

cross sections

Magazine for the Structural Engineers Association of New York

2017 VOLUME 22 NO. 2

The Awards Issue

The 2017 Excellence in Structural Engineering Winners

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2017 VOLUME 22 NO. 2

SEaONY
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President's Message

Dear Colleagues,

With this issue, SEAoNY highlights those who have received our Excellence in Structural Engineering Awards in 2017. Creativity, innovation, and sustainability are celebrated. In addition, diversity of firms receiving recognition is important to us. This year we received entries from only 13 different firms. Given the size of SEAoNY, the SEAoNY Board feels this number should be at least double that. For 2018, whether you are a small or large firm, located anywhere in New York State, submit for the awards. We should all be proud of the work we are doing and share it with our colleagues!

The coming of summer marks the end of the 2016 to 2017 year of events and activities. Many volunteered to organize and many more participated, all contributing to our SEAoNY community. Thank you! It has been an enormously rewarding and fulfilling experience to work with everyone on the Board and our Committees. This fall, Sara Steele becomes SEAoNY's new President and I look forward to continuing to work with her as Past President.

Best wishes,

Doug



Editor's Message

Dear Friends and Readers,

Welcome to the Awards Issue of Cross Sections. This is always an exciting time of the year, when we take a moment to recognize the amazing work being done by our peers. On this year's Annual Boat Cruise, I was struck by the quality of the work being presented across the board. While it is always a thrill to see what others have been up to, I certainly don't envy the judges of the Awards. They are tasked with picking the best of the best. We present those projects to you here.

In other news, the Publications Committee is hard at work on our next themed issue for this year, Technology in the AEC Industry. If you are at the forefront of utilizing a new technology in your practice, or just interested in a particular topic, please reach out to us at publications@seaony.org.

Finally, we would like to thank Doug Gonzalez for his efforts as President and wish him the best as he transitions to the role of Past President. We welcome the new President, Sara Steele, and look forward to another great year at SEAoNY.

Adam J. Kirk, PE

UPCOMING EVENTS

**Sept 12, 2017
6:15Pm - 8:00Pm
Center For Architecture
536 Laguardia Place**

SEAoNY Annual Meeting

**Sept 12, 2017
8:00Am - 12:30Pm
The Hotel Pennsylvania
401 Seventh Ave**

**4Th Annual Port Authority Of New York & New Jersey Conference -
Creating A Path For Growth**

**Sept 27, 2017
8:00Am - 12:30Pm
The CUNY Graduate Center
Proshansky Auditorium
365 Fifth Avenue**

Dormitory Authority Of The State Of New York Conference

Visit www.seaony.org/programs for additional information on these and other events!

SEAoNY YOUNG MEMBER GROUP SUMMER UPDATE



By Sam Brummell Severud

SEAoNY's Young Members Group arranged a private tour of the Skyscraper Museum in mid-April which was well received by over 50 young members and students. The tour was hosted by the curator and founder of the museum and was followed by a networking event allowing for attendees to make new connections with individuals at other firms, and even resulting in a few new committee members. This event also had the most diversity in company representation relative to previously YMG hosted events. The event registration exceeded capacity, emphasizing the continued interest in having a group focusing on young professionals. The Young Members Group has also been working on their first cosponsored event with ASCE's Met Section Younger Members Forum, which was hosted in May.

The two groups combined resources to host a panel discussion on the benefits and drawbacks of BIM and analysis software across civil and structural engineering disciplines. Panelists examined the use, benefits, and constraints of BIM, as well as how they believe these tools will be adapted and adopted in the future. Before the panel, both organizations

provided an overview of upcoming events and goals, allowing for recognition of the committee in both SEAoNY and ASCE members. The discussion was followed by a networking event, intended to continue the discussion, and build ties between the two organizations. We are currently working on putting together a "happy hour" series after SEAoNY's monthly lectures. The goal of this series is to build stronger relationships within SEAoNY by combining technical lectures with social events to make the greater SEAoNY community more approachable and accessible to young members.

Over the Summer, the YMG is planning a networking event with the "Emerging Professionals" from Urban Green Council. Please check seaony.org for more information. Dates and location will be posted on the website by mid-June. Finally, the next few months is the perfect time to join our team! We will be working on our goals and programming ideas for next year, including early planning for our second annual trivia/ game night in September. Please email seaonyYM@gmail.com if you would like to join, or have ideas for future programs you'd like to see.

