BEHIND the WALLS

Can Healthy Homes be Gorgeous Homes?

(Hint: The answer is yes)

all 20





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is an online marketplace connecting Buyers who want one-of-a-kind creations with professional and passionate Makers of those goods. Born in 1996 with the vision to help people find the unique gifts, objects and goods they cannot find through traditional retail channels, CustomMade has grown from a community of 350 carpenters to more than 12,000 Makers (and counting) of all trades since its acquisition in 2009.



In 2008, best friends and entrepreneurs Mike Salguero and Seth Rosen found a different way.

Seth was looking for a coffee table for a new apartment, but was not satisfied with the quality of retail options when considering their prices. On the other hand, highly customized offerings from other companies were out of his budget. Unwilling to settle, Seth found **www.custommade.com**, a small site that helped him find a local woodworker who made a beautiful, entirely custom table that both met Seth's needs and made him feel more emotionally connected than a big-box purchase.

Seeing the potential to provide the same experience for many others, Seth joined forces with Mike to buy CustomMade in 2009, which they quickly transformed into a matchmaker enabling Buyers and Makers to collaborate on unique projects that fill their homes and lives. Today, the CustomMade community includes thousands of Makers of custom furniture, jewelry, leather, ceramics, textiles, (even wooden bow ties) and the team has grown from two former college buddies with a vision to dozens of impassioned individuals working to make custom an every day option.

How it Works

Buyers connect with professional Makers by simply submitting a photo or description and preferred budget for what they're looking to have made. Interested Makers reach out with ideas or send a proposal to create the project. Buyers looking for inspiration can also browse Maker Portfolios and contact Makers directly.

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Does saving energy get you hot under the collar?



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FROM THE EDITOR

Breaking Ground



The words you're reading at this exact second belong to our first-ever Healthy Homes issue—a multi-perspective delve into how to make your house as good for everyone who lives in it as it is for the environment. Those ways cover the gamut: everything from recycled wallcoverings and organic, locally made furniture to ingenious home tech solutions that prevent common and debilitating allergies.

All of those ideas in the following pages come straight from experts who certainly know how to make things function efficiently inside our houses (or 'Behind The Walls,' so to speak), but also happen to prioritize making them beautiful. Take green building guru Steve Thomas. Or the architectural teams at Studio Troika and LDa, who are creating sustainable spaces with aplomb. Or designer Robin Wilson—a powerhouse of inspired, clean living. Sure, all of these people are talented enough that they could essentially be printing money by doing more traditional work in their respective fields. But instead they decided to push the envelope from an aesthetic standpoint as well as an ecological one. They're remarkable because they came up with new ideas to dovetail the two, since they believe in both.

We've pulled their stories into and our pages and into our BTW community because they share our mission: We're all committed to helping more people like you create a healthy, earth-friendly, wallet-friendly, and beautiful home. And now we need you to join our community, too.

We're about to launch our very first Kickstarter campaign (see it at www. BTW. build/kickstarter) to raise funds to further expand our reach. (Just in case you think a Kickstarter has something to do with soccer, it doesn't. It's a crowdfunding effort wherein everyone pitches in a bit of dough to support an effort.) In our case, that effort will be to get this magazine in the hands of even more people, and teach more of our neighbors the value of living well for both the planet and themselves.

'Breaking ground' may be primarily a construction term, but we also think of it an apt description of how the entire BTW community is changing the landscape of home living. Enjoy the issue.

Alexandra Hall Editor, BTW







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FROM THE PUBLISHER **A Fresh Start**

It may be the first of January for most, but for me, the start of the new year comes every fall: the kids are going back to school (thank god), we've all recovered from summer, and are back to our normal lives (if normal means working too hard, too fast). So yes: for me, fall is all about new starts.

Here at BTW, we're working on our own new starts by mapping out new initiatives and planning next steps, all in an effort to get the word out about healthy, sustainable, and beautiful homes. As usual, our goals are ambitious, and include bumping the size of each issue from 44 to 96 pages, bolstering readership from 100,000 to 200,000, and organizing our videos into BTWty, launching BTWradio to include podcasts, and creating the BTWstore to sell healthy, sustainable, and energy-efficient products.

Of course, to do all these things we need money. Not a lot, just some. So we're launching our own crowdfunding campaign on Kickstarter to help pay for all of these new initiatives. For those not familiar with crowdfunding, it's a virtual "pass the hat," where you ask all you family, friends, colleagues, community members, site visitors, and readers (yes that, that last one means you) to throw some dollars our way to help pay for all we



are trying to do. And if you contribute, you get a prize: our prizes vary from a virtual "thank you" for a \$5 contribution, to a subscription to BTW: Behind the Walls for contributions over \$25, to the really sexy things like home automation systems and big givers. Basically we're trying to build something great here and need your help. So go to www.

BTW.build/kickstarter to give us a hand in making our fresh start (and watch our awesome video while you're at it).

Of course, at some point all beginnings come to an end. And so it is here at BTW, as our superstar Irish architect/graphic designer/expert advisor/ field manager/start-up ninja, Eoghan Considine makes plans to leave us to return home to his native Galway. To say that I'm in an outright panic about his departure would understate the situation. Eoghan (pronounced Owen) has been involved in every aspect of our company, jumping in no matter the task... including everything from a heroic amount of design help with this issue of BTW and creating architectural plans for a net zero energy home and jump-starting our crowdfunding campaign. Though Eoghan may be leaving us, his impact here has been nothing short of transformational, and we all can't thank him enough.

