



#### NOTABLE CONCRETE Sector Concre

Compiled by ACI Committee 124 Designed and Produced by ACI Comments, suggestions, or additional submissions? Please e-mail the editor: Michael Paul at mpaul@duffnet.com

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#### North Central College Residential Hall and Recreational Center 440 South Brainard Street, Naperville, IL

Submitted by: Brian Bock, VP Sales & Marketing, Dukane Precast, Inc., Naperville, IL, tel. 630-355-8118, bbock@dukaneprecast.com



This is the first project in the nation to combine residential use, recreational facilities, and green building in a single structure. The 201,439 ft<sup>2</sup> building conserves valuable land on the college campus, located in the heart of Naperville's historic district, by combining two large buildings into one. The four-story, 265-bed dormitory wraps a 58,776 ft<sup>2</sup> arena that features two tracks, numerous multipurpose courts, training and fitness facilities, and offices. The building uses over 1300 precast panels for the stadium walls and all of the dormitory walls, floors, and stairs. Radiant tubing in the precast floor panels is part of the geothermal energy system that includes an adjacent, extensive well field, helping the building to achieve its LEED-Silver certification.





# Duke Ellington Elementary School 243 North Parkside Avenue, Chicago, IL

Submitted by: Ken Schroeder, Principal, SMNG-A Architects, Ltd., Chicago, IL, tel. 312-829-3355, kschroeder@smng-arch.com



**P**recast concrete panels featuring an abstract texture and design accent the main façade.



# Chicago Riverwalk—Wabash Memorial Plaza, Michigan Avenue to State Street, Chicago, IL

Submitted by: Laura Saviano, Marketing Principal, Ross Barney Architects, Chicago, IL, tel. 312-832-0600, LAS@r-barc.com





The Main Branch Riverwalk will create an uninterrupted path from the Lakefront to Lake Street and adds valuable new land along the Chicago River by extending dock walls and bridge-house walls into the river. For most of the one-mile path, visitors experience separate "rooms" in the spaces between bridges, each room uniquely responding to surrounding architecture, urban history, landscaping, and river views. The \$22 million first phase between Michigan Avenue and State Street features sheet piling tied back with reinforced concrete slabs and embedded rods that bear on concrete rubble from the demolition of existing dock walls. Concrete retaining walls parallel to the bank create fill cells and extend upward to become pedestrian benches.





#### Drexel Parking Garage, University of Chicago, 61st and Drexel Streets, Chicago, IL

Submitted by: Laura Saviano, Marketing Principal, Ross Barney Architects, Chicago, IL, tel. 312-832-0600, LAS@r-barc.com



esigned to accommodate 1010 cars and 70,000 ft<sup>2</sup> of office space in joined, complementary volumes, the combined parking garage and office building relieves pressure on neighborhood parking and the nearby medical center parking facility, and it houses University police and the biological sciences division. Building materials were selected for sensitivity to the adjacent, established residential community. The 11-story, 300,000 ft<sup>2</sup> parking garage is a concrete structure clad with precast panels. The cast-in-place concrete structure of the office building is separated from the parking structure to eliminate the transfer of noise and vibration.



### Gleacher Center, University of Chicago Graduate School of Business, 450 North Cityfront Plaza, Chicago, IL

Submitted by: Anthony Kempa, Marketing Director, Lohan Anderson, Chicago, IL, tel. 312-988-7800, akempa@lohananderson.com



Precast concrete and glass curtain walls were balanced to create a structure that fosters a distinguished collegiate atmosphere and social interaction—while maintaining a corporate feel—to attract more professionals and adult students from Chicago's central business district.



#### William J. Donovan Bridge, Wilson Street at the Fox River, Batavia, IL

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Do onovan Bridge was designed as a replacement for the three-span, cast-in-place concrete arch bridge that had been a community symbol for decades. The new bridge reflects historic precedent in form and material. Three different styles of concrete forms were designed to mimic the texture and feel of the locallyquarried cut stone, and these patterns were used for the retaining walls, abutments, and the sidewalk. The bridge spans the Great Western Bike Trail as well as the river, integrating parkland with street activity. Ample pedestrian space includes built-in concrete benches. Concrete stairs and ramps descend to the riverside trail.



#### 2111 West Roosevelt, 2111 West Roosevelt Road, Chicago, IL

Submitted by: Anthony Kempa, Marketing Director, Lohan Anderson, Chicago, IL, tel. 312-988-7800, akempa@lohananderson.com



2 111 West Roosevelt was developed as a turnkey office complex for a long-term government tenant. The highly finished architectural precast concrete expresses a 10-ft module and is complementary in its composition with vision and spandrel glass. This office complex received a LEED-EBOM Platinum Certification from United States Green Building Council.



