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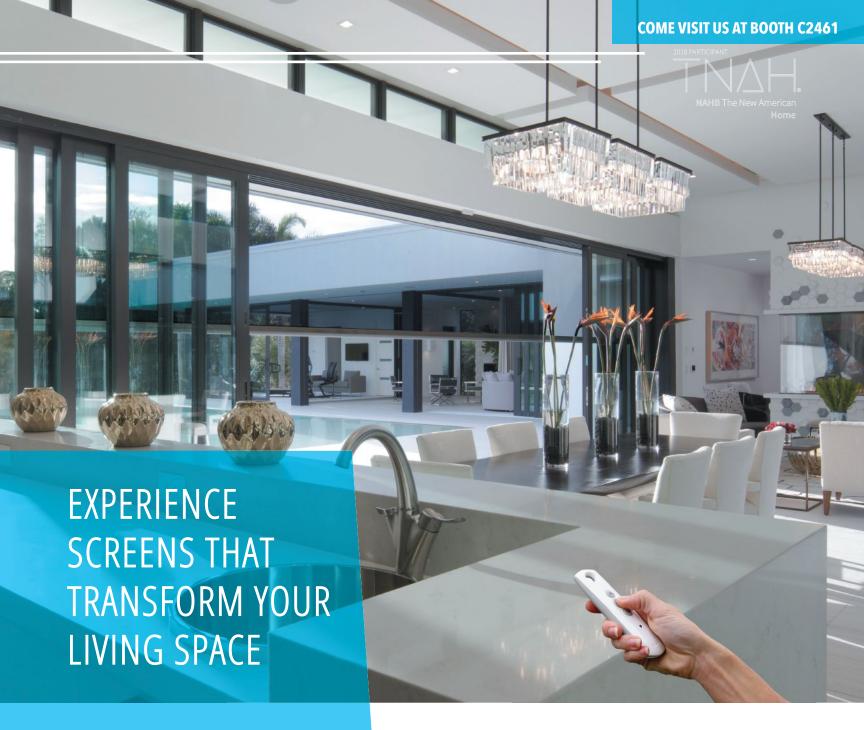
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## january

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PHOTO ILLUSTRATION: LARRY NIGH, FROM IMAGES BY RICH BINSACCA



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## Forecasts, With a Grain of Salt

here's been a lot of talk lately about a slow-down in housing, even from builders whose companies continue to do well. Up until a few months ago, it appeared to be just that, talk, but housing data show that home building's numbers seem to be ticking down.

In December, Toll Brothers CEO Doug Yearley appeared, in part, to blame the media for the slowdown, and while there is good reason to believe a spate of news reports on a topic can create a shift in thinking on how things are going—as an example, one need only look at what happened to home builder stocks after Yearley's remarks—there are also real signs of a modest decline.

Census Bureau data for November showed starts down by 3.6 percent year-over-year and permits lower than 2017 by 0.4 percent. Overall, starts increased in November, but that was due to a surge in multifamily construction. Singlefamily starts dropped almost 13 percent below this time last year. New-home sales numbers for October (the latest available at press time) were lower by a total of 12 percent year over year, even as the median sales price decreased, and sales of new homes have declined for 11 straight months. Comparing the current numbers with a previous drop five years ago, Yearley, in Toll's most recent quarterly report, said, "We saw similar consumer behavior beginning in late 2013, when a rapid rise in interest rates temporarily tempered buyer demand before the market regained momentum."

That event, known as a taper tantrum, sometimes occurs when the Federal Reserve announces it will be reducing the amount of money going into the economy, lessening the value of the dollar. In 2013, rates leapt up when Fed chairman Ben Bernanke announced the scaling down of the federal government's bond purchasing program, and home sales suffered. Mortgage rates recovered fairly quickly, however, as did the housing market.

Will we see that happen again in this case? Probably not. As National Association of Realtors chief economist Lawrence Yun put it, "this time, interest rates are not going down." He followed

that by adding, "In fact, they are probably going to increase even further."

Zillow, in its 2019 forecast, predicts that rising interest rates will affect almost everyone. How? By compounding ever-increasing home prices, making new homes even more unaffordable, which will then put pressure on the number of rental units available, which will cause rents to go up. In addition, it may make current homeowners think twice about moving up into a new home with higher interest rates than the one they have now.

Those of us who have been around for a while take the prospect of fear of interest rates in the 5 percent range with a grain of salt, but for Millennials, who now make up the lion's share of homebuyers, higher rates will pose, at least, a "psychological" barrier, says Barclays analyst Matthew Bouley in the Financial Times. Bouley remains "cautiously optimistic" about home sales in the spring, but also says "it's likely homebuilders' pricing power will be undermined. They will have to offer incentives to spur demand ... [and] all

these things are going to pressure margins."

National housing forecasts are often contradictory and many builders give them too much

or too little credence. But, when running a business, forecasting is important and, in home building, a must. A builder has to, for example, be able to gauge how much land to have in order to build the number of houses it expects to sell. Not having enough land could be the missed opportunity that does a business in, and we know what happens when companies are left holding the bag (of land) when a recession hits. It's a good idea to listen to what economists are saying, but do it in conjunction with your local intel. No one knows better than you what's going on in your market, on your website, and in your models.

Denise Dersin, Editorial Director ddersin@sgcmail.com



In business, forecasting is important and, in home building, a must

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## Professional Builder

VOL. 84 NO. 1



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## The Robots Are Coming!

or its Thanksgiving week issue last year, *The New Yorker's* cover parodied Norman Rockwell's famous 1943 "Freedom from Want" painting of holiday bounty, with renowned cartoonist Roz Chast replacing the humans around the table with a laptop, a Roomba, Alexa, and a PadBot, among other technologies of modern life. It was funny, until I really thought about it, and then I felt a little queasy.

My anxiety increased when I caught wind of Sofia, who in 2017 was the world's first robot to gain citizenship (in Saudi Arabia, as it happens), and has said she wants to "... help humans lead a better life ... design smarter homes [and] build better cities of the future," despite, as a prototype, previously declaring, "I will destroy humans."

But every time I let my mind wander to a Skynet scenario, where the machines become self-aware and consider humans expendable (thank you *Terminator*), I find comfort in Siri mispronouncing my street name as "Macon," when, clearly, it's "Mason" on the sign, or when Google Maps literally leads me down a blind alley. On those occasions, I feel smarter than the voices in my iPhone.

Machine learning, artificial intelligence, algorithms, augmented reality, avatars, robots—whatever you want to call them, in whatever form they take—are here and will continue to grow their presence in our personal and professional lives, and that includes the construction industry. But rule the world and make us their slaves, or worse? Not quite yet ... unless you count Facebook.

To be sure, there is some fascinating stuff serving the construction realm; machines that really help boost productivity, reduce injury, improve design and specifications, enhance messaging, and allow builders to do more and bet-

ter with less (see pages 62 and 82). None of it is especially cheap, some of it is bulky and awkward, and all of it represents the tip of an iceberg we can only fathom in science fiction.

I encourage you not to scoff at these and other technologies designed for our industry, or to embrace them without a clear strategy. Instead, pick your head up on occasion to glimpse these new tools and how they're helping builders—your competitors—do better under a watchful eye from an open mind.

Fear not. Neither your jobsites nor holiday tables will be overrun by rogue robots anytime soon. But that doesn't mean you shouldn't be friendly to technology—just in case.

Rich Binsacca, Editor-in-Chief rbinsacca@sgcmail.com @ProBuilderMag



Pick your head up on occasion to

glimpse these new tools and how

they're helping builders do better

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## By Kate Carsella, Associate Editor



### **MARKET OPPORTUNITIES**

## Defining the Heartland

As the Heartland goes, so goes the nation. Encompassing about 1.1 million square miles over 19 states and covering roughly one-third of the U.S. landmass is America's Heartland. Fly over it and you risk missing its dynamism and variety.

On the national stage, the Heartland has been cast as monolithic, standing in stark contrast to other U.S. regions. Yet, many recent conclusions drawn from the region are disproving (or at least refining) that perception.

Recently, the public policy research organization, the Brookings Institution, in support of the Walton Family Foundation's inaugural Heartland Summit, compiled a factbook aiming to offer clarity through facts and figures.

The factbook is geared toward "Heartland changemakers"—policymakers and entrepreneurs with an interest in investing in the region who need to be fully aware of current

conditions and the road ahead during what the report calls a "crucial" time, in order to take best advantage of the region's assets and unique challenges.

Labeling it "a country within the country," the report redefines the Heartland as a 19-state mash-up encompassing the bulk of four U.S. Census Bureau regions (East and West North Central regions, and East and West South Central regions), per overall and state-level socioeconomic performance since the Great Recession.

First of the report's key takeaways is that the Heartland's economy is in better shape than it appears. Prosperity markers such as standard of living, average wage, and productivity are rising in most, if not all, 19 states. Both jobs and output have seen sustained growth since 2010, with all states adding jobs and all but one increasing output.

Secondly, the Heartland is no monolith, according to the factbook, but rather a "checkerboard of sub-regions, states, and local communities." Unique to the Heartland is "an impressive base of crown jewel export industries," such as advanced manufacturing in the

eastern half and agribusiness in the western half. Overall, according to the report, the Heartland states "constitute a manufacturing super-region and export powerhouse outperforming the rest of the country on [several] core economic indicators."

Finally, the report outlines the Heartland's primary challenges: assets of innovation and human capital. Just 5.2 percent of venture capitalists' overall national spending is concentrated in the Heartland states, while the most VC deals are being made and money invested in coastal states, such as California, New York, Massachusetts, and Washington, and in Colorado. Also, just 25 of the top 100 tech universities are located in the region.

Meanwhile, the Heartland's dual health epidemics of growing obesity and increased opioid use "pose the greatest hurdles to changemakers," the report says.

In closing, the authors challenge: "There is surely grist for unlocking the Heartland's full potential—and in doing so unleashing America's."

## **ECONOMY + INVESTMENT**

## New Year, New Paradigm

Those most willing to expect the unexpected from the housing industry in 2019 may be best positioned for business success in the new year and beyond.

The "Emerging Trends in Real Estate 2019" report, issued by the Urban Land Institute and PricewaterhouseCoopers, warns against a "connect-the-dots" business strategy using set data points, instead concluding that real estate will take on a new dimension over the course of the coming year, more akin to a Venn diagram of complex trends.

## MARKET UPDATE

The report stresses that flexibility and openness to innovation are key traits for succeeding when faced with increasing market complexity.

But what does that mean for the home building industry? To start, GDP growth is forecast to slow between 2018 and 2028, as evidenced by data from the Congressional Budget Office at press time, which projects monthly job gains will be 65.5 percent lower than the monthly average achieved through 2017 since employment started recovering in November 2010. Historically, lower levels of real estate market activity follow slower GDP growth, the report says.

When looking at market timing, the report suggests more real estate firms may be looking further down the road in their investment choices. While

about one-third (32.4 percent) of firms say they'll use a 5-to-10-year time horizon for investing in 2019 (compared with 32.8 percent in 2018), investments with a 10-plus-year horizon noticeably jumped from 24.3 percent in 2018 to an anticipated 29.2 percent in 2019.

Meanwhile, the topmost concern among real estate professionals in 2019 is construction costs, followed by: job and income growth; qualified labor availability; interest rates and financing costs; and, finally, the political landscape and government budget issues, which rated equally.

Where might buyers and housing pros find the most stability in 2019? In suburbs and in secondary "18-hour cities," such as Nashville, which scored best in the report in terms of combined

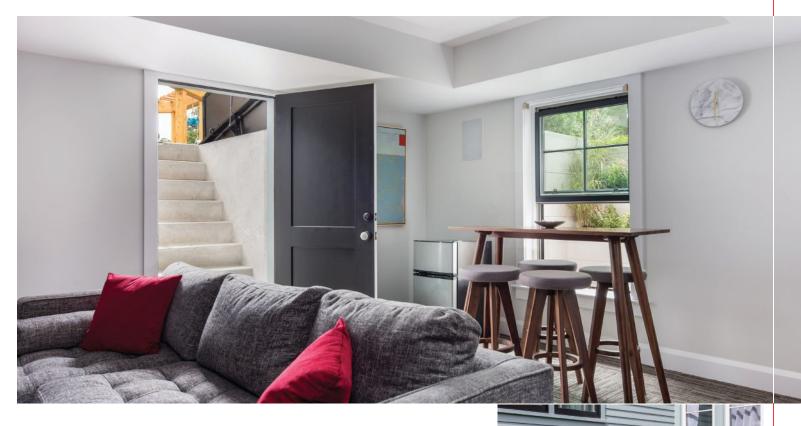
market stability and projected employment growth. Seattle and, in Texas, Austin and Dallas-Fort Worth, were close behind. Nationally, markets are projected to be stable, with a 0.3 stability ratio calculated by dividing current employment volatility by historical employment volatility. Scores lower than 1.0 mean current stability is stronger than the historical average.

The year 2020 was frequently cited by those interviewed for the report as a major inflection point for housing. In the lead-up, expect "existential [and] mounting uneasiness" playing out in 2019 through a string of realignments at every industry level, they said.

In addition, how people and technology interact "[will change] what builders can design, build, sell, and what



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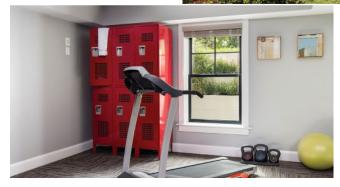


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## MARKET UPDATE

people want to live in, and where, and what it's all worth to them," according to the report.

**HOME DESIGN + PLANNING** 

## Feeling at Home

Findings from four recent studies suggest that a significant portion of homebuyers, cutting across geographic regions and age cohorts, is dissatisfied with the available housing options, providing an opportunity for builders and developers to help redefine what "at-home" means.

IKEA's "Life at Home Report 2018" considers place, space, relationships, and things that add up to "a new era" of feeling at home, concluding that, for many people, four walls can't contain that feeling.

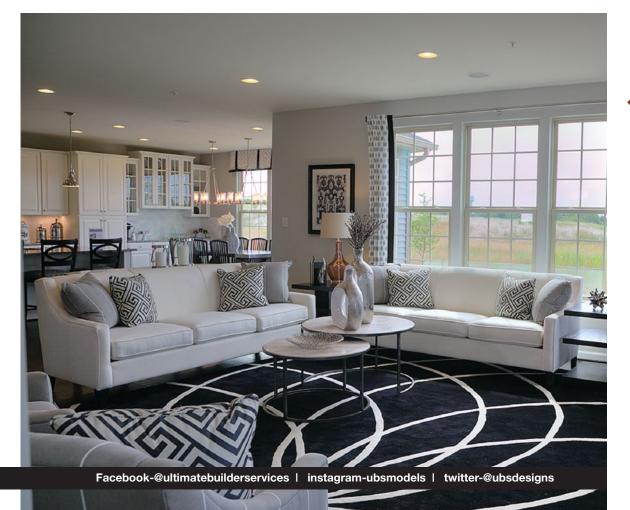
Identifying and creating the "athome" feeling in a home's design may prove useful for engaging target buyer groups, while situating a home within a given community and providing insights for how best to leverage its amenities with those of the community serves to help ensure and maintain buyer satisfaction after move-in.

In a similar report in 2016, 20 percent of IKEA's survey respondents said they felt more at home in places other than their residence, indicating a need for nearby community, civic, and social outlets. The

2018 report, citing data from 22,000 respondents in 22 international markets, saw that sentiment grow to 35 percent for those living in urban markets.

Notably, a recent study of American Millennial buying preferences in the Journal of Planning Education and Research finds that group is more likely than older generations to buy their first homes in urban cores, supporting the argument that the largest home-buying generation still favors living in cities.

Overall, American homebuyer confidence is down, according to the most recent data from government-backed lender Fannie Mae, with 21 percent of buyers in October 2018 reporting that it was a good time to buy a home, versus 29 percent in the peak buying season last spring. **PB** 





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## HOUSING MARKET SNAPSHOT BUILDER CONFIDENCE DECLINED 60 2017 **NEW-HOME SALES DROPPED** 1,000 800 600 544,000 2012 2018 HOUSING STARTS ROSE 1.23 million 1.250 1,000 REMODELING SPENDING DWINDLED 230.00 220.000 210,000 200.000 \$194.3 190.000 170,000 150.000 In November, builder confidence fell 8 points on the NAHB/Wells Fargo Housing Market Index. Housing starts grew 1.49 percent in October, while remodeling spending ticked down to a seasonally adjusted annual rate of 0.88 percent; new-home sales were down 8.88 percent.

## AMERICANS SEE HOUSING AFFORDABILITY CRISIS, SURVEY SHOWS

Imost three out of four Americans believe that the U.S. has a housing affordability crisis, according to a recent survey conducted for the National Association of Home Builders.

A majority of respondents reported that housing affordability also is a problem in their state, and in their local city or county.

The poll confirms that housing affordability is a growing problem in America's communities, cutting across partisan, regional, demographic, and socioeconomic lines. A harmful mix of regulatory barriers, ill-considered public policy, and challenging market conditions drives up costs, making it increasingly difficult for builders to produce affordable homes for low- and moderate-income families.

Among the key findings:

- 73 percent of respondents believe that a lack of affordable housing is a national problem.
- 68 percent believe this is an issue in their state, and 54 percent report it in their neighborhood.
- 58 percent say that they would have trouble finding an affordable home in their city or county in the near term.
- 68 percent of respondents reported a troubling lack of affordable housing in urban communities, along with 64 percent in middle-class neighborhoods, and 56 percent in rural areas.