So Eoghan, we wish you only great success with your own fresh start, and to everyone in the BTW community as your new starts begin in this fall.

All the best,

Harold Simansky B.T.W. Publisher and CEO of 360Chestnut



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WHAT IS GREEN BUILDING?

One home expert and the host of This Old House sets the oft-misunderstood record straight, once and for all.

By STEVE THOMAS

It's a term everyone uses, but few actually understand. The label 'green building' is fairly new, first popping up in the 1990's. People were building 'green' houses before that, mind you, but instead we called it sustainable building, low impact building, energy efficient building, and the like. The term really came into common parlance with the founding of the U.S. green Building Council in 1993.

But what does it actually mean? I hosted "This Old House" on TV for 14 years, and we built or renovated many houses that were green. Then I hosted and produced "Renovation Nation with Steve Thomas" on Discovery's Planet Green, and every project we featured was green. I also hosted and produced a number of documentaries for the History Channel on historic restorations that employed green building techniques. Then there are my own building and renovation projects that I've endeavored to build as green. So with all this experience, you'd think I would have had a ready reply to the question, "What does green really mean?" But when I was asked to give a keynote speech on the subject recently, I didn't have a cogent answer. So I set out to develop one.

Green Building is really a set of building and renovating practices, methodologies, and technologies that together result in a pretty smart, low-environmental impact building one that's also healthy, comfortable and efficient to heat, cool, and power. A good way to visualize this is what I call the "Five Rings of Green": energy, workmanship, materials, health, and design.

The first one, energy, is the sum total of the power it takes to heat, cool, light, and operate the building. Using less is obviously better, and in an ideal world, you want your house to be so well insulated, and the appliances and fixtures to be so efficient that with a little solar or wind power you could generate as much power as you use.

The second, workmanship, is an old value. It equates to "build quality" in automobiles. The better a house is built, the longer it will last, and with fewer repairs. The old builders in New England knew this, and often as I've repaired one of my own old houses I've marveled at the craftsmanship hidden behind the walls (and sometimes the lack thereof). Most workmanship issues deal with detailing the thousands of joints in a house so that they are well engineered, tight, and strong, and for the outside skin of the house, watertight. Nothing kills a house faster than water intrusion. In the tight houses we're building these days, water vapor on the inside of the house has to be controlled as well.

Materials is a big category dealing with the choice of stuff you put in your house (Is it appropriate, durable, reasonably priced, low maintenance?) and the cost of the material expressed in terms of 'supply chain carbon.' This would be the sum total of the carbon cost of the product or material: the mining, quarrying, logging, harvesting, processing, manufacturing, packaging, transporting, and at the end of the product's life cycle, disposing of the product. For example, If you're using an exotic flooring material purported to be green that's harvested in Southeast Asia, processed and manufactured in a non-green manner, and

FIVE RINGS OF GREEN



transported long distances to your job site, then how truly green is that? Since there's no standard or metric, anyone can claim that their product is "green". The Big Box stores have undertaken programs to quantify the true cost of supply chain carbon in all the thousands of items in their stores. It's a daunting task and I applaud them for doing it.

The health ring, meanwhile, represents all the factors that go into making the house safe and healthy to live in-from indoor air quality issues to the off-gassing of compounds in carpets, furniture, drapes, composite woods, plastics, and so on. The off-gassing issue you can monitor through careful selection of furnishings. In terms of ventilation, ideally you want your house to be very well sealed (letting a house "breath" is a dated idea), and then control the fresh air ventilation with a heat recovery ventilator or a simple continuous duty fan. If the house is really well insulated and air-sealed, cracking a window for ventilation will not significantly affect your heating bill. What will is air leaking through unsealed cracks and gaps in the shell of the building. Health and energy are interconnected circles because the techniques that make a house energy-efficient also promote a healthy house. Using the services of a qualified design professional is essential to help design your overall system.

And finally there's the design category, which I include as the master ring of green, because it pulls all the other rings together. Whether new construction or a renovation, smaller houses are arguably often greener—there are simply fewer things to build, power, and maintain. Smaller houses are more expensive per square foot than larger ones (because you have fewer gross square feet over which to average your big costs, created by the kitchen, bathrooms, and mechanicals), but they're also usually more design-intensive. Making a small space feel and function like a big one takes a lot of thought, and here again I recommend the services of a qualified design professional.

Some people argue that building green is too pricey. But in general, both new construction and renovation is more complicated and expensive than ever. So while it's true that energy-efficient, green features do add to the initial cost, but the real-world analysis shows that over time practical green building will pay for itself many times over.



Green building guru Steve Thomas.

UNEXPECTEDLY GREEN

Not all eco-conscious, sustainability-minded home products are marketed under a green banner. In these sleek vignettes, Stephanie Rossi of Spazio Rosso Interior Design highlights an artful wall covering and a sleek chair, both of which have environmentally sound credentials that might otherwise go unnoticed.

