

Sizing up

Sarah Fister Gale



Ken Baur was an “army brat,” moving from one Army base to the next. By the time he was ready to go to college, his family was stationed at Fort Riley in Junction City, Kan., so Baur attended Kansas State University in Manhattan, where he pursued a five-year architectural

engineering degree.

It was the obvious degree choice. Baur always loved math and building structures. Even as a child he remembers stealing sand and cement from a project his dad was working on to create bricks using a sandbox brick maker. “It was my first building,” he says.

His fascination with structures continued in college. At Kansas State he recalls a professor introducing the class to long member spans that used prestressed wires to span long distances. “I thought that was a really neat concept,” he says.

The concept stuck with him.

When Baur was three years into the five-year degree, his father returned from Vietnam and retired. Baur decided to return to Pennsylvania, where he did not immediately go back to school. He worked as a drafter for several years and got married. He recalls one Saturday driving by the Kurtz Precast plant (now High Concrete), where he spotted a massive double tee with prestress wires protruding from the stems. “I was really interested in prestressed concrete and the ability to make concrete members handle long spans,” he says. Within a few weeks, he left his job and began working as a drafter at Kurtz.

After he and his wife, Brenda, had their second child, the family moved to State College, Pa., where he completed the remaining two years of a degree in architectural engineering. Kurtz Precast continued to provide work over holiday breaks, and upon completion of his degree he was hired as an engineer.

Baur worked at High Concrete for the next 35 years. During that time, he sought ways to create more durable and innovative precast concrete products. His efforts resulted in multiple patents, including five for the use of plastic accessories in the casting of precast concrete and three for loading fixtures that include a support frame and swivel-mounted arm to tilt oversized loads for transport. This innovation allowed High to create and ship the first 15 ft (4.6 m) double tees on major highways.

Prior to his patented design, the largest double tees were 12 ft (3.6 m) long. “Tilting the double-tees allowed for wider pieces to run on the same load,” he says. “It was a huge accomplishment.”

Baur’s favorite project was Park Plaza, a 21-story precast concrete building on Route 95 in Wilmington, Del. Innovations included the use of silica fume for high-strength columns and the use of precast concrete bents combining column and beam sections.

When Baur first joined High in the early 1970s, the company’s president, Bill Clayton, joined PCI and encouraged all of his engineers to take an active role in the organization. “Bill wanted us to see what other organizations were doing,” Baur says, and he was excited to learn more about the industry.

Baur started attending Committee Days and annual conventions, and he joined several committees. During his career he spent 20 years on the Research and Development Committee and the Parking Structures Committee where he acted as a technical advisor to many research projects. He also spent nine years on the Technical Activities Committee.

Recently, he served as chair of a \$550,000 project to investigate prestress bond in self-consolidating concrete, which resulted in a test program that is now recommended by all PCI-certified production facilities.

In 2012, when Clayton retired from High Concrete, Baur and several other senior colleagues were laid off, so Baur decided to start his own engineering company, Baur Consulting.

In 2013, he launched ConcreteVoids in Reading, Pa., which manufactures plastic parts used in the production of precast concrete. Five years later, he and a partner launched Lumbercon to manufacture lightweight precast concrete lumber. Baur’s son, who is also an engineer, now works with his father at both firms.

As he looks to the future of precast concrete, Baur says growth in the industry will come from looking beyond parking structures and bridges to focus on building homes and office buildings.

“Precast concrete structures are safer and more energy efficient than timber or steel,” he says. And in a world where forest fires, hurricanes and tornados are becoming increasingly common, building structures that are built to withstand environmental disasters is just smart design. “Precast concrete buildings may be a little more expensive, but they are built to last for generations,” he says. **J**