

Central Region



PRECAST/PRESTRESSED
CONCRETE INSTITUTE

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Precaster

Precast/Prestressed Concrete Institute Central Region
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PCI FREE Design Resource

The Designer's Knowledge Bank is a FREE internet site created to assist design and construction professionals in understanding precast, prestressed concrete products and structures. The contents of the Designer's Knowledge Bank include the following:

- Peer-reviewed technical papers
- Industry recommended practices
- Research & articles
- Online presentations
- Books & manuals



Oh, the Design Possibilities!

Hamilton GSC & One Renaissance

Hamilton, Ohio



This government services complex uses precast material to help revitalize the downtown area. The building is the largest construction project to occur within the business district over the last several decades. Precast allows the complex to reflect the scale of the surrounding buildings through the use of precast details and color. The building accentuates the verticality of the downtown area with narrow, punched windows and entry colonnades, while the blend of colors makes the building appear as a series of buildings so as not to overpower the other buildings.

Key architectural features of the building include the octagonal roof area with dark color inlaid design and the overhangs above the entryways. Varying window openings and long column to column spans made this a challenging but rewarding project.

Technical Notes:

- Type of Structure: Government Building
- Square footage: 170,000
- No. of pieces: 1165

Hamilton GSC & One Renaissance

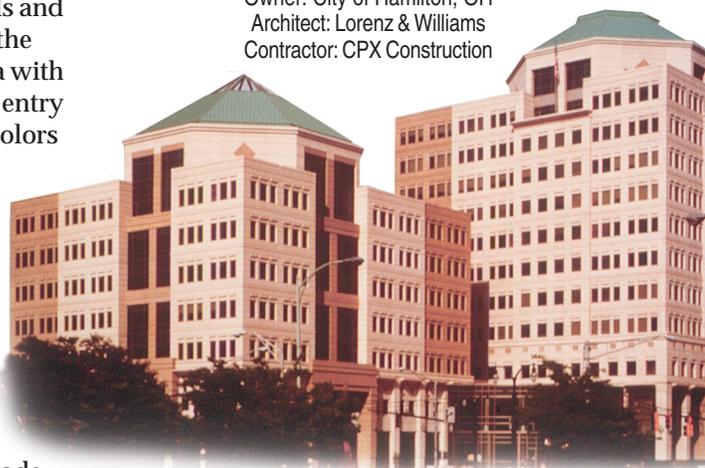
Hamilton, OH

Precaster: Gate Bluegrass Precast, Winchester, KY

Owner: City of Hamilton, OH

Architect: Lorenz & Williams

Contractor: CPX Construction



PCI 2002 Design Award Winner

"By keeping the bottom flange of the bulb-tee girder at a relatively constant thickness, we were able to reduce the weight of the haunched girder segment by 37 percent, which made it viable to span the entire 300-foot width of the canal."

Dinesh Dagley, project manager
Beiswenger, Hoch & Associates, Inc.



COMMUNICATION

PCI Central Region Producer Members



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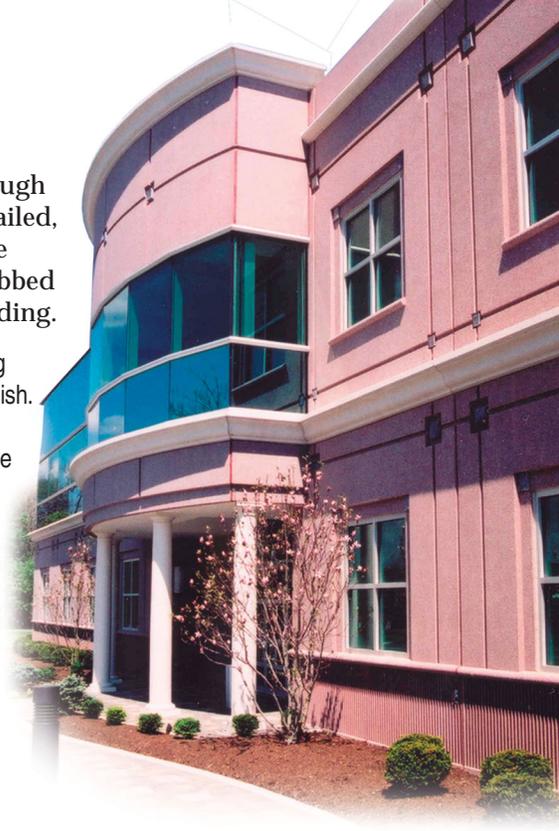
Gardner Publications Newtown, Ohio

The Gardner Publications project, although not a large job, was extremely well detailed, incorporating bullnose shapes beneath the windows, large projecting cornices, and ribbed configurations around the base of the building.

- Precast concrete wall panels were made using two different mix designs with a sandblasted finish.
- The two story tall non-load bearing precast wall panels rest on top of the cast in place of the concrete footer and attach to the light weight structural steel frame.
- The base of all the panels utilize a trapezoidal ribbed form liner.
- In the upper corners of the windows a small piece of polished granite was inset for accent.
- Polished granite insets were also used to accent the straight line geometric feature strips at four other locations in each panel.
- Precast concrete panels over the main entrance were curved to a true radius while the mullionless glass was chorded to work within the true curve of the precast concrete panels.