Photographs by JOEL BENJAMIN Photographed on location at the Boston Design Center

1 "MITT" CHAIR BY BERNHARDT DESIGN

The sleek, modern chair by duo Claudia and Harry Washington is a high-design take on the classic lounge chair, offering the familiar form in a streamlined silhouette punctuated by two details: a wide topstitch that traces the sinuous shape and a leather handle along the chair's back. The chair swivels and slides thanks to a suite of undermounted casters and comes with a Greenguard certificate of compliance for low chemical emissions. Available to the trade through **KERWIN GROUP, BOSTON DESIGN CENTER, ONE DESIGN CENTER PLACE, BOSTON, 617-330-9046, KERWINGROUP.COM.**

2 RESIN DRUM TABLE BY MARTHA STURDY -

A resin piece finished in a subtle marble pattern and perfect for small spaces. Available to the trade through **BAKER**, **BOSTON DESIGN CENTER**, **ONE DESIGN CENTER PLACE**, **BOSTON**, **617-439-4876**, **BAKERFURNITURE.COM**.

3 CONE FLOOR LAMP BY DWELL STUDIO FOR GLOBAL VIEWS —

Midcentury Italian sensibilities, rendered in a graphic matte black and brass finish combination. Available to the trade through **GLOBAL VIEWS, BOSTON DESIGN CENTER, ONE DESIGN CENTER PLACE, BOSTON, 617-342-0911, GLOBALVIEWS.COM.**

4 "ROYAL HIDE" BY EDELMAN LEATHER

A butter-soft, supple leather rendered in Super White is perfect for anchoring transitional and contemporary spaces. Available to the trade through EDELMAN LEATHER, BOSTON DESIGN CENTER, ONE DESIGN CENTER PLACE, BOSTON, 617-330-1244, EDELMANLEATHER.COM.

5 "ANGEL'S LANDING" BY STALLMAN -

The sinuous shapes of this three-dimensional piece are created by hand-sculpting canvas, which is then painted to provide depth and dimension. JOANNE ARTMAN GALLERY, 326 N. COAST HIGHWAY, LAGUNA BEACH, 949-510-5481, JOANNAARTMANGALLERY.COM.





















"PEONIES WHITE" MURAL WALL COVERING BY THOMAS DARNELL FOR AREA ENVIRONMENTS

Area Environments creates arresting, artful wallcoverings by harnessing the talents of artists across the globe and rendering their work through a unique reprinting process—one that includes using recycled paper and renewable/sustainable resources. The company also works to support artists in the community by extending a commission on every square foot of wall covering sold. This design is based on a painting by Texas-born, South-of-France-based artist Thomas Darnell. His paintings achieve their sweeping impact through Darnell's process of layering transparent oil paints and resins, building nuance, contrast, and crisp detail with each pass of the artist's hand. Available to the trade through Area Environments, 1 Malcolm Avenue SE, Minneapolis, Minnesota, 612-315-6260, areaenvironments.com.

"PARK SLOPE" MIRROR BY WALLACE FINE MIRRORS

A sleek frame balances the impressive scale of this mirror. Available to the trade through The Bright Group, Boston Design Center, One Design Center Place, Boston, 617-345-8017, thebrightgroup.com.

"PALISADES" SCONCE BY JONATHAN BROWNING

Midcentury motifs at their most refined, with fluted sheaths that cast a warm glow. Available to the trade through The Bright Group, Boston Design Center, One Design Center Place, Boston, 617-345-8017, thebrightgroup.com.

"PETALON" ROUND DRINK TABLE BY EVAN LEWIS

Sculpted details and a rich, layered finish provide aesthetic impact beyond the table's economy of scale. Available to the trade through The Bright Group, Boston Design Center, One Design Center Place, Boston, 617-345-8017, thebrightgroup.com.

"ENO" HIGH BACK LOUNGE BY BRIGHT CHAIR

A streamlined silhouette that offers as much in comfort as it does in style. Available to the trade through The Bright Group, Boston Design Center, One Design Center Place, Boston, 617-345-8017, thebrightgroup.com.

"NIJO" TABLE BY O'HARA STUDIO

This textured table is cast in resin, then finished by hand to achieve an aged patina reminiscent of its architectural inspiration: Nijo Castle in Kyoto. Available to the trade through M-Geough, Boston Design Center, One Design Center Place, Boston, 617-451-1412, m-geough.com.

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THE MYTH OF ORGANIC FURNITURE

Many home goods companies have been peddling their products as 'organic' for years—but are they being truthful? And if not, what's the next best thing?

By CAROLINE EGAN

The marketing hype for eco-friendly furniture has shown no sign of dwindling over the past years; these days it seems everyone's jumping on the organic home bandwagon. But how much of that is accurate, and how much of it should just be filed under 'greenwashing'?

It's a simple fact: furniture, specifically upholstery, cannot be 100 percent organic. That's because federal law mandates that all furniture be made with flame-retardants (which is why many forward-thinking furniture stores opt to label their products 'eco-friendly' rather than 'organic.') But that doesn't mean furniture can't still be sustainable, healthy, and easy on the environment.

Arguably the most important question a consumer should ask when buying furniture is 'Where is your furniture made?' The answer you receive will reveal the carbon footprint that your new bedroom set has had on the environment. Consumers should understand that when a company notes that 95 percent of their wood manufacturers are local to New England, it means that a dining table, for example, would have traveled far less to get to your living room than something comparable coming from China. In a perfect world, store managers and their in-house design consultants will even visit the factories where the furniture is made, so they can share their experience with customers.

What the industry has started seeing now is that many manufacturers are introducing green and sustainable practices on their own, simply because it makes business sense. For example, one very popular furniture maker even uses recycled plastic bottles as filler for sofa cushions and recycled steel in their frames. And then there are other important questions to ask when going after the most eco-conscious products, starting with 'Is this real wood?' and 'What's the durability of the product?' Sustainability is linked to both quality and longevity; buying a chair that will last longer because of its quality and the use of real wood will ultimately mean less production.

