RIVERSIDE HOSPITAL NEUROSCIENCE TOWER

the OhioHealth

ARCHITECTURAL PRECAST PANELS

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Project Profile



Owner

OhioHealth Neuroscience Center at Riverside Columbus, OH

PCI-Certified Precast Concrete Producer High Concrete Group Springboro, OH

Architect NBBJ Columbus, OH

Engineer of Record Korda Columbus, OH

General Contractor Whiting-Turner Contracting Cleveland, OH

PCI-Certified Erector Precast Services Columbus, OH

Project Cost \$230 million

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Project Size 72,390 ft² consisting of 363 pieces of architectural precast

Precast Cost \$2.8 million



Above: Riverside Hospital Neuroscience Tower, Columbus, Ohio. Left: Detail aesthetic of the reveal pattern of the white colored, medium sandblast finished architectural panels.



Key Project Attributes

- Precast concrete architectural panels were able to successfully resemble other buildings on campus, made of different materials and at different times.
- Two flowing precast concrete drive-under canopies, each weighing approximately 32 tons, form a partial circle in front of the facility. Each had top and bottom surfaces that slope at different angles such that the leading edge of the panel was only 6 inches thick and over 2 feet thick at the bearing point.
- Two sides of the building include radiused sections that include several different radii of both concave and convex curvature that flow seamlessly.

Precast Promotes Healing With a Flowing Multi-Radius Façade

The project is a 10-story, 437,000 ft² addition to an Ohio Health campus. The project is the only one of its kind and is a state-of-the-art, world-class brain and spine care destination. The project includes 224 private rooms and a large interior atrium the size of two full-size basketball courts.

The exterior features 72,390 ft² white, precast concrete panels as well as a series of bluetinted, vertical windows. This was done to resemble the other buildings on the campus. These buildings were built at different times, with different materials, but many feature white brick walls surrounding vertical rhythms of windows. "We wanted to stay away from bricks," said the architect. "They have an institutional connotation and can make a building appear bigger."

Precast panels were utilized on the exterior of the building to cover a substantial portion of the facade. Precast was also used to clad a large portion of an interior courtyard that began at the third level of the structure with a rooftop green space / garden area and concluded seven stories higher at the penthouse level.

The precast for the exterior facade was primarily flat precast panels with a loosely regimented reveal pattern. However on two sides of the building there were radiused sections that included several different radii of both concave and convex curvature which had to flow seamlessly.

The use of precast helped meet the architect's desire to have vastly different aesthetic appearances to the two faces of the building. The smooth flowing curvature of the exterior façade contrasted against the rigid angular lines of the interior courtyard.

The architect notes that the sheer size of the center threatened to overwhelm two surrounding buildings. An inward curve on the side of the new center next to an existing building "helped break down the scale of the building, so it wasn't so dominating and didn't overshadow it," according to the architect. "We didn't want to block the view of the existing building, and as the new building curves around and toward it, it's as if it's embracing the lapels of the existing building."

The interior courtyard had an entirely different set of rules for the precast with complex radius elevations with custom stepped form line pattern. Panels were primarily horizontal spandrel panels interrupted with random strip windows. The facade was accented by horizontal sloping surfaces. Panels had 9"-thick flat areas along with sections that sloped from 9" thick to 6" thick. This produced a striking look as the sun passed overhead due to the bold shadows cast by the sloped areas.

The most dramatic highlight of the project is the two unique precast canopies. These were laid out in a radial fashion around two different circular roads. Each panel for the canopies weighed in excess of 60,000 lbs. They were erected on a curved steel support system with only tension rods holding down the backspan with a 22'-3" cantilever out over the street.

The overall project was delivered \$16 million under budget and six months ahead of schedule.





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– Ryan Hullinger, NBBJ

