MASONRY

PHOTO BY JEFF KLAYMAN

2007-08 PULL-OUT SEMINAR SCHEDULE ENCLOSED!

NO GAMBLE WITH MASONRY

Ameristar Casino

Everything about this project is big, from exterior elevations that tower 300-ft. above the ground to a strategically deployed army of tradesmen. Located next to one of America's great rivers, the Ameristar Casino's new hotel and spa project is taking shape as a high-end addition to the area's recreational alternatives. When completed, this new $265 million facility in St. Charles will include a 400-room all-suite luxury hotel, a 7,000 sq. ft. full-service spa, an indoor/outdoor pool area with landscaped grounds and waterfalls, as well as a nine-story garage with 2,350-space parking garage. The first phase of the expansion containing 19,200 square feet of state-of-the-art conference and meeting facilities opened last September.

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A PUBLICATION OF THE MASONRY INSTITUTE OF ST. LOUIS

MASONRY INSTITUTE OF ST. LOUIS

INSIDE MASONRY

Volume 14 Issue 4

Owner: Ameristar Casinos, Inc.

General Contractor: Walton Construction.

Design Architect: PGAV Architects (Kansas City)

Structural Engineer: Walter P. Moore

Brick Manufacturer: Belden Brick

Brick Supplier: Missouri Brick

Brick-Interior Streetscape: Richards Brick

Precast: Architectural Art Stone

GFRC: GFRC Inc., GFRC Cladding

Block: Kirchner Block & Brick

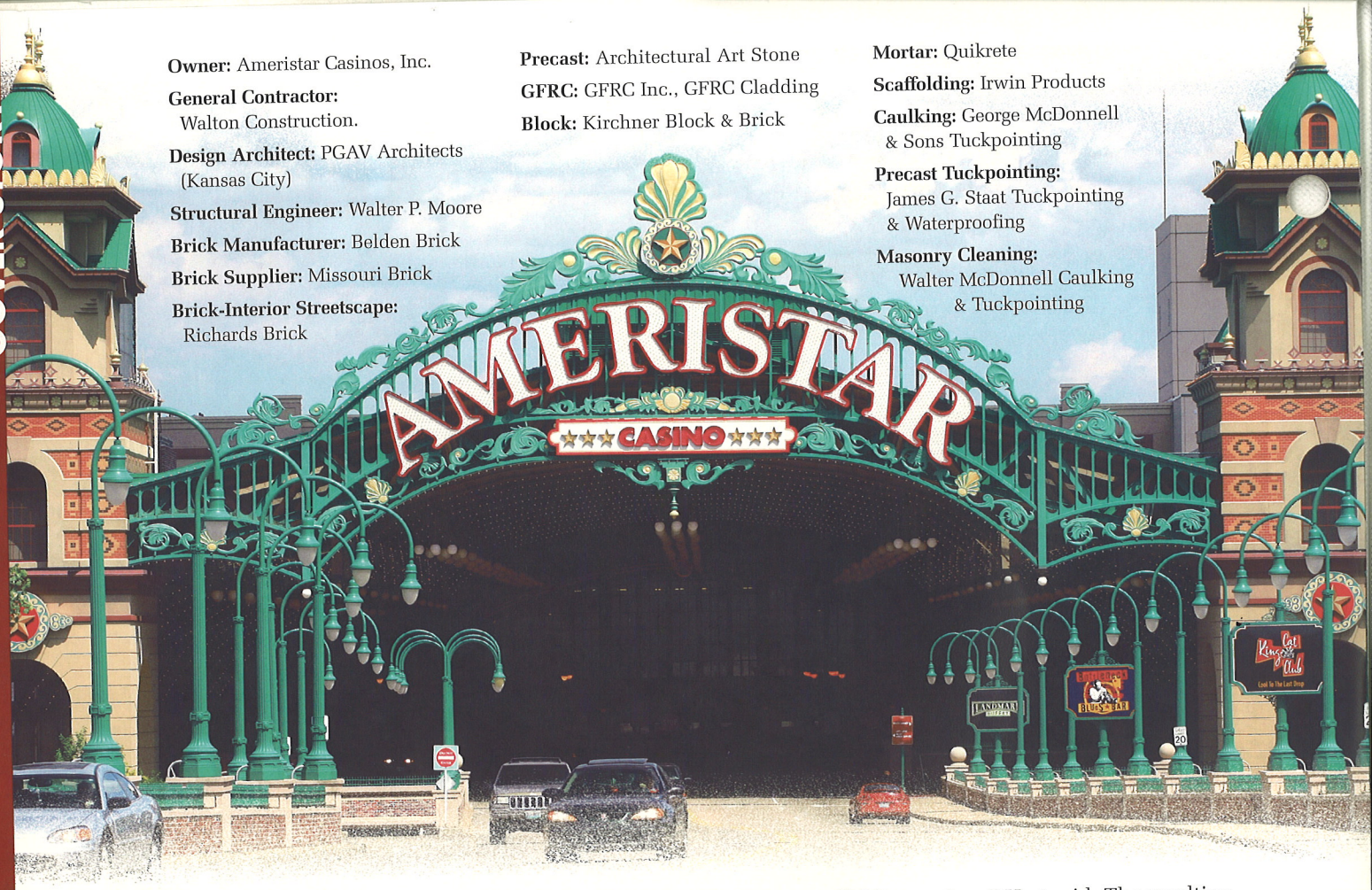
Mortar: Quikrete

Scaffolding: Irwin Products

Caulking: George McDonnell & Sons Tuckpointing

Precast Tuckpointing: James G. Staat Tuckpointing & Waterproofing

Masonry Cleaning: Walter McDonnell Caulking & Tuckpointing



PHOTOS BY JEFF KLAYMAN

CONTINUED FROM THE COVER

Meeting the project's December 7th deadline put a premium on the scheduling of the various trades onto the scaffolding scaling the building's exterior. "It's like a fine Swiss watch," said **Heitkamp Masonry's** project manager **Geoff Hart,** who also ran his company's operations at the new Busch Stadium. "If one of the parts breaks down, then nothing happens." As elaborate as the stadium project was, Hart contends it wasn't as complicated as the Ameristar, which is the second largest masonry high-rise under construction in the United States. "In terms of scope, (Ameristar) is more complex and at a higher dollar value than the stadium," he said.

Efficient scheduling is critical on a high-rise project like the 25-story hotel. On a normal site such as at Busch Stadium, if the masonry crew can't access a given area they can work elsewhere on site. But with high-rise construction, if something creates a bottle-neck the bricklaying crew has to wait until it is cleared.