THE SEAONY BOAT CRUISE + EISE AWARDS PRESENTATION



On June 26, SEAoNY members once again embarked on the annual boat cruise around Manhattan. After a gorgeous evening sunset, members sat to enjoy dinner and the Excellence in Structural Engineering Awards ceremony.

call for writers (*and nonwriters!*)

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2017

SEAONY EXCELLENCE IN STRUCTURAL ENGINEERING AWARDS WINNERS

JUDGES

Alastair Elliott, Past President of SEAoNY and Principal at Silman

Matthew Bandelt, Professor of NJIT, specializes in cement-based composites materials

Ahmad Rahimian, Honorary Member of SEAoNY and Director of Building Structures at WSP USA

Dan Eschenasy, Honorary Member and Chief Structural Engineers at NYC Dept of Buildings

Olin McKenzie, Architect and Director of SOM

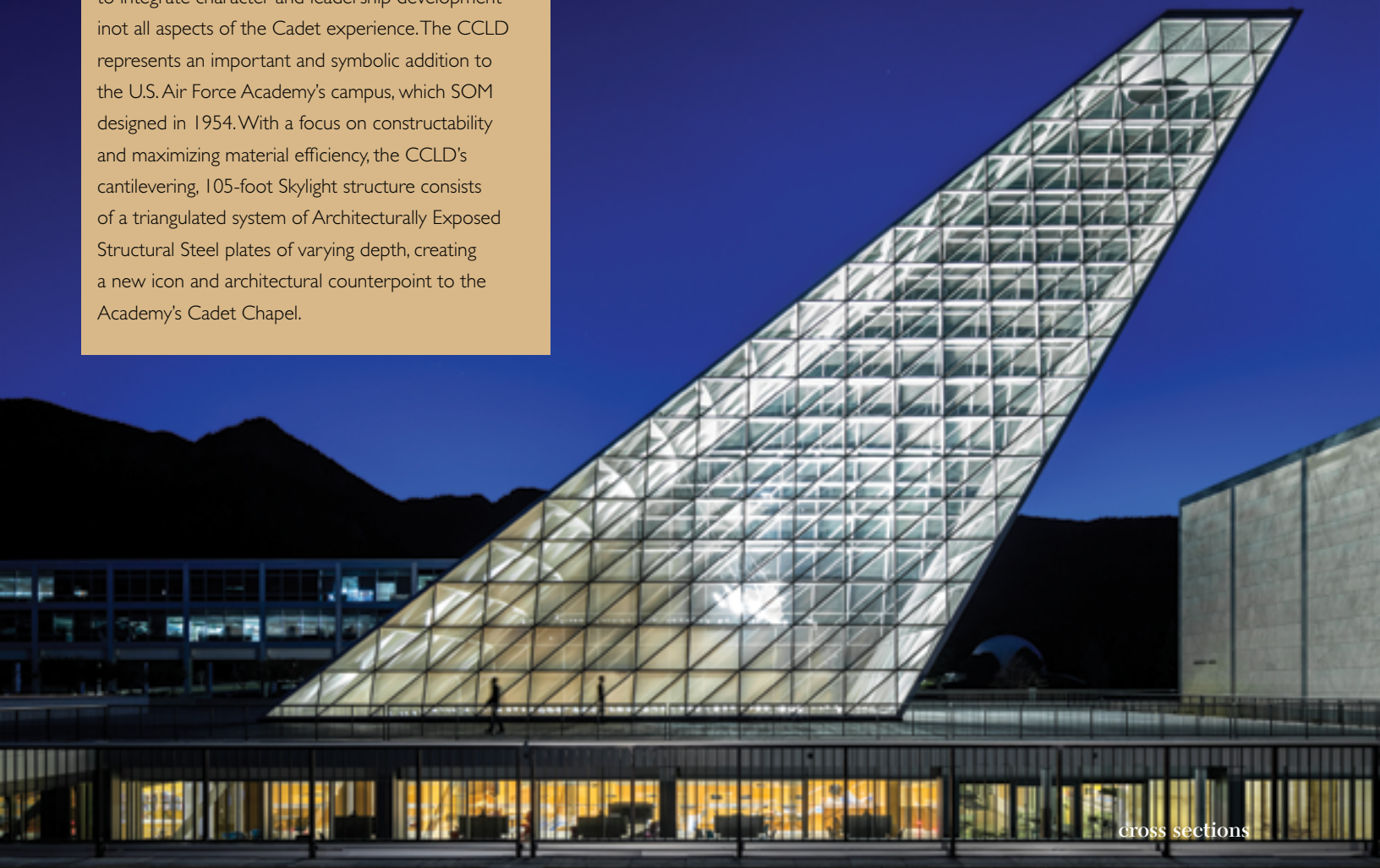
The Structural Engineers Association of New York (SEAoNY) Excellence in Structural Engineering Awards serves to recognize creative achievement and innovation in structural engineering. Modeled after the National Council of Structural Engineering Associations (NCSEA) Awards, the program annually highlights some of the best examples of structural engineering ingenuity by firms in New York. For the 2017 Awards, projects must have been sufficiently completed between January 1, 2015 and December 31, 2016 such that they clearly show the basic design of the structural system. Firms were asked to provide narratives, photos, and plans or sketches to convey the complexities and innovations of their design. Judged by past SEAoNY presidents and honorary members, themselves structural engineers and leaders in the industry, scores were awarded based on: - Creativity of structural design (20%) - Complexity of criteria or unique problems (20%) - Innovative application of new or existing materials or techniques (20%) - Ingenuity of design for efficient use of materials and labor (20%) - Exceeding client / owner's needs or expectations (10%) - Suitability of the structure for its environment and sustainability of design, including social, economic and environmental design considerations (10%) Awards finalists and winners were recognized on the SEAoNY Annual Boat Cruise on June 26, 2017, with each being represented by a project display board and, of course, their engineers. The SEAoNY Awards provide a great opportunity for engineers to learn more about the work of their peers and to share in their engineering achievements. In past years, several SEAoNY Awards winners have gone on to win NCSEA Awards as well. This year's winners are sure to be no exception.

