RiNo, local boutique design firm Davis Urban and builder Sean Smith Construction knew they had to produce a modern home that fit its unique neighborhood and owner.

The Curtis Park Residence features several unexpected details not found in typical single-family homes. Of the most notable, a cargo net was added to discovered space in the two-story steel stair that leads from the mudroom, dog run entry, and garage to

the second-floor roof deck and guest suite on the alley side of the lot. The playful element creates a nest-like lounge for the client's daughters and gives them a quiet place to relax with a book or movie.

In addition to the rope hangout, an adjacent roof deck with a sculpted and illuminated rolling hill of turf provides an area for lounging in the sun or stargazing. "These elements of the house reflect a great utilization of space, as well as the overall comfort of 'home' in this urban setting," says the firm.



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James Florio

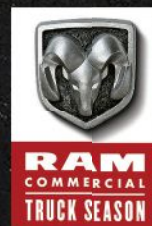
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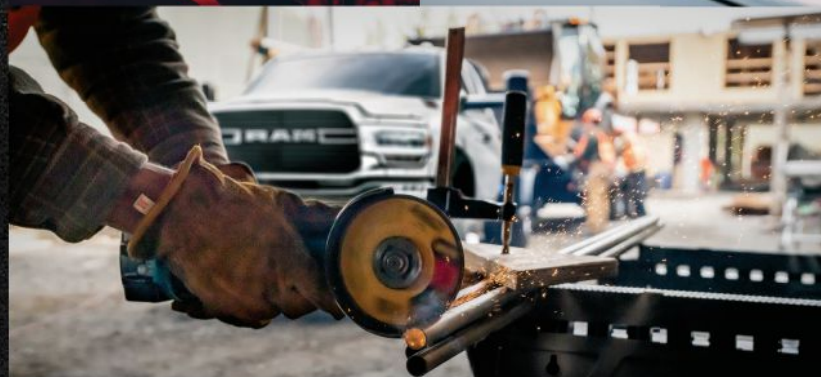
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