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Issue 27

Blue Cross / Blue Shield
Detroit, Michigan



This LEED certified parking structure has more than 1800 parking spaces. It is a total precast system consisting of approximately 2000 pieces, including columns, exterior spandrels, inverted tee beams, interior litewalls, stair and elevator panels, precast stair tread and risers, brick clad exterior spandrels and K-wall lateral bracing system in addition to the double tees. The 52,307 sq. ft. roof is the second largest continuous green roof in Michigan. It includes a 1/10th mile walking track made of recycled rubber material surrounded by eight varieties of sedum plants. Stormwater is drained off this roof and stored in a reservoir for future use in irrigating various parks and trees throughout the BCBS campus.

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“Sustainable design looks down on the automobile as detrimental to the environment. But a very thoughtful way of handling automobiles in the built environment can be achieved with sustainable design, and it’s a necessary concept.”

*Kathy Buck
 Neumann/Smith Architecture*



Design Firm: Neumann/Smith Architecture
Contractor: Turner Construction Co.

Engineer: Desai/Nasr Consulting Engineers
Parking Consultant: Rich & Associates

KY-22 Kentucky River Bridge

Gratz, Kentucky

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“The post tensioned concrete construction provided Haydon Bridge and the KY Transportation Cabinet, a cost saving alternate to the as bid, steel plate girder construction.”

~Thomas S. Haydon III
Haydon Bridge Co.

Prestress Services Industries supplied these complex prestressed and post-tensioned girders for the crossing of the Kentucky River near Gratz, KY. As part of a value-engineering package, Janssen & Spaans Engineering was brought in to redesign the steel girder bridge as a precast/prestressed structure saving the Kentucky Department of Highways nearly \$1,000,000. The redesigned bridge has spans of 175'; 2 at 200' and a record setting span of 325' which crosses the river.

The bulb-tee pier girders were 135' long by 9' to 16' deep along with 185' long by 9' tall drop in girders to make up the 325' span. With the size and weights nearing 250 tons, these beams were delivered to the jobsite from PSI's production and state of the art barge loading facility in Melbourne, KY. The remaining spans were transported to the jobsite by overland truck.



Engineer: Janssen & Spaans Engineering
Erector: CJ Mahan Construction Company

Contractor: Haydon Bridge Company
Transportation: Aquarius Marine Company (barge)

NewPage Corporate Headquarters

Miamisburg, Ohio

“Architectural precast afforded the ability to produce a façade that enhanced the feeling of permanence while giving the option of rich colors. We were able to create a very detail oriented character that clearly distinguishes this as a signature building.”

Robert L. Zielasko, AIA, NCARB
Principal, President
PDT Architects



Springboro, OH
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The \$10 million, 76,000-square-foot ell-shaped building accommodates approximately 350 employees, and is home to the company’s executive offices and corporate functions. The owner worked with PDT Architects of Cincinnati, Ohio, to create a detail-oriented character while staying within the traditional nature of surrounding buildings.

Three-story precast acid-etched panels in earth tones relate to the brick of surrounding buildings and to the natural environment. The buff first floor gives the impression of traditional limestone, while sandstone vertical sections on the second and third floors add a more modern twist. A precast cornice on the third floor creates a strong horizontal line that is pierced by an extension of the main entrance projection, reinforcing it as a focal point. In back, a curved area formed from flat precast panels creates a second focal point and a relaxing dining space with a view of a park nearby.

Before choosing precast for the project the design team had also considered brick cladding and EIFS. What swayed them toward precast were the combined advantages of aesthetics, schedule, and, significantly, sustainability. “The material is low maintenance and saves money in life cycle analysis,” notes Zielasko. The building was positioned to take advantage of daylighting, views, and natural landscape buffers. The eight-inch thick precast panels are backed up with 4” of batt insulation to achieve a thermally efficient composite R-16.

NewPage was recognized with a three Green Globe certification through the Green Building Initiative (GBI), making it the first building in Ohio to achieve the honor.