It's on this last issue where durability, quality, and health all align. Generally, lower quality furniture will use some sort of aggregate wood product (frequently referred to as particle board or chip board). The manufacturing process is what one would expect: wood scraps and waste are glued together into sheets using a tremendous amount of pressure and adhesives. The result is a product that's very stable but overall less durable and generally filled with volatile organic compounds or other toxins. While it may look okay (because a real wood laminate covers the exterior), it will likely have a chemical smell.

And then of course, there's always the issue of cost. Ten years ago if you wanted eco-friendly upholstery, the price for that was significantly higher than traditional upholstery. But now it's almost always an option, and frequently one with no additional markup. That changing landscape should please both consumers (and manufacturers, too) as furniture becomes a key player in the world of sustainability and healthy homes.

The longevity of furnishings has become part of the equation in sustainability efforts.

-



Here's proof that you can't judge a home by its cover: an Irish farmhouse in Concord, which beyond its cozy façade is about as cuttingedge in design technology as you can get.

By Elizabeth McKinney

Photographs By Greg Pemru

IT ALL STARTED IN DUBLIN. AND THEN IT LANDED

in Concord. After all, the latter is the home of revolutions. So why wouldn't it be the perfect place to fuse both modernity and history—and to introduce the very newest approaches to a healthy, technologically cutting-edge home with the most traditional, cozy European style?

"They blew us away," says Paul O'Connell, an economist who moved to Cambridge from Ireland with his wife (they both came up at Harvard) in years ago, before they eventually decided to move to the 'burbs. "We had very loose ideas of what we wanted to do, but they just got us." By 'they' he means LDa Architecture and Interiors--the dream team of architects that the couple spoke to about essentially rebuilding their notion of an Irish farmhouse smack in the middle of design-conservative New England.

"We wanted to draw on Irish architectural themes, and they countered with comprehensive ideas," O'Connell explains.

"Our core objective was energy efficiency. [We] gave them a wish list. Without being ridiculous, we got as close as we could to being a passive house."

A passive house is one that's very well-insulated, virtually air-tight, and primarily heated by passive solar gain. The O'Connell's, since its completion, has earned a Silver LEED Certified home status (which is pretty much the maximum number of points for a rural structure), and a Home Energy Rating of 11, which basically means it's 90% more energy efficient than most conventional homes.

Located in a suburban neighborhood, this home sits on a wooded property along the Assabet river. The O'Connells had a vision of a traditional, simple Irish farmhouse, typically rubble-stoned, which often combined forms to create a courtyard. "Such structures were typically connected to nature, but also defined by the architecture," explains Doug Dick, the principal architect on the project at LDa. So he did a few sketches, started working on the designs for the house, and they were off and running.

LDA'S FOCUS HAS BEEN, FROM ITS VERY START, SUSTAINABILITY

and energy efficiency. So it's no surprise that the challenge of this house appealed to them. "They wanted it to be exemplary in that regard," says Doug, referencing the O'Connell's insistence on both environmental consciousness (in the eco sense) and appropriateness (in the neighborhood aesthetic sense). "They wanted an all-electric house that was very well insulated, but built with healthy materials."

And that's exactly what they got. The architects used a thin veneer of bluestone material, sourced in New York, to eclipse an airspace behind the wall that allows the house to breathe without posing the risk of rotting or molding. Behind



Opposite Page: The new property is part Irish farmhouse, part New England Colonial style, and all parts cutting-edge technology. **Above:** One of the home's airy entryways.



Above: A striking staircase section, framed by the couple's collectibles.



Above: The sprawling sitting area, flooded with natural light.



Above: The O'Connells couldn't have done without a home working space, tucked away behind sliding doors.





the skin of the house stands an eight-inch structural panel, allowing the home a continuously high level of insulation. This panel also supports the load of the roof, which made the actual construction very quick. Needless to say, the traditional aesthetic of the place is no prelude to the technology inside.

Those innovative structural panels saved roughly four to six weeks of building time versus a standard home. And because everything is pre-cut in the factory and not on the work site, they saved a significant amount of lumber waste. Not to mention, whatever the company did have left over, they used as recyclable fuel to heat their factory.

Once the home was properly insulated, the next step was keeping it from feeling stuffy. Doug avoided this by using a German manufacturer system: a heat recovery vent unit featuring a high-efficiency motor, and running on such a low velocity that the family can barely feel or hear it. This device is "constantly refreshing," says Doug. "It's a system you'll start to see more and more of in high tech houses."

So what does this house run on? That fancy German system, as well as the rest of the home, uses both geothermal and solar technology as sources of power. (There are two geothermal wells in the ground, and solar panels on the roof.) This is exactly the kind of system that the O'Connells had in mind, and the kind that LDa can install with their eyes closed.

IN THE END, IT BECAME AN ORGANIC PROCESS.

Conversations about how to channel an Irish aesthetic in a subdued fashion flowed quickly and naturally, based largely on their personal tastes and everyday living needs.

For example, relatives and friends of the O'Connells come from Ireland and stay for long periods of time every year, so they needed a comfortable guest suite above the garage. They were thoughtful enough to add a separate entrance to create a sense of privacy. 'We pat ourselves on the back for that," says Paul. "We have them here three months [out of] the year. This means that people can come together in the central areas for mealtimes, but when they're here in the evening, they have that little bit of separation that you need."