"We worked closely with **Vince Irwin** of **Irwin Products** to engineer the Hydro Mobile scaffolding system," Hart said. The resulting combination included 15 scaffolds arranged so that there was a 60-ft. span of scaffold platform between towers. A canopy of 9-gauge metal decking was erected overhead to protect the men from debris from above, and netting was hung underneath to protect workers below.

Keeping the trades running smoothly on the scaffolding required close coordination between Heitkamp's **Art Seibert,** general superintendent, and **Jason Seibert,** general foreman, who worked as a team with **Walton Construction's Dan Hunyar.** "Art and Jason Siebert really helped the job progress," said Hunyar. "I don't think we'd be at the point we are with the masonry without their dedication and input to the project."

CORRUGATED STEEL PROVIDES A CANOPY TO PROTECT THE WORKERS FROM FALLING DEBRIS WHILE NETTING BELOW THE PLATFORM PROTECTS PERSONS ON THE GROUND.

The carpenters typically worked from swing stage scaffolding above the masons, installing their studs, drywall, sheathing etc. The ironwork-ers, who install shelf angles for the brick, worked on the corrugated metal roofing of the scaffolding one floor above the masons laying brick on the floor below.

GEOFF HART, HEITKAMP PROJECT MANAGER, AND ART SIEBERT, HEITKAMP GENERAL SUPERINTENDENT.

While much of the work proceeded as planned, there were complications along the way. To accommodate the pace of the glazing, Walton designed a platform that allowed the glazier crew to work beneath the main platform while the masons worked above. Thanks to this kind of ingenuity, construction sped along. "We originally thought we would turn a floor in six days," Hart said. "But with Walton and Heitkamp working hand in hand to coordinate all the trades on the scaffolding, we were able to turn a floor in four days."

Concessions to Mother Nature have also had a major impact on the project, which is located in both a flood plain and an earthquake zone. In May, heavy rains upstream created a surge of water 30-ft. above flood stage, dumping a foot of water over the base of the scaffolding and forcing a three-week shutdown.

Seismic zone requirements drove **PGAV Architects (Kansas City)** to come up with an unusual hybrid design combining high-rise technology with a traditional veneer system, all subject to stringent seismic stipulations. "The building exterior has to be able to move one inch in each direction," Hart explained. "That means that the exterior components—studs, drywall, masonry, GFRC (Glass Fiber Reinforced Concrete), and caulking—have to work in concert," he said, adding that Ameristar represents the first time this kind of design has been executed in the local market.

BRICKLAYERS FROM HEITKAMP MASONRY LAYING BELDEN BRICK OUTSIDE THE 22ND FLOOR.