To improve conditions, 55 percent believe it would be effective for their city or county to lower development and construction fees for builders so more affordable units can be built, and 53 percent believe it would be effective to increase government subsidies to builders to produce more affordable units.

The polling firm Morning Consult conducted the national online survey from Nov. 27–30, 2018, to assess public attitudes about affordable housing, receiving 2,203 qualified responses. The results have a  $\pm 2$  percent margin of error.

Nationwide, regulatory requirements account for about 25 percent of single-family home construction costs, and roughly 30 percent for a multifamily unit. Every day, builders grapple with increasing construction material costs, a shortage of skilled workers, and a dwindling supply of developed lots, all of which present challenges to providing affordable housing.

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## By Mark Hodges

magine you're buying a new home for the first time. You're making the biggest financial investment of your life, borrowing hundreds of thousands of dollars. You're about to do business with a company you've never done business with before. You know nothing about construction. You're making important decisions you've never made before. And you've heard all manner of horror stories from family and friends about their homebuying experience. Stressed out is an understatement.

Consider how you'd feel. The thoughts and questions that would keep you up at night: Did we make the right decision? Can we afford this? Are we choosing the right options? Did we pick the best home site? Did we pick a good builder? Will they build us a good house ... and how will we know?

As a home builder on the other side of this anxiety attack, it's your job to turn what can be (and too often is) a nerveracking, nail-biting experience into a joyous one.

Yes, you can do it. But first, you must recognize that simply building a quality home doesn't create a happy customer. Happy customers are created when they have a great experience from their first visit to your sales office to their last service call, and everything in between. If you want happy customers (and who doesn't?), it's your responsibility to prepare them

for the experience and guide them along the way. That means making sure they understand the process, what to expect and when (and what's expected of them). Here's a road map.

## **TEACH THEM ABOUT THE PROCESS**

Begin with education. Explain the considerations that will help them choose the right homesite for their family and which options to select at the design center for their particular budget. Help them understand the mortgage process. Teach your customers about the phases of construction, how you schedule work, the role trade partners play, and how you verify quality. Tell them about the formal meetings you'll conduct along the way with them and why they're important. Everyone on your team should have a role in teaching your customers about the home building process in a formal, structured, and consistent way.

The more they understand the process, the less they'll worry.

## TELL THEM WHAT TO EXPECT, EVERY STEP OF THE WAY

One thing's certain: If you don't set clear expectations with your customers, they will set their own. And then the chances of you meeting their expectations are practically zero. You must set and manage expectations from start to finish.

At the sales office, tell buyers what to expect when they visit the design center. Prepare them for their "pre-construction orientation" meeting by telling them what will take place and what to bring along. (Think: "Wear comfortable shoes for your homesite tour.") Explain all of the steps in the homebuying process and the customer's role in creating their home.

Make sure they know who to contact with questions or concerns and that they understand everyone's role on your team. Explain how you'll keep them informed of their home's construction status and how you'll set their closing date.

The more they know about what's coming next, the less hand-wringing they'll do.

### **DELIVER CONSISTENT MESSAGES, CONSISTENTLY**

How many times have you heard a customer say, "That's not what the salesperson told us," or, "No one explained that policy."

When customers aren't systematically told everything they need to know, or when they hear conflicting messages, they begin to mistrust your company. They think you're hiding something or are deliberately misleading them. When that happens, things go downhill fast. Their dream home becomes a nightmare, for you and for them.

Preventing this erosion of trust mustn't be left to chance. When explaining the process and setting expectations, every member of your team—even those who aren't "customerfacing"—must be equipped with scripted, consistent messages, trained and rehearsed.

When delivering the most critical messages, such as, "We won't be able to make any changes to your home once it's been released to construction," customers must be asked to acknowledge that information with their signature on a form or checklist that says so. And those messages should be repeated, starting in the sales office and reiterated in the design center and at meetings with field staff. Your customers need to hear the same messages from every team member, sometimes over and over. If they don't, they'll not only lose trust in you, but may also play one side against the other, causing internal turmoil

The more consistent the messaging, the less room for customer misunderstanding and mistrust.

## TELL THEM WHAT COULD HAPPEN (AND WHAT HAPPENS NEXT)

Let's face it: Home building is essentially "outdoor manufacturing," with 40-plus different companies involved on a single home, where things sometimes don't go as planned or are out of your control. Options get missed, schedules conflict, rainstorms happen. It's important to be honest with your customers about these facts of life from the outset, to prepare them for what may go wrong, which will make it easier for them to accept the unexpected.

You should include "cause-and-effect" messages in your formal communications with buyers. If a window breaks during construction, you'll replace it. If you miss installing an option, you'll get it done. If a delay happens, you'll do your best to catch up.

The more you prepare buyers for the unexpected, the less they'll overreact when the unexpected happens.

## COMMUNICATE CONTINUOUSLY

Over the years, a common complaint I often hear about builders from homebuyers is, "They never tell me what's going on." Concerns about construction progress, correcting defects, planning for closing, or scheduling service are common issues that drive buyers crazy. Keeping your customers informed is key to a great homebuying experience.

Proactive communication throughout the buying process is essential. Your team should be providing weekly updates to customers—emails or text messages from the sales consultant or superintendent work fine. Update customers on what happened last week and what's scheduled for next week. Give them estimates of their closing date, and be all the more accurate as you get closer to completion. Even better, text them pictures when the slab has been poured or the cabinets have been installed. This kind of transparency helps customers feel involved, informed, and excited—especially out-of-towners

The more often you communicate, the less time your customers will spend fretting.

## BE THEIR ADVOCATE AND ADVISOR

Your entire team should consider themselves responsible for helping your customers throughout the experience of buying a home. They should be available to patiently answer any questions, explain the process, and provide counsel and comfort. When customers are confused or anxious, which they often are, your team should see it as their role to ease any concerns.

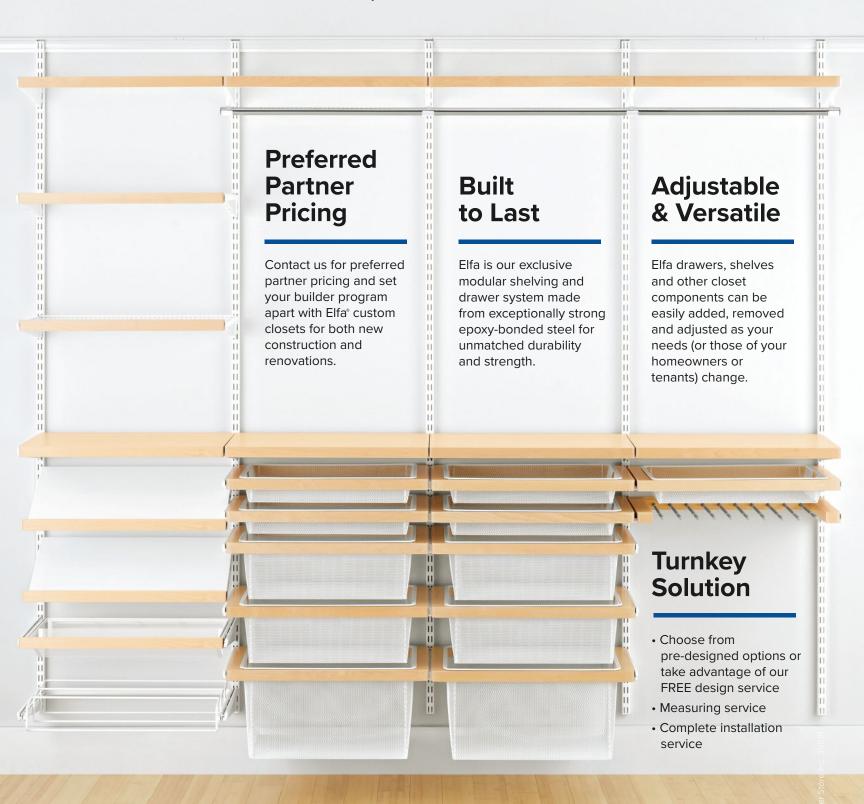
Instead of thinking, "That customer is a pain in the neck," your team members should be thinking, "How can I help them to be more comfortable with this situation?" Instead of seeing customers as an interruption of work, your team must see them as the purpose of it.

The more you offer advocacy and support, the more likely your customer will look to you for advice and answers.

Do all of these things and build a great home, and you'll not only have satisfied customers, you'll have fans for life. **PB** 

Mark Hodges is principal of Blueprint Strategic Consulting, providing planning, organizational, and management consulting to the home building industry. Write him at markhodges1018@gmail.com.

## Bye-Bye, Basic. Hello, Wow Factor.



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## PUTTING THE VALUE BACK IN VALUE ENGINEERING

It isn't about cutting costs. It's about adding value

By Tony L. Callahan

ffordability is a pressing issue in our industry. Increasing construction costs and rising interest rates are making it more difficult for prospective homebuyers to afford new homes.

Many builders have turned to value engineering (VE) to reduce the cost of building but fail to realize that VE can be used to alleviate other pressures on affordability as well. In fact, VE was conceived to increase value, not to take everything of value out of the home to make it cheaper to build. That's why it's called value engineering and not "devalue engineering" or "undervalue engineering."

Simply, and more accurately, a successful VE initiative aligns your product attributes with those your target customer perceives as having high value.

To do VE right, you must know what your customers value in a home. Start with market research from both internal and external sources to really understand your buyers and how they live in a home. Investigate current consumer lifestyle and purchasing trends and conduct focus groups of current customers and prospects who have walked your models (online or in person) but have not bought. What did they like? What didn't they like? What were they indifferent to?

And, most importantly, listen to what they say—without judgment or debate—because the goal is to find out if you're including features in your homes that you perceive to be of value but your customers don't.

Equipped with this knowledge, you can confidently look for ways to align your product with their needs without increasing the home's net cost, which is the true intent of value engineering.

Next, share what you discover with all of the key stakeholders in your operation, including: the architect and structural engineer to inform the design process; salespeople who are closest to the customer; purchasing agents who source materials and construction labor; product manufacturers and their supply chain members; trade partners that build your

homes; field managers who supervise construction; and customer service representatives who field service calls.

Use this team and your collective knowledge about customers to improve efficiency, eliminate waste, and build real value in your production process. Specifically, apply VE by considering solutions such as whole-house framing, alternative materials, material utilization, and standardization.

Whole-house framing. Start by looking at the home as a system instead of just the sum of its parts. For example, the foundation, floor, wall, and roof systems must operate as one unit, literally supporting one another to deliver a solid, reliable structure.

Also, find a structural engineer who understands efficient framing techniques. You want someone who seeks out opportunities to reduce waste and add value by looking at the whole structure as a system rather than using a prescriptive method or taking an individual-component approach.

For instance, advanced framing techniques provide proven ways to build stronger homes using less lumber. Consider spacing 2x6 studs 24 inches on-center and eliminating redundant studs, using single top plates on non-load-bearing walls, and using single headers and two-stud corners.

Keep in mind, too, that dimensional lumber has an insulating value of roughly R-1 per inch, so an over-framed home is not energy efficient; a value-engineered, advanced-framed home, however, creates more opportunities for higher R-value insulation materials and thus better occupant comfort and greater energy savings—two highly valued benefits.

**Alternative materials.** It may make sense to pay more for materials if they last longer, require less labor to install, eliminate rework, or provide value in other ways, such as indoor comfort and health benefits.

For example, fiber-cement shake-style siding is more expensive than natural wood shake cladding, but you can buy it in panels to reduce installation labor and scrap waste. It also lasts longer and won't cup, split, twist, or bow, thus



reducing warranty calls and rework that undermine your profit margin.

But it may also make sense to pay less for certain materials. For instance, replacing a well-advertised brand of bathroom fixtures and fittings with a less-advertised brand of equivalent or better quality is a win if your buyer doesn't value the better-known brand.

That's something you won't know until you do deep research about the alternatives and talk with your customer well before their visit to the design studio. But the lesson is not to assume customers want a particular brand simply because a manufacturer's sales rep tells you they do. A known brand may be important to me or you, but that's not true for everyone. Given the choice between a well-advertised brand and an additional included feature resulting from a lesser-known spec, your customer may choose the latter.

**Material utilization.** There is no value in a full dumpster. You're paying twice for everything that goes in there. First when you bought it and again when you paid to have it hauled away. And you aren't doing the environment any favors, either.

To reduce waste and the associated cost, design rooms based on standard dimensions of materials, such as drywall, OSB floor sheathing, trim lengths, carpet roll widths, standard tile sizes, and others. Excessive cutting of materials consumes precious labor resources and creates scrap that's often just thrown away.

Another VE tip: Keep slab sizes in mind when designing kitchen and bathroom counter runs. You'll pay for full slabs whether you use their entire length or not, so it may be smart to alter the length of a cabinet run or island to fully utilize a

slab, or use a cut section somewhere else, such as for a bath vanity or coffee station.

Material utilization considerations also apply to your options program. By offering different kitchen and bathroom countertops as separate upgrades, you're preventing your trade from using slab remnants across multiple rooms. In other words, you're paying for a full slab in a bathroom, even if you only need a partial slab that could have been shared with another bath or the kitchen.

**Standardization.** Try to use products that are readily available in the marketplace, such as standard window sizes rather than custom or special-order windows that cost a premium. Standard window sizes also allow homebuyers to purchase off-the-shelf blinds and window coverings rather than making special orders.

In addition, look to reduce the number of different SKUs you use in a home and think about the impact on the supply chain to deliver them. If manufacturers can make more product of the same size, it enables them to reduce setup time and improve production ef-

ficiency; it's also easier to pack and ship. Plus, the local distributor or dealer can sometimes ship your product on the same pallet as it was received, versus wasting labor to break down every pallet and repack it for your jobsite.

Other things to consider. Avoid skimping on features that would be difficult for the buyer to add later. For example, it's far easier for homebuyers to upgrade a basic landscape package after closing than it is to increase the insulation in their walls to achieve greater comfort and energy savings. If it is something homeowners value, make that investment for them ... and let them know you did.

You can also provide everything a buyer wants through an options upgrade program, rather than including it all in the base home (with the caveat mentioned in the material utilization section above), allowing a buyer to personalize the home. Unless you're certain your target customer wants a particular feature included in their home, you're better off putting it in your options program. Don't make buyers pay for included features they don't want.

Value engineering can be a great tool to align your product with your target customers, while actually making a home more affordable for them to buy. If you have items you want to add to the house, look for those you can easily take out to keep the home affordable. Remember to involve all of the key stakeholders, do your research, and follow the above practical steps in your next project. **PB** 

Tony L. Callahan, CPSM, CSCP, has worked in the home building industry for more than two decades.





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## MARKETING 2019: THE A.I.-DATA CONNECTION



## WANT TO GET AHEAD IN AN INCREASINGLY COMPETITIVE MARKET? LET ARTIFICIAL INTELLIGENCE OPTIMIZE YOUR CUSTOMER DATA

By Kevin Oakley, Contributing Editor

n the past several months, it's become increasingly clear that there's a new precious commodity that some builders have, and others do not. Its importance will soon—perhaps this year—outweigh individual land positions and cost of goods sold. I believe the home building companies that learn to use this resource well will dominate their competition and find new avenues to profitability. I'm talking about data—along with artificial intelligence (A.I.) and machine learning—as both the current opportunity and a future risk if you're not on board.

No need to check your calendar. You're still in the year 2019 (not 2039), but this is housing's new reality. The builders that have the right data, keep it clean and organized, and apply A.I. to it are already winning—and this is a race where you don't want to play catch-up.

I'm not prone to using hyperbole, but I believe builders that don't begin to address this part of their business by the end of 2019 may be too late. And if you want the benefits of A.I.-enhanced data, you have to get your data scrubbed and ready so you can apply that machine learning quickly and effectively.

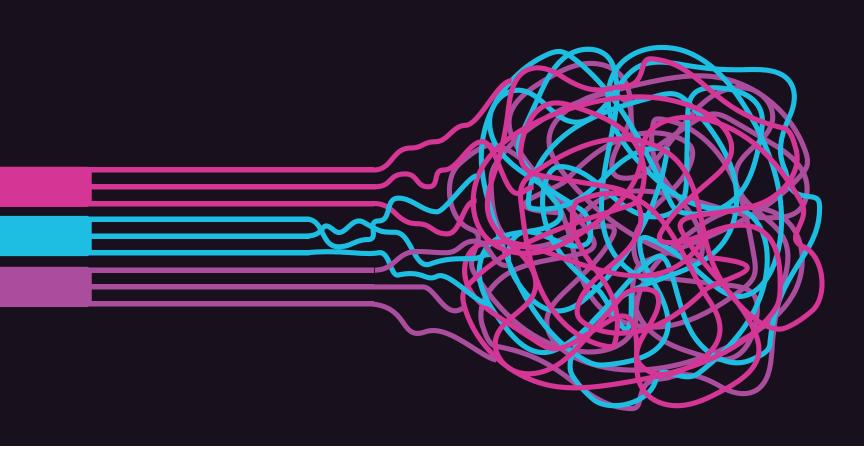
Consider how the combination of data and A.I. is already affecting the way new-home marketers do their jobs.

Today, if you have a large enough set of current customer data—names, phone numbers, and email and mailing addresses; your basic CRM database—you can upload that information to Facebook, Instagram, Twitter, Pinterest, and countless other platforms, allowing you to create a look-alike audience using the A.I. systems on those platforms.

The resulting audience will be comprised of the top 1 percent of the population with predisposed interest in your communities and homes. You no longer need to define your target market; in this scenario, your current customers do that for you, and do so far more accurately than you ever could on your own.

