EXTERIOR TRIM for Period Homes

Panelized walls and a shop-made trim package make historic reproduction houses affordable

by Mike Connor

Living in New England, one comes to appreciate the simple charm of colonial architecture. It's a style that has always appealed to me, and I'm not alone. Many home buyers drive the streets and back roads looking for an older home to buy and remodel. But even in New England, there simply aren't enough of them to satisfy the market. When a buyer is lucky enough to find an appealing house, bringing it up to modern standards of safety, energy efficiency, and function can be a formidable task. Few home buyers have the resources or ambition to tackle such a project.

To meet this demand, my company, Connor Building, builds reproduction colonials — classic-looking homes that people assume are 200 years old. With their correct proportions and classic details, they have little in common with the generic two-story "colonials" found in subdivisions everywhere.

I started building these homes in and around Middlebury, Vt., about 20 years ago and for the past few years my company has been panelizing and shipping them across the country. When we build locally, we manufacture the panels and act as the general contractor, handling all aspects of the process from excavation to move-in. When house packages are going more than 50

A

B

C

Depending on the size of the house, two, three, or four loads of wall panels travel by truck from the shop to the job site (A). The plywood-sheathed panels are arranged in orderly stacks, with those needed first on top (B). The author's crew erects the panels if the project is located nearby (C); homes shipped to more distant sites are erected by a local builder. A detailed floor plan maps out the locations of individual panels, which are carefully labeled before leaving the assembly table. Precutting joists, rafters, and other framing members simplifies accurate multiple cuts.

miles from home, we ship the panels to the site by truck and have a local builder erect the house. Besides the wall panels, we produce siding and trim, including custom door and window pediments. In most cases, we even build and ship the kitchen cabinets.

Advantages of Panelizing

When I started out as a home builder, I soon realized that carpenters, especially those most skilled, spend a lot of their day doing many things besides building — answering questions from subs, pulling out and putting away tools, fighting mud and bad weather, to name a few. To me, it made sense to take these guys out of the field and let them do what they're good at, in a more productive, controlled environment.

Panelizing homes in a shop has a number of benefits beyond the obvious ones of protection from the weather and better quality control. For one thing, my market isn't limited by how far we're willing to travel: Panelizing and packaging my homes means I can sell them anywhere. Because other builders are typically assembling the homes in the field, my staff gets to do the fun stuff, like building cabinets and making millwork. They don't have to drive an hour each way to a job site, and during Vermont's brutal winters they're working inside. Most employees seem to like the arrangement; many have

D

These shaped rafter tails (D) form a perfect base for a soffit, a frieze board, and a run of crown molding; projecting ends of the joists will be cut off before the trim goes on. Final miters at the ends of trim members are cut on site, but the accuracy of the underlying framing ensures that everything fits together as planned (E).

E

worked for the company for more than 10 years, and some for more than 20.

Drawing on Period Design

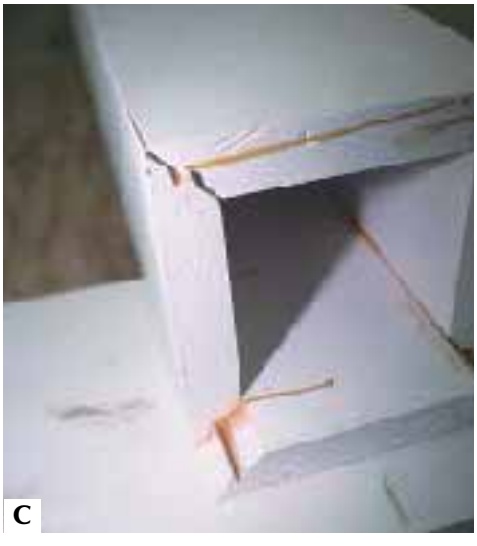
Although colonial reproductions are built every day throughout the country, most of those imitations fall short. They may have divided-light windows and a pediment over the front door, but they don't have the right details and proportions. By consulting old plans and keeping a lookout for good-looking old homes, my wife and I developed our catalog of 15 standard home plans. Once, while driving in a rainstorm, we spotted an especially attractive old home. We got out of the car and measured it up on the spot, while the agreeable but quizzical owner looked on. Our commitment to exact period details might be considered fanatical by some, but it has served us well.