#### Trump International Hotel & Tower Chicago, 401 North Wabash Avenue, Chicago, IL

Submitted by: Amy Hawkinson on behalf of William F. Baker, Structural and Civil Engineer Partner, Skidmore, Owings & Merrill LLP, Chicago, IL, tel. 312-360-4309, amy.hawkinson@som.com



t 1389 ft tall, the 92-story Trump International Hotel and Tower, designed by Skidmore, Owings & Merrill LLP, is the tallest concrete building in the United States. Cutting-edge concrete technologies are used in this reinforced concrete core-wall and outrigger structure, with high-performance mixture designs that include compressive strengths up to 16,000 psi, specified minimum elastic modulus, and self-consolidating concrete.



#### Trump International Hotel & Tower Chicago, 401 North Wabash Avenue, Chicago, IL

Submitted by: Dave Alexander, Senior Vice President, James McHugh Construction Co., Chicago, IL, tel. 312-986-8000, dalexander@mchughconstruction.com



The Trump International Hotel & Tower Chicago is the tallest U.S. building constructed since the Willis Tower (formely named the Sears Tower) was constructed in 1974, is the second tallest building in Chicago, and is the tallest reinforced concrete structure in the Western Hemisphere. James McHugh Construction Co. placed 180,000 yd<sup>3</sup> of concrete (20,000 truckloads) and laid 25,000 tons of reinforcing steel over 35 months, placing a floor a week for the massive lower levels and a floor every 3 days for the upper levels, using 20 different concrete mixtures, several self-consolidating. The structure features three setback floors where shear walls, belt walls, and 17-ft-high outrigger beams transfer loads and resist wind shear. A 680-hp Putzmeister concrete pump, the first of its kind in the U.S., pushed concrete through 1700 ft of slick lines, lifting to the top more than 6000 lb/min. In the largest-ever pour of self-consolidating concrete, 5000 yd<sup>3</sup> of 10,000 psi concrete was placed over 23 hours to create the 10-ft thick, 200 x 60 ft foundation mat, with 30 trucks making 600 trips to the site.



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#### Aqua, 225 North Columbus Drive, Chicago, IL

Submitted by: Dave Alexander, Senior Vice President, James McHugh Construction Co., Chicago, IL, tel. 312-986-8000, dalexander@mchughconstruction.com







otaling 82 stories and 2.3 million ft<sup>2</sup>, Aqua demanded creativity and problem solving to bring architect Jeanne Gang's groundbreaking reinforced concrete design to fruition. The "waves" of cantilevered balconies extend from 9 in. to 12 ft, making every floor unique. General contractor James McHugh Construction Co. developed flexible forms that facilitated framing the unique shapes while meeting a tight, 3-day pour schedule, using cantilevered supports and a computerized surveying system. The thin balcony slabs, tapering from 9 to 4-3/4 in. for drainage, contrast with the hefty structural columns, which average 30 x 50 in. Because hoists could not be anchored to the balconies, nearly 300 hoist bridges were installed to bear on the main slabs inside the perimeter columns.



# Park Tower Hyatt, 800 North Michigan Avenue, Chicago, IL

Submitted by: Precast Concrete Specialties, Inc., Omro, WI, and Larry Rowland, Manager, Marketing & Technical Services, Lehigh Cement Co., White Cement Division, Allentown, PA, tel. 610-366-4600, lrowland@lehighcement.com



oaring 67 stories above Chicago's Miracle Mile, Park Tower is one of the world's tallest buildings to be clad with architectural precast concrete panels.



# All Saints Cemetery, 700 North River Road, Des Plaines, IL

Submitted by: International Concrete Products Germantown, WI, and Larry Rowland, Manager, Marketing & Technical Services, Lehigh Cement Co., White Cement Division, Allentown, PA, tel. 610-366-4600, lrowland@lehighcement.com



The natural beauty and durability of precast concrete makes it an ideal material for this indoor/outdoor memorial space. The feeling of permanence embodied in the weight of the precast concrete contrasts with the lightness of its deep white luster to create an atmosphere of honor and remembrance.



#### North Avenue Bridge, Main Street over the Fox River, St. Charles, IL

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hite concrete enhances the ornate character of the bridge, which plays off adjacent Midwestern architecture.



# St. Mary's Bridge, Lakeshore Drive off U.S. 45 and Illinois 176, Libertyville, IL

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#### Balbo Avenue Bridge, East Balbo Avenue near South Michigan Avenue, Chicago, IL

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 his crisp, white concrete bridge is elegant and safe day and night, even in the Windy City's worst weather.



# Congress Parkway Bridge, East Congress Parkway near South Michigan Avenue, Chicago, IL

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hite concrete creates a monumental presence for this new crossing, and its bright visibility improves safety for all types of users.

