

RESIDENTIAL Concrete

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● Building Multifamily Homes— A Unique Precast Concrete System

Right: The first form-finished double-wall panels are set into place with a building crane.



Above: The precast brick finish of The Woodlawns fits nicely into Chicago's architecture.

Far right: Cliff Crawford has started with multifamily housing but plans next to go into single family.

Some of the first U.S. builders to embrace an innovative European double-wall precast concrete system, Cliff and Janet Crawford of Crawford Development Partners are building multifamily homes near the University of Chicago campus on the city's South Side. Cliff and Janet, a brother-and-sister team, joined forces as builder-developer. "We had successful corporate careers," Cliff said, "but we relished coming back to our community and building fair-priced quality housing.

After we rehabbed a three-story unit with Chicago's building program, we were ready for new construction."

Their goal is to build high-quality, safe, and energy-efficient homes. "To construct this type of home, we needed an edge over the conventional sticks-and-bricks builder. We found that edge with precast concrete, specifically the double-wall system by Dukane Precast. We visited single-family homes built with this system, and after running the numbers for multifamily homes, it made even better sense. The speed of precast construction allowed us to reduce our carrying costs, deliver superior housing to the homeowner, and achieve our profit. The homeowners are the biggest winners because they get safety, quiet, and extreme energy efficiency with the marriage of innovative concrete and insulating materials."

Construction of the first two six-flat units of a new development called The Woodlawns began late last year. The buildings were erected simultaneously by a crane that worked from front to back. The front third of each structure was built to the full three-story height, and then the crane was repositioned to erect the back two-thirds. Both building shells were completed in approximately 15 working days. Double-wall precast concrete panels made up the exterior walls, ceilings/floors, and stair landings. The 8-inch-thick wall panels have two 2 $\frac{3}{8}$ -inch-thick reinforced concrete wythes, sandwiched around a 3 $\frac{1}{4}$ -inch

layer of polyurethane bio-based foam insulation. The buildings used lightweight aggregate for the interior walls between units to achieve a four-hour fire-rating.

Conduits for electrical wiring and phone/computer lines are factory-installed inside walls. Both sides of the wall and the 10-inch-thick floor panels are form finished. Interior surfaces of the precast walls are smooth, eliminating studding, insulation, and drywall. A simple coat of paint achieves a high-quality finish. Floors and ceilings need no additional treatments.

Exterior wall textures—brick, stucco, acid-etched stone, simulated limestone, and wood-grained plank—are achieved with reusable forms. The Woodlawns has a brick-textured front and smooth panels for the remaining three sides. The elastomeric paint used to finish the buildings drew rave reviews. The three-bedroom, two-bath, 1600-square-foot flats feature granite countertops, hardwood floors, private decks, and gated parking

"Sales are brisk for these units," says Crawford, whose sights are set next on a significant precast concrete, single-family development in a Chicago suburb.

For more information on Dukane Precast go to the Web site www.dukaneprecast.com.

Cliff and Janet Crawford are president and vice president, respectively, of Crawford Development Partners, LLC, in Evanston, Ill.

