

Taunton's

# Fine Homebuilding

## GUIDE TO A PRETTY GOOD HOUSE

Design and build homes that are high-performing, healthy, responsible, and resilient—without breaking the budget

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# Copper Farmhouse

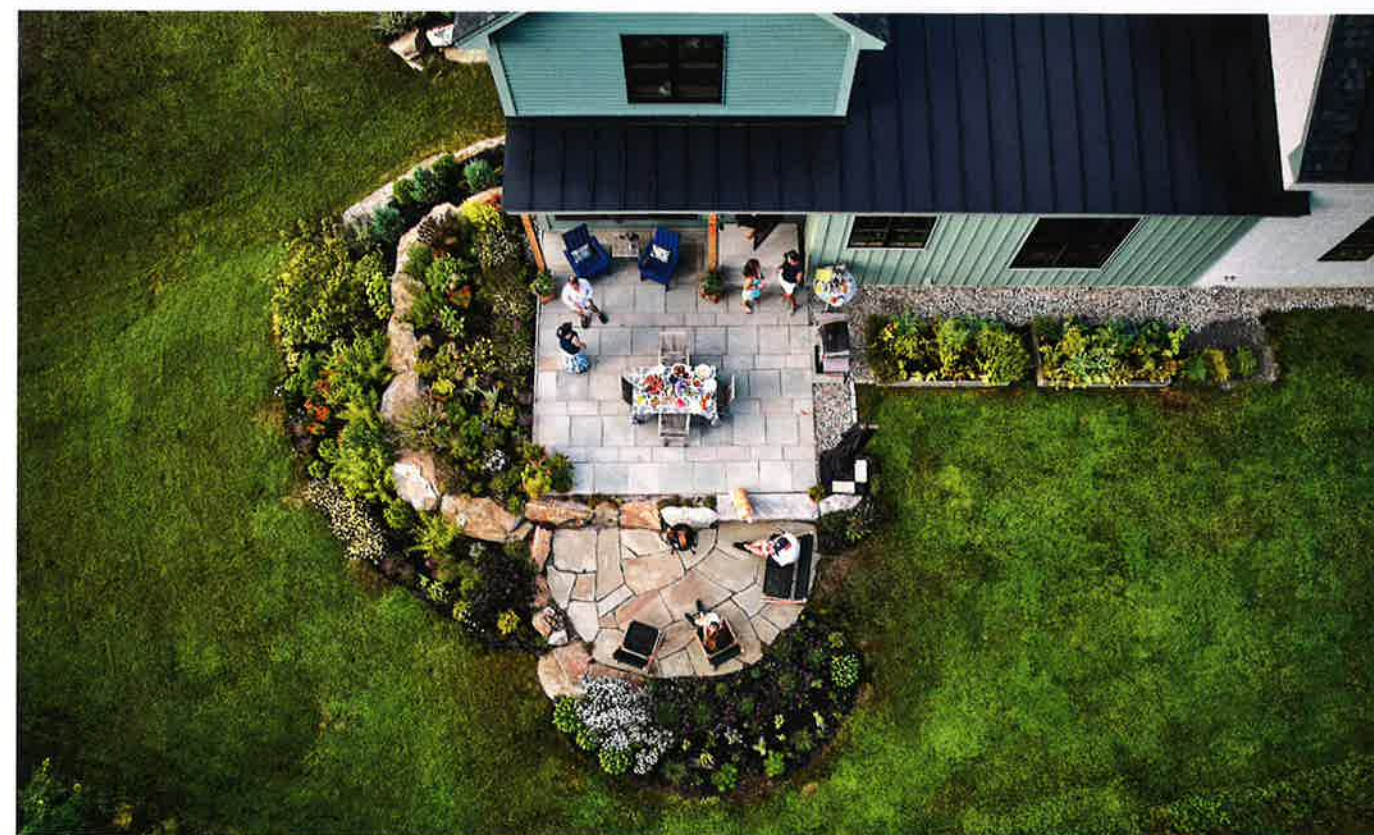
Copper Farmhouse is one of five high-performance houses in a small development in Cumberland, Maine. The architect and developer set out to create a community, not just five energy-efficient homes.



ON ITS OWN MERITS, the house has plenty to offer, including a tight, superinsulated building enclosure, a light-filled interior, and carefully framed views of the outside. But it's best understood in the context of the houses and people around it.

"We wanted to create a community of like-minded individuals," says architect Emily Mottram. "It wasn't just about building efficient houses that were solar ready or net zero. It was about creating a community of people who were connected to the land."