To help meet seismic considerations, GFRC was specified instead of heavier precast concrete for the corners, window surrounds, sills and cornices. Heitkamp's masons used welding and mechanical connections to set the GFRC in place. "The bricklayers of **Bricklayers Union Local #1 of Missouri** have excellent welding skills and are very suited for installing this kind of material," Hart said. "In fact, I think that the picture of a bricklayer of the future may show a trowel in one hand and a welding torch in the other," he said.


THE REAR OF THE 2350-PARKING SPACE GARAGE. THE FIFTH FLOOR WILL FEATURE A POOL AREA WITH LANDSCAPED GROUNDS AND WATERFALLS.

Cleaning of the exterior walls will be handled in four-floor increments, with the cleaner working on a four-floor block before the caulker moves in behind him, the two moving in concert.

From I-70, daily commuters have witnessed an impressive 300-ft. tall structure rising high above. But what they can't see is the genius of the underlying construction.

CONTINUED ON BACK COVER

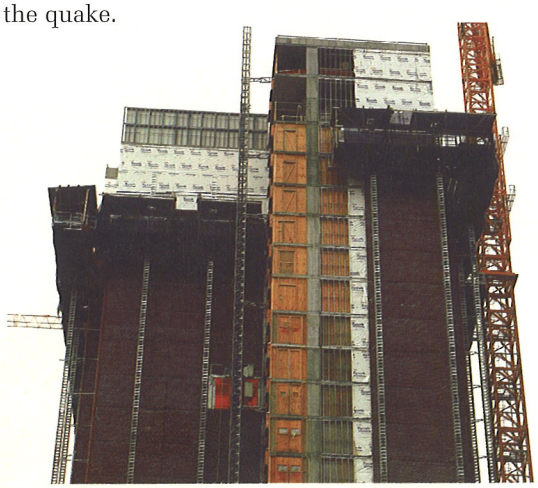
TWO HUNDRED FEET ABOVE THE MISSOURI RIVER, WORK ON THE HOTEL'S EXTERIOR PROCEEDS IN SMOOTH PRECISION.

GFRC WAS SPECIFIED AS A LIGHTWEIGHT ALTERNATIVE TO PRECAST CONCRETE. HERE, A 2-IN. CONTROL JOINT IS VISIBLE.

Ameristar Casino

CONTINUED FROM PAGE 3

A lintel at every floor slab supports the brick. There's a horizontal control joint every 9-ft. 4-in and a vertical control joint at every building corner separating the GFRC and the brick, two-in. on one side and three-quarters in. on the other. Thanks to its hybrid design, if there is a seismic event the building is able to move and ride out the quake.



HYDRO MOBILE SCAFFOLDING PROVIDES A SAFE WORKING ENVIRONMENT WHILE HELPING TO SPEED THE PROJECT ALONG.

COURTESY HEITKAMP MASONRY

THE MISSOURI RIVER FLOOD IN MAY SHUT DOWN EXTERIOR WORK FOR THREE WEEKS.

It may sound ironic, but Ameristar Casinos doesn't gamble. In calling for a skilled union masonry construction team to build this complex high-rise project, ownership has demonstrated that it knows that success doesn't have to be a roll of the dice. In this case, it's a sure thing!

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Technological Advancements

INDUSTRY IMPROVEMENTS ENHANCE PRODUCTIVITY AND SAFETY

RENDERING COURTESY IRWIN PRODUCTS INC.

PHOTO BY JEFF KLAYMAN

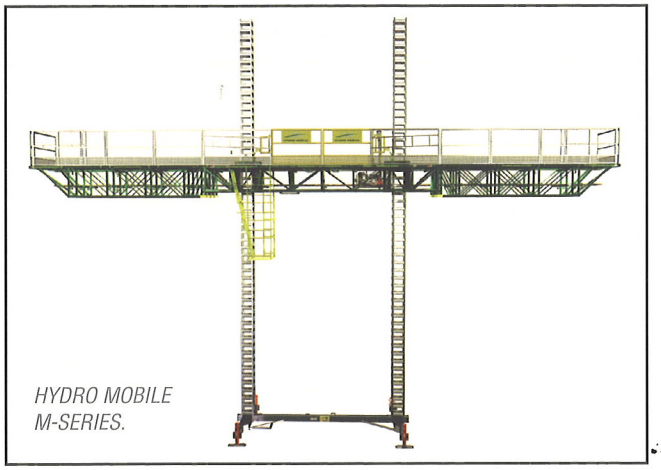
Thanks to advances in technology and materials, the masonry industry is constantly improving productivity and job site safety. Advances in virtually every facet of the industry have allowed it to overcome very difficult construction challenges, ultimately to the benefit of the customer. