



Outstanding Project

International Place, Tower III

Memphis, Tennessee

Outstanding Building Project \$5M to \$25M in Construction Value

Sheridan Structural Solutions, Inc, Memphis, TN

The design of this 11-story, 234,000 SF office tower with an adjacent 3-story, post-tensioned concrete parking garage and connecting underground tunnel was a significant structural engineering challenge. The original plans for International Place were for three towers constructed of concrete joist and post-tensioned beams with concrete shear walls as a “wind-only” design. Tower I and II were completed in 1986 and 1987, respectively, with the exterior stone for Tower III purchased at the same time, and crated.

The structural challenge was to design a third identical-looking tower to fit in an existing stone-veneer envelope, fabricated and stored for 14 years, and to design the structure to meet the current seismic codes without significantly changing the rentable square footage. A stocky, height-restricted structural steel design would reduce the total weight of the structure by approximately 50% over the original concrete design, and reduce the seismic forces by more than 50%. Structural steel could be erected faster, therefore meeting tight schedule requirements.

The fixed 12'-6" story height restricted the depth of the floor structure. SMI Smartbeam was cost effective over typical structural steel when accounting for the depth restrictions and additional web hole fabrication and reinforcing. Technical innovations in RAM Structural System software, and in SMI Smartbeam, allowed the structural engineer to use a Smartbeam definition in the framing model. The software cranked through the laborious 100-calculations per castellated beam in minutes, allowing quick design turnaround, a major factor in meeting the fast-track design schedule.

Ingenuity in foundation design created savings in both material and schedule. Utilizing Geopier foundation elements to reinforce the existing soils allowed for shallow spread footings, and produced significant savings over a deep pile foundation. Also, the Geopier system could be installed in approximately 2-weeks, including load test, versus a much longer schedule for a pile foundation.

The \$25 million project was fast-track. Construction started in early February 2001, with the core & shell completed in April 2002. In just over four months, 2,011 tons of steel was erected in a “just-in-time” process on a very tight site.

The International Place office complex has been a Memphis, Tennessee, icon for over fifteen years. The third Tower is a suitable monument, with its 140-foot profile adjacent to well-known Poplar Avenue, and is identical to the two existing towers in color, shade and environmental presence. Tower III looks like it has always been there.