Technical Notes:

There were 47 vertical, two-story wall panels, 4 curved entrance panels and 8 cornice panels over an area that was a glass curtain wall.



Gardner Publications

Newtown, Ohio
Precaster: Concrete Technology, Inc., Springboro, Ohio
General Contractor: Warm Brothers Construction Co.
Project Designer: Rick Pansiera, Studio for Architecture, Inc.

I'm Glad
I Used
PRECAST
because...

"... the material provided a large amount of design flexibility as evidenced in the final design details, both through the mixing of aggregates and colors, as well as the placement of reveals and cornices. Of even more importance, the owners received a low maintenance Corporate Headquarters, (shown above) with a timeless design.

Rick Pansiera
Studio for Architecture, Inc.,
Lebanon, OH

Student Concrete Canoe Competition

Engineering students from the University of Dayton are participating in a concrete canoe competition organized by the American Concrete Institute (ACI). As part of this competition, the students cast a canoe at Concrete Technology, Inc.

Next, they will take the canoe to the University of Kentucky for a regional competition where they will actually run several races in the canoe.

They will also be judged on other factors such as canoe appearance. The Dayton students chose a black and gray swirl finish. The top two teams at the regional competition will move on to compete in the national competition held at Drexel University in Philadelphia.



David L. Lawrence Convention Center

Pittsburgh, Pennsylvania

For the David L. Lawrence Convention Center, Hollowcore Inc. supplied and installed precast / prestressed double tees, beams, columns and box girders.

This state-of-the-art building is the very first "green" or environmentally smart convention center in the United States using features such as natural ventilation, natural daylighting, water conservation and energy efficiency.

Located along the Allegheny River in downtown Pittsburgh, this convention center takes its natural form from Pittsburgh's famous bridges. There are plans for an on-site hotel utilizing

precast / prestressed concrete products, which will be constructed after the completion of the exhibit hall.

The requirement for live load capacity of 350 lbs. per square foot in the exhibit hall was easily handled by Hollowcore Inc.'s precast / prestressed concrete double tee, column and beam system.

David L. Lawrence Convention Center

Pittsburgh, PA

Precasters: Hollowcore, Inc., Detroit, Michigan
Concrete Technology, Inc., Springboro, Ohio
Structural Design Consultants: Dewhurst MacFarlane and Partners
General Contractor: Turner-P.J. Dick-ATS
Architect: Rafael Vinoly Architects P.C.

PCI Central Region

Producer Members (Continued)



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THE PRESTRESSED GROUP



Technical Note:

The Center boasts 330,000 square feet of exhibit space, of which 250,000 square feet is column-free, 53 meeting rooms and 37 loading docks.

"Award Winning" First Avenue Parking Garage

Improving parking in a limited space.

R.W. Sidley, Inc. was presented with an Award of Merit for Innovation and Design of the First Avenue Parking Garage, located in downtown Pittsburgh.

The radius glass and precast stairwells with architectural metal accents, provides the main focal point of the garage and is carried throughout the parking facility. The top level of the parking deck stands 56 feet

high. The stair tower area is 98 feet higher than the top level and comes to a chisel-shaped peak.



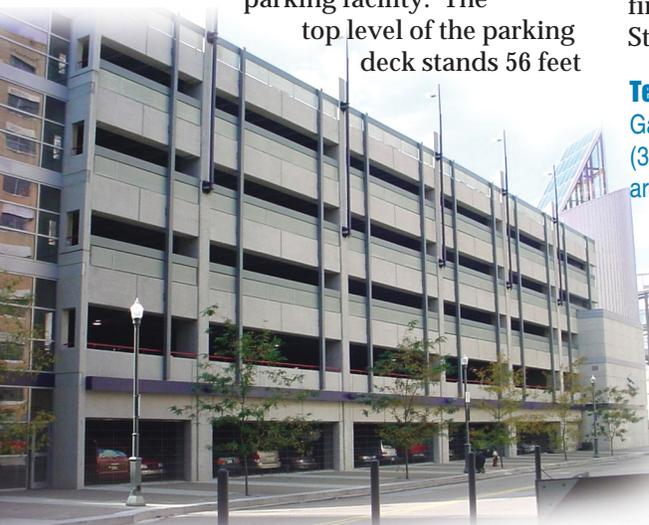
This precast structure accommodates over 1,250 vehicles and is linked to the new Transit Station, which is the first downtown Pittsburgh Transit Station to open in thirteen years.

Technical Notes: The First Avenue Parking Garage encompasses nearly 1,300 pieces (330,000 square feet) of structural and architectural precast components.

The First Avenue Parking Garage

Pittsburgh, PA

Precaster: Sidley Precast, Thompson, Ohio
Prime Contractor: Massaro Company
Architect: I.K.M.
Engineer: R.M. Gensert
Owners: Pittsburgh Parking Authority





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