**NEW BUILDINGS
UNDER 100,000 SQFT**

The Center for Character & Leadership Development

Skidmore, Owings & Merrill

The Center for Character & Leadership Development (CCLD) is an education and research center, supporting the Air Force Academy's mission to integrate character and leadership development into all aspects of the Cadet experience. The CCLD represents an important and symbolic addition to the U.S. Air Force Academy's campus, which SOM designed in 1954. With a focus on constructability and maximizing material efficiency, the CCLD's cantilevering, 105-foot Skylight structure consists of a triangulated system of Architecturally Exposed Structural Steel plates of varying depth, creating a new icon and architectural counterpoint to the Academy's Cadet Chapel.

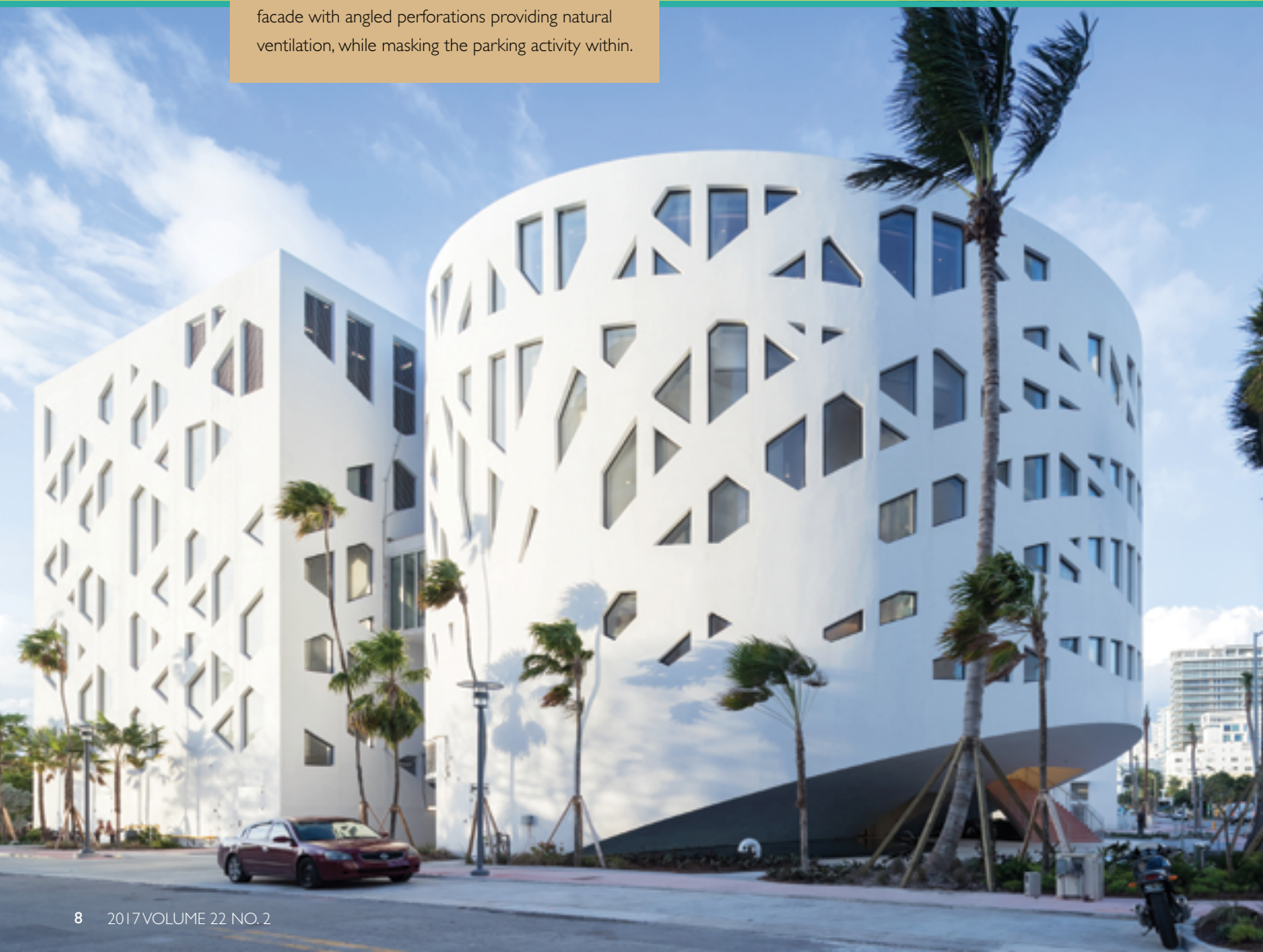


**NEW BUILDINGS
100,000 TO 500,000 SQFT**

The Faena Arts Center

DeSimone

The Faena Arts Center is an iconic cultural project located in Miami Beach, consisting of a Forum, Bazaar, and Car Park. The most prominent building is the Forum, which consists of a base-truncated cylinder attached to a cube, all featuring a facade of crisscrossing concrete arches and catenaries. Structural challenges included an underground parking garage adjacent to the ocean, vacating and replacing a city street, unconventional construction sequencing, and detailing of the three-dimensional facade. The Bazaar consists of a historically accurate replacement of the 1939 Atlantic Beach Hotel. The enclosed Car Park features a precast white concrete facade with angled perforations providing natural ventilation, while masking the parking activity within.



**NEW BUILDINGS
OVER 500,000 SQFT**

