

Focal Point

BY LAWRENCE D. MCDOWELL, P.E.



Mercato is a 760,000-sq.-ft mixed-use development comprised of 12 buildings containing retail space, restaurants, offices, and condominiums.

IN THE HIGHLY COMPETITIVE RETAIL MARKET, movie theaters can be a lucrative magnet for developers, providing a steady stream of patrons from morning until late at night. And in many retail developments, the theaters become the star attraction.

Such was the case with The Mercato, a mixed-use development near Naples, Fla., which attracted international theater firm of Cines Unidos to be its centerpiece. The 760,000-sq.-ft. complex is comprised of 12 buildings containing retail space, restaurants, offices, and condominiums. One of the buildings, Building 8, is situated at the main intersection of the streetscape and provides the high visibility essential for the theater, as well as easy access for its patrons.

Inherent in the master planning for The Mercato, the design of Building 8 needed street-level retail and restaurants to provide the proper mix for the building, with the movie theater and a future comedy club located above. The two-story structure has floor plates of approximately 50,000 sq. ft per floor. The theater, with 11 separate seating houses as well as a projection and office mezzanine, originally had a column grid of its own—tailored to fit standard theater modules—and bore no practical relationship to the proposed retail demising walls below. To complicate matters, none of the retail leases had been executed at the time of the structural design, so maximum tenant flexibility below the theater was paramount.

Thus the structural engineer was faced with a myriad of framing issues:

- Column grid alignment between the theater and the retail below.
- The high story height of the theater (35 ft) and large open volumes for the stadium seating.
- Lateral load resistance framing. Although seismic design is not a code issue in Florida, the high hurricane-force wind loads in south Florida are formidable. Like the column grid, the potential locations for lateral bracing in the theaters tended not to align with optimum locations in the retail portion.
- Virtually all of the storefront exposure along three sides of the building was required to be free of bracing, walls, and other encumbrances for the high street visibility that retail construction requires.
- Each theater's stadium seating had to be structured independently such that sounds (particularly low-frequency) were not transmitted from theater to theater.
- The structure needed to have a degree of flexibility for revisions during the design and construction process as leases developed.

Structural steel became the practical and logical solution for Building 8. After a two-month negotiation with the shell architect and the theater designers, the structural engineer



A new retail complex in southwestern Florida positions its movie theater as the centerpiece.

Entrance framing for Mercato's Building 8. Bracing locations were carefully coordinated with the theater above and retail below, placing most lateral resistance inboard of the façade to facilitate retail storefront exposure.

Cooper Carry, Inc.



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Each theater's stadium seating (seen left and above) had to be structured independently such that sounds (particularly low-frequency) were not transmitted from theater to theater.

was successful in securing a column grid that provided one-piece, full-height columns with virtually no column transfers. Even more importantly, bracing locations were carefully coordinated with the theater layout and retail below, locating most lateral resistance inboard of the façade to facilitate retail storefront exposure.

Composite floor slabs supported the intricate framing for the over-built stadium seating and mezzanines. The stadium seating rakers were constructed of steel framing members with cast-in-place concrete treads, carefully coordinated with the theater geometry and low-headroom clearances associated with the theater entranceways and mezzanines. Gaps were provided between each theater seating frame to provide the acoustic separation required. In addition, several minor floor and roof modifications were required throughout construction to accommodate architectural and mechanical revisions, but these were easily achieved in the field.

In the case of The Mercato's Building 8, structural complexity was met with structural flexibility, culminating in a framing system that could be easily redesigned and detailed to accommodate two such different tenants as a theater and retail shop-

ping on successive floors. The building is on schedule to open in May. **MSC**

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Lutgert Companies and Barron Collier Company

Architect

Cooper Carry, Inc., Atlanta

Theater Architect

Gould Evans Associates, Tampa, Fla.

Structural Engineer

Uzun and Case Engineers, LLC, Atlanta

Steel Fabricator

Steel Service Corporation, Jackson, Miss. (AISC Member)

Steel Erector

John Bowman, Inc., Naples, Fla. (SEAA Member)

Steel Detailer

Pacific Drafting, Inc. (AISC Member)

General Contractor

Hoar Construction, Orlando, Fla.