

# The Story of Two Churches

**Two distinctly different historic churches now have new steeples.**

*By Nancy A. Ruhling*

Throughout history, the steeple has been the most visual – and visible – presence of God on earth. The steeple not only enhances the architecture of the church by making a grand statement, but it is also designed to lead the eyes of all heavenward with its powerful imagery.

American church architecture takes its cues from Europe, and the style – the church, the spiraling steeple – that we are most familiar with owes its origin to the 18th-century England of James Gibbs and Sir Christopher Wren. Two recent projects – one on a brownstone cathedral in Charleston, SC, the other in a white wooden church in Kinsman, OH – prove the staying power of the traditional steeple.

## **Crowning the Cathedral**

For more than a century, the Cathedral of St. John the Baptist in Charleston, SC, rose to the city sky sans steeple. The Gothic Revival brownstone cathedral, built in 1907, was a replacement for one that burned in the Great Fire of 1861, and the congregation always intended it to have a towering top. But the project kept being put off, and it was only during the cathedral's centennial year, when the cathedral was being restored, that the diocese decided to put the steeple at the top of its to-do list.

Often, in historic preservation projects, there is much talk of replicating the original design. Because there was no steeple or even an architectural drawing for one in this project, it was decided that the new steeple would incorporate elements from the cathedral's interior and exterior so it would transition seamlessly from old to new. That was easier said than done. Tests revealed that the soil didn't have much weight-bearing capacity, so a brownstone belfry and matching steeple were not options. And because the cathedral is in a hurricane zone, the height of the steeple would need to be severely truncated so it wouldn't topple in high winds, like a sailboat's mast on a stormy sea.



**The new steeple has dramatically changed the skyline of Charleston. Photo: Steven Hyatt, *Churches of Charleston***

"The structural constraints were huge," says Glenn F. Keyes, AIA, of [Glenn Keyes Architects](#) in Charleston, SC. "It would have cost \$600,000 just to modify the soil, which was not in the \$6.2 million budget." Keyes, along with Jesse Rhodes, special projects manager of Charleston-based [Hightower Construction](#), turned to yacht-building

techniques to create an 82-ft.-high open-style spire that doubles the height of the cathedral.

“During my research, I discovered that up in New England, a lot of historic steeples were built by boat builders,” says Rhodes. “Boats have to stand up to high dynamic loads similar to a steeple in high winds. And I had a lot of experience building boats with Hightower, which also has a boat-crafting company, so it all came together.” Rhodes used cold-mold construction – a steel frame encased by engineered wood boxes that were constructed of marine-grade plywood and epoxy and encapsulated in fiberglass for the steeple, which was designed with an open lantern. The 12-ft.-high belfry is made of precast structural concrete, and the spire, which has a rust-proof stainless steel structure, is open mesh to allow more air flow.



**The Cathedral of St. John the Baptist was without a steeple for its first 103 years. Photo: Glenn Keyes Architects**

Traditional materials – a cast-stone veneer for the belfry, copper cladding for the steeple, gilded copper for the cross and gold-leaf decoration – reference the historic building. The copper work, executed by German master Erno Ovari, president of [Copper Exclusive](#) in Midvale, UT, received an award from the [Copper Development Association](#). The project also won the [AIA South Carolina 2010 Design Award](#) and an award from the [Historic Charleston Foundation](#). Flatbed trucks transported the 30 elements, which ranged from the 28,000-lb. middle archway, to the 15-lb. finials, to the cathedral, where they were fit together like a jigsaw puzzle. In March 2010, 103 years after it held its first mass, the cathedral finally got its crowning touch.

“The steeple has changed the skyline of Charleston forever,” Keyes says. “And this is not something we get to do every day. We are a city of small-scale buildings that are only three to four stories high. The cathedral’s gleaming spire is easily recognized all the way to Sullivan’s Island.”

### **Here’s the Church – and its New Spires**

The Kinsman Presbyterian Church, erected in 1833, is the oldest house of worship in the Ohio town that gives it its name. Set on the highest piece of land, it grounds and centers the town. When it came time to make repairs and it was determined that the spires and bell tower had to be replaced for safety reasons, the congregation was intent on restoring it to its former glory.



**LEFT: The Kinsman Presbyterian Church in the 1930s; Library of Congress drawings were used to replicate the original bell tower and spires.**

**RIGHT: The Kinsman Presbyterian Church, with its new spires and bell tower, is graceful and glorious.**  
*Photo: [David Baio Photography](#)*

This was a major decision, because the bell tower and spires were not original; they had been simplified and replaced with more modern versions in the 1970s. With only about \$200,000 in donations, there was no budget for an architect, but after some Googling, Bill Sandrock, owner of [Stratton Creek Wood Works](#) in Kinsman, discovered 1930s drawings of the historic building on the website of the [Library of Congress](#).

After Bill Perry, vice president of [American International Construction](#) in Berea, OH, repaired the roof, he and Sandrock put their heads together to devise a cost-effective battle plan to create the spires, railing and gingerbread that gave the church its 19th-century character.

For several years, Sandrock had been using [Versatex](#) PVC trim and sheet products manufactured by Wolfpac Technologies in Pittsburgh, instead of wood millwork. "The original wood of the church is old-growth yellow poplar that can't be easily matched today," Sandrock says. "Versatex can be shaped and cut just like wood, and aside from periodic painting, there's no maintenance, which is what the congregation wanted."

Although some preservationists would consider this a controversial choice, Sandrock

said this middle-of-the-road cost option gave him more flexibility than wood because it is available in 18-ft. lengths. "Wood only comes in 16-ft. lengths, and Versatex can be special ordered in lengths up to 24 feet. Yes, it's different from wood; it expands and contracts with the temperature, and, unlike wood, it does it lengthwise too, so you have to make adjustments."

One proponent of cellular PVC products is St. Charles, MO, architect Tim Busse, AIA, CNU, and senior vice president of [Whittaker Homes](#). He has been using [AZEK](#), a cellular PVC trim product similar to Versatex, for several years in his projects, including the re-creation of a local railroad station built in 1893. "There are only two disadvantages: You can't paint it a dark color, especially black, because it would absorb heat and become dimensionally unstable," he says, "and it expands and contracts substantially more than wood."

To make sure the copper-capped spires of the Kinsman church remain stable for the next century, Perry inserted a 4-in. hollow steel tube into each, with the configuration reached by access panels. "Coming up with a way to access the spires was a challenge," Perry says. "We decided to use access panels so the spires could be bolted to the tower and there would still be room for the railing. This solution made installation a snap. It only took about 10 minutes to put them in place."

During the work, church members pitched in, spending several weekends painting the pieces at Stratton Creek Wood Works' shop. A little more than a year after the work began, the Kinsman Presbyterian Church had its new bell tower and spires. "Everyone loves the 'new-old' design," Sandrock says.