Torre Reforma

ARUP

At 246m, Torre Reforma will be the tallest skyscraper in Mexico. The 57-floor, 40,000 m² building includes 32,000m² of office space, along with restaurants, shopping, and a 4-floor fitness club. Set along the bustling new commercial corridor of Paseo de la Reforma, the building's unique triangular form responds to the setback limitations of the site, and to the preservation of an historic building on the site. A key element of the project was to demonstrate how, through integration of engineering and architecture, a high degree of sustainability and building performance could be achieved. Torre Reforma has been certified LEED Platinum.



**FORENSIC ANALYSIS / RENOVATION / RETROFIT /
REHABILITATION OF STRUCTURES**

Empire Stores

Silman

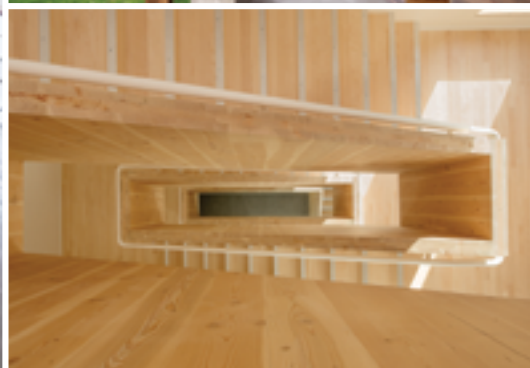
Empire Stores is a landmarked structure on the DUMBO waterfront in Brooklyn Bridge Park. It is a series of seven interconnected structures that was constructed between 1870 and 1885 for use in the shipping industry, and, later, as a coffee warehouse. Silman participated in its rehabilitation and renovation, which consisted of the restoration of the existing structure, the addition of two new stories, the transformation of the roof into a public park, and the creation of a public courtyard that cut a large slice through two of the buildings and houses a winding staircase that grants access to the roof.





WOOD DESIGN AWARDS

NOMINATION DEADLINE: SEPTEMBER 29, 2017



Each year, WoodWorks hosts an award program to recognize excellence in wood design and showcase innovative buildings that demonstrate wood's strength, beauty, versatility and cost-effectiveness.