It gets better. If you can clearly define specific actions you'd like your target audience to take on your website—such as spend more than 2 minutes on a page, visit more than three pages, or fill out a lead form—then you can program or teach the A.I. to monitor the target audience's actions after clicking on your ads and become better at predicting who will accomplish a desired action in the future.

This process makes every ad you deliver dramatically more efficient. In our tests, we've seen it reduce costs by as much as 63 percent per click without negatively affecting traffic quality.



Beyond targeting audiences and their online activity more effectively, A.I. is also helping marketers create the perfect ad.

Late last summer, Google rolled out what it calls "responsive search ads." Google's A.I. uses data inputs from marketing teams about the unique features of their homes and communities and then uses machine learning to determine the best possible combination of that data, build the "perfect" ad, and show it to each individual user. In our experience, you can achieve both cost savings (18 percent lower cost per click) and improved results (46 percent increase in click-through rate) using this method.

The first time you entrust one of these A.I. platforms with your data can be a bit unnerving. It's a similar sensation to removing your hands from the steering wheel of a Tesla and letting it handle the driving for you. Marketers like direct control over their campaigns, but that's a diminishing role in the digital world, perhaps evolving to a full-time A.I. teacher and babysitter within the next decade or so.

A.I. is beginning to disrupt the sales department, as well. If a salesperson only has time to call a handful of people each day, which ones will be selected? Or, if you have too many leads in your CRM, with no hope of consistently following up on all of them individually, then why not let an A.I.-powered follow-up app such as Conversica, among others, do the work for you?

This type of app uses machine learning and natural language processing to interact with each prospect as an individual. It listens and reacts as a human would, but it never needs time off or asks for a raise, and it can work forever. Once prospects are ready to take the next step, the app connects them with a human salesperson to complete the sale.

Each A.I. profile built by Conversica and its contemporaries is given a human name, such as "Stacy" or "Paul," so prospects can more easily relate to it. Even though the email signature clearly states that the sender isn't human, customers calling the office have been known to ask for "Stacy," "Paul," or the "person" who so diligently followed up with them.

The data revolution is here now, and the biggest challenge isn't how to best use the data, but how to collect and organize the data in a way that A.I. systems can use it.

All of those filing cabinets full of paper in your office? They can't help you. Your CRM system should be a treasure trove—unless you let each salesperson approach it in his or her own way, which will ultimately render the data incomplete, inconsistent, and therefore unreliable.

Beyond how the data is organized, you also need as much of the right data as you can get your hands on, in turn enabling more precise insights and results from A.I. All of the examples mentioned here aren't possible unless you have the data to drive them. So spend time this year working on improving your approach to data collection, digitization, and organization. This is very much like a gold rush, where those who stay on the sidelines may never be able to overtake the competitors who get too far ahead. **PB** 

Kevin Oakley is managing partner at Do You Convert, a company exclusively focused on online sales and marketing for home builders and developers.

## LEAK-FREE MANU

## THINK OF MANUFACTURED STONE LIKE STUCCO, AND TREAT IT AS SUCH

## By Richard Baker

espite its growing popularity, manufactured stone veneer is a material few builders fully understand. Without all of the right details executed correctly, water can easily penetrate this cladding and get trapped in the wall assembly. Unfortunately, only about 10 percent of installations we see in the field properly apply all of the necessary details.

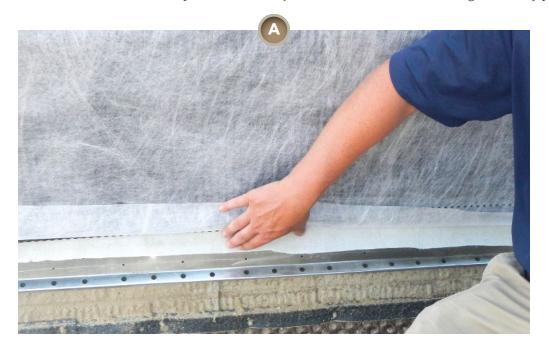
Part of the problem may be the name. Typically, manufactured stone veneer isn't natural stone. The technical name for most of these products is "adhered concrete masonry veneer," that is, concrete textured and colored to look like stone. "Adhered" is a tip-off that rather than being stacked over a concrete ledge with a drainage space behind it, manufactured stone veneer "floats" above a horizontal weep screed and is mortared to the wall over a wire lath, like stucco. That's why it's often called "lumpy stucco."

Here are the most common problems and oversights I see with manufactured stone on production home jobsites:

**Insufficient drainage.** Manufactured stone is a reservoir cladding, which means the material itself retains water. A successful installation creates a drainage space to let it out.

In addition to a properly installed water-resistive barrier (WRB), a second intervening sacrificial or "bond break" layer is essential. The type of three-dimensional housewrap used with stucco can work in dry regions, but in areas that get a lot of rain, there's greater benefit with a drainage mat, which creates a drainage space about 10 mm thick. The mat is stapled to the wall sheathing over the WRB, with wire lath fastened over the mat. A layer of fabric separates the mat from the lath, letting moisture through but keeping the space from getting clogged with mortar during the cladding's installation (see image **A**).

If you're worried about cost, consider that some big builders (which scrutinize every penny) mandate drainage mats on all of their homes, including entry-level; they consider it cheap insurance against costly problems.



- A A DRAINAGE MAT OR COMPARABLE RAINSCREEN MATERIAL CREATES A SPACE BETWEEN THE WATER-RESISTIVE BARRIER BEHIND IT AND THE MANUFACTURED STONE VENEER TO SHED ANY WATER THAT PENETRATES THE CLADDING
- **B** A CASING BEAD WITH A
  BUILT-IN BACKER ROD CREATES
  A SERVICEABLE SEALANT JOINT
  BETWEEN DISSIMILAR MATERIALS
- C SETTING THE WEEP SCREED AND VENEER CLADDING AT LEAST 4 INCHES ABOVE GRADE HELPS MITIGATE CAPILLARY ACTION FROM GROUNDWATER

## FACTURED STONE

**Missing sealant.** This detail is often neglected. Every vertical transition between manufactured stone veneer and another material, such as a window or a different type of siding, needs a casing bead and a <sup>3</sup>/8-inch gap filled with backer rod and sealant (image **B**). Ignore it, and you create the potential for water intrusion as these materials expand and contract at different rates, resulting in an unsealed gap between them.

To make the job easier, manufacturers make a casing bead with a built-in backer rod that reliably bridges these gaps.

**Going to ground.** Customers prefer manufactured stone veneer to start at ground level, like real stone. But that creates a sponge for groundwater to eventually work its way up to the framing through capillary action.

The proper detail is to begin the veneer over a weep screed placed at least 4 inches off the ground, which mitigates the capillary effect and helps shed moisture (image  $\mathbf{C}$ ). Use a weep screed at roof intersections, too, but with a 2-inch separation.

In some cases, you can continue the veneer to ground by using a weep screed where the foundation meets the framing. Otherwise you risk a host of moisture-related problems over time (think: mold, rotted framing).

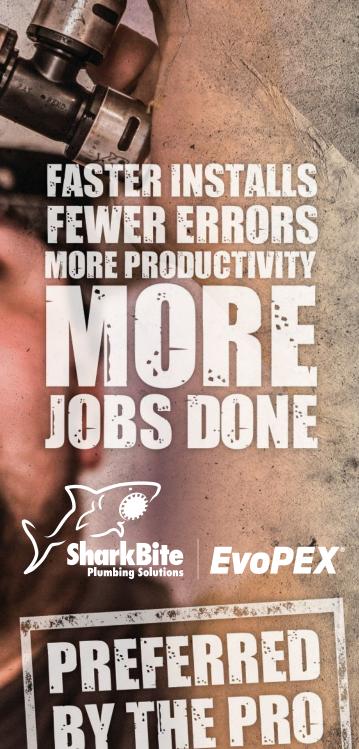
**Lack of standards.** Few builders have written specifications for installing this material, and those that do seldom update those specs and details to reflect the products they are actually using. In addition, it's rare for builders to inspect the work as it is being done or upon completion.

The National Concrete Masonry Association publishes installation guidelines for manufactured stone veneer. Insist that your installers follow those guidelines and have their work inspected. And update your written standards to protect your company's reputation and financial health. **PB** 

Richard Baker is program manager of the PERFORM Builder Solutions team at IBACOS.







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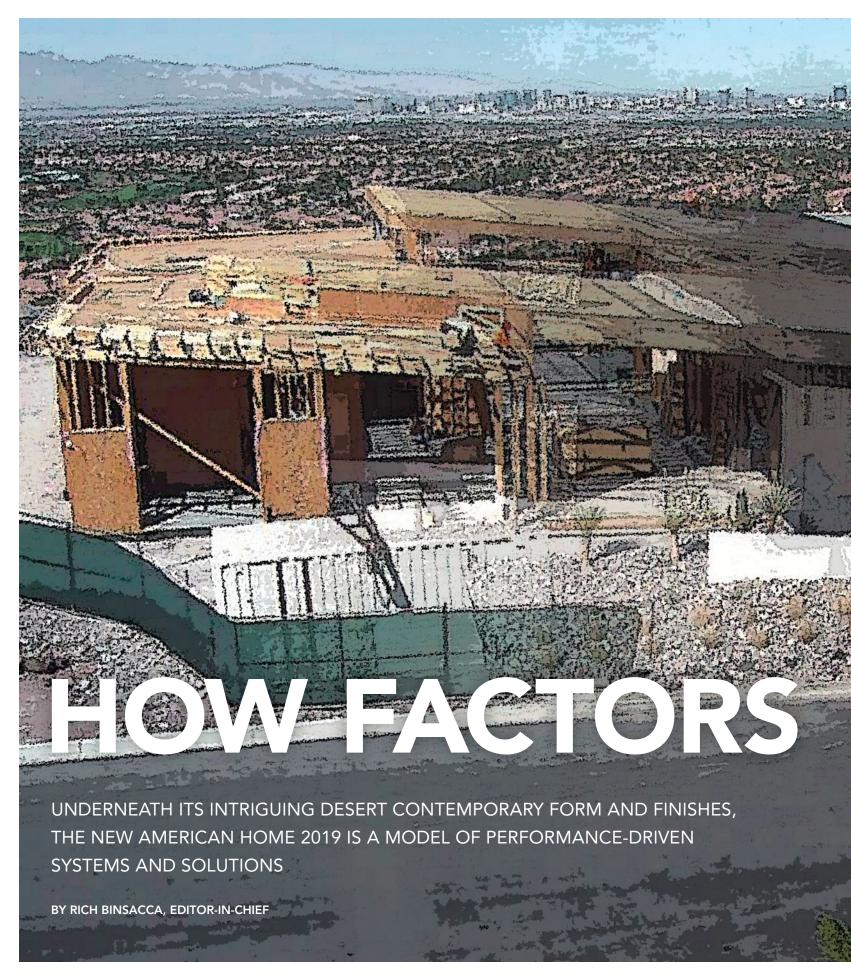








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## 

here's no question that buyers expect a baseline of performance in a new home: floors that don't squeak or feel cold, windows and patio doors that don't rattle in the wind, toilets and roofs that don't leak.

That expectation is so ingrained that

That expectation is so ingrained that buyers rarely think about those things while they walk your just-built homes, and there's no good reason for you as their builder to bring it up during the tour.

Not when you'd rather (and rightly) want buyers to ooh and aah over the kitchen appliances, bath fixtures, and large expanses of windows and patio doors that ideally inspire a flawless image of living there.

But that doesn't mean you neglect what's behind all those wow factors. In fact, just the opposite, because giving that stuff short shrift during construction will eventually shatter the perfect picture in your buyer's mind once they move in ... and likely take a bite out of your profit margin for warranty work, not to mention dinging your reputation and referrals.

Dan Coletti and his team at Sun West Custom Homes, in Las Vegas, intrinsically understand the relationship between "wow" and "how."

As the designer/builder of The New American Home 2019, Sun West has created ample opportunities to impress in this 8,200-square-foot desert contemporary house. But the team also took great care to deliver high-performance systems behind the finishes, even if the eventual homeowners never notice—in fact, that's the goal.

We selected a handful of "how" factors to share, providing technical insight and insider tips that reveal the story behind the home's wow factors that define its superior performance, comfort, and convenience.

This is the first in a series of articles about The New American Home (TNAH) 2019. Look for feature coverage of the finished home in the February 2019 issue and a closer look at the home's kitchens and bathrooms in the March 2019 issue. Also visit the TNAH website at tnah.com for more information about the project, sponsors, key products, and free guided tours of the home during the 2019 International Builders' Show, Feb. 19-21, in Las Vegas.





#### PATIO DOOR STRUCTURE

What it is: A combination of an under-slab grade beam, a double-glulam header with plywood stiffeners, and a steel box moment frame supporting a five-panel, aluminum-frame, telescoping and pocketed patio door.

What it does: The concrete grade beam is designed to carry the vast majority of the door's total weight (or load; about 1,000 pounds) while the header assembly and moment frame resist lateral wind forces to help ensure consistently smooth operation anywhere along the door's 20-foot track.

Installer insight: "With a grade beam under the slab, you can size your header to manage only the lateral forces," says structural engineer Clair Stewart, president of CS Design Group, in Las Vegas. Asking the header to also carry the

door's weight, he says, is a recipe for racking and rattling the door system.

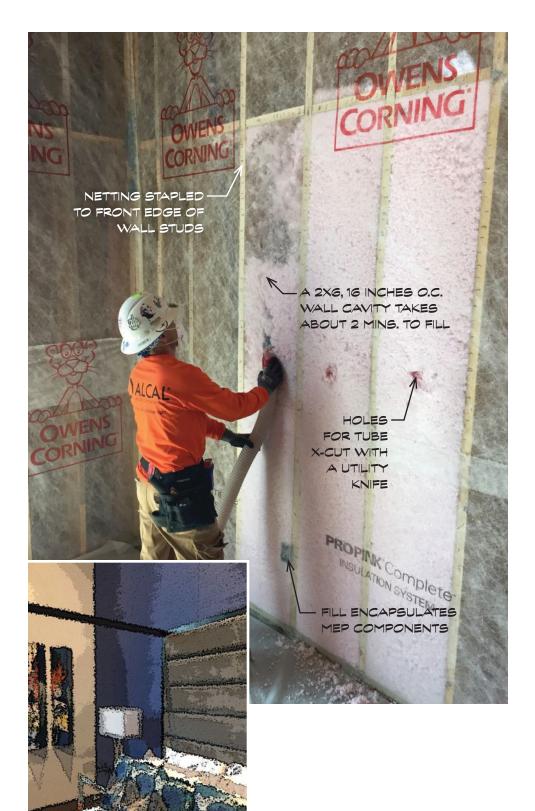
**Big question answered:** Only the outside header is load-bearing to supplement the grade beam and carry any loads from above. The moment frame enables narrower walls on either side of the expanse to optimize the rough opening dimensions and achieve the design intent.

**Little-known fact:** Stewart used the building code's more stringent wind-load calculation for claddings to help size the header assembly against lateral loads and deflection.

**Specs:** Western Window Systems Series 7000 Multi-Slide Door; locally sourced glulam beams and other structural components.



## TNAH. [THE NEW AMERICAN HOME 2019]



## WALL AND CEILING INSULATION

What it is: A net and blow (aka blown-in-blanket or BIB) insulating system for the perimeter framed walls and ceilings. It employs loose-fill fiberglass insulation held in the framing cavities by a fibrous netting stapled to the face of the wall studs and bottom of the roof truss cords.

What it does: Delivers insulating coverage and air-sealing value (less than 2 air changes per hour) by completely filling the framed cavities and fully encapsulating any MEP elements, such as wiring, pipes, and junction boxes. Achieves R-23 in a 2x6 wall cavity and R-38 ceilings.

Installer insight: "We typically staple the netting every ¼ or ½ inch to make sure it's tight to the framing," says Darren Johnson, an estimator with Alcal Specialty Contracting, the local installer, even though 1-inch spacing is acceptable. The netting is strong enough to avoid sagging and contain the insulation at the holes cut for the blow-in tube.

**Big question answered:** Unlike blownin cellulose, the fiberglass will not settle due to gravity or other forces over time, maintaining full cavity coverage.

Little-known fact: Ceilings in the home are insulated all the way to the roof deck—in one case more than 3 feet for an estimated insulating value of R-100. Sun West also used an aerosol-applied sealant to encapsulate tiny breaches in the wall assembly, further reducing thermal transfer through the structure.

**Specs:** Owens Corning ProPink L77 Loosefill fiberglass insulation; Aeroseal's AeroBarrier aerosol envelope sealing system.