In terms of the aesthetic interior of the home, the end result is a style that's clean and smart. It shies away from the futuristic feel of current modern homes, while avoiding the dusty, traditional style of the past. It's easy and bright, with the white walls acting as a canvas for essential pops of color. The best part, though, is the natural light, which streams through the wonderfully oversized windows.

Then there was the addition of the two gables, which reinterpreted it as a more traditional Colonial New England house. The house and the accompanying garage were merged in an L-shape--not quite a courtyard found in Ireland, but not a common staple in American architecture, either. In Paul's words, "It was a little bit of what we were familiar [with] in Ireland, but wouldn't be out of place in a New England setting."

"They wanted a well-proportioned place to live," adds Doug. "Detailed, but just enough. The overall feel of the house is sophisticated simplicity. That really defined their approach to living."

This page, top to bottom: Corners of the clean-lined kitchen, defined by plenty of cabinet space and pendant lighting.



Above: Even in the home's bathrooms, the abundance of white is used as a canvas for pops of color and contrast.



Above: This cozy spot by the fireplace will be ideal in the upcoming colder months.



(This very well could be) THE HEALTHIEST HOME IN NEWENGLAND

by Alexandra Hall

IT WAS A MOUNT EVEREST-SIZED UNDERTAKING FROM THE VERY BEGINNING: TO BUILD THE ULTIMATE IN HEALTHY HOMES, AND ALL OF IT LITERALLY FROM THE GROUND UP.

After years of chasing a cleaner and more restorative way of living (meaning, everything from what they ate to how they took care of themselves physically), Kirstin and Michael Kolowich bumped straight into what's called the 'healthy house' movement. "I started reading everything I could get my hands on," says Kirstin, "and I realized that it's not just food that keeps us healthy, it's also where we live, too."

And so it began. Kirstin, who had suffered chronic illnesses in multiple houses going back to 2009, and after seeing a handful of experts and doctors, eventually learned that she was having a reaction to indoor air as affected by mold.

But what to do? Especially when, in humidity-prone New England, a home that doesn't engender those afflictions can be nearly impossible to find. (Most structures in these parts have walls of fiberglass, and basements and ducts that attract allergy-causing mold. Such diseases occur in roughly 20 percent of all homeowners, triggered by said mold.) The couple moved several times, but yet couldn't find any place that made Kirstin feeling better.

Understandably frustrated, she started researching the best practices at building a healthy environment, developed in Europe and Western Canada, and currently being experimented with in the Western U.S. She spent years pouring over books on the subject, and found a few written by healthy homes expert Paula Baker-LaPorte. One of Baker-LaPorte's key arguments is that today's newer homes are full of toxins and chemicals, and are therefore akin to fast food. In fact, in much of her writings, she's called out a vast swath of the quick-to-produce architecture and home-building industry, by categorizing them under the term 'fast housing.' Her most telling analogy plays that out:







Fast housing is cheap, easy, and convenient. But it's the equivalent of eating a MacDonald's burger versus a grass-fed one.

Kirstin and Michael were ready to live—and create a house that pushed—against the 'Supersize Me' house culture. And so they looked to a wooded lot in Lincoln, Massachusetts, and dove headfirst into the idea of building a brand new kind of home. One of unprecedented complexity—an assemblage of three buildings, as toxin-free as possible, at nearly 8,000 square feet in total. In other words, the kind that had never been built before in New England.

"IT WAS LIKE A GIANT PUZZLE," SAYS JONATHAN MACPHEE,

a partner at Studio Troika in Boston and the project's primary architect. In an undertaking as enormous and complex as this one, it had to be a huge team effort of many subcontractors. "I absolutely have to give credit to the all the players involved," Jonathan says. "They made me feel like a hero, and everyone on the project developed a really rare sense of camaraderie."

That camaraderie was sparked right at the beginning, when the Kolowiches invited MacPhee to spend an entire weekend with him to kick things off. They had bought the land in August of 2012, and then spent the following winter hatching out a meticulous plan.

Based on Baker-LaPorte's ideas and studies done in Germany about building healthier homes, the trio tackled a mountain of challenges implicit in building something that had previously only been done at this level in arid climates. "It became like a science project," says Michael. "And very quickly became clear why a project this ambitious hadn't been done in this region," says Michael.

That reason, in large part, is humidity. Our moist New England climate is a breeding ground for mold—and thus of allergies. Their solution? To split the home into three distinct structures, each serving different purposes and thus containing three separate levels of healthiness. First there would be a main house where the couple would spend the majority of their time, then a garage where Michael's office would be



(complete with dry wall and finished hardwood floors), and finally an ultra-clean studio space made of clay plaster (where, thanks to a filtered, hospital-grade energy recovery system, Kirstin could spend time recuperating whenever her ailments started acting up).

All of the mechanics would be kept in the garage, so the main house would be as pure an environment as possible. And there would be no basement, either. Basements attract moisture, and therefore mold.

They spent almost a year just on permitting alone, approaching various town boards for approvals before starting in. First up were the walls—structures made of concrete block and wood fiber with cords and insulation inserts in them. "It's a breathable wall, so mold doesn't grow in it," explains Jonathan. "That vastly improves the interior air quality."

Airflow was a major concern. Each building has extra-large cupolas with motorized awnings over the windows, so they open up and draw air in without having a ducted air system. In fact, after much back-and-forth, they opted to have no duct work in the home whatsoever, to eliminate dust and mildew. "When we saw what it was going to cost to build out the kind of ducting that was required for the heating, air conditioning, and fresh air exchange—and the fact that there's no basement, which increases the complexity," says Michael, "we said lets build the best ductless system we can. Once we did that, it was a big turning point."

