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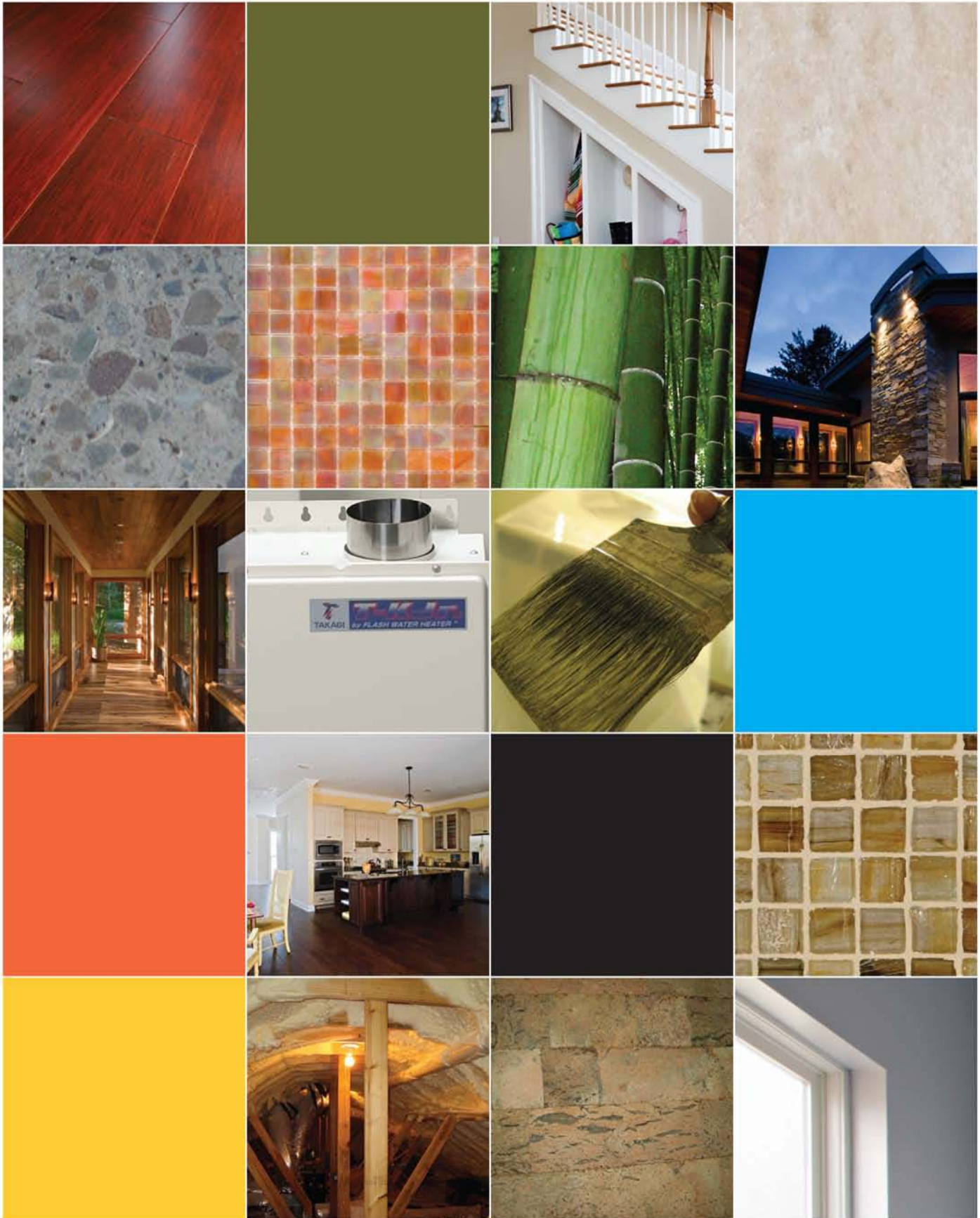
DEFINING GREEN

STUNNING GREEN REMODELS

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ENERGY CONSCIOUSNESS, HEALTH, AND DURABILITY ARE JUST
A FEW FACTORS DRIVING THE GREEN REMODELING MARKET.

SECOND TIME AROUND

BY DAN McCUE

Regardless of their relative modesty or ambition, all remodels ultimately come down to reconciling vision with context. And when it comes to incorporating green elements into the project, there's the added dimension of just what shade of green the client wants to be.