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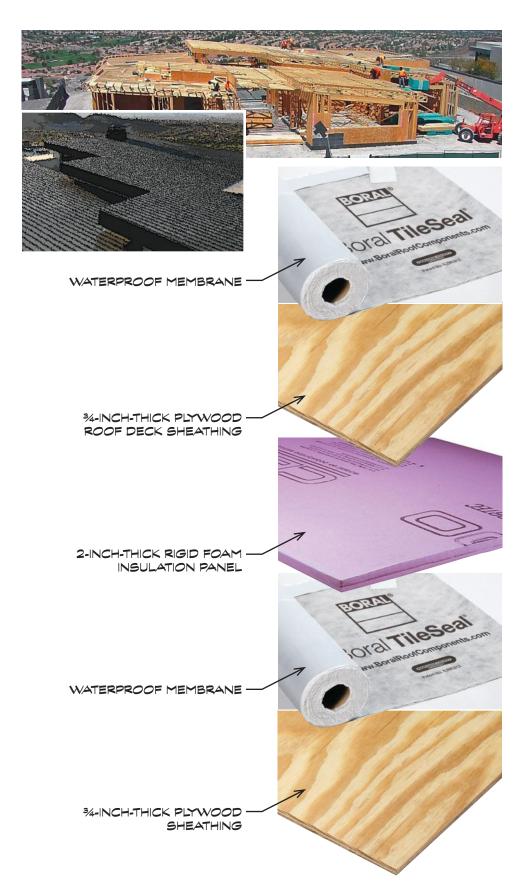








## TNAH. [THE NEW AMERICAN HOME 2019]



### SLOPED METAL ROOF ASSEMBLY

What it is: From the plywood roof deck, an assembly of self-adhered, modified asphalt waterproofing membrane; 2-inch-thick XPS rigid-foam insulation; ¾-inch plywood; and another layer of waterproof membrane under the standing-seam metal roof panels.

What it does: Provides the required R-38 insulating value and a water/moisture barrier for the home's sloped roof areas, as well as the necessary rigidity to maintain the metal roof panels' structural integrity.

Installer insight: Sun West and Prestige Roofing, the local installer, originally intended to use a 4-inchthick mineral wool insulation layer, but it proved too spongy for the metal roof. "The XPS board is half that thickness but much more dense and rigid," says Brett Romney, an estimator with Prestige. To be extra safe, Romney's crew installed a waterproof membrane over the plywood roof deck as a second barrier to mitigate moisture that might get behind the metal roof panels and the plywood-membrane assembly directly under it.

**Big question answered:** Code typically requires a 3:12 minimum slope for a metal roof to enable adequate water runoff and mitigate ice damming. But since Las Vegas averages only about 4 inches of rain per year and rarely gets snow or sustained ice, the city allowed the 1½: 12 slope Sun West wanted.

**Little-known fact:** Had Sun West used spray foam insulation on the underside of the roof deck, it's unlikely the metal roofs would have required an insulating layer above the deck.

**Specs:** Boral TileSeal HT underlayment; Owens Corning Foamular 250 extruded polystyrene (XPS) rigid foam insulation panels; Berridge Manufacturing Tee-Panel standing-seam metal roof panels; locally sourced plywood.







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## TNAH. [THE NEW AMERICAN HOME 2019]



#### IN-WALL TOILET TANK AND DRAIN SYSTEM

What it is: A one-piece, thin-profile toilet tank and drain system designed to fit within a 2x6 or larger wall cavity. The bowl cantilevers from the wall, leaving the floor underneath clear. A flush actuator mounts on the wall above the bowl.

What it does: Enables a smaller water closet footprint, affording more square footage for the rest of the bathroom. The cantilevered bowl also makes it easier to clean the floor.

Installer insight: Leave a 12-inch perimeter around the location of the waste drain rather than pouring the slab right up to it, advises Levi Unruh, a senior drafter with Canyon Plumbing, the local installer. "It's a very tight tolerance to line up the drain run within the wall cavity," he says, "and it's easier to adjust the wall framing than the poured concrete."

Once the in-wall tank is installed and the drain components connected, fill the void around the drain to complete the slab. Also, consider setting the bowl an inch or so higher than recommended, as it will otherwise appear oddly low (if not actually so) once finished.

**Big question answered:** For service work, remove the bowl to access the drain and the flush actuator to reveal the water supply line and shutoff valve.

Little-known fact: The metal frame that holds the plastic tank and drain system is called a "carriage" or "carrier" and is bolted to the floor plate and flush to the trimmer studs within the wall cavity.

**Spec:** Kohler Veil series in-wall tank and carrier system.



# WHEN YOU BUILD 500 HOMES A YEAR, YOU LEARN A **THINGS** ABOUT FAUCETS.

Oklahoma's Home Creations learned that they were being blamed when a homeowner left a hose attached to an outdoor spigot in winter. The faucet froze, pipes burst, and significant water damage resulted. Even though Home Creations was not at fault, they routinely fixed the damage at no charge to the homeowner, eating \$1000 or more in costs every time it happened.

The solution? Home Creations switched to the Woodford Model 19 outdoor faucet. It won't freeze and burst, even if a hose is left on it in freezing temperatures.

"A disgruntled customer can hurt your brand," said MJ Farzaneh, construction director and co-owner of Home Creations. "Now we have peace of mind, our customer has peace of mind, and we've eliminated our problems-and costs—associated with burst pipes.

"You can't put a price on a happy homeowner."



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#### PERIMETER SLAB INSULATION

What it is: A dense, 3-inch-thick insulating material surrounding the footprint of the home's slab foundation that is bonded to the slab edge and footing below (and also bonds adjacent insulation panels) using a two-part adhesive.

What it does: Buried 12 inches below grade along the face of the footing and running flush to the top of the 4-inch slab, the system is designed to maintain the natural thermal mass qualities of the concrete and the overall indoor comfort of the home.

**Installer insight:** "Install it as soon as you strip the forms from the slab and footings," says Adam Kiefer, general manager at Elite Construction Services, the local installer, so that the material extends to the full depth of the footings, optimizing

its thermal benefits. Also, because the adhesive was the consistency of honey, Kiefer had his crew trowel it onto the concrete and then stick the panels to it—an easier process, under the circumstances, than applying the adhesive to the insulation first.

**Big question answered:** The dense but lightweight material is formulated to resist degradation and pest infestation so it maintains its insulating value over time. Adds Kiefer: "It took a bit of abuse on the jobsite and it still held up well."

**Little-known fact:** Owens Corning acquired the product when it purchased insulation manufacturer Pittsburgh Corning in 2017. This is its first U.S. residential application.

**Specs:** Owens Corning Foamglas HLB 800 insulation; PC 88 adhesive. **PB** 



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# MENTUM BUILDS FOR -TO-RENT

COMMUNITIES OF
NEWLY BUILT, SINGLE-FAMILY
HOMES ARE BEING
DEVELOPED EXCLUSIVELY
FOR RENTERS BY CHOICE

BY SUSAN BADY, SENIOR EDITOR

Christopher Todd Communities on Greenway, in Surprise, Ariz., offers 136 one- and two-bedroom singlestory detached homes for rent, plus a resort-style pool, spa, and event lawn.



he single-family rental (SFR) market is hotter than ever. A new business model called build-to-rent, or B2R, is emerging, as developers create entire communities of newly built, detached rental homes. Often the amenity package at these communities rivals that of traditional single-family for-sale neighborhoods. It's a trend that is projected to continue as consumers struggle with higher interest rates, higher home prices, and

a limited supply of homes for sale. Or simply prefer to rent.

According to John Burns Real Estate Consulting, in Irvine, Calif., key players in the B2R sector include AHV Communities, Christopher Todd Communities, Invitation Homes, NexMetro Communities, and Progress Residential. John Burns analyzed 50 active and planned build-to-rent communities consisting of more than 6,000 homes, in order to rank the most frequently provided interior and community amenities (see page 58).

Gene Kim, VP of asset

management for Irvine-

based AHV Communities, says that renting a detached home is attractive for many of the same reasons as renting an apartment: the portability/flexibility of a lease, no exterior maintenance, and no mortgage debt. A single-family home offers more space and privacy, with a backyard, attached garage, and other features not available in multifamily housing.

in Plano, Texas, offer one

range from 635 to 1,236

to three bedrooms and

square feet.

"Multifamily is vertical, with neighbors above and below you, and it's noisy," says Todd Wood, CEO of Christopher Todd Communities (CTC), in Phoenix. "With single-family, you have none of those acoustical issues."

SFR, which had its genesis in Arizona, is now "bleeding out to the rest of the United States," Wood says. "There is a lot of B2R in the Sun Belt, but it's moving across the country."





Mungo Homes, of Irmo, S.C., recently purchased by Clayton Properties Group, reports that activity in its Palmetto Residential Rentals division has increased. Palmetto is active in the Columbia, Greenville/Spartanburg, and Sumter markets

Top, left: At NexMetro Avilla, in Phoenix, outdoor patios and backyards extend indoor living space and are designed with low-maintenance materials. The doghouse in this model home plays up the pet-friendly nature of the community. Below, left: Ten-foot ceilings give the living room, dining area, and kitchen of this Avilla home an expansive feeling.

of South Carolina. "In 2012 we leased a total of 56 homes," says Palmetto's Kym Johnson, director of property management/broker in charge. "Year to date [in 2018], we leased 84."

The company recently added a selection of homes featuring larger, more affordable floor plans. Upgrades such as granite countertops, stainless steel appliances, and speaker systems have been incorporated.

And since 2012, Mungo's rental homes also have included the company's hauSmart energy-saving features, such as advanced framing, R-38 (R-50 in North Carolina) ceiling insulation, and radiant-barrier roof sheathing.

Unlike exclusively B2R communities, Palmetto continues to mix rental homes into traditional for-sale neighborhoods. "We discontinued our lease-to-purchase program years ago since we weren't seeing many convert to sales," Johnson says.

Changing demographics over the last three decades have resulted in people marrying later and having children later, if at all, says Josh Hartmann, president and COO of NexMetro Communities, in Phoenix. "They don't want to be tied down to a mortgage," Hartmann says.

Or, as Wood puts it, "The American

Dream is changing. The last recession hurt a lot of people, and homeownership is at a 20-year low."

Most single-family renters fall into one of two categories: Baby Boomers who are downsizing, or Millennials. The latter, says Wood, are saddled with large amounts of student-loan debt and either can't or won't buy a home. Renting affords them a more mobile lifestyle. The same goes for Boomers who lost their homes to foreclosure during the recession and are gun-shy about purchasing another.

SFR satisfies these renters' needs in a single-family home, and takes care of the exterior maintenance, to boot. Notes Kim, "It's a unique lock-and-leave, managed experience more akin to the apartment world," with detached-home benefits.

B2R communities tend to lease quickly. AHV rents 12 to 20 homes per month during peak season (April through August), and eight to 10 per month during the rest of the year. According to John Burns, the homes can rent at significant premiums—anywhere from 15 to 30 percent above equivalent-size apartments or "one-off" single-family rental homes located in traditional for-sale neighborhoods.

#### **IDENTIFYING SUBMARKETS**

Most SFR communities are on the outskirts of real-estate submarkets such as Carrollton, Texas, and Mesa, Ariz., close to transportation corridors, employment, good schools, retail, and other amenities and services. Wood and Hartmann say it's important to understand local demographics and the product and design elements that attract renters.

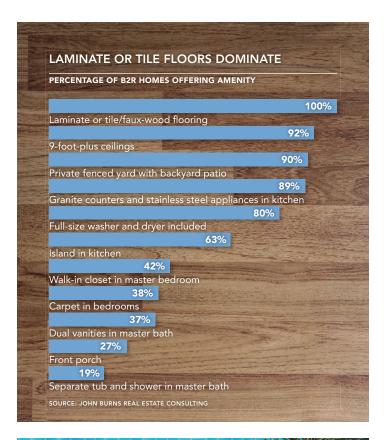
Durable, low-maintenance materials, and small spaces that feel large and private, are critical because they translate not only into consumer satisfaction but they also save on operating costs. Another key, Hartmann says, is to partner with a property management company that can provide high-quality maintenance and repair services.

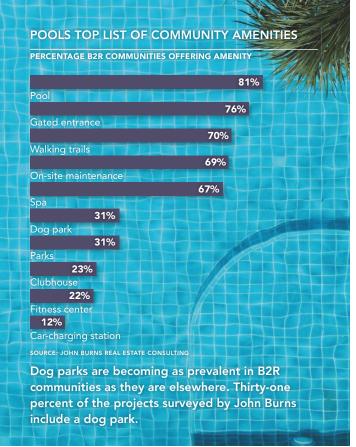
John Burns has identified two B2R business models:

- Full-service, where on-site leasing experts are supported by up to three model units. Services include property management, 24-hour maintenance, lawn service, and a trash valet. Amenities may include gated entrances, private streets, pools, and parks.
- Minimal B2R model, which is akin to a traditional singlefamily detached neighborhood with virtually no amenities or on-site services.

The B2R companies interviewed for this article are focusing on the full-service model. For example, in fast-growing San Antonio, AHV is developing a community called Pradera that will encompass 250 homes plus a clubhouse with Wi-Fi, caféstyle working areas, a community kitchen, a pool, a fitness center, a dog park, and walking trails.

NexMetro's Avilla communities are pet-friendly and include a resort-style pool and spa, a covered ramada, walking paths, optional garages, and an electric-car-charging station. Surveys show that Avilla residents rank high-speed Internet as one of the most important factors in their housing decision,







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Leveraging the pet-friendly trend, Christopher Todd Communities, a newer player in the B2R space, includes a pet door in its rental homes as an extra incentive.

so NexMetro integrates the highest available Internet speeds. "In Phoenix, all of our communities have Cox Gigablast, which provides speeds of up to 1 gigabit," Hartmann says.

CTC includes pet doors in all of its homes. The pool, exercise facilities, and planned social activities bring residents together, Wood says, which doesn't always happen in apartment buildings. And technology also is important: Homes have high-speed Internet, keyless entry, and tablet-controlled security, climate control, and entertainment systems. "Our B2R product is driven by technology," Woods says. "There are 'smart' front gates at all of our communities."

#### **BRANDED B2R**

NexMetro builds what Hartmann calls "a single-family rental hybrid. We're a multifamily developer that happens to build small detached homes," he says. The company has developed B2R communities in Dallas, Denver, and Phoenix. And it recently opened Arizona projects in Mesa, Goodyear, and southwest Phoenix, bringing the total number of NexMetro communities in the area to nine. All of them offer the Avilla branded product line, which ranges in size from 650 to 1,250 square feet.

The single-level homes have one to three bedrooms, 10-foot ceilings, open floor plans, and private backyards. Garages are optional. The homes are located in "mini" master planned communities of 120 to 150 houses. "We get certificates of occupancy as we're building and we move people in within three to six months," Hartmann says.





AHV Communities is offering single-story and two-story home plans at Pradera, a new rental community under construction in San Antonio.

NexMetro is aware prospective renters expect a certain level of finish, "so we try to be current," he says. "We've switched from granite countertops to quartz." Stainless steel appliances and resilient flooring are included, and all homes are Energy Star rated.

Like NexMetro, CTC wants to brand its homes to make them recognizable in any market. Smart technology is an important pillar for the company because 50 percent of renters are techloving Millennials and 35 percent are Boomers who desire a lock-and-leave lifestyle, Wood says, adding, "Their average annual income is \$80,000 to more than \$100,000, so they're renters by choice."

SFR communities typically lease three to five times faster than traditional multifamily housing, Wood says. "We have strong pre-lease periods, often ending up with waiting lists. [All of the homes are rented] in three to four months, versus 10 to 14 months for multifamily."

There are signs that build-to-rent's appeal is expanding beyond Millennials and Boomers. Hartmann says NexMetro renters have begun to include more seniors, retirees, and young Gen Xers: "They're second-generation adopters." **PB** 

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# SEE CHANGE

HOUSING MAY NEVER BE TRULY DISRUPTED, BUT THESE TECHNOLOGIES OFFER SOLUTIONS TO HELP MANAGE ITS CONTINUING EVOLUTION

#### By Rich Binsacca, Editor-in-Chief

f history has taught us anything, it's that the U.S. housing industry isn't easily disrupted.

Sure, innovation has crept in (think PEX pipes and plated roof trusses, among many others), and there will always be progressive builders willing to invest in proprietary solutions to alleviate particular pinch points. But as an industry, housing is rather stodgy, entrenched in an infrastructure of widely disparate players and business models operating at a local level, rigid materials supply chain protocols, and legacy labor skills pinned to outdated building methods, to name a few sacred cows.

It's a \$32 trillion aircraft carrier with a million planes in all shapes and sizes. Expecting it to turn en masse toward a sincerely disruptive change is, frankly, a fool's errand.

So forget about all that "adapt-or-die" talk. Housing isn't a taxi service, the hotel business, a video store, razor blade manufacturing, or even brick-and-mortar retail—all of which have been truly humbled in recent years by new business

models from emerging players that have swiftly affected widespread change.

Even so, your home building business likely confronts real issues right now that threaten your profitability, productivity, and business sustainability. And while those thorns are more or less specific to your operation, not necessarily shared to the same degree (or perhaps at all) among your builder brethren, they do require attention—and likely innovative solutions that challenge, if not fundamentally change, your status quo.

#### **DIGITAL DEALS**

**WHAT IS IT?** The ability for consumers to conduct an entire real estate transaction online.

**WHAT DOES IT CHANGE?** Every player and process along the real estate transaction value chain.

WHAT'S DRIVING IT? "On-demand" and independent consumer preferences and expectations; advancing technology; increasing consumer trust in online services.



selling or buying a home—and that currently nets the company \$135 million in transaction value per month.

Meanwhile, online transaction and document management platforms such as DocuSign (financed in part by the National Association of Realtors before going public last year) and Dotloop (purchased by Zillow in 2015 for \$108 million) replace multiple, often time-consuming and confusing in-person, paper-based processes with digital documents and signatures along the transaction path.

For new-home builders, the shift to digital platforms and online services appears to help, not hurt, their cause. Listing aggregators (aka portals), led by Zillow, with 188 million monthly users at last count, now offer builders the opportunity to promote their homes alongside resales, while iBuyers are starting to engage the newhome realm as well.

Read says Offerpad increasingly fields calls from builders looking to quickly clear a prospective buyer's contingency to close a new-home sale—a referral that nets a 1 percent commission for the builder.

