

Design Assist Collaboration: Designers maximize the inherent benefits of architectural precast

Early in the design of a project, Gate Precast contributes as a design-assist partner offering design and detailing innovations including the creation of a BIM model, development of the specialized mixes and finishes, and scheduling enhancements.

Ultimately, this integrated design approach yields an aesthetically pleasing and a sustainably efficient structure.

Gate Precast was hired to facilitate the implementation of precast wall systems on The Perot Museum of Nature and Science in Dallas, Tex., and FIU Science Classroom Complex BT-876 in Miami, Fla.—two iconic structures.



FIU Science Classroom Complex features precast sunshading elements. Photo: Miami in Focus.

FIU Science Classroom Complex BT-876, Miami, Fla.

This 136,000-square-foot lab/classroom complex on Florida International University's campus features varying precast concrete window openings with pre-glazed wall panel systems, a cost- and time-efficient method of enclosure.

Architect:

Perkins + Will

Contractor:

DPR Construction

Owner:

Florida International University

Awards:

2013 Sid Freedman Craftsmanship Award

Innovative engineering:



Due to tilting and sloping of window boxes, careful attention to panel joint details was critical.



Revit rendering.



Actual photo of precast window openings that tilt in multiple directions.



Prior to delivery, each precast panel was pre-glazed, caulked, inspected, and applied with waterproof coating on the back face.



Topping out enclosure with last window panel. Photo: DPR Construction.

Perot Museum of Nature and Science, Dallas, Tex.

The new 180,000-square-foot Perot Museum was designed to resemble a sedimentary geological formation. The precast concrete façade satisfies the intent to reflect the geology and stratification of the earth’s surface, through the creation of undulating forms, which are rigorously systematic but seemingly random.

Knowing that the colors of natural strata vary, the architect selected a lightweight gray concrete mixture that would derive natural mottling in each panel. Gate Precast worked in a design-assist role to define the cast-as-grey precast concrete cladding which features both convex and concave horizontal striations.

The museum opened to the public on Dec 1, 2012, a month ahead of schedule and has won much recognition for its dynamic complex design.

Architect:

Morphosis Architects and Good Fulton & Farrell Architects

Contractor:

Balfour Beatty

Owner:

Museum of Nature and Science

Awards:

2012 Sid Freedman Craftsmanship Award, 2012 PCI Design Awards - Best Government and Public Building, *ENR* Best 2012 Projects Winner 



Precast panels were digitally modeled in the design assist process which allowed greater integration/coordination with other building materials. All photos: Gate Precast.



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Expand your understanding of how Gate Precast used Design Assist and BIM to build these iconic structures



Learn & Earn: Architectural Precast BIM Design and Detailing of the Perot Museum and FIU Science Complex

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