The homes in our catalog range in size from about 1,500 square feet to 3,300 square feet. Many of the designs come directly from the Library of Congress, which maintains an archive of historic home designs. These originated during the depression as part of a WPA project to keep out-of-work architects employed drafting historic homes from around the country.

A

B

Historically accurate millwork assemblies, like this door surround (A), are built in the author's cabinet shop. Pocket screws and glue provide a strong bond between the entryway pilasters and the attached bases (B). Glued lock miters used in columns, corner boards, and pilasters prevent water infiltration and guarantee tight joints (C). Dents, dings, screw holes, and other imperfections are filled with a low-density auto body filler that hardens rapidly and doesn't shrink (D and inset). Caps and bases are assembled separately from the columns and fastened with pocket screws and yellow glue.



C

D

The old homes usually had small rooms divided by partitions and fireplaces, but most people don't live like that anymore, so we make the interiors as modern — or as historically accurate — as the clients want. What's more important to me and my customers is getting the home's exterior proportions correct. We also do custom designs, but I politely tell customers who want a soaring contemporary with skylights and clerestory windows to find another builder.

Precutting and panelizing require a degree of precision and planning seldom found in residential construction. For example, framers may have a dozen ways to build a cornice and overhang, but guaranteeing that the trim will fit and the home will have the correct proportions requires spelling out every detail. Our

E

The notches visible in some of these column bases will receive screen panels for a screen porch option (E). Stock bed moldings and a custom-made accent molding are fastened with more yellow glue and brad nails (F). Installed at the site, a completed column has a clean, well-proportioned look (G).

F

G

plans are very specific and include exacting shop drawings for the exterior and interior millwork. This guarantees that the pieces fit when they get to the job site. Until about a year ago, we did all of the drafting by hand, but recently we've switched to autoCAD, which has improved speed and accuracy. A full-time, in-house draftsperson runs the system.

Framing and Roofing

Originally, homes like the ones in our catalog were timber framed, but we stick-frame to keep costs down and make finish work easier. Our goal is a traditional *look*, not totally traditional construction. Our framing is conventional — 2x6 studs, 2x12 rafters and joists, with plywood sheathing and subflooring. We don't use I-joists or OSB. Fiberglass insulation and vented roofs are the norm. Most of our homes have standing-seam or white cedar roofs to give them a historic look, but architectural shingles are also common.

For local projects, we do the framing and trim and sub out everything else. Our local crew consists of three carpenters. We have had as many as five projects in different phases going at once, but more commonly it's one or two at a time. For distant projects, we build panels that form the shell, and a local builder takes care of assembly. We have a 40x60 garage where we build the panels and a small cabinet shop for millwork.

Panels can be as long as 14 feet, but many are shorter. We use framing tech-


A


B


C


D

A typical entry system consists of three separate components. First, the pilasters are positioned and nailed to the framing (A). The preassembled pediment is then positioned and nailed in place above (B). Corner boards and their bases are shipped unattached. Once the corner boards are fastened in place, the stock is trimmed with a circular saw (C) before the base is nailed on below (D).

niques similar to those of site crews, except that we build on large assembly tables instead of on a floor deck. We don't have gang nailers or cranes, but we do have a forklift for loading trucks and a large-stake body truck that we use for local deliveries. Both interior and exterior walls are part of the package, as are precut rafters and floor systems. Generally, it takes our three-person crew about three to five days to frame a house and have it ready to ship. Truck shipping for distances of less than 250 miles is included in our standard package

E

F

Where proper proportioning calls for a two-part frieze, the seam is covered with a special molding milled in the shop (E). A cedar — not plastic — starburst is a good-looking and authentic detail on the gable end (F).

price. When packages are going farther, we negotiate with a trucking company and include the additional shipping costs as part of the package price.