"I think the number-one consideration is still energy savings and behind that is indoor air quality," says Michael Strong, one of three builders whose projects are showcased in this article.

While today this might sound like a statement of the obvious, Strong, president of Brothers Strong, a Houston, Texas-based residential remodeling firm, and GreenHaus Builders, a LEED for Homes home builder, says it illustrates a gradual evolution in homeowners' attitudes.

"Interestingly, on our early remodeling projects, going green wasn't something our clients had in mind when they first reached out to us," he says. "It was something that we would lead them to, with the driving factor being a heightened sense of durability.

"You'd go out to a remodeling appointment, knock on the door, and as you were waiting you'd look up and see something that was rotten or falling apart and think, 'You know, I guess in hindsight, that was a pretty stupid idea.'"

Strong joked that his firm "fixes the mistakes of Houston's best-intentioned architects and home builders," but was quick to good-naturedly turn down the volume on his bravado.

"It's not that we're so brilliant," he says. "It's just that I think we bring a heightened sensitivity to durability and low maintenance to our green construction ethic."

Born and raised in Austin, Texas, Strong described himself as a "lifelong tree-hugger and recycler."

So when he founded Brothers Strong in 1990, it was natural that he would look for every opportunity to be as environmentally friendly as possible. While Strong credited his upbringing with his strict adherence to the "reduce, reuse, and recycle" ethos, he says it also instilled in him a philosophy that "different is better."

"We've always been anxious to throw our hat over the wall and

try something new," he says.

With the Callaway home remodel, Strong brought these philosophies to bear in a historic Houston neighborhood.

For Chris Kornman, president of Southern Homes in Slidell, La., the challenge wasn't just to incorporate green into 150-year-old homes in uptown New Orleans, but also to help the city heal in the aftermath of Hurricane Katrina.

"This section of the city wasn't flooded during Katrina, so it's a high-demand market, but the reality is most of these houses are sort of past the point where you can renovate them," he points out. "Almost all have horrible energy efficiency, and even the nice ones leak [air] like a sieve."

While in other markets such homes might simply be bulldozed, home buyers in New Orleans put a premium on the fabled city's old and "weathered" features.

"It makes for an interesting challenge," Kornman admits. "Typically, we're asked to double the square footage of the home, while making it more energy efficient and also maintaining the look of a century-old structure."

Out in Steamboat Springs, Colo., Joe Gillaspie, of Joe Gillaspie Construction, interior designer Annette Stelmack, and architect Joe Patrick Robbins took an even more radical approach to a remodel, ultimately stripping a mountain vacation home to its foundation, recycling the old materials, and creating what the team calls the community's first project to follow the ASID and USGBC Regreen residential remodeling guidelines.

"At the time, there wasn't much green building going on in Steamboat Springs, at least that I was involved in, and I think of it as kind of hybrid of old and new construction methods," Gillaspie says.

"Now, just a year or two later, people are thinking more in terms of incorporating green in their projects—trying to use water-based products and investing in things like LEED-certified windows—but I don't know that it's a driving force in our market yet," he says.



Project Spotlight: The Callaway House

When Catherine Callaway, a LEED AP certified architect with BNIM Architects, and her husband first purchased their 1,000-square-foot home in a historic neighborhood in Houston, they embraced it for its legacy and the fact that it was something of a blank slate.

So as the couple anticipated changes, including the addition of a 400-square-foot master bedroom and bath, Callaway got out her sketch pad and began a series of renderings aimed at incorporating their needs—and a desire for green—into an 80-plus-year-old framework.

By the time she handed the project off to Michael Strong, a like-minded member of the local green building community, the project had grown to include the remodeling of the kitchen and the complete resealing of the building envelope.

“For this remodel, we followed a performance, rather than prescriptive path, where our primary concern—along with meeting their need for more room—was reducing the overall energy usage in the house,” Strong says.

Strong’s team reinsulated the walls, replaced all the home’s windows, insulated its pier and beam foundation, sealed the attic, replaced the home’s HVAC and water heater (going with a tankless

The Callaway residence (photos above and small photos right) is 1920s pier and beam home in the Historic Heights district of Houston to which green builder Michael Strong was asked to add a master bedroom, storage, and a fully remodeled kitchen. The new building envelope features Pella E-Star windows, three different types of insulation, a tankless water heater, and a sealed attic. Inside, Strong installed water sense plumbing fixtures, VOC free Sherwin William’s paint, and cork flooring in the master bathroom.

model), and switched out all the plumbing features.

