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DESIGNING WITH PRECAST

Spring 2024

# 2024 PCI DESIGN AWARDS



**HIGHER EDUCATION/UNIVERSITY BUILDING CO-WINNER**

# FIU TAMAMI HALL

MIAMI, FLORIDA

Long-lasting, high-performance architectural precast concrete panels were critical in the construction of Tamiami Hall at Florida International University (FIU). The 13-story, 300,000 ft<sup>2</sup> residence hall has 160 four-bedroom, two-bathroom apartments and is situated adjacent to FIU's football stadium. The building, which provides stunning views of the campus through its floor-to-ceiling windows, ensures the safety and security of students thanks to resilient precast concrete panels.

## STANDING TALL

Despite a series of challenges during the COVID-19 pandemic, the team at GATE Precast Company of Kissimmee, Fla., successfully navigated a tight construction timeline to deliver a world-class solution for FIU. Construction took place on an active campus in a high-traffic area. Throughout the project, the nearby stadium and football fields remained in use thanks to the use of precast concrete. Namely, the just-in-time method of delivering the precast components suited the traffic and safety plans put into place by general contractor Moss Construction and the university.

While considering the design of Tamiami Hall, university officials sought durable building materials that would protect the structure, which is located in a hurricane-prone area, for the long haul. Precast concrete was the only solution that could satisfy the aesthetic needs of the project while also ensuring resilience against extreme weather. The project team also took advantage of the innovative tunnel-form method of construction. This highly systematic approach uses precast concrete products and cast-in-place concrete to rapidly build a structure with enhanced thermal qualities, reduce ambient sound, and the capability to withstand 160-mph, hurricane-force winds.

The use of nearly 800 architectural precast concrete panels help Tamiami Hall achieve a seamless appearance. The building design called for a "random" arrangement of windows. This design concept was aesthetically pleasing, but it would affect the gravity supports of the precast concrete façade. Therefore, the structural engineer of record, contractor, and precast concrete specialty engineer had to work together on a solution that would preserve the project schedule and mitigate any cost increases. Collectively, the team decided to reduce the length of the panels and increase the total quantity installed. While panel sizes and joists had to be rearranged to accommodate weight, the team was still able to generate some repetition in the components, allowing the residence hall to fulfill the original design intentions in a cost-effective manner.

Tamiami Hall stands as a testament to the quality, durability, and sustainability of architectural precast concrete panels. Ultimately, the use of precast concrete was key in the construction of a long-lasting, energy-efficient residence hall that is both resilient and pleasing to the eye.



Photo: GATE Precast Company.

## PROJECT TEAM

**Owner:** Florida International University (FIU), Miami, Fla.

**PCI-Certified Precast Concrete Producer:** GATE Precast Company, Kissimmee, Fla.

**Architect:** Perkins&Will, Coral Gables, Fla.

**Precast Concrete Specialty Engineer:** GATE Precast Company, Brentwood, Tenn.

**Engineer of Record:** Thornton Tomasetti, Fort Lauderdale, Fla.

**General Contractor:** Moss Construction, Fort Lauderdale, Fla.

**PCI-Certified Erector:** Team Precast Group, Lincoln University, Pa.

**Project Cost:** \$80 million (\$4.06 million for the precast concrete)

**Project Size:** 300,000 ft<sup>2</sup>

## KEY PROJECT ATTRIBUTES

- Nearly 800 architectural precast concrete panels form the façade at Florida International University's Tamiami Hall.
- Tunnel-form construction methods enhanced the structure's thermal capabilities, limiting ambient sound, and providing protection against hurricane-force winds.
- The project team collaborated on a design approach that would allow the residence hall to achieve its originally intended design while maintaining economy of production.

## PROJECT AND PRECAST CONCRETE SCOPE

- The residence hall was constructed in a very active area of Florida International University's campus, adjacent to the school's football stadium.
- Meticulous maintenance of traffic plans, combined with just-in-time delivery of the precast concrete components, ensured minimal disruption on campus and adherence to a tight construction timeline.