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- Commercial Wood Design: Low-Rise
- Wood School Design
- Institutional Wood Design
- Wood in Government Buildings
- Durable & Adaptable Wood Structures
- Green Building with Wood
- Beauty of Wood

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2017 winners (clockwise from top left): Rosewood Beach, Woodhouse Tinucci Architects, photo Bill Timmerman; One North – Karuna East and West Buildings, Holst Architecture, photo Andrew Pogue; T3 Minneapolis, MGA | Michael Green Architecture, DLR Group, photo Ema Peter; Albina Yard, LEVER Architecture, photo LEVER Architecture; Common Ground High School, Gray Organschi Architecture, photo David Sundberg; Dixon Water Foundation Josey Pavilion, Lake | Flato Architects, photo Casey Dunn

Entrance Glass Canopy and Vestibule at 432 Park

Yoshinori
Nito
Engineering
and
Design PC
(YNED)



The canopy shelters a 20ft x 56ft wide main entrance area to the high rise building at 432 Park Avenue. Each 20ft long cantilever glass beam consists of five laminated glasses supporting 10ft9in wide roof glass. A duplex stainless steel triangle blade was inserted and bonded between the beam glasses and its end was rigidly connected to the portal steel frame located inside the building. Intensive structural analyses and a full scale structural performance mock up test were performed for verification of structural design, failsafe and redundancy of structural glass

Chicago Horizon

Chicago Horizon is a pavilion for the 2015 Chicago Architecture Biennial composed of a flat roof made entirely out of Cross-Laminated Timber (CLT). The application of two-way column-supported flat plate in timber is possibly unique to this structure. Highlights include: two options considered for flat plate realization; the application of fasteners at 45 degrees to provide shear reinforcement of CLT locally; the use of the laminate timber columns moment connected to the CLT to form the lateral system. The pavilion was designed, fabricated and installed in 10 weeks and is the development of a new structural type in mass timber.





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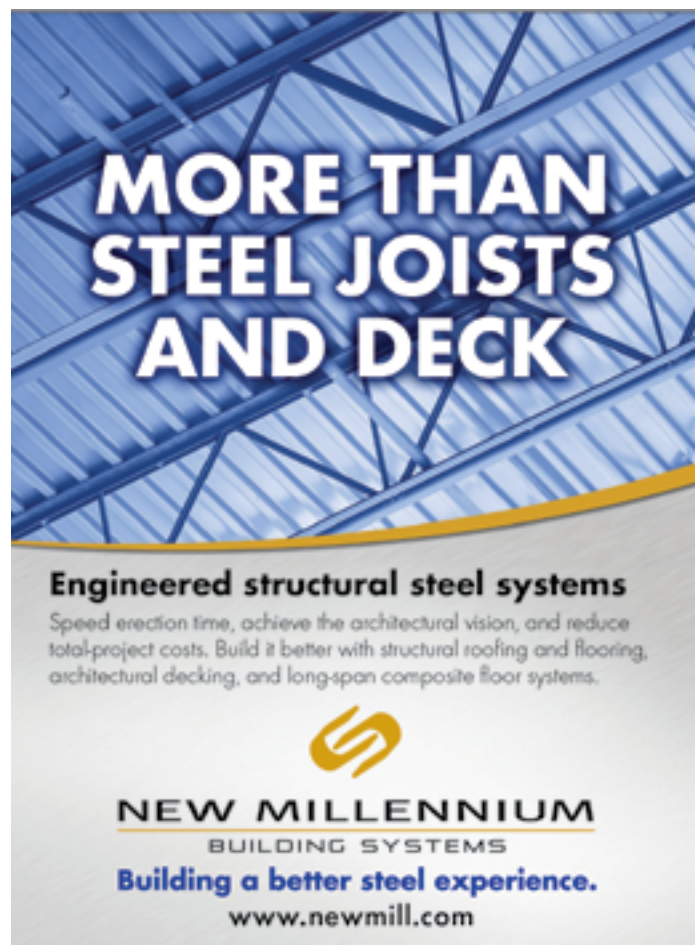
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ENGINEERS CHOICE AWARD

Grove at Grand Bay

Grove at Grand Bay, the first truly twisting buildings in the United States, is an iconic residential project located in Coconut Grove, Miami. The two twisting towers rise 20 stories above a lush, landscaped two-story podium. The towers are low density with 98 spacious custom homes featuring 12-foot high ceilings and 14-foot deep balconies. In order to capture the full panoramic views of Biscayne Bay and the Miami skyline, the architect rotated the towers incrementally along the height for a total rotation of 38 degrees. The towers are also the first LEED Gold Certified residential buildings in Miami-Dade County.

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