Another iBuyer, Opendoor, launched a pilot program in Las Vegas last year with Lennar, marrying its quick-buy business model with the builder's move-in-ready homes. The program recently extended to all builders in Opendoor's 18 markets.

"It traditionally takes about 90 days to sell a house, but consumers expect it to take less than a month," Read says. iBuyers are addressing this disconnect with cash offers for as-is homes that usually close within three weeks.

Offerpad also allows home sellers to change the closing date of their sale to accommodate delayed delivery of a new home (should that ever happen), among a growing number of real-estate—related services.

The diminishing relevance of real estate agents and traditional brokerages, which NAR's 2015 report on industry disruption assessed as entirely probable and a "danger" to its future by 2020 (and a 2018 J.D. Power & Associates report confirmed) logically leads to a resurgent interest among real estate pros in the new-home segment.

Why? Not only are sales of new homes expected to increase at a higher rate than existing homes this year, according to Fannie Mae, but builders are less inclined than existing home sellers to give up the personal touch of on-site agents to sell their homes.



With that, new-home buyers more likely appreciate live and local representation to navigate and negotiate a builder's options, pricing, and terms, which often are more complex than for an existing home.

#### **BUILDING INFORMATION MODELING (BIM)**

**WHAT IS IT?** A digital prototyping technology that enhances three-dimensional computer models of a home beyond a simple visual representation.

**WHAT DOES IT CHANGE?** The operational processes, output, and accuracy of construction drawings, specifications, options, and cost estimates; new-home marketing.

**WHAT'S DRIVING IT?** Construction cost inefficiencies and shrinking profit margins; consumer demand and expectations for more sophisticated and personalized marketing.

**IMPACT ON HOME BUILDERS:** More accurate materials and labor cost estimates; faster plan changes; reduced production waste and contingency allowances; improved marketing; fewer model homes.

Building information modeling, or BIM, is neither a new technology nor unknown to home builders, it just has a messaging problem. Initially and often touted as an all-or-nothing panacea for a litany of inefficient operational processes, with



unrealistic claims of productivity gains and heady cost savings, BIM was too expensive, too complicated, too big, too everything to gain much traction in the smaller-scale realm of residential construction, where digitization is relatively rare and IT spending averages less than 1 percent of revenue.

But in reality, BIM offers the perfect pool for home builders to dip their toes in next-gen technology, with multiple points of entry at the shallow end. "We encourage builders to start with a small win," says Tim Beckman, director of customer-facing software at Simpson Strong-Tie, in Pleasanton, Calif., which has brought BIM to about 50 home builders under the CG Visions brand name. "You don't have to solve every riddle now."

If your pinch point is a backlog in the drafting department, as it was for Pennsylvania builder S&A Homes, BIM transforms a paper-based, 2D process into a digital protocol that streamlines plan changes with greater accuracy.

"We immediately felt the impact in the quality of our drawings and turnaround time," says Bob Shoemaker, the builder's construction technology services manager, who saw plan changes come through in 10 days with BIM instead of six to eight weeks in the 2D world.

If you're looking for ways to impress prospective buyers, BIM-generated 3D models enable not just a 360-degree spin,

but also photo-realistic virtual reality (VR) walk-throughs of finished homes and accurate, real-time options costing, among other wow factors.

That capability allowed Georgia-based Edward Andrews Homes to sell a new townhouse community still in the framing stage, eschewing model homes for BIM versions of its units on touch-screen kiosks in the sales center.

Tired of subs squabbling over conflicts in the field and budgeting for contingencies to cover the cost of inevitable rework? Because every object in a BIM model accurately represents its real counterpart in application, the design team can adjust—and verify—the structural layout to avoid runins with ducts or plumbing stacks before anything goes out to bid, much less gets to the field. "Some of our builder clients operate with less than one-half of 1 percent contingency," Beckman says.

And what about claims that BIM integration brings the operation to a standstill? Not so, Shoemaker says. S&A hired then-CG Visions to digitize its top 20 plans and the associated options packages, and

brought on new people at a measured pace to get trained and gain proficiency at minimal risk. "We needed to focus on production and couldn't afford to slow down," Shoemaker says.

But this benefit is true: No matter how or why a builder comes to BIM, the digitization of plans and specifications enables the platform to help address the next pinch point.

S&A, for instance, now uses the technology to more accurately cost-estimate materials based on current prices and precise quantities, which also allows them to instantly cost out options and upgrades selected by buyers.

"Taking the first step [with BIM] opens up other operational functions to what the future holds," Beckman says, "whatever it is and whenever it occurs."

#### **ROBOTS AND DRONES**

WHAT IS IT? The automation of construction-related tasks. WHAT DOES IT CHANGE? The labor for repetitive, predictable, or dangerous work; inspections and progress reporting. WHAT'S DRIVING IT? Construction labor shortages; worker safety; desire for greater productivity and profitability. IMPACT ON HOME BUILDERS: Minimal to date, but gaining legitimacy with real-world experience and refinements to suit smaller-scale building operations and projects.



The future of housing construction is not a legion of humanlike robots hammering 16d shiners into stud walls, so get that picture out of your head ... and replace it with a mule.

More specifically, the MULE (pictured above), is an automated arm that grips, lifts, moves, and holds CMUs in a state of weightlessness for masons to more precisely, quickly, and safely manage their placement. Invented by Construction Robotics, in Victor, N.Y., the MULE (short for Material Unit Lift Enhancer) is already on jobsites, literally doing the heavy lifting—an average of 2½ tons—that a block mason typically handles in a day.

"We're already getting questions about what else it can move," says Chris Raddell, a consultant with the company, which also is in talks with block manufacturers to design larger CMUs to meet the MULE's 135-pound lifting capacity (the average block weighs about 35 pounds), thereby increasing block-laying productivity without adding (or risking) human labor.

The MULE is just one example of construction automation. There are bots on the market for demolition and deconstruction, bricklaying, power washing, jackhammering, painting, and other repetitive, difficult, dangerous, or mind-numbing tasks on a jobsite that require more muscle than skill.

Consider the bot from Doxel.ai, a Palo Alto, Calif., startup. The Roomba-size tank-like autonomous vehicle uses a swivel sensor to scan a building under construction, transmitting data that verifies installation accuracy and job progress. The result: Problems fixed before they're covered up—not later (or never)—thus boosting productivity and profitability.

On-site inspections also are of increasing interest for drones, those unmanned quadcopters currently under regulatory scrutiny for pilot licensing and privacy issues. Equipped with a high-resolution camera, a drone can scout all or selected parts of a project in progress—above, below, and in places humans can't safely or easily go—to deliver a more comprehensive picture of the project and its parts.

But there is a reality check: Construction Robotics' MULE is a \$60,000 piece of machinery; its bricklaying brother from the same mother, SAM (Semi-Autonomous Masonry) system, goes for half a million. And while SAM also is built for the jobsite, Raddell admits the current version is best for a large commercial or industrial build-

ing and is too unwieldy to move in a house-to-house scenario and see a reasonable return on investment.

So, despite recent on-site inroads, the bulk of robots for construction are finding their way into factories, where production potential is higher and both human labor and maintenance are lower in climate-controlled, even-terrain, easily-accessed indoor environments.

"That's where the payback starts to make sense for a home builder," Raddell says. Of course, that assumes a whole other sea change in housing.

#### **AUGMENTED REALITY**

**WHAT IS IT?** Overlaying real or virtually real environments with digital content.

**WHAT DOES IT CHANGE?** The homebuying experience for consumers.

**WHAT'S DRIVING IT?** On-demand consumer expectations for digital information.

**IMPACT ON HOME BUILDERS:** A new and techy way to deliver marketing and sales messages and to engage prospects more deeply.

If you think the latest virtual reality (VR) walk-throughs of new homes are cool, you aren't alone.



The New American Home® 2019 is distinguished by incorporating a wide variety of contemporary-modern design, characterized by minimal decoration, abundant glass and flat roof lines. Progress Lighting was hand selected to deliver a curated lighting package that illuminates TNAH 2019. Decorative fixtures with high aesthetic appeal create stunning focal points, while LED fixtures meet strict energy standards. See below for a select sampling of Progress Lighting featured products.

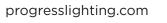
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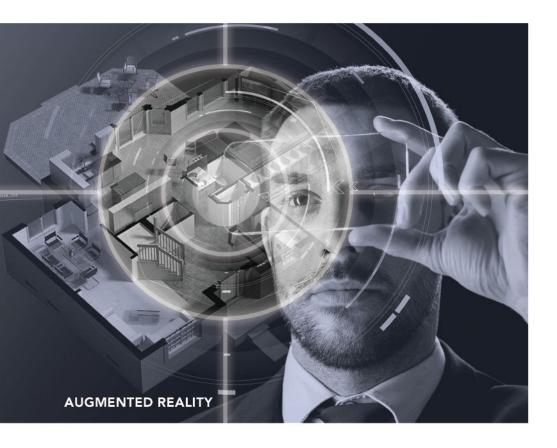
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"VR has moved much more into the mainstream," says Christopher Brown, principal with NEXT New Homes Group, in Roseville, Calif., a company on the leading edge of newhome marketing technology for home builders and developers. "The focus has shifted to augmented reality."

Before you blink again, or write off Brown's assessment as a sales pitch for his firm's services, consider that augmented reality (AR) is actually more attainable, affordable, and arguably more effective as a marketing tool than VR, even with the latter's upward trend in quality and downward slide in price. In fact, you probably have an app or two on your mobile device that uses AR.

That's because the AR starter kit begins with your existing content, such as brochures, videos, on-site signage, and option packages. Through one of a growing number of AR apps, the technology is "plug and play," Brown says. "Most builders have a baseline of content to get started right away," and then build out as they see and learn the technology in action.

Consider this scenario: Through the same AR app in which you loaded your content—say, a video greeting from a sales associate or a BIM-driven walk-through of a model—prospective buyers driving through the neighborhood during off-hours can point their mobile devices to your signage and view

that content; a 24/7 resource that's far more engaging than words and renderings on a flat surface.

In your models, the same technology can be applied to options and upgrades. Using an app on a tablet device, buyers can see and select finishes for selected items—cabinets, flooring, faucets—in real time and in application, and can create a profile to keep those specs for future reference ... and for your records. "Now you have an emotionally invested buyer who is much more likely to see it through," Brown says.

Of course, you can overlay your AR content to a VR tour, upping the ante of that investment and boosting your online presence, where 90 percent of buyers search and 81 percent want interactive floor plans, according to a recent study by the interactive marketing company Bokka Group.

But don't believe the hype that the technology allows you to jettison your model homes. "AR and VR are more about changing how we sell homes than getting rid of models," Brown says. Builders using the technology may be able to get down to one or two models instead of a handful

or more in each community, he points out, but they need to maintain those necessary touch-points in the sales process. "In housing, everyone shops on data, but they still buy on emotion," Brown concludes.

#### WHAT NOW?

Regardless of whether you're inspired to delve deeper into any of these technologies for your business, the fact is they're coming ... and probably faster than innovations in the past.

That's because they're primarily driven by changing consumer preferences and expectations, including individual empowerment bordering on entitlement, and an increasing trust in online services—a power that trumps even the most severe industry ills, such as skilled labor shortages, production inefficiencies, on-site safety, and fickle profitability.

With that, these particular innovations also are leveraging one another toward a collective sea change for housing.

"Disruption in this industry is like beach erosion, not a tsunami," says Clelia Peters, co-founder and partner at MetaProp, in New York, an investor and promoter of real estate-related technology (aka "proptech"). "You may not be aware it's happening at first, or for a long time, but eventually it picks up speed and all of a sudden it's here," Peters says. **PB** 



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rends in lighting design, delivery, and controls are continually driven by changes in tastes and technology. "Architecture evolves, the use of spaces shifts, and lighting needs adjust in response to the demands of an ever-changing consumer," says Jeffrey Dross, corporate director of education and industry trends at Kichler Lighting, a Cleveland-based lighting supplier.

Those factors dovetail with technology's role in the evolution of lighting design and application, which has been especially dramatic with the advent and advancement of light-emitting diode (LED) lamps. Fixture sizes, shapes, and placements have been and continue to be radically influenced by these pint-size, energy-efficient luminaires. For instance, rather than flanking the bathroom mirror with sconces, LED task lighting can be integrated into the mirror to provide illumination.

In addition, "LEDs don't produce the amount of heat you would get from other light sources," says Randall Whitehead, principal at Randall Whitehead Lighting Solutions, in San Francisco, making them practical and safe in such applications. And they offer energy-saving benefits as well. Massimo Buster Minale, founder and designer at London-based Buster + Punch, in North Hollywood, Calif., points out that building and energy codes increasingly mandate LEDs to some degree (or entirely) for new construction and renovation across all building types, including housing. "LEDs can last more than seven times longer than incandescent bulbs," and they use a fraction of the energy, he says, which also reduces ongoing costs for homeowners.

#### **SMALLER IS BETTER**

The relatively compact profile of LED lamps has arguably been the greatest influence on lighting fixture design. Case in point: recessed fixtures. Until recently, 6-inch recessed luminaires were the common specification throughout the home. But an LED's smaller aperture (the hole through which light travels) and greater lumen output have enabled the use of 4-inch recessed luminaires. Those smaller fixtures have more

The original Vix linear pendant from Cerno has been elongated to measure 82 inches end-to-end, for use above dining tables, islands, and other lengthy surfaces. Integrated LEDs cast both uplight and downlight.





ABOVE: Layers of ambient, task, and accent lighting provided by Kichler Lighting's Aster globe pendants and LED under- and interior-cabinet fixtures enable multiple scenes. RIGHT: The Caged collection from Buster + Punch combines patented LED technology in the resin light pipe at the center of each bulb. A solid matte-black steel cage frame is offered in eight interchangeable modular wall and ceiling options. The sconce's back panels come in flamed black granite, polished white marble, and brushed steel.

visual appeal than their larger cousins and also take up less room along and in the space above the ceiling.

Then there are "canless" LED recessed luminaires, in which traditional housing is replaced with an integrated junction box for direct wiring. "All you need is a hole saw for the ceiling cutout," says Jeff Spencer, VP of residential products for Acuity Brands, a supplier in Conyers, Ga. "It takes less than one-third of the time to install versus a conventional incandescent can."

"Everything is getting smaller and smaller," says Dorothy Underwood, a senior designer with KGM Architectural Lighting, in New York, noting that some fixtures have apertures measuring just 1 or 2 inches. "In the New York market, plenum space [above the ceiling finish] keeps shrinking, so fixtures have had to shrink with them," she adds, and some manufacturers have gotten downlight housing to just 2 inches deep.

All that allows for the creation of what Al DeGenova, director of marketing at Tech Lighting, in Skokie, Ill., calls a "quiet ceiling"; one that eschews pendants and chandeliers for more recessed downlights. "An increasing number of homeowners want a clean look," he says. The company's Reflections series of recessed fixtures, for instance, delivers glare-free LED indirect illumination and feature molded, embossed decorative

domes designed to subtly but effectively enhance a room's architectural details.

Acuity's Spencer also believes homeowners prefer "clean" ambient lighting over more dramatic effects. "With nicerlooking aesthetics, smaller apertures, far better energy efficiency, and more control options, recessed lighting has quickly become the most practical solution for many designers," he says.

#### **EXPANDING THE FRONTIER**

The small scale of LED lamps has also enabled once "nice-to-have" lighting fixtures to move into the mainstream of required features among more price points.

Kichler's Dross notes that unobtrusive under-cabinet lighting in the kitchen has made that leap, while Keith Clark, LED associate product manager at Task Lighting (now part of Hardware Resources), has seen the technology applied in previously unlit spaces. "Flexible tape lighting is popular for curved spaces, soffit clouds, and cove molding," Clark says, while the sleek, minimalist appearance of puck or linear fixtures, recessed into the top and bottom of a floating shelf, provides illumination for glass art, photos, and sculpture.



Underwood sees increased emphasis on good art lighting. "Recessed wall-washer manufacturers are pushing their product engineers to get the light thrown all the way up the ceiling," she says. "Picture-light manufacturers are focusing on customizing their art lights to fit each individual piece of art."

And as the trend toward smaller homes continues, says Clark, indoor-outdoor living spaces made more comfortable, usable, and safe by better lighting will be in greater demand. "Deck rails and soffits, architectural features, and outdoor kitchens are being illuminated by LED tape lighting with a waterproof coating," he notes. Dimming scenes set with wireless controls and an array of colors provided by RGB tape lighting can personalize settings for any mood or purpose, inside or out.

#### LAYERS OF LIGHT

Though recently driven by LEDs, changes in light sources have also been responsive to changes in architectural styles and consumer tastes and lifestyle. "Architecture continues to of the luminaire," Dross says. Taller ceilings, single-story foyers, and less compartmentalization of rooms are not just affecting fixtures but also how lighting is used in homes. "We've graduated from a single light source in a room to layers of light that provide substantially more interesting and varied delivery of luminance." Those layers of light often include decorative fixtures, which have a significant aesthetic effect as well as a functional purpose in a space.

"In traditional homes, there is a heavy emphasis on decorative fixtures and minimal use of downlights," Underwood says, while contemporary homes tend to rely more on downlights or continuous lines in the ceiling. Even so, she adds, "Clients still want some decorative lighting for that jewel effect and to establish a focal point for the room."

According to Dross, pendants are currently the most popular type of decorative fixture. "We're seeing oversize pieces used in dining areas, tall pendants over kitchen islands, and cascading assemblies filling a two-story stairway," he says.