As for heating, the main source is two masonry ovens—one in the main house and one in the studio. They emit very little soot and ash, and highly efficient n terms of fuel and heat, which gets drawn up into the second floor.

Once the building finally began, it was only about twelve months before they had a home. "The team was incredible," recalls Michael. "They showed up every single day of the winter, no matter how much snow there was. They knew we were on a mission and they took it to heart." In large areas, they used American clay over boards of magnesium oxide, a cross between gypsum board and cement board, so it can't grab toxins. Outside, they planned for no insecticides, no pesticides, and all native plants.

NOW ON THE CUSP OF MOVING INTO THEIR NEW SANCTUARY,

the Kolowiches are readying to purge all of their old furnishings and replace them with new ones that haven't been exposed to toxins. While not everyone may have the resources to go to that extreme, Kirstin's symptoms are such that it's a necessity. But more to the point, many of the practices the couple and the building team have employed could serve collectively or individually as a model for more—and healthier—homes in our region's future.

"The kinds of principles we're applying will make a healthier home for anyone," says Michael. "All the chemicals, electromagnetic radiation, and toxins... I've met so many people who are trying to help each other find ways to live without them. What we did proves that we can build something like this in New England. I think it's something more and more people are going to be discovering."



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GEARING UP

As home automation gets increasingly sophisticated, the spectrum of products and services gets more complex and crowded. Here are some of the top options right now.

By Eoghan Considine

SMART THERMOSTATS

1. NEST The market's leading learning thermostat, it brings the best of energy savings and design to your home. \$249 on amazon.com.

2. EVERSENSE A real rival to Nest, it offers the same functions but brings intelligent proximity sensors as well as multi media (as in, music streaming) functionality. \$299 on amazon.com.

LIGHTING CONTROLS

3. PHILLIPS HUE Not only can you control these LED lights remotely using a phone app, you can also program your lights to alert you of an important email, to set a timer to let you know your dinner's ready, and even function as an alarm clock to wake you up each morning. \$59 per bulb at apple.com.

4. LUMEN LED This is another smart LED bulb that controls your lights remotely but also has a raft of other features. With it you can sync your lights with your music or your mood, or have the lights flash when you receive a text message. There are over one million different colors to choose from on this smart bulb. \$54 amazon.com.

APPLIANCE/SMART SOCKETS

5. BELKIN WEMO It plugs straight into your wall socket and gives you total control of your appliances (from TVs to dishwashers) from anywhere. It also monitors the energy consumption of each appliance. \$59 at belkin.com.

6. PLUM Lets you control any appliance while monitoring your energy. Soon to hit the market, this sleekly designed smart socket can be pre-ordered on plumlife.com for \$79.

SMART LOCKS

7. KEVO These smart locks from Kevo sense when you are near your door, which means no more fumbling for keys. It knows when you're near, and just one touch unlocks your door. You can also send invites via the app to give access to friends, neighbors, or

contractors so they have access to your home, and cancel the invites when they're done. \$219 on amazon.com.

8. OKI-DOKEYS Allows access to your home without the need for keys, plus give temporary access to anyone you like. Advanced monitoring can notify you when your kids get home from school or if your home has been broken into. Kids can have smart wristbands for access. \$189 at okidokeys.com.

WIFI SECURITY CAMERAS

9. DROPCAM Keep an eye on your home, your family, or your pets from anywhere in the world through your phone or tablet. It takes minutes to set up and keeps you updated on everything that happens in your home. Motion and sound alerts can be sent straight to your phone, and it even lets you talk directly with whoever's at home. \$149 on dropcam.com.

10. SAMSUNG SMARTCAM This WiFi camera is easy to install, gives you remote access to your cameras, storing your video files on the cloud. It also has real-time alerts, night vision, and two-way talk. You can get all of these great features from as little as \$89 on amazon. com.

MEDIA STREAMING

11. GOOGLE CHROMECAST Connect your laptop, tablet, or smartphone to your TV with this simple plug-in device. From there you can stream videos and music straight from the web. \$35 on amazon.com.

THE FULLY CONNECTED HOME

If you automate your entire home using the above products you'll find yourself with up to six different apps. However, there are products on the market to integrate all your home automation measures into one simple app.

12. REVOLV (\$299) and 13. SMARTTHINGS (\$99) are available on amazon.com and will streamline all of your home automation applications, so basically, through one app your entire home will be at your fingertips.































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PROFILE / PURE GENIUS

For Robin Wilson, homes are most healthy and beautiful by being ultraclean—in both hygiene and design.

By ALEXANDRA HALL



"WHEN WAS THE LAST TIME YOU WASHED YOUR PILLOW?"

asks Robin Wilson, in all seriousness. "They last a long time, so if you don't wash them, that's pretty much like having dirty pillows for 10 years." For her, that isn't just some kind of Home Ec 101 test question. It's a matter of personal health and happiness. And, it turns out, professional happiness, too.

Wilson, who grew up in Austin, Texas as a pan-allergic child, battled illnesses caused by pollutants, mold, dust, and chemicals in her house for years (to a point where she was constantly in and out of the hospital), and had to stay inside during peak pollen times. "My parents had a really rough time," she says. "They had a lot to deal with. But thankfully, our doctor recognized that the environment that people are in has an impact on how you live." In an effort to make everything right, the family made major changes to their home: the family dog became an outside dog, for starters. All of the carpets in the house were removed.

