The 275-foot tower of St. Michael’s Cathedral used to be the tallest structure in Toronto.

Though the city around it has changed, some of the methods used in the tower’s restoration are the same as when it was originally under construction in 1867.

“We try to keep that tradition. We don’t try to make shortcuts. This is our history. Just think about it, you go back to the pyramids or to Rome to see those old buildings. We are a young country here but we need to preserve our history here too,” said master stone carver Lawrence Voaides, president of Traditional Cut Stone Ltd.

He used traditional tools like chisels and a mallet to shape the sandstone to restore the original details of the structure.
“At the same time you try to do little changes, just to improve more because now you can see what happened after 100 or 150 years with some of those pieces,” he said, referring to the degradation of the stone due to weather elements and time. The restoration project used Berea Sandstone, the same as the original 1867 design, from a quarry in Ohio.

The first phase of restoration began with a plan to clean and restore the front façade and a portion of the tower, but investigations uncovered deterioration in the stone detailing of the upper tower. Over time, the stone finials, portions of the pinnacles, all flying buttresses, and portions of the stone niches have been demolished and entombed in copper enclosures.

There were two entries in the original 1866 tower competition to build the cathedral’s tower and spire — the winning design by Gundry & Langley and one from William T. Thomas, the son of William Thomas, the designer of the main body of the cathedral in 1842. The tower was completed in 1868.

“I suspect it was picked because it was the lightest and most delicate of the two different options. But, because it was so delicate and light, there were technical problems in the long run with having that kind of design in the Canadian climate, especially in Toronto where there are so many freeze-thaw cycles,” said project architect David Eccelstone, a senior associate with +VG, The Ventin Group.

Investigations also found that the wooden ring beam, a major structural component at the base of the copper spire, was rotten and needed to be replaced.

For the first time in its history, the cathedral had to close to allow for emergency temporary repairs to stabilize the tower. Eccelstone explained that there were several solutions discussed, such as replacing the ring beam with wood.

“In order to deal with tying the stone pinnacles together as well as provide a new and a longer solution for that structure, we went with a reinforced concrete ring beam,” he said.

A number of conservation activities have been conducted throughout the 20th century, but no restoration work. The copper spire had been conserved in 1988 and was excluded from the current restoration work. Other phases of ongoing restoration work include turning the crypt space into a full-size basement and redoing the narthex on the west side of the cathedral, which will consist of brick restoration and stone repair and replacement. The project was built through a construction management delivery system, which allowed construction manager Buttcon Ltd. to pre-qualify trades. The trades used in the project are somewhat unique in Toronto, such as a stone worker.

“There are only a handful of contractors who are capable of doing not only doing copper roofing and flashing work with the stone and bronze work that you see. That’s great for me as a project manager, I can preselect or prequalify those trades that are most capable of doing the best job possible,” said senior project director Marc Ferguson of Buttcon.

He hopes the beauty of the project will inspire the next generation to learn the trades.
“There is a shortage of skilled trade contractors in the GTA and hopefully this type of project is inspiring young people to pick up a trade, whatever it might be, and carry on the tradition.”

Rev. Michael Busch, St. Michael’s Cathedral Rector, explained that the new Gothic Revival style is an important element to the building and has been developed in that way according to the faith. He even bought the project’s workers a book about the religious significance of a Gothic cathedral.

The vertical height of the style is meant to draw your eyes upward.

“That’s what was missing. Those pieces that have fallen off the cathedral...it became very truncated. Now you see it again. You watch people when they look at the cathedral, their eyes immediately go to the top of the tower and that’s the way it’s supposed to be,” he explained.

The cathedral has survived two major fires in the city’s core. “It was here before the city around it was here. It was built in the middle of a forest. It just speaks to me that it’s been here this long and survived this long and the work we’re doing to maintain it (will) make sure it’s here for another 100 years,” he said.

VG, The Ventin Group Architects is a full-service architectural firm offering new design, expansions and heritage restorations for cultural, educational, municipal, justice, healthcare, residential and recreational facilities. Our staff of 50+ operates in five offices in Ontario, in Brantford, Kitchener, Toronto and Belleville. See www.plusvg.com for more information.