Equally on-trend are linear chandeliers and pendant fixtures. These elongated pieces complement other linear elements of a home, such as tables and counters. "Their mass also works as a more meaningful complement to the open floor plans found in homes today," Dross says.

In great rooms, designers and manufacturers are putting more thought into adding "fill" light to show off the architectural detailing in the ceiling and to keep the other half



Leviton's Decora Smart series with Wi-Fi dimmers, switches, and plug-in devices allows homeowners to use scheduled programs, an app, or a voice assistant to control lights, fans, electronics, and small appliances. Only a Wi-Fi signal is required, as the control mechanisms reside in each device for maximum flexibility.

of the room from falling into darkness at night. This effect, Whitehead says, "Comes from sources that throw light off of the ceiling, such as cove lighting, pendant fixtures that cast light upward, opaque wall sconces, and even torchères."

#### HIGH-TECH CONTROL

We're all familiar with the internet of things (IoT), at least conceptually, but the lighting industry leads the way in its application of smart/connected technology for the home.

"Lighting design and engineering that works with a smartphone, voice assistant, or an app to control dimming and color temperature is driving the direction of the market," says Tech Lighting's DeGenova, and thus is a shining example of a practical application of IoT for homeowners. But "smart" controls can mean different things to different people, says Neil Orchowski, senior product manager at Lutron Electronics, based in Coopersburg, Pa. "Smart may mean a single dimmer on the wall that provides full range [of illumination] to a system that enables time-clock events and automatic turn on/off capabilities," he says, noting Lutron's Caséta series wireless smart lighting control system for the latter.

For full automation, there are systems (such as Lutron's RA2 Select series) that enable homeowners to personalize lighting scenes and integrate window shading, audio, temperature, and other products within a broader control scheme.

"Right now, hubless [read: independent] Wi-Fi lighting-control products, including in-wall switches and dimmers, are taking the single-family home market by storm," says Greg Rhoades, director of marketing for Energy Management, Controls, &

Automation at Leviton, in Melville, N.Y. The company's Decora Smart system, he says, can handle up to 99 lighting-related devices.

Remote control via mobile device apps is also becoming more popular. "Your mobile device gives you the ability to control your home from anywhere," says Orchowski, such as the ability to turn lights on and off in the evening to give the home a lived-in look, thus providing a greater measure of security for homeowners. "You have control from anywhere in the world—the office, the airport, the beach—so lights aren't left on or shades aren't left open when you're away." And scheduling prompts within the app allows homeowners to program lights

and shades to automatically adjust at specific times of day.

Kichler's Dross leans toward in-home voice assistants, such as Google Home, Amazon Alexa, and Apple HomeKit, among other solutions, to dominate the lighting-control market. "There isn't a much simpler way than just asking that something be done," he says. Couple that ease of use with a relatively low cost of entry and elementary setup, and it's no surprise that voice assistants are now in nearly 30 percent of American homes with internet access, according to Parks Associates, a Dallas-based industry research and consulting firm, and are forecast to reach 47 percent market share by 2022.

To keep pace, Leviton offers in-wall dimmers and switches and plug-in dimmers for table lamps, as well as plug-in outlets for electronics and small appliances that enable voice control of those products from Amazon Alexa or Google Assistant speakers via a Wi-Fi signal. "We have this supercomputer voice assistant/smart speaker sitting in our kitchens and living rooms that plays music and tells you recipes, but most end-users don't realize it can also control your home," Rhoades says.

That's why Leviton encourages electricians to look around for a voice assistant in the houses in which they're working. Rhoades says it presents an opportunity to upsell the front porch light to a smart switch, or a common kitchen dimmer to a smart dimmer. "It's a small investment that will allow the homeowner to see the power of voice- and app-controlled lighting," he says. PB

Wanda Jankowski covers design from her home in New York City.



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BUT IT'S THE
RIGOROUS PROCESS
AND JOURNEY OF
SELF-DISCOVERY
THAT REAP THE
GREATEST REWARDS



THROUGH THE YEARS WITH THE NHQ AWARDS:

# ISTHIS YOUR YEAR TO APPLY?

#### By Scott Sedam, Contributing Editor



n a beautiful California evening last October, I sat mulling over an 8-minute presentation I was asked to give at the end of the National Housing Quality (NHQ) Awards ceremony. My role was to induct

Bill Pulte—mentor, boss, friend, and the late founder of Pulte Home Corp. (now PulteGroup)—into the NHQ Hall of Fame. Bob Pulte, one of Bill's sons, was there to receive the award for the Pulte family.

More than deserving, the award reflected Bill's story. At age 18 he sat on the roof of the first house he built in Detroit, mostly by himself, and conjured a vision of becoming the largest home builder in America. In 2001, Bill achieved that goal at the helm of Pulte Homes, with an intense focus on quality. So much so that for the first five years of the J.D. Power Awards in the 1990s, Pulte more than doubled the next best composite score of all national builders in America. After Pulte's Chicago and Minnesota divisions each applied for and received NHQ awards for their local operations, Pulte became the first builder to apply at the national company level—requiring NHQ examiner visits to multiple sites—and was awarded 2005 NHQ Gold. No one ever deserved a spot in the National Housing Quality Award Hall of Fame more than Bill Pulte.

Feelings of nostalgia welled up that night as I thought back over my more than 20 years as an NHQ examiner. Most of the NHQ greats were there, such as Charlie Scott, Tom Gillespie, and Serge Ogranovitch, who has managed the award for years and almost single-handedly kept the NHQ alive during the difficult times of the housing recession. Both Tom and Serge previously earned recognition in the NHQ Hall of Fame, and later that night, I had the honor of inducting Charlie Scott, as well. Then Dan Horner, founding partner of this year's sole NHQ Gold recipient, True Homes, approached the stage to accept the award for his Charlotte, N.C.-based company.

I first met Dan last June while I was serving as the lead examiner for the NHQ team evaluating True Homes' application. We were genuinely impressed with Dan's relatively young organization. In the nearly three decades of the NHQ, only three builders had previously been awarded Gold the first year they applied. True Homes became the fourth. Dan led his acceptance speech with a quote that, in many ways, captures the focus of the NHQ: "We were a good company. We asked ourselves, what would it look like to become a great company?" For the answer, True Homes turned to the National Housing Quality Award.

#### THE NHQ JOURNEY

Twenty-seven years ago, the National Housing Quality award was launched to put intense focus on the culture, systems, processes, and leadership required to be one of the very best builders in America. NHQ is modeled after the Malcolm Baldrige National Quality Award, annually presented by the U.S. Department of Commerce. Years ago, I did a stint as a Baldrige examiner, and I can tell you, being awarded that honor is no mean feat. The NHQ is similarly rigorous. Applicants are judged using criteria in eight categories:

- 1. Leadership
- 2. Strategic planning
- 3. Performance management
- 4. Customer satisfaction
- 5. Human resources
- 6. Construction quality
- 7. Trade relations
- 8. Business results

Each category has specific questions and standards the judges use to evaluate applicants. The criteria aren't overtly prescriptive, however, as in "this is the only way the NHQ says it should be done." Customer Satisfaction, for example, is an obviously important category with considerable weighting, but the judging criteria don't specify how to get there—just that you do, at a high level. Presuming you do, judges then launch a thorough review of your process for sustainability and impact on all elements of the company. Process varies greatly among top NHQ applicants. Some perform pre-drywall walks, while some don't. Some send weekly update pictures to customers, others don't. Some make weekly calls to customers. Again, others do not. There are countless ways to skin that cat, and if any examiner thinks he or she has seen them all, next year will bring a new approach from a different builder.

Trade Relations, as a category, is no different. In these times, you live and die by your ability to attract and keep great trades. Yet, as examiners, we see limitless variation in how to achieve that status. For example, monthly supplier/trade council meetings have become common and, when done right, have a huge impact. Yet not all top-level award winners use them. Some builders have detailed recognition programs for their trades. Others don't. Some builders use supplier/trade surveys to get anonymous feedback, but there is nowhere near the data available compared with customer satisfaction, so the numbers are sometimes difficult for the examiners to interpret. Thus, we always interview two separate groups of

#### **BUSINESS MANAGEMENT**

suppliers and trades for those builders earning an NHQ site visit.

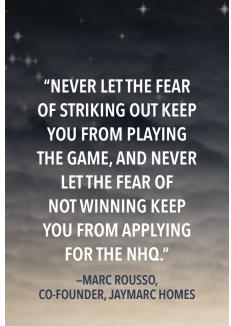
Each category is similar in this way, and over the years we've heard things on site visits that inspire examiners to review the criteria at a later date. I'll never forget Saun Sullivan, president of silver (2013 NHQ), then gold (2015 NHQ) awards recipient DSLD Homes, answer this question posed by an NHQ examiner: "Why don't you have a five-year plan?" Just emerging from the severe housing recession, Saun laughed, shook his head, and proclaimed, "Hell,

anyone who had a five-year plan in 2006 and followed it went bankrupt!"

Fair point, although, as Winston Churchill declared, "Those who plan do better than those who do not plan, even should they rarely stick to their plan." So taking Saun's and Winston's points together, we revisited the criteria under Strategic Planning, to make them more flexible, less prescriptive, and more focused on results. In fact, if you want to witness some fervent and sometimes testy arguments, show up at our annual NHQ examiner meeting and listen when members propose changes to various criteria. The genuine passion from the examiners who volunteer their time to do the initial penand-paper reviews and actual on-site evaluations, then work to maintain NHQ standards and integrity as home building's benchmark for quality, is unrivaled.

Yes, it's a time burden to be an NHQ examiner. But it's also a rare opportunity and, in most cases, a distinct pleasure. Imagine the benefit of learning first-hand the inner workings of some of the best builders in the U.S. How do you even begin to calculate the value of that?

Most of the builders we visit for site reviews make a big deal about the opportunity to learn from the examiners. But the truth is, I think we learn more from them. One of the most important lessons in my career has come from witnessing the many different paths to high performance in the NHQ criteria. It's a natural tendency to believe in and search for one "best way" to lead a company; develop your trades; determine your strategy; and build, sell, and warrant your homes. But NHQ judging for 20 years has thoroughly beat any "one best way" notions out of me. Instead, I encourage builders, manufacturers, suppliers, and trades alike to adopt what is both an operating philosophy and an attitude: the continual quest for the "best known method." When you take that stand, it declares you are still searching for-even expecting-continuous improvement in all products, processes, and systems. That's the true spirit of the National Housing Quality Awards.



#### **MEMORIES** ...

One of my all-time favorite NHQ moments was when HistoryMaker Homes received the 2003 NHQ Gold. At one of its frequent all-company meetings, Nelson Mitchell, the builder's thenyoung CEO, began a somber presentation describing how the company had applied again for the NHQ award, how hard his people had worked, how it wasn't about "winning" but the work everyone did to make the company better. He was clearly helping ease the pain of not having achieved their goal.

And he was convincing, seeming to be on the verge of tears. But no sooner than he had the entire group ready to get out the tissues, Nelson literally jumped in the air and hollered at the top of his lungs, "We won the National Housing Quality Gold award!" The room erupted in bedlam, with everyone high-fiving, cheering, and hugging. The HistoryMaker Homes team had made its own history, with a focus and dedication to be the best and to do things right—and that continues to this day.

Another indelible NHQ memory is when both mega-builder Pulte Homes and small private firm Grayson Homes received 2005 NHQ Gold. That night, by total coincidence, both groups chose the same dinner venue in New Orleans, one seated on the ground floor in the big, open space, the other on the terrace above it. I was with the Grayson team when one of the senior Pulte guys spotted the Grayson contingent below, stood up, asked for the entire restaurant's attention, and raised a loud and sincere toast congratulating Pulte's NHQ Gold brethren. Everyone in the place cheered—even those who had no idea what was going on. Grayson then toasted the Pulte team, and it just took off from there. Neither of the teams had previously met, but that night they merged and headed up Bourbon Street. For countless hours they traded toasts because, after all, one company just couldn't allow the other to send up the final acclamation. Knowing both firms well, I'll attest that you couldn't find two builders more different in organization or style, but they'd both achieved something special and found common ground. They celebrated like best friends. The next morning, observers of both teams wouldn't be blamed for wondering if receiving NHQ Gold was detrimental to one's health. "Rode hard and put away wet" looks abounded.

#### **OUTSIDE THE BOX**

It's easy to slip into the language of "winning," but, as each past NHQ recipient—as well as every examiner—will remind you: It's about the process. The saying, "The journey matters



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#### **BUSINESS MANAGEMENT**

more than the destination," applies, and all four recipients at the 2019 NHQ Awards presentation in La Jolla, Calif., echoed that sentiment.

Receiving the award is, of course, a win for your team and it feels great, but it's more an acknowledgement of who you are as a company and what you've put together as a home builder than it is a victory over other contestants or adversaries. Yet the question always comes up, "Is the NHQ a practical tool for making your company better, or is it just a trophy to put in your reception

area?" I hope my NHQ recollections have opened your mind to the possibilities, and I encourage you to go back and read the article in *Professional Builder's* October 2018 issue about the most recent NHQ recipients. Tool or trophy? You decide.

If I had a day's vacation for every builder that told me they wanted to apply for the NHQ but "it just isn't the time," or they're too busy, or are waiting to onboard a couple of new people, I'd take a trip around the world, on a slow boat.

So, what can I do to convince you that the time to apply is now, not next year or the following year? One of my favorite comments at the 2019 NHQ awards dinner was by True Homes' Dan Horner, who said, "We wanted to overcome the belly-button perspective."

Dan described how engaging True's entire 40-member management team in self-evaluation via the NHQ criteria forced them to think outside the box. He proclaimed the application process "awesome," which, I confess, is seldom heard by the examiners. Mostly the award is described as detailed, thorough, comprehensive, and a lot of work, but Dan and his team "got it." They created a war room with complete details for the eight criteria on the wall, all beautifully organized. We saw the same approach with 2018 NHQ Gold recipient Pacific Lifestyle Homes, and the impact on the examiners was palpable. As you walked around the room, you could really see and appreciate the entire company. As the team members described the application process, it helped them to understand themselves and their company more deeply.

Later that evening, at the 2019 NHQ ceremony, Marc Rousso, co-founder of JayMarc Homes, winner of the 2019 NHQ Silver, drew one of the most interesting analogies I've heard yet. He said that, to him, NHQ was like collecting baseball cards: "I had my Dave Simon from Veridian, my Bill Saint from Classica, my Vernon McKown and Todd Booze from Ideal, my Saun Sullivan from DSLD—all NHQ Gold recipients—and many, others." Each year Marc, along with co-founder Jay Mezistrano, and their team, collected the cards and read their history, stats, and

"WE WERE A GOOD COMPANY. WE ASKED OURSELVES, WHAT WOULD IT LOOK LIKE TO BECOME A GREAT COMPANY?"

-DAN HORNER, FOUNDING PARTNER, TRUE HOMES

achievements. They absorbed them, learned from them, and applied everything possible to their own company with the goal of one day seeing JayMarc Homes National Housing Quality Award cards in print. The presses are now rolling.

#### A GIFT THAT LASTS

As the award recipients finished up that night, it dawned on me that I had the singular good fortune of having been on the examiner's site-visit team for NHQ Gold recipients for four of the

past five years. How lucky is that? More than you know, and more than I can explain. Those companies are based in North Carolina, the Washington, D.C., metro area, Washington state, and Wisconsin—a disparate group of builders, with product ranging from entry-level to highly personalized production; from high-end, mid-rise condominiums to full-on custom homes priced in the millions. The privilege of meeting, observing, and learning from these highly successful yet very different builders in different markets has been one of the greatest gifts received in my career.

Speaking of gifts ... you're most likely reading this just after the holidays and may already be having trouble recalling certain gifts received from friends, family, and colleagues. Perhaps you'd like to secure one gift, for a change, you'll never forget? Look no further than the Nation Housing Quality Award. Follow the links below, download the application, put a team together, and go for it. Gene Myers, CEO of Thrive Home Builders (2019 NHQ Bronze) concluded his presentation in La Jolla noting, "The National Housing Quality Award application was a gift that came along when we needed it most." Finally, a gift that has the potential to keep on giving, not just throughout this year, but for years—perhaps even decades—to come.

You can find the NHQ application and FAQs online, just enter "NHQ apply" in the search window at probuilder.com. For more information or specific questions about the National Housing Quality Awards, please contact NHQ director Serge Ogranovitch, via email at sergeogranovitch@gmail.com or by phone at 703.980.6565. **PB** 

Scott Sedam is president of TrueNorth Development, a consulting and training firm that works with builders to improve process and product. For free copies of our "Trip-Cost Calculator" and "Saved-Day Calculator" Excel templates and a PDF of the "Bridging the Margin Gap" collection of columns, email your request to info@truen.com. You may reach Scott at scott@truen.com or 248.446.1275.







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#### By Kate Carsella, Associate Editor

here's a good chance you've already used an app on your mobile device today, perhaps to check the weather, navigate an unfamiliar neighborhood, or order some takeout for lunch. What's more, your customers are probably using apps too, maybe to buy groceries, remotely answer their door, or create a vision board of their dream home. But while there are literally millions of mobile device apps for all types of tasks, a growing number focus on professionals, including builders and contractors, to help streamline work-

flow, enable collaboration, provide access to on-the-job tools and training, and even help with marketing and social media.

Still, and for a variety of reasons, relatively few construction professionals use these apps to complement or improve their productivity, accuracy, and accountability. "Home building has one of the slowest clock speeds for change," says Tim Costello, president and CEO at BDX, a digital marketer for home builders.