Design Firm: PDT Architects

Engineer: Smith/Roberts & Associates

General Contractor: Bunnell Hill Construction

Van Andel Soccer Stadium, *Hope College*

Holland, Michigan

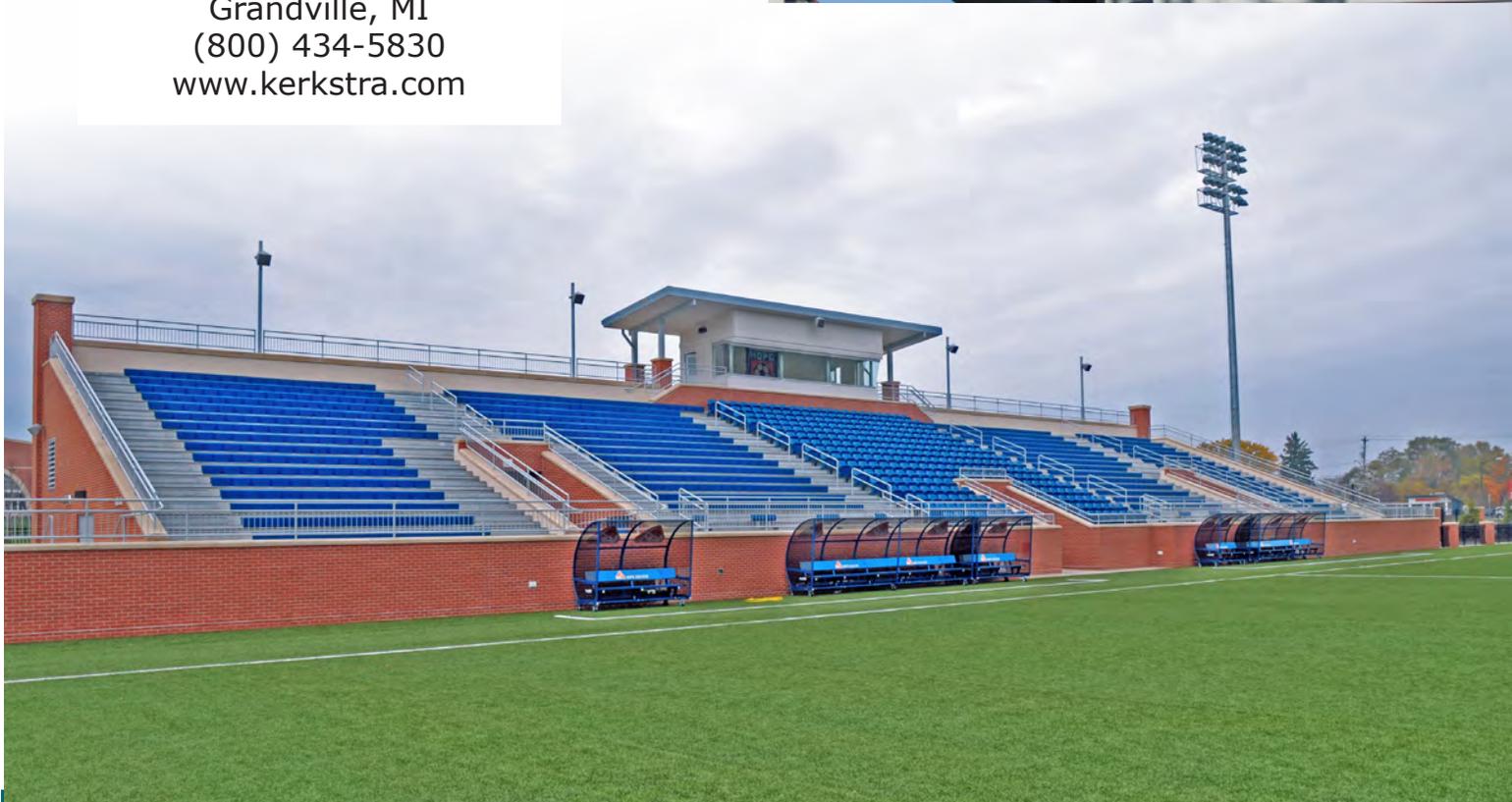
The Hope College Van Andel Soccer Stadium was developed as a design assist project with GMB Architects. Planning for the project began in March of 2009. Hope College wanted the project completed and ready for soccer games in the fall of 2009, leaving just 9 months to completely design and construct the stadium. Due to this tight project schedule, the architect along with the contractor, GDK Construction, had to think outside the box in terms of building materials, leading them to the precast structural frame that was eventually chosen to construct the stadium. This solution helped the project team meet the demanding schedule while ensuring quality, durability and aesthetics. The precast structural frame was designed, produced and erected in less than 10 weeks, allowing the contractor to turn the project over to Hope College almost 4 weeks ahead of the original schedule.

The stadium features 9,500 sf of precast stadia risers, 700 lf of precast beams, 420 lf of precast columns, 1,200 sf of precast spandrel panels, 2,800 sf of solid precast panels, 1,200 sf interior solid panels, and 2,150 sf of solid precast slabs.



“Because of the detail in documentation, efficiency in production & installation and concern for quality, the use of precast concrete for this stadium expedited and shortened the construction time line. This also allowed the other trades to complete their work quicker, giving the soccer teams the use of the field & locker rooms earlier than originally planned.”

Jim Hoekstra
Director of Construction
GDK Construction



Contractor: GDK Construction

Project Architect: GMB Architects

Arkansas Department of Emergency Management

Little Rock, Arkansas



“We used a concept of simple shapes and practical architectural features for the exterior building design. This pleasing appearance was accomplished with structural horizontal and vertical precast panels, with an exterior of exposed aggregate, sand blasted surfaces, and reveals on each panel. The precast was so economical that the owners were able to include additional building enhancements, such as an emergency generator, a back-up communications tower system, and an extra building to house a mobile command.”

*H. Terry Rasco, FAIA
Witsell Evans Rasco
Architects/Planners*

The design challenge of this project was building a tornado shelter which could operate twenty-four hours a day, seven days a week, for emergency management employees and key state officials in a functional, safe, and attractive work environment. The building would be required to house employees and state officials for extended periods of time and protect them during tornadoes, emergencies or disasters.

After assessing the capabilities of precast concrete, the architect and contractor chose precast wall panels. The native gray aggregate in the area was selected as the color for the attractive exposed aggregate panels because it suited the natural environment around the project location and provided a pleasing appearance for employees, state officials, and visitors. The precast plant was in close proximity to the job site, which kept energy costs for transportation and erection to a minimum. Precast concrete was also chosen for its extreme impact and wind load performance needed to meet the requirements for protecting occupants and valuable equipment from a category F-4 tornado.



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Owner: Arkansas Department of Emergency Management
Architect: Witsell Evans Rasco Architects in association with Staikos Associates Architects

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Were you aware of the many inherent sustainable attributes of precast concrete? Visit our Sustainable Resources page at our website to learn more about precast and green building, as well as precast's potential contribution to LEED certification for your projects.



2010 PCI Design Awards

Nominations are now open.
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and to see past winning projects



Any questions, please email phil@pci-central.org or call 937-833-3900.

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