“In many respects the Callaways were great clients: they’re young, they’re technical, they’re savvy, they’re smart, and they are green,” he says. “But even in their case they still needed someone with a building background to say, ‘You can’t do this. This is why,’ and, ‘Here’s what we recommend as an alternative and this is why.’”

Strong notes that on this project, there are two elements of green construction he’s particularly taken with: an insulation inspection regime that ensures you’re meeting your performance goals before sheetrock is installed, and the ease with which many initiatives can be adopted without having to retrain one’s labor force.



Significantly, the Callaways contributed their own sweat and equity, recycling materials themselves for reuse in their home.

For instance, they took glass that was removed from the windows, painted one side, and then used it as the sink backsplash in their kitchen wall (see above).

They also tried to source all materials locally—even finding their marble countertop

from a local seller on Craigslist.

“That’s a very important consideration on a green project,” Strong says. “While it might not have any impact on the energy performance of your home, it goes a long way toward fulfilling your broader goals in terms of sustainability ... because what a lot of people don’t understand is that the embedded energy in a given product doesn’t just come from its manufacture, a tremendous amount of the more or less invisible energy used in a project is in the transportation of the project elements.”

Project Spotlight: Annunciation and Arabella

When it comes to remodeling 100-plus-year-old homes in New Orleans, Southern Homes’ Chris Kornman notes that deconstruction has been the critical first step of every project.

“A lot of these homes are former rentals, and often they haven’t been renovated in decades and have a lot of problems,” he says.

Rather than band-aid these issues, Kornman and his team strip the interior of the home, leaving only the exterior walls. What can’t be reincorporated into the home is then donated to either Habitat for Humanity or Green Project, a local entity with a similar mission for use in current projects.

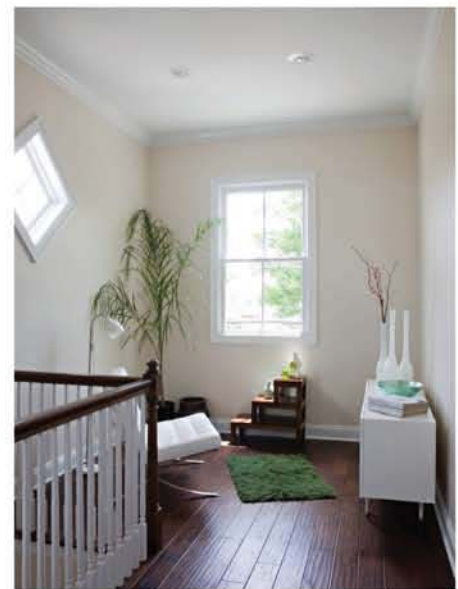
In the case of Annunciation, a 1,400-square-foot house built in the late 1860s, the homeowner of was at a crossroads; she needed more room but loved her neighborhood and didn’t want to move. She also wanted her home to be far more energy efficient as she was spending \$300 month to air condition it during the summer but

The Annunciation home in uptown New Orleans (below) was built by Chris Kornman of Southern Homes. He gutted the original 100-plus-year-old home and added a second story. The remodel employs spray foam insulation to help mitigate the heat and humidity of the Crescent City, while the bricks incorporated in the front steps and façade are recycled from the fireplaces that heated the original structure.

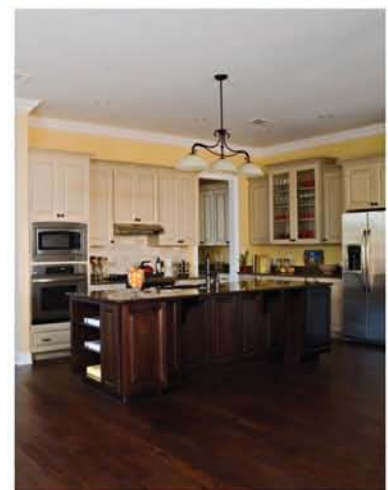




Home buyers in the New Orleans market pay a premium for the high ceilings and open floor plans, which provided ventilation in the 1800s but are not efficient for heating and cooling homes today. Kornman says that on both the Annunciation (this page) and Arabella (next page) projects, sealing the home was critical to making the spaces work. To enhance their charm, he also recycles the original—and very valuable—heart pine flooring.