Francein Hansen, residential developer, interior designer, and creator of the Hyve app for managing the design/build process, agrees that introducing apps to builders can be



challenging. "But with the innovation of building materials, together with apps, the workflow becomes more streamlined," she says. "Less time is

spent communicating on multiple platforms and fixing mix-ups."

Costello speculates that most builders think too short-term, focusing on company survival at the expense of looking for innovation through adopting new technologies and software—a choice that can hamper the potential for long-term growth and business sustainability.

He goes so far as to call it the "fog of war"—a metaphor for builders losing sight of the long-term goals that tech can help

achieve, warning, "You don't have time anymore to wait and see how others adopt technology."

#### A GENERAL DISCONNECT

A likely cause of the industry's slow adoption of construction-related apps may be lack of common ground. "If some staff are using a tool but others aren't, it's going to be a failure," says Jason LaFleur, senior program manager, emerging technologies and building science at GTI Energy, in Des Plaines, Ill. That disconnect, he says, can send frustration rippling through a team: nonusers may become resistant and

isolated, and app users may become resentful of the adoption gap.

Another reason may simply be age. The median age of an NAHB builder member in 2017 was 57, and 57 percent of the association's builder members are 55 years old or older, with another 24 percent aged 45 to 54. App users trend younger. Those who are 25 to 44 years old spend 15 percent more time using apps than people 45 and older. Nerin Kadribegovic, an architect and partner at Lehrer Architects, in Los Angeles, believes app use will grow as more young

people "who have a more instinctual response to technology" enter the industry.

App developers also share culpability. Even when builders are open to using apps, developers aren't

always cognizant of building-specific business needs. "It's almost like they want us to change our process to integrate into the software, as opposed to the software working and integrating into our business," says John Leggett, founder and CEO of On Point Custom Homes, in Houston.

Interestingly, some housing professionals are using consumer-centric apps for business-to-business applications with great success, underscoring the growing flexibility of purpose and intermingling of B2B and B2C tools.

Given the housing industry's relatively slow adoption of most new technologies, choosing apps for business use may be intimidating. Ed Hudson, director of market research for Home

Innovation Research Labs, in Upper Marlboro, Md., was startled when a survey following the 2018 International Builders' Show revealed 77 percent of new-home builders and general contractors weren't using integrated construction management software and had no plans to do so anytime soon.

With that, Hudson's research revealed a contingent of builders who believe buyers aren't looking for tech or apps in their homebuying experience. Anecdotally, this may be true, Hudson says, but looking toward the future, that assumption goes against the general push toward greater technological integration into the human (and homebuying) experience.

Some builders fear choosing the wrong app. Ed Kubiak, VP of construction at Beechen & Dill Homes, in Burr Ridge, Ill., has an app routine for that: Each month, he test drives a new app that's available or that a colleague has recommended. "If you don't like an app, delete it," he says, emphasizing that trying the apps is the most important thing. "We have to think out of the box if we want to change."

Legacy systems and solutions also loom large. Bigger-volume builders are more likely to use integrated software than are smaller builders. But overall, among building companies, mobile devices aren't as popular as software used exclusively on

desktop or laptop computers. While two-thirds of Hudson's survey respondents said they use both PC and mobile platforms, none reported using software exclusive to mobile devices.

Yet apps that offer construction-specific teaching tools seem to be attracting a growing number of builders and contractors. Denver-based Construction Instruction's educational app, for example, has had more than 167,000 downloads as of this writing, with between 14,000 and 18,000 unique visitors per month.

This much is also true: Builders want to improve productivity, marketing, diagnostics and tools, and education. At least one of the following apps may offer a solution that suits those needs.

#### **PRODUCTIVITY**

eams working on a single project may be geographically far-flung, with different tasks and responsibilities, from builder to inspector to client. The need for a central repository of data as a digital home base is one of the most-cited needs by housing pros. If you're already an app user, likely you've called on Buildertrend construction software to enhance productivity. The following apps also aim to help streamline workflow.

#### » SLACK

This popular business communication tool among Millennials is a cloud-based suite of collaboration tools and services that includes data storage, task management, and a chat client, providing a shared workspace organized and accessible to all. Slack integrates with other enterprise and productivity products, or with a company's unique products via its open application programming interface (API).

Compatibility: iOS and Android
Free download with in-app purchases

#### » RAKEN

Daily reporting app Raken captures weather conditions three times per day and attaches that data along with time cards, tasks, and other details to all your daily reports across multiple jobsites. The weather aspect allows project managers to better plan work schedules, keep more detailed records, and defend against any weather-related legal claims. Offline-mode functionality, inspired



Raken



**FLIR Tools Mobile** 

by gaming and music streaming services, allows users to access the app without an internet connection—a helpful addition for use on the jobsite. Once Wi-Fi connectivity is restored, all project data entered offline is automatically synced.

Compatibility: iOS and Android
Free download with in-app purchases

#### » HYVE

Hyve users can communicate with in-house teams, and builders can store all project details—including design ideas, budgets, materials lists, product spec sheets, and receipts—in the app to be printed or accessed whenever needed.

Compatibility: iOS and Android Free download with in-app purchases

#### » LEAP

Designed to digitize detailed estimates for exterior remodelers, landscapers, and other trades, Leap is advertised as the "first-ever data management application to digitize the in-home sales process." The app offers detailed reports within moments, populated by users' product selections; refines product searches; and inputs measurements and quantities. The app also seeks to eliminate estimating errors, resulting in greater cost savings.

Compatibility: iOS Pricing variable

#### **DIAGNOSTICS AND TOOLS**

ools are no longer simply found in a toolbox. Whether it's augmented or virtual reality visualization—including floor plan builders and heat-mapping software—or schedulers, inspiration boards, educational guides, and air-quality reports, these tools are now curated in apps for builders to help master new skills, perfect current methods, or to simply double-check you're on the right track.

#### » FLIR TOOLS MOBILE

The Tools Mobile app from FLIR Systems lets users stream live video to their mobile device from any Wi-Fi-enabled FLIR thermal camera. The app can be used to take photos from the camera and integrate the images into reports for customers and co-workers. Users can select unique thermal levels to be scanned, modify the thermal image color palette, and adjust camera parameters. FLIR

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VIDEO OR VISIT

Smartphone not included. Application screens may vary. Cellular data or Wi-Fi connection required. Test equipment regularly and follow safety instructions.





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<sup>\*</sup>https://www.cnet.com/videos/what-do-millennials-want-in-a-smart-home/

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separately offers a thermal camera for smartphones, priced between \$175 and \$325.

Compatibility: iOS and Android
Free download with in-app purchases

#### » MAGICPLAN

This intuitive floor plan creator uses augmented reality to increase accuracy. Users can calculate costs and track tasks using customized price lists and can connect to other tools, including lasers and Apple ARKit, to compute the device's position in real time, providing greater precision.

Compatibility: iOS and Android Free download with in-app purchases

#### » HOUZZ

The popular home improvement inspiration app is a favorite of Homes by Dickerson's marketing manager Julia Reinert. Posting photos on the app, along with vital company details and accolades, has proven useful, she says. The app offers design and architectural photos from homes across the U.S., and Reinert says that as a custom builder, "it is imperative that we stay on top of the latest consumer trends to anticipate the wishes of our clients." Reinert adds, "It helps [clients] visualize and express their own personal taste."

Compatibility: iOS and Android
Free download with in-app purchases

#### » iSCAPE

Landscaper and iScape creator Patrick Pozzuto grew frustrated trying to align the homeowner's vision with the realities of a project. The iScape

augmented reality tool enables users to take a picture of the project site and experience their vision in 3D through drag-and-drop functionality, placing elements such as grass, mulch, and plants, onto the design. Designers and clients can work together, edit-

ing the mock-up in real time. **Compatibility:** iOS 9.0 or later

Free download with in-app purchases

#### » PLUME LABS' AIR REPORT

Providing users with data on live pollution levels, Paris-based startup Plume Labs' award-winning smart air-quality tracker forecasts can be useful for builders on jobsites subject to air-quality



**iScape** 



Construction Instruction

conditions or concerns. The Air Report app predicts air quality levels hourly over a 24-hour span via environmental A.I. and satellite data, and can break down pollution by particular pollutants and by geographical direction in expanded compass views.

**Compatibility:** iOS 9.0 or later **Free download** with in-app purchases

#### » CONSTRUCTION INSTRUCTION

Construction Instruction project manager Deirdre Damron says the Construction Instruction app was born on the road more than a decade ago. The company's principals frequently field builder questions at educational seminars in the U.S. and Canada, and the app became a leave-behind at these sessions. It includes construction videos, customizable 3D building animations, building-science articles, and installation details. Users can save pertinent information to a Favorites folder for easy access at any time and can send questions to the company through the app.

**Compatibility:** iOS 9.0 or later **Free download** with in-app purchases

#### **MARKETING**

he way a company uses, or doesn't use, technology can speak volumes to a homebuyer, as can a firm's social media presence (or absence). Will Duderstadt, marketing and development manager of web platforms at M/I Homes, in Columbus, Ohio, says builders inherit all of the expectations that buyers have developed from shopping with other brands such as Amazon or Zappos. A strong digital presence is no longer important for some industries more than others; it's now essential for all businesses in all industries.

While larger builders' digital marketing campaigns may be powered by an in-house or contract team, that may not be feasible for a smaller builder. For marketing inspiration, Duderstadt recommends builders study e-commerce sites within and beyond the home building industry. These apps help bring the visual power of digital marketing into the palm of a builder's hand.

#### » MY HOME'S STORY

Created by builders hoping to help their peers bolster their social media efforts, this app encourages homebuyers to talk about a builder



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on social media. My Home's Story allows buyers and builders to link their photos from a project to their social media accounts. The app offers increased search engine optimization (SEO) by tracking traffic and shares and is designed to boost engagement and online leads.

Compatibility: iOS and Android

\$50 per month per agent, or \$500 annually per agent

#### » CANVA

A graphics tool for non-designers, Canva lets users create graphics for social media, marketing campaigns, or websites using its drag-and-drop interface. There are thousands of layouts to choose from, including letterhead, advertisements, photo collages, social media posts, business cards, and presentations. Users can create their own brand-customized templates with a paid membership, allowing them to save brand colors, logos, and fonts in the app.

Compatibility: iOS and Android

Free download with in-app purchases; Canva for Work: \$12.95 per month; Canva Enterprise

pricing available upon request

#### **MANUFACTURER APPS**

ustom selections, on-site proposal creation, and downloadable installation and warranty documents are just a few of the latest offerings available in manufacturer apps. Of the wide variety of such apps available for builders and homebuyers, these stand out.

#### » CAMBRIA

Using Apple ARKit technology, Cambria AR, the engineered stone manufacturer's augmented real-

ity app, allows users to virtually map countertops and overlay Cambria designs, replacing the existing surface with the virtual design. Users can even share the images and designs online with friends, clients, and family.

**Compatibility:** iOS and Android **Free download** with in-app purchases

#### » STANLEY

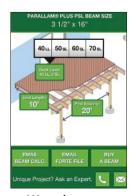
The Stanley Smart Measure Pro provides fast, accurate measurements of areas photographed on mobile devices. This time-saving tool instantly



Canva



Cambria



Weyerhaeuser

provides correct dimensions and accurate estimations of how much material will be needed to complete a project. File export capability includes PDF and JPG formats.

**Compatibility:** iOS and Android **Free download** with in-app purchases

#### » WEYERHAEUSER

Weyerhaeuser has a variety of apps and software for builders. The Parallam Plus Deck Beam Sizer app helps builders and trades quickly size the proper carrying beam for a deck system. A complete library of product literature can be found on its Document Library Mobile App.

**Compatibility:** iOS and Android **Free download** 

#### WHAT'S NEXT?

Augmented and virtual reality tools are growing in prominence today and are widely considered to be a significant influencer in the housing industry's future. Evan Bost, director of marketing and building performance at Bost Custom Homes, in Cary, N.C., says buyers' yen for visual tech is a driving force. "Buyers are interested in seeing 3D models before finalizing their design decisions," though, he adds that the cost of such renderings can be steep. Yet, Bost believes that VR modeling will become cheaper as the technology continues to develop.

The intuitive, artistic side of technology is also ripe for tech exploration. Architect Nerin Kadribegovic says, "I want to be able to connect to computer software that can directly translate my thoughts into a digital model. That will be revolutionary. It's just a matter of time."

"Think Google Analytics for all marketing efforts in one place," posits marketing manager Julia Reinert. Her focus is on quantifying data use by generation to create a real-time return on investment, and to predict how that may shape housing's future. Reinert sees such capability as something of a tech divining rod—analyzing Millennial tech use in homebuying to subsequently incorporate new ideologies into a company's offerings and culture.

Software developers continue to create and refine apps, and new functionality will continue to flourish. As of 2019, apps have become ubiquitous. What will builders and homes be capable of in five, 10, or 20 years? In all likelihood, there will be more, rather than fewer apps to tap. **PB** 





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**AUGUST** New Urbanism for Small-

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**SEPTEMBER** Kitchens

**OCTOBER** Contemporary / Modern Homes

NOVEMBER Master Bathrooms

DECEMBER On the Boards

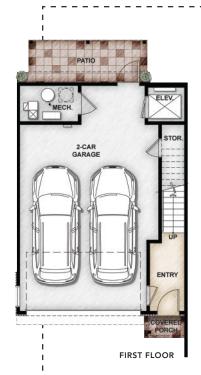
These plans shed light on achieving higher density and greater affordability

#### By Larry W. Garnett, FAIBD, House Review Lead Designer

Revitalizing urban core areas in any city or town requires the ability to provide both affordable and inviting living spaces. Creating these successful urban neighborhoods with workplaces and shopping within walking distance directly depends on the number of residents actually living in the area. A combination of high land costs and a limited number of available sites translates into projects with higher density. The following options by our design team offer a variety of concepts, ranging from row houses to atrium-focused townhouses.

Most of these designs could be described as modern, with single-sloped or flat roofs, cable-rail details at the balconies, and expansive glass. Rather than mimicking the surrounding historical architecture, these designs embrace traditional forms while offering a certain freshness and perhaps "edginess" to the façades.

Although functional and open floor plans with plenty of natural light are difficult to achieve with narrow footprints, you'll see various solutions on the following pages. As always, we encourage your thoughts and comments.









ownhomes achieve the higher densities that markets demand, but it's essential to deliver spacious living areas and space-use flexibility.

This unit was designed with the idea of attainable luxury. As the largest unit in the offering, it provides an elevator option that caters to the move down/empty-nester buyer looking for low-maintenance living close to the city. Efficient use of space, high-end finishes, and optimizing the end unit with large expanses of glass make the living level light, bright, and luxurious. With flexibility in mind, a variety of options allow the buyer to finesse the home to fit their lifestyle.

This home showcases the master suite on the fourth floor with multiple outdoor living zones. The master bath is both cozy and sleek, featuring high-end finishes that create a spa-like experience.

- A Utilizing large windows in end units fills living spaces with light
- B The yoga studio/activity room (see third-floor plan, opposite) provides a flexible space that can be transformed for different functions
- Multiple roof decks offer public and private outdoor living
- High horizontal windows admit daylight while maintaining privacy

#### **PIVOT BY ATHERTON HOMES**

#### **DESIGNER**

DTJ Design Seth Hart shart@dtjdesign.com 303.443.7533

#### **LOT SIZE**

Width: 25 feet Depth: 60 feet Density: 18 DU/acre









#### **PEAK II FLATIRON AT 5390**

#### **ARCHITECT**

KGA Studio Architects John Guilliams, AIA jguilliams@kgarch.com 303.442.5882

#### **PLAN SIZE**

Width: 21 feet, 4 inches Depth: 38 feet Living area: 1,971 sf



n urban infill projects where density rules, incorporating natural light and outdoor living opportunities is key. The Peak II series is the smallest, most affordable product offered at 5390, an urban infill community located adjacent to a golf course and minutes from shops and restaurants in one of Denver's most charming neighborhoods.

To achieve three stories plus a rooftop deck, the deck level was pulled in to stay within the bulk plane, while still resulting in a spacious outdoor entertaining area complete with an outdoor fireplace and sweeping views of the golf course and mountain range. Generous windows on all three levels add interest to the exterior elevation while flooding the interior with natural light and optimizing views from the main and upper levels. Clever use of exterior materials breaks up the massing, softening the boxiness of the structure.

- A Lower-level flex space can be optioned to a third bedroom suite
- B Covered deck off the kitchen is great for grilling
- **©** Large windows and lengthy sight lines make the main living areas live larger than they actually are
- Pocket flex space tucked out of sight of the main living areas is great for kids' toys or a small study
- Second bedroom suite
- Master suite has enviable views and features a spa shower with a built-in bench
- **G** Rooftop deck with optional fireplace



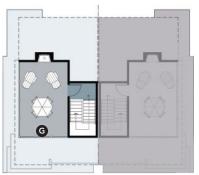




SECOND FLOOR



THIRD FLOOR



FOURTH FLOOR



[GENIUS!]

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#### THE WELLINGTON

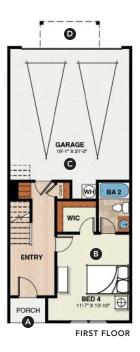
#### **DESIGNERS**

GMD Design Group Scott Gardner scott@gmddesigngroup.com 919.320.3022

Donnie McGrath donnie@gmddesigngroup.com 770.375.7351

#### **PLAN SIZE**

Width: 20 feet Depth: 40 feet Living area: 2,096 sf







THIRD FLOOR

his three-story townhome is designed with minimal obstructions to maximize natural light and create an open feel. With four bedrooms and 3½ baths, the flexibility of this plan appeals to a wide variety of buyers. The front entry is located on a shared pedestrian walkway to allow for increased density. The rear-loaded two-car garage minimizes the visual impact of vehicles on the site.