Fast forward several years to Wilson as a healthy, active child. "Instead of just using an inhaler, I did track, and swimming, and whatever I had to do to get my lungs strong," she recalls. "Gradually, my asthma and allergy symptoms began to dwindle."

Her recovery wasn't just monumental because it was a recovery; it was also a very teachable moment—a personal and professional turning point. "Since then, she's built a formidable brand, Robin Wilson Home, a company that does beautiful interior design— her aesthetic is "classic with a modern touch", and defined by clean simplicity—and also focuses on wellness in the home with simple solutions to make it easier for consumers and clients. "Years ago, when I wanted to buy sheets to manage my allergy symptoms, everything hypoallergenic was always marked up," says the entrepreneur, who started her career at Oliver Wyman Consulting [then Mercer Management Consulting] in Boston.

She left her Manhattan corporate job in 1999 after a windfall from an IPO, and started her entrepreneurship dream by 2000, focused on project management for residential and commercial clients. By 2008, after years of building her design business for commercial and residential clients, primarily by word of mouth and through media exposure, she signed her first licensing deal for RWH kitchen cabinetry, made by Holiday Kitchens. A year later, she signed her second licensing deal for textiles. Today, the cabinets are sold by over 400 independent dealers nationwide, and the textiles are sold at Bed Bath & Beyond, and other retailers under a sub-brand.

Plus, she has a line of heirloom quality furniture, made in the USA, that is sold on The Nest Store website to keep costs down for consumers since there is not a retail markup made of sustainable forested maple and oak, in 12 elegant, eco-friendly upholstery options. For the 2014 holiday season, she has designed a line of limited edition hand-sewn quilts that will launch on the Bed Bath & Beyond website. And in 2015, she'll be launching a baby line, and publishing her second book, which will be filled with photos of her work and tips for cleaning and design for every room in the home. In her spare time (which it's tough to believe she has any of) she works with a few select clients a year on their design



projects, all while managing her toddler. "Everything I do is to guide a consumer to a wellness lifestyle that is both nontoxic and beautiful," she says.

Her aesthetic is always classic with a modern touch, and defined by clean simplicity—yet also aims to make health in the home far, far easier than it's ever been.

Speaking of that aforementioned pillow, it's the perfect example of how she's managed to pinpoint a happy medium between affordability, allergy-awareness, and ingenious design. After having a new baby and trying to make the bed while sleep-deprived one too many times, she realized there was a simple solution: "We paid the extra pennies it costs to put the zipper on the long side of our pillows instead of the short end," she says. The result is that it's far easier and quicker to put the pillow in the case. "Maybe our pillow costs one dollar more, but that's it." Moreover, the pillows have a hidden zipper, which eliminates the possibility of finding marks on your face after a restful sleep.

Those are the kinds of answers that Wilson's intent on continuing to find. As for the answer to her original question, she has a very definitive one. "You should wash your pillow every three months," she says. "Little things like that can makes all the difference." Above:

Robin Wilson's design work highlights beauty and cleanliness.

TIPS FROM THE QUEEN OF CLEAN

As someone who struggled with asthma and allergies as a child, home design extraordinaire Robin Wilson has had to learn first-hand about preventing such ailments in the house. "One in six Americans suffer with asthma and allergies caused by dangerous irritants and chemicals," she says. "That's like the country having an epidemic that no one's come up with a treatment for. It's time for us—as mothers, fathers, sisters, brothers, and community members—to take action to shape the health of our own homes, and lives."

After years of working hard to conquer the diseases, she's since dedicated her career to guiding the public toward healthier homes. To that end, here are her favorite products and personal tips:

1. Take your shoes off when you get home. Shoes track in e coli and pesticides because we've walked in grass and sidewalks that have been chemically retreated and soiled by animals. Keeping that outside is the easiest way to keep all of that at bay.

2. If you have a vinyl shower curtain, replace it. Vinyl's believed to be an endocrine disruptor. For women who want to get a pregnant or if you have a young boy, this can possibly lead to serious health issues.

3. Buy paints that contain no (or are low in) Volatile Organic Compounds (VOC). Benjamin Moore has a great selection of nontoxic paints that will help you breathe better and, thanks to the incredible colors, still have a gorgeous home.

4. Switch cleaners and soaps. My go-to line is Caldrea. Yes, it comes in all kinds of unusually beautiful scents, but has the huge added benefit of being non-toxic. So it's a cleaning product that soothes and works to clean, but that you're not afraid of. (With some products, I truly worry. I mean, seriously: Would you want your kids playing in a chemical factory?)

5. Get up to speed on vacuums. My favorite is the Panasonic Jet Force Vacuum. It's affordable, and comes in three different versions: urban, upright, and a canister. Each one has a bagless container system that can be washed out with water, so you're not seeing or coming into contact with all that dust (or the potential health problems) it contains.

6. Replace your linens with hypoallergenic ones. I'm partial to my own line, of course, which I designed with allergies, affordability, functionality, and beauty in mind. As for how to treat any of your linens, I use the rule of threes. Which is this: Every three weeks, wash your pillow protector. Every three months, wash your pillow. Every years, replace your pillow.

7. Get rid of wall-to-wall carpeting. Instead, install hardwood or bamboo floors. Dust your floors frequently and have them professionally cleaned twice a year (in fall and spring, preferably). If it's more cost-effective for you, just go outside and shake the rugs out in the backyard and let them sit there, to air out remaining dust particles. It'll make a world of difference.

