



# Hampton Technical Associates Speeds Building Project With Laser Scanning

By Debra Wood

**W**hen it was time for a facelift on a 1960s-era building in Pittsburgh, Mark B. Schmidt, President of Hampton Technical Associates, called the Topcon Solutions Store for assistance.

The property at 625 Stanwix in downtown Pittsburgh, Pennsylvania, includes a nine-story garage, topped with two floors of offices and 12 floors of one and two-bedroom apartments above, with river or city views. Not long after purchasing the property in 2016, its owner Joco Sky of Pittsburgh decided it needed a newer, updated look. But for that the company needed accurate measurements of the width of the apartment portion of the building, along with the window frames.

“There was no access, and it was nine floors up in the air,” explains Schmidt, who was tasked with obtaining those measurements. “There was no way to get men up there to measure it. I had concerns about using a total station, because it was such a severe angle. So, I came up with the idea of scanning it.”

The project required precise, accurate measurements to tell the manufacturers of the new windows and skin. Any flaws and the new windows would not fit.

“They were looking to see how much it changed from floor to floor,” Schmidt says.

Schmidt met with the team at the Topcon Solutions Store in Saxonburg, Pennsylvania.

“We looked at the feasibility of scanning the four sides of the building and extracting the measurements we needed,” Schmidt says.

Schmidt prepared a proposal and Joco Sky accepted it. Hampton Technical Associates scheduled the scanning for the first day of “decent weather,” rented the 3-D laser scanning equipment from the Topcon Solutions Store and proceeded with Topcon officials to scan the building.

“We allocated a full day for scanning, but it only took a portion of a day,” Schmidt recalls.

## The Laser Scanning

On the back of the building, the team was able to scan from an exterior patio, and a portion of the front was visible off the roof, but to scan the entire building, the team had to cross the Allegheny River and set up in front of PNC Park, home of the city’s Pirates Major League Baseball team. The Hampton Technical-Topcon team was able to do that because of the long-range laser scanner from Topcon.

The Topcon GLS-2000 L (long range) 3-D scanner features a 500-meter range. The laser scanner also had dual internal digital camera with wide angle and telephoto lenses. Those cameras deliver superior color images. The

scanner provides a precision data cloud, with a 360-degree full dome scanning capability.

“We were able to measure from the data cloud, captured with the GLS-2000 L, the window measurements,” said Cory Mason, with Topcon Solutions Store.

The next day, Hampton Technical transferred the laser scans to a drawing program, extracted the measurements, and delivered those measurements to Joco Sky. While impressed, the owner asked for additional measurements to get the height of each floor.

“We were able to give him that at no charge, because we were able to extract the extra information from the original scan,” Schmidt says. “It was done in less time than estimated, and we were able to do more for the client.”

Riad Mahmood, Director of Technology and field supervisor at Hampton Technical Associates, came back to the office with “nothing but good to say about the laser scanning equipment and the help we received from the Topcon Solutions Store,” Schmidt recalls.

Work has progressed with installation of new, energy-efficient windows and replacement packaged terminal air conditioners on floors 11 through 25. Over the existing concrete slab, Ava’s Handymen of Pittsburgh placed teal-color aluminum banding flush with the building.

## Family Owned and Operated

Hampton Technical Associates, an engineering and surveying firm, was established in 1960. It remains family owned and operated, with the third generation of family members leading the company. The corporation consists of qualified professionals, survey field crews, engineering technicians, and project managers involved in land surveying, development design and governmental permitting.

The firm primarily works in Pittsburgh and western Pennsylvania. However, it also will complete engineering and surveying anywhere in Pennsylvania, Ohio and West Virginia.

Schmidt enjoys more than 35 years in the land surveying and engineering field. He also has designed development plans for large and small residential, commercial and industrial projects.

Hampton Technical Associates has embraced new technologies, offering clients electronic data collection, AutoCAD Civil 3-D design and drawings, and several Topcon Robotic and Conventional Total Stations, Real Time Kinematic (RTK) GPS and Virtual Reference Station (VRS) GPS, and the cutting-edge Topcon Unmanned Aerial Vehicle (UAV) systems.

“We’ve been pleased with Topcon,” Schmidt concludes. “Cory Mason and the others at the store are very helpful.”