We label the panels and provide assembly drawings. Our goal is to make the process as painless as possible for the carpenters putting the house together. Still, when we're working with a builder for the first time, there are almost always some questions — I'd be concerned if there weren't. The builder generally wants to know what's included and how things are packaged. We hash things out over the phone. I try to screen builders as best I can, but it's the homeowner's responsibility to select the builder and contract for the home's assembly. We haven't had a problem yet — a couple of builders who assembled our homes subsequently bought their own packages for spec projects.

Exterior Trim Package

For the most part, it's the exterior trim that separates our homes from lesser colonial reproductions. We make sure the framing and panels are perfect, so the trim will fit and we won't have any surprises on the site. We run the molding and preassemble the components in our shop. Everything is primed on all six sides. We use several stock moldings, but we also make our own profiles when we need to. Generally, the trim is made from preprimed, finger-jointed pine. We convinced our local supplier to stock a finger-jointed pine with two

The author's panelized houses vary in size and span several architectural styles, but all use authentic period details.

coats of acrylic primer instead of one. The extra primer makes the trim look and hold up better.

Entries. A lot of time goes into making the entry millwork. We start with simple prehung fir or oak doors before building the transoms and flanking pilasters. The pilasters and transoms are two of the identifying details of a colonial, and they're the first things people see when they come to look at one of our homes. Simple fir or oak doors continue the period look.

Columns and corner boards. Porch columns and traditional corner boards are made from 5/4-inch primed pine and are assembled with lock joints and yellow glue. The bases are made from three layers of 4/4 pine and are fastened to the columns before shipping. Corner-board bases are installed on site to ensure proper fit.

Cornices and overhangs. Colonial homes generally have simple overhangs and cornice returns. Our version uses stock crown and bed moldings. We often add a two-part frieze board underneath the overhang for visual interest. We prime the components in our shop before sending them to the job site and prime all cut ends in the field.

Windows. We generally use putty-glazed, true divided-light windows from Brockway-Smith Company (www.brockway-smith.com) and install our own pediment heads in the shop. Although the single-glazed windows aren't as energy efficient as an insulated glass unit, they look great. We add an

optional hard-coat, low-e energy panel that improves their energy efficiency to a .43 u-value. The glass panels don't detract from a home's exterior, and they're removable for cleaning. We make Palladian and other custom windows in our shop.

Siding

We generally use prestained A-grade cedar clapboards with a 3-inch or 4-inch exposure. A local company machine-coats the bare clapboards with any of Cabot's factory prestain colors. Our siding supplier arranges transport to the prestainer, and when we get the clapboards about a month later, they're ready for installation. The claps have a smooth and a rough side; we encourage customers to select the rough side for exposure because it holds paint better. Occasionally, we install cedar shingles or fiber-cement siding, but most homeowners want wood clapboards, which are in keeping with the home's historic look. Many homes have a starburst on the gable end.

Although the current trend is toward maintenance-free exteriors, our homes definitely require upkeep. We are careful to explain to clients that a home built of natural materials will require painting down the road, and most are happy with the trade-off.

Cost

Completed homes in our area generally range in price from $145,000 to $305,000 (not including land). Our panelized packages range in price from $41,000 to $106,000. The packages include the floor systems, interior and exterior walls, cedar roof shingles, primed hemlock clapboards, exterior trim, windows, and exterior doors. The builder who assembles the house is responsible for mechanical systems and the interior.

Nothing gives me more satisfaction than when a prospective buyer or real estate agent comes by a job and asks when the home was built. When I say a few weeks ago, they usually reply, "No, I mean when was it *originally* built?" Sometimes I don't think they believe me.

Mike Connor *is a home designer and owner of Connor Building Co. in Whiting, Vt.*