8. If you're redoing your kitchen, opt for a company with products made in the U.S. Holiday Kitchens is a great option; they only use nonformal glues. That's important because it's a space where temperature changes happen, so more off-gassing occurs. And given how families congregate in that room more than any other, you want to be especially careful.

9. Aim for anti-bacterial countertops that are man-made (my favorite brand is Silestone). These materials have no cracks or fissures, which essentially eliminates mold.

10. Switch your faucets and fixtures. If you have the budget for it, go for ones with touchless faucets and toilets; they eliminate germ transfers. Kohler has some that lets you just just wave your hand in front of them, and water comes out for a certain amount time, then turns off automatically. With the toilets, they flush themselves.

11. Purchase LED lightbulbs for your house. A great brand is Cree—each of their bulbs lasts 10 years.

12. Systemize your in-home recycling. This way you know you're throwing things away the right way, and it also teaches your family the habit of proper waste management.



LIVING WITH CARE

This year's Design Home both spotlights one couple's mission to livein the healthiest, most sustainable way possible, and benefits Boston Children's Hospital.

by Marni Katz



Above: Sustainable wood furnishings in the dining room.

When Natalie and Tom Treat decided to leave Somerville for less urban surroundings, they knew they wanted to pursue not only a quieter, more rural existence, but also one that would minimize their carbon footprint.

But when Tom, who manages IT for Boston MedFlight (a nonprofit that provides emergency scene response and interfacility transfer), and Natalie (who works in public policy outreach for Northeast Energy Efficiency Partnerships) began their search, they quickly realized that truly energy-efficient homes available on the market were few and far between. Retrofitting an existing home would have been cost-prohibitive, so instead, they decided to purchase land and build what they wanted from scratch.

To that end, the Treats worked with Portland, Maine-based BrightBuilt Home, a line of modular, high-performance, lowenergy homes designed by Kaplan Thompson Architects, and Keiser Homes, which builds the prefabricated modules in its factory in Oxford, Maine. This allowed the couple to specify exactly what they wanted in terms of design and sustainability, at a reasonable price. And so they partnered with Boston Magazine's annual Design Home project to make it all happen. The fact that Design Home benefits Boston Children's Hospital, with its focus on innovations in pediatric health care, cemented the Treat's desire to lend their efforts and future home. In the early stages of the project, the couple learned that Natalie's niece, who lives in a neighboring town, would need treatment at Boston's Children's Hospital. The collective efforts of environmentally responsible home ownership and seemed like a perfect cross-pollination of new ideas and innovations in children's health. "All of the pieces fit together," says Natalie. "Our interests meshed perfectly with the mission of Boston Children's Hospital and the Design Home."

Tim Opgenorth, project manager at Ridgeview Construction, oversaw the building of the Treats' home, which involved configuring the modules designed and manufactured by BrightBuilt Home and Keiser, and executing the overall design vision and net zero energy mission. "While the design and choice of materials are important, it's the details of how a house is put together that's crucial," says Opgenorth. "Every aspect requires specific preparations. The details may not be apparent, but they're what ensure that a house performs as it was designed to."

Those details include various building materials and methods, such as orienting the building for maximum solar gain, efficiently installing windows, and installing the house insulation to secure a tight thermal envelope. Ridgeview Construction incorporated three types of insulation here: Nontoxic, dense-pack cellulose insulation between the studs; soy-based spray foam in the attic; and rigid, foil-wrapped foam board on the exterior walls.



Above: A bright giraffe made of recycled flip flops in the child's room.



Ridgeview Construction also put the home's energy-efficient mechanical systems in place. The home is outfitted with these energy-efficient components and systems like Sunbug Solar panels on the roof that will generate at least as much power as the home uses each year; ductless electric heat pumps by Mitsubishi to heat and cool each room individually, costing half as much as oil and one third less than natural gas; electric radiant floor mats with Wi-Fi thermostats; and an electric circuit monitor to gather data about how much electricity the home consumes; and Kohler dual flush toilets and low-flow, flow volume faucets from Peabody Supply Co.

The design coordinator was Lisa Sivan Wasserman, a Brookline, Mass.-based interior architect and designer who believes deeply in eco-conscious design, particularly when it comes to scale. "The greenest thing people could do," she says, "is cut down square footage and live in smaller spaces."

Wasserman worked closely with the Treats to choose interior finishes, determine the home's color palette, and devise the kitchen layout and cabinetry plan. She opted for elements such as reclaimed wood flooring and locally made cabinetry from Jewett Farms + Co., natural soapstone countertops from Montes Marble & Granite, low-VOC paint by Benjamin Moore, up-cycled and vegetable-dyed rugs from Landry & Arcari, and sustainable wood furniture from Dayton Home. Meanwhile, all of the artwork in the home was from The Walsingham Gallery, and was created by local artists. "There are many ways to live more energy-efficiently," says Natalie. "We want to be living proof that it can be done successfully, and show how it can affect community initiatives and overall policy." She adds, "We want our home to be a lab where people can learn from what we've implemented." Above: The third-floor sitting area includes a custom-made chandelier.



Above: All art in the home is by local artists.

Boston Magazine's Design Home will open to the public for four weeks of tours on September 10. Tickets are available at bostonmagazine.com/designhome; 100% of all proceeds will directly benefit Boston Children's Hospital.

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