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Guide

Largest ICF project in the Midwest under way in Circle Pines

By Julie Tunheim

A multi-use facility in Circle Pines, Minn., is the largest ICF (insulated concrete forms) project in the Upper Midwest.

Construction began on the Village Plaza in July 2004 and is expected to be completed this summer.

Located in a light retail/residential area of Circle Pines, a suburb north of Minneapolis-St. Paul, the facility is owned by Uppal Properties with Steiner Construction Services, LLC, Wayzata, Minn., serving as construction manager.

As construction manager/general contractor, Steiner Construction is

coordinating the work of about 35 subcontractors.

Phillip Baum, president of Steiner Construction Services, says the project is unique in many ways.

Insulated concrete forms have been used for some time in construction of basements and one- or two-story buildings, but only a limited number of multi-story buildings have been constructed using the ICFs.

The four-story, L-shaped structure also includes an underground level for parking and will be truly a multi-use facility.

One wing is being built with the first floor geared for retail and the upper three floors for market-rate

FEATURE PROJECT



The four-story Village Plaza multi-use facility in Circle Pines is the largest ICF project in the Upper Midwest.



This rooftop view of the Village Plaza ICF project shows crews at work on various levels.

apartments. The other wing will have town homes on the first two floors with senior housing units on the top two floors.

The walls start with Polysteel ICFs - 2 1/2 inches of EPS insulation inside and outside with concrete poured into the forms. The walls on the lower levels are 12 inches thick, while the upper levels utilize 6- or 8-inch concrete cores.

The ICFs have metal or plastic studs molded into them, making it easy to attach the brick veneer and stucco exterior and the gypsum interior.

Profession Concrete Installation, Inc. of Good Thunder, Minn., is the contractor pouring all of the ICFs. Polysteel Supply of Minneapolis/St. Paul supplied all of the ICFs.

Once the walls of a level are poured and cured, crews install the hollow core plank for the floor. The

pre-stressed concrete planks create a soundproof, fireproof and low maintenance floor.

"We used a special 16-inch concrete plank that spans the entire 64 feet of the building," explained Baum. "There are no columns anywhere in the building."

The standard thickness of a typical precast plank is 8 to 12 inches thick with lengths up to 40 feet for the 12-inch planks.

Since there are no support beams in the structure, future remodeling possibilities are unlimited, Baum pointed out.

The ICFs, in combination with the hollow core planks, also make the building very soundproof, he stressed.

Once the planks are laid for a floor, crews grout between them and then pour a 2-inch topping of concrete over the entire floor. The layer of concrete ensures that the floor is level

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Work is being done in stages on the project with the ICF walls poured and allowed to cure before the hollow core plank is positioned for the floor.

and smooth.

Hollow core plank is also being used for the roof, adding to the building's soundproof qualities.

Moline Concrete, Lino Lakes, Minn., is the hollow core plank subcontractor, casting the 16-inch by 64-foot planks at their plant in Lino Lakes and installing them.

The project is on schedule, says Baum. As of the last week in January, PCI, Inc. was pouring the parapet

walls above the roof line on one wing of the building. Crews were starting the roofing process on the other wing.

Subcontractors were able to work simultaneously as the building has progressed from the ground up. While crews were grouting the hollow core planks on the fourth floor, other contractors were working with metal studs and framing on the second floor.

Because of the weight of the concrete walls, floor and roof, engineers



Crews pump the concrete into ICFs on the third story.

had to make the foundation footings extra wide and thick.

Jeff Rutz of Polysteel Supply, Minneapolis/St. Paul, says the project is the largest ICF project undertaken in the Midwest.

Rutz says the ICF contractor worked on one level of one wing at a time, pumping concrete into a section of ICFs every day. After curing for a couple of days, crews placed the hollow core plank on that level, grouted it

and poured the layer of concrete on the planks.

The size of the ICF project - approximately 110,000 square feet, created new challenges for all of the contractors involved, Rutz says. "It's a learning experience for all involved," he said.

The end result - a modern, strong, well-insulated and soundproof structure - will no doubt be a showpiece. ●

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