Builder Chris Kornman remodeled the Arabella and is using it as a model home to show how historic renovations can also be green. He is offering an Energy Wise guarantee on this home.



in which so long as you build according to the dictates of the pre-construction energy analysis, they'll guarantee your HVAC bills," he explains. "Arabella is a test case for us under this program, and we're marketing it as a green-certified home and that has the guarantee," Kornman says. "You can't market it as a New Orleans-style home because that's what every home here is; so we see green as a way to differentiate ourselves as builders *and* home sellers."



When it came to this home in Steamboat Springs, Colo., maximizing the use of the environment—particularly natural sunlight—was considered essential. To make sure the client's goals were met, architect Joe Patrick Robbins first laid out a design on pencil and paper. He then input the plan into a computer, and meticulously "mapped" the sun's progression through the house, day to day and year to year.

Project Spotlight: Rocky Mountain High

In a sense, the stunning, mountainside remodel that Annette Stelmack helped usher into being in Steamboat Springs, Colo., was a case of one good job begetting another.

Ten years ago, she'd helped the client couple incorporate numerous green elements into the remodel of their primary residence in Boulder. So when the couple later wanted to do a green remodel on the site of their country retreat, the interior designer who now

owns and operates Inspirit-llc was again asked to be part of the decision-making team.

"What they wanted was a family and friend home, a structure

that had a healthy indoor environment, was comfortable, and offered low maintenance," she says. "That meant everything had to be formaldehyde and VOC free or as low in both as possible."

But as it turned out, these stipulations would lead to struggles with subs; the biggest involved overcoming the intransigence of a cabinetmaker who balked at using water-based finishes due to concerns over their long-term performance.

She resolved the temporary impasse by introducing him to a colleague in Carbondale, Colo., outside of Aspen, who had gone green himself and reassured the cabinetmaker about the reliability of the finishes.

Similar discussions were also part of her dialog with custom furnishing manufacturers.

"They'd say, 'I'm not familiar with this or that product,' or 'Am I going to have your client coming to me in a year or two because these products are not performing?' And the only way you can resolve these issues is to keep the lines of communication open and, in some cases, introduce them to those that have already embraced these products."



In cases where very low VOC or formaldehyde levels were unavoidable, the team turned to a product called Safecoat, manufactured by AFM Safecoat, using it to seal exposed surfaces and prevent off-gassing, she says.

Because the client put a premium on natural sunlight and wanted to refrain from using window coverings as much as possible, the path of natural sunlight was mapped through the structure, and the rebuilding of the home was planned accordingly.

"Managing" the use of sunlight in the home helped minimize the use of heating, ventilation, and air conditioning. But it also required that the construction team and the interior designer pay especially close attention to the durability of materials.

"A real concern was the intensity of the sunlight," Stelmack says. "In terms of fabrics used in furniture and other elements, we made sure that they were all natural fibers, and we stayed away from anything that was petroleum based, and we also did everything we could to make sure the kinds of fibers we used would not just disintegrate in the face of the UV rays streaming in."



Asked about other internal elements, Stelmack says reclaimed oak flooring and interior doors are a sustainable option, as oak is a durable hardwood and the distressed nature of reclaimed wood makes it particularly forgiving.



The finishes in the house had to be able to withstand the UV rays from the many windows that were incorporated to bring in natural light. The team used hard surface flooring for durability and easy cleaning, (including reclaimed oak flooring), recycled glass tiles, and integral colored plaster walls to reduce VOC use.

"Integral colored plaster walls support healthy indoor air quality as an inert finish that is available additive free," she says. "Additionally, the skim coat of plaster blocks the small amount of VOCs in drywall and taped joints, supports moisture management and can act as an air barrier."

Other green elements Stelmack particularly likes are:



- recycled glass tiles for bath walls and backsplashes, which are available from 100% recycled, post-consumer glass materials and are "beautiful, durable, and long lasting

- hard surface flooring—such as wood, stone, tile, and cork—which are durable, easy to maintain and clean, and don't release harmful gases

- wood-framed dining, counter, and bar stools with washable seat cushions, which also support long-term durability

"From my perspective, the jury is no longer out as there are high-performing products that are green, sustainable, and eco-friendly and products that are less ideal for the triple bottom line—people, planet, profit," Stelmack says. "Performance concerns are not a specific issue with just green products. Vetting products and the issues around performance come with any type of product, regardless of whether it is LEED compliant or meets a set of sustainable criteria." GB