The 1,700-sq.-ft. house, with an attached garage and another 700 sq. ft. in office space above it, is one of five homes in Cumberland, Maine, designed by Mottram and developed by Patrice Cappelletti on land that Cappelletti bought in 2014. The first house was something of an experiment, giving the partners the chance to test their theories of design and develop stock plans that could be replicated by others. If it didn't work out, Mottram said, they would not have gone on to build others. But the first house was a success.



**TOP** Outdoor spaces are just as important as what's going on inside. The owner of Copper Farmhouse is a landscape architect who sought to create inviting areas around the house with native plantings.

**LEFT** Adjoining the house is a 700-sq.-ft. garage with office space on the second floor. Cedar shingles on the garage exterior are expensive and time-consuming to install, but also highly durable.





The Copper Farmhouse, named for the copper fixtures and antique pieces the owner brought to the project, is the fourth in the series. Local land-use regulations will limit the small subdivision to five homes. The property includes hiking trails, a community yurt and fire pit, and a sense of shared purpose among homeowners.

"It's not so much a subdivision," Mottram says. "It has more to do with how people relate to one another. It's not a place where you drive in your garage door, go into your house, and never see your neighbors."

**TOP** Mottram chose wood flooring for the first floor but used engineered flooring in the office space. Material selection often balanced one relatively expensive choice against a less costly option elsewhere in the house.

**LEFT** This custom built-in is new, but painted to match an antique sewing desk that the homeowner uses as a kitchen island. The cabinet's upper doors feature copper screen that the solar installer had salvaged some 40 years earlier.



Tall windows are instrumental in connecting indoor and outdoor spaces. The architect specified double-pane windows but has since started using triple-pane units for added performance.

The Copper Farmhouse's double-stud exterior walls are insulated with dense-pack cellulose and a vaulted scissor-truss ceiling with enough room for R-60 worth of blown cellulose. Air leakage is low, with fresh air provided by an energy-recovery ventilator. Its all-electric design is powered by a 7.9-kW grid-tied solar array.

Mottram based design decisions on what she calls "high-low-salvaged" material choices, meaning the house is a mix of high-end and relatively inexpensive materials and fixtures with a few salvaged components added to the mix. Windows, for example, are builder-grade, double-paned wood units (she's since switched to triple-glazed windows), and window returns are drywall rather than more expensive wood trim. The garage is clad with wood shingles, a time-consuming and relatively expensive choice, but that's balanced by vertical wood siding on the con-

necter between house and garage. Salvaged materials show up in the form of single-pane windows used in interior walls to help distribute light and add some character.

The interior's connection to the outdoors is key. The owner is a landscape architect who carefully developed the area immediately around the house with plants that naturally flourish in the environment rather than what Mottram calls a "sea of monoculture grass." Window placement was important, too, along with orienting the house on the lot so it enjoyed the best views possible and related well to other houses in the development. Lots of upgrades will be possible as needs change, but Mottram only got one chance to position the house correctly.

"The one thing you're never going to do," she says, "is move the location of the house."





The Copper Farmhouse gets its name from the copper fixtures and antiques the owner brought with her, including a range hood (above) and copper bathroom fixtures (right).

## Developing a House Around a Theme

All of the net-zero energy houses in the Live Solar Maine development are designed around a theme. First was the Birch Farmhouse, named for a birch-themed Angela Adams rug belonging to developer Patrice Cappelletti. When Mottram and Cappelletti got to work on the fourth house in the series, they learned that its new owner had inherited copper fixtures and antiques from her parents. "Having a design theme helps guide the process," Mottram says.