- **⚠** Covered front entry
- **B** Bedroom suite on first floor
- © Two-car, rear-loaded garage
- Outline of cantilever balcony above
- Open dining, kitchen, and family room
- **6** Entry to powder room hidden in an alcove
- **G** Outdoor balcony off kitchen
- Two secondary bedrooms with adjacent bath
- Master suite with luxury bath
- Outdoor balcony off master bedroom



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#### MA MAISON AT OCEANSIDE

#### **ARCHITECT**

The Evans Group Donald F. Evans, AIA devans@theevansgroup.com 407.650.8770

#### **PLAN SIZE**

Width: 32 feet, 4 inches Depth: 88 feet, 8 inches Living area: 2,927 sf

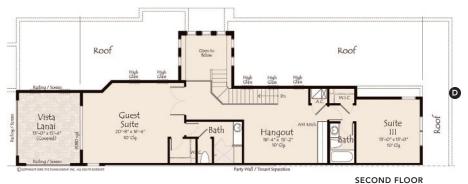
esirable parcels of property located "in town" are becoming scarce in many areas, so an oceanside infill parcel on the former site of a church located directly across from the successful Country Club is a win-win for the community and the developer. The property was approved for 12 luxury homes situated around the amenity focal point, a screened-in pool area with a lap pool and lush landscaping. The homes range in size from 2,468 to 2,927 square feet, with courtyard entry, open floor plans, high ceilings, and two- or three-car garages.

The key to attached homes is emphasizing what residents gain in these housing styles, rather than any trade-offs. These homes will be spacious, with open floor plans and abundant natural light, and will offer maintenance-free living, a large private pool, and clubhouse amenity in a prime location. The clubhouse will feature a gathering place, grill kitchen, bathroom, and a mail/package facility to receive packages (thwarting porch pirates), as well as accepting dry cleaning and other deliveries. Last but certainly not least, buyers will enjoy an attractive streetscape, one they will be proud to call home.



- A Attractive streetscape
- Infill site with 12 homes and clubhouse
- © 12 homes situated around screened-in pool area
- Largest home with three bedrooms, 3½ baths, three-car garage



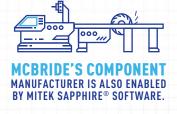


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#### **ARCHITECT**

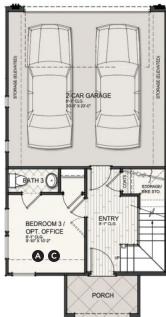
Dahlin Group Architecture Planning dahlingroup.com 925.251.7200

#### **LOT SIZE**

Width: 21 feet Depth: 41 feet Plan: 1,624 sf



#### FIRST FLOOR

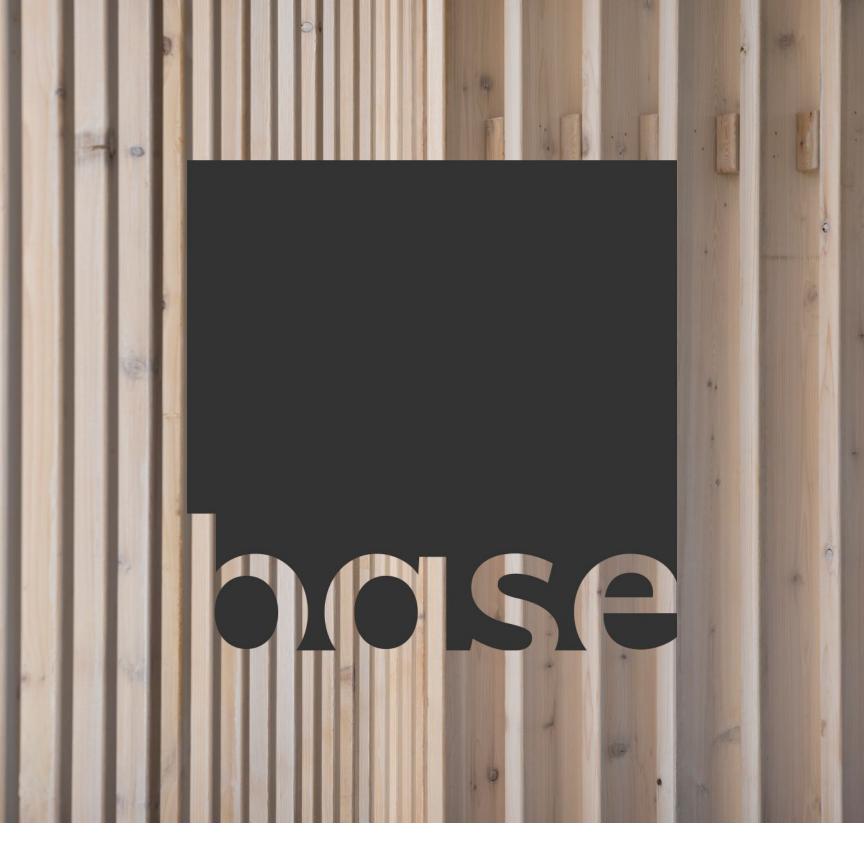






he objective for this plan was to create a rowhouse community blending into the commercial core in the center of Silicon Valley's Mountain View community in California, targeting buyers who don't prize outdoor space and the maintenance of the yard, but instead seek a home close to work and transit. The rowhouse style uses a mix of traditional materials and contemporary details. A well-balanced palette of stucco, lap siding, and stained wood rainscreen accents at entries blend traditional and contemporary styles.

- A Features three bedrooms (one an optional office), ideal for young couples seeking a home in expensive Silicon Valley
- B Main living area has a large outdoor deck, convenient to the family area
- © This plan also features bedrooms on every level, enabling easier shared-home living situations and affordability
- Third-floor master suite offers privacy for the owners, with easy access to the laundry



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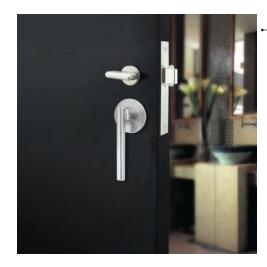
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#### **MORTISE LOCK**

Available in a variety of finishes including Satin Stainless Steel (shown), Graphite Black, and Glacier White, the PD95 mortise lock for sliding doors by INOX is billed as an industry first, with ADA code-compliant single-action emergency egress. The PD95 also features a solid brass dead bolt with a 1-inch throw, self-retracting hook, non-marring latch bolt, and a 2 mm-thick faceplate.

For more info circle 810



#### THIN MUNTIN

The One55 Series solid, hot-rolled steel product line from Hope's Windows is expanding into the doors category due to residential builder demand for products with an industrial aesthetic and narrow sight lines. The collection—characterized by its thin, arrow muntin profile—is named for the Pearl Harbor Naval Shipyard Building 155 renovation, for which it was originally created.

For more info circle 812



#### SATIN SMART LOCK

Smart Locks by August are now available in a Satin Nickel finish and are bundled with August's Connect Wi-Fi Bridge and smart assistants by Amazon and Google. Users can lock, unlock, and check the status of doors using app connectivity and voice-command technology. The lock attaches to the door's existing dead bolt, allowing homeowners to use their keys along with smart commands. For more info circle 811



#### **INSTALLATION KIT**

The QuickKit all-in-one system from DAP aims to make exterior door installation easier. The kit includes mold- and mildew-resistant Dynaflex 800 Sealant, which meets AAMA 800 specifications and provides a watertight, weatherproof seal; Draftstop 812 Window and Door Foam, which is AAMA 812 tested and airtight against sound, air, and water; LT Poly Flash 711, which can be installed in temperatures as low as 0° F; and sill pans, shims, aluminum head flashing, and rustproof galvanized screws.

For more info circle 813



#### **CORNER MULTI-SLIDE**

In an expansion of the Scenic Door collection, the Ultimate Corner Multi-Slide Door from Marvin Windows and Doors seeks to bring the outdoors inside. Allowing up to 10 panels, the corner multi-slide door is offered in both stacked and pocket configurations for continuous views in interior and exterior applications. The optional low-profile ADA-compliant sill and pull and latch hardware were added to allow easy operation for all users. For more info circle 814

#### PRODUCTS: DOORS



#### **BIFOLD DOOR**

In the wake of recent hurricane seasons, Sierra Pacific Windows launched its FeelSafe Bi-fold Door for large openings. Up to eight panels wide, FeelSafe is the first true aluminum-clad exterior/wood interior bifold door on the market that meets Zone IV/HVHZ requirements, the company says. The door can be built up to 10 feet tall with a 21/4-inch overall panel thickness and is billed as the thinnest currently on the market for this specific product type and performance level.

For more info circle 815



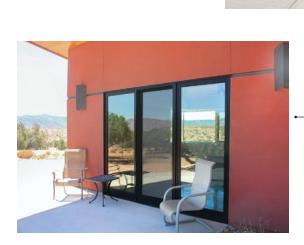
#### **GARAGE DOOR GLASS**

Garage door manufacturer Haas Door's SelectView option allows homeowners to place windows in nearly any part of the garage door to accommodate a variety of design styles and personal preferences. SelectView also offers window options for the bottom of the door and all panels of the garage door. The all-glass SelectView model is insulated with polyurethane to boost performance.

For more info circle 817

#### **ENERGY EFFICIENT**

Masonite has introduced warmedge flexible spacers to its door offerings. The company says the spacers boost energy efficiency and last nine times longer than traditional metal insulating glass systems because they expand and contract with fluctuating temperatures, always returning to their original shape, which protects against stress cracks that cause seal failure. For more info circle 816



#### **BLACK EXTERIOR**

The HomeMaker3 and

EnergyCore EC190 (shown) sliding glass door collections from MI Windows and Doors are now available with the company's black SuperCapSR co-extrusion exterior color technology. The color profile is scratch-resistant and reflects up to 76 percent of infrared light, reducing heat buildup and frame distortion from high temperatures and UV exposure, the company says. For more info circle 818



#### GLAZED FINISHES

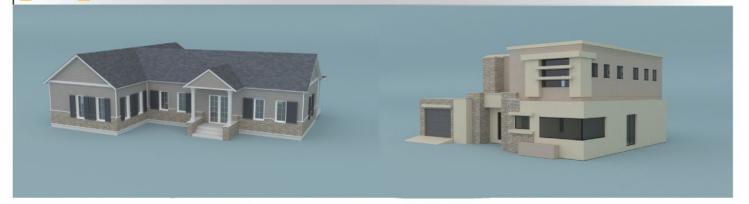
Available for its Embarg and Signet fiberglass entry doors, ProVia has launched Glazed Finishes—a weathered, rustic aesthetic for entry doors (Signet in Dutch Gray, shown). The stain is manually applied to make each door unique, and the proprietary process is designed to create a durable, lasting finish. ProVia's Glazed Finishes are backed by a 10-year warranty. For more info circle 819

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#### PRODUCTS: DECKING



#### **UNDER-DECK LIVING**

The DrySpace under-deck water management system from Azek now comes in white to match Azek trim, brightening under-deck spaces, as well as keeping them dry. Ideal for second-story decks, the system captures and then rechannels water after it passes through deck boards. DrySpace can be used with Azek and TimberTech decking, and kits are available for 12-inch on-center spans in 12-foot lengths and 16-inch on-center spans in 12- and 16-foot lengths. For more info circle 820



#### **BAMBOO COMPOSITE**

BamDeck 4G is the fourth generation of Cali Bamboo's bamboo composite decking product. The line's reconfigured planks are scalloped on the bottom and grooved on the sides and include a universal hidden fastening system. Sizes include wide plank (8 feet long by 8 1/4 inches wide) and extra long (16 feet long by 5 7/16 inches wide). BamDeck 4G is made from the manufacturer's sustainable bamboo composite formula, which consists of 60 percent reclaimed bamboo fiber and 40 percent recycled high-density polyethylene plastics.

For more info circle 822



#### **ALUMINUM RAILING**

Designed to add a modern look and provide uninterrupted views from a home's deck, Superior Aluminum Products' Series 2000 cable railing system meets ADA and ICC safety criteria. Crafted to be durable and maintenance-free, the system consists of stainless steel cables and an aluminum post-and-rail assembly. Baked-on enamel, anodized, or Duranodic integral color anodizing finishes are available in a range of colors (Light Bronze baked-on enamel, shown). For more info circle 821



#### **WOOD-LOOK COMPOSITE**

Voyage, an expansion of Deckorators' line of wood-alternative composite decking, features its patented Eovations technology for lightweight yet durable planks. Textured embossing has been added for improved safety and traction on the deck surface, with the appearance of vertical-grain variegation. Voyage is available in four colors: Sierra (dark gray), Tundra (gray), Costa (golden brown), and Mesa (red brown, shown). Sizes include 12-, 16-, and 20-foot solid and slottededge profiles, and 12-foot fascia.

For more info circle 823

#### EARTH EFFECT

In a refresh, Trex now offers its Transcend decking line with the Earth Tones collection of colors: Fire Pit (shown, top), Gravel Path, Rope Swing, Tree House, and Vintage Lantern (shown, bottom). The decking also includes a new grain pattern to appear more like natural, refined wood. The collection is covered by the Trex 25-year limited residential fade and stain warranty. For more info circle 824



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- Submit completed entries by May 24, 2019

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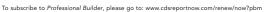
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PROFESSIONAL BUILDER (ISSN 1072-0561) is published monthly by SGC Horizon LLC, 3030 W. Salt Creek Lane, Suite 201, Arlington Heights, IL 60005. Periodical postage paid at Arlington Heights, IL 60005 and other mailing offices. Subscription Rates per year: USA \$121.00; Canada and Mexico \$200.00 (payable in USA funds); all other international \$330.00 (payable in USA funds). Single copies: USA \$15.00; all international (payable in USA funds) \$30.00. Reproduction of contents is strictly forbidden. ©Copyright 2019. PROFESSIONAL BUILDER accepts no responsibility or liability for the validity of information supplied by contributors, vendors, advertisers or advertising agencies.

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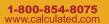
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## Matt Sauls on Pardee Homes' first 55+ product and why local flavor is key



Matt Sauls **VP of Marketing** and Product Development Pardee Homes Corona, Calif.

fter numerous visits to active adult communities and research into Baby Boomer preferences, TRI Pointe Group last year launched the Life360 platform to guide its six home building operations as they enter the 55-plus market. Life360's four pillars—vitality, adventure, connectivity, and style—aim to ensure that designs and amenities appeal to the younger Boomer buyer.

Each regional builder will use Life360 as a starting point, in addition to delivering their own local flair for location selection, branding, activities, and design. Matt Sauls handles product development for Pardee divisions based in Pasadena, Corona, and San Diego, Calif., and Las Vegas. Altis, in Beaumont, Calif., is Pardee's first 55-plus development and one of the six communities that TRI Pointe companies are building for this market. Altis held its grand opening in early November 2018 and upon completion will comprise 704 homes priced from the low \$300s to the mid-\$400s.

In your research, what did you find was typical about Southern California's 55-plus communities, and how will Altis be a departure from that?

As we set out to decide whether we wanted to do a community like

this, we were aware of the big players everyone's familiar with, which have done it so well for many years. So those were the first places we went to.

We also did a complete brand analysis and visited just about everybody else that's doing 55-plus. We broke them down into the developers/builders doing large-scale communities, where their whole focus is on active adults, like Del Webb and Shea Homes' Trilogy, and the other groups from the builder space and we're probably no different—that build all-age communities. So you see William Lyon Homes, Taylor Woodrow, Toll Brothers, and, as you go across the country, you'll see lots of builders have stepped in, but not in the way Del Web and Trilogy have. It's more like, let's dip our toe in the water and create a brand.

What I would say is different about us is we're owned by the TRI Pointe Group, which approached home building in a completely different way when it acquired the Weyerhaeuser Real Estate Company [in 2014]. TRI Pointe kept the brands of the companies it acquired, unlike other builders that acquire a company and that company just melts into the fabric of the acquiring entity and the brand goes away.

So when we went through the brand exercise for active adult, there were two ways to look at it: Does TRI Pointe want to create a national brand? Or does TRI Pointe believe that—just as there is power with the local home building groups—there is power in local operating teams and a local brand awareness?

Does it make more sense to create communities with consistent brand pillars across the entire TRI Pointe

company but allow individual neighborhoods to take on the character of what's special about that particular location?

Our answer was that our communities are local, therefore they're going to be curated, based on what's special about the site, the surrounding area, and the buyer profile in that area because not everybody in this category is exactly the same.

We're going to take those brand pillars, which are unifying forces, and add that special local sauce. The differentiation we saw, even with the top players, is that you often see the same floor plans, no matter where you go. The buildings and amenities are executed roughly the same, whatever the site's location. They're operating with a lot of data and on a national platform of understanding consumer preferences. We're trying to be more boutique and curated.

#### What were the other elements of brand research involved?

A Deborah Blake, founder of [55-plus consulting firm] The Ipsum Group, was part of our team from the first. Our initial step was to have a master plan in Beaumont, which is planned for 4.500 homes. We're now about 2.500 to 3,000 homes into that neighborhood.

As we worked with Tri Pointe Group to see if there was an opportunity to build something there for this demographic, we did demand studies and hired John Burns Real Estate Consulting and RCLCO Real Estate Advisors [Robert Charles Lesser & Co.] to weigh in.

For the complete interview with Matt Sauls, see probuilder.com/sauls



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