LOCATION (AND CLIMATE ZONE):  
Cumberland, Maine; Climate Zone 6

ARCHITECT: Emily Mottram

BUILDER: Patrice Cappelletti

LIVING AREA:  
1,700 sq. ft. with 700-sq.-ft. office over garage

NUMBER OF BEDROOMS/BATHROOMS: 2/2.5

FOUNDATION: Full basement, poured concrete

FOUNDATION INSULATION: R-15 foam

SUBSLAB INSULATION: R-20 EPS foam

WALL CONSTRUCTION: Double-stud

ABOVE-GRADE WALL INSULATION:  
Dense-pack cellulose, R-32

ATTIC FLOOR INSULATION:  
Vaulted scissor truss with R-60 blown cellulose

AIR LEAKAGE: 1.5 ach50

SPACE HEAT: Ductless mini-split heat pumps,  
supplemental wood stove

DOMESTIC HOT WATER: Heat-pump water heater

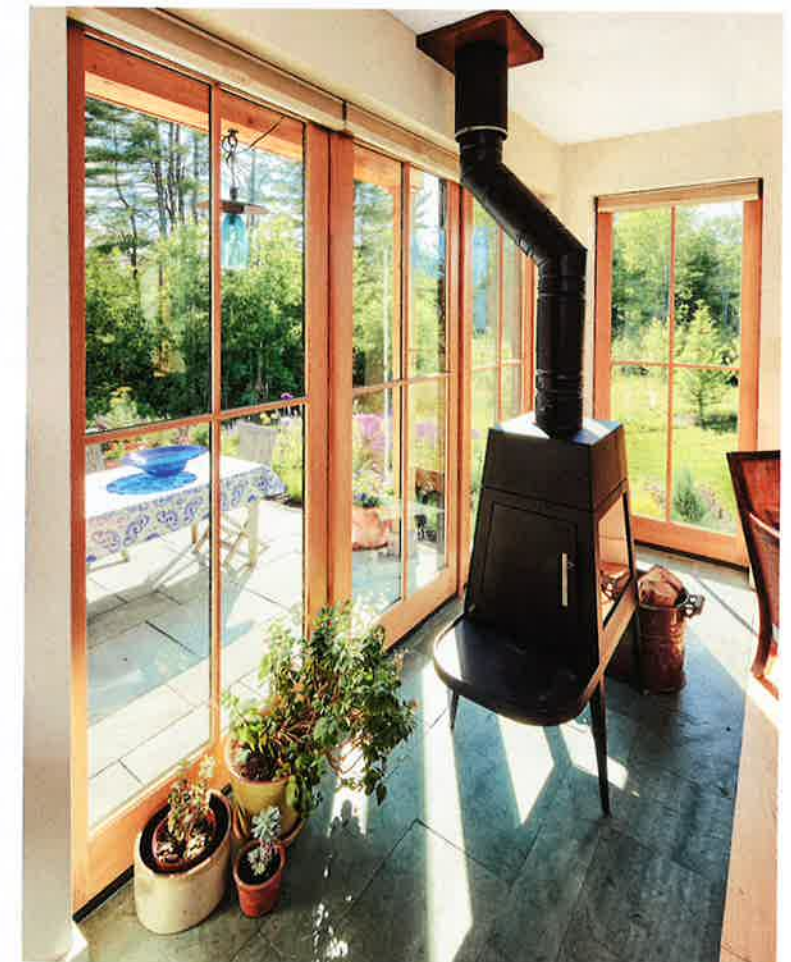
MECHANICAL VENTILATION: Broan ERV

PV SYSTEM CAPACITY: 7.9 kW



### WHAT MAKES THIS A PRETTY GOOD HOUSE?

- Design process involved the owner, architect, and builder.
- Careful attention to the connection between the house and its neighbors, enhancing the sense of community.
- Landscaping that includes a variety of native plants and materials rather than a monoculture of grass lawn.
- House mixes relatively low-cost and salvaged materials with more expensive components.
- High-performance building enclosure with all-electric mechanical systems and a 7.9-kW photovoltaic system.



Although ductless mini-splits provide the bulk of the heat, a wood stove will be a welcome addition come winter. This Shaker-inspired Wittus stove is small and doesn't overwhelm the room.



The house is part of a neighborhood, not an island unto itself. Property owners have banded together to build a yurt, a fire pit, and hiking trails.



## FLOOR PLANS

### FIRST FLOOR



### SECOND FLOOR



## PRETTYGOODHOUSE

A GUIDE TO CREATING BETTER HOMES



**W**e all want to live in more environmentally friendly houses, but at what cost? Frustrated with the complexity and questionable impact of green building and energy programs, a group of builders and designers in Portland, Maine, came up with the idea of the Pretty Good House.

In a nutshell, a Pretty Good House is a house that's as small as possible; it is simple, durable, and well designed; it uses wood and other plant-derived products as construction materials (preferably local); it should be insulated and air-sealed well enough that heating and cooling systems can be minimal; and, above all, it is affordable, healthy, responsible, and resilient. *Pretty Good House*, by Dan Kolbert, Emily Mottram, Michael Maines, and Christopher Briley, provides a framework and a set of guidelines for building or renovating a high-performance home that does right for its inhabitants and for the planet—without breaking the budget. In this exclusive excerpt, contributing writer Scott Gibson explores a Pretty Good House in northern New England.

Find out more and order your copy at [tauntonstore.com/pretty-good-house](http://tauntonstore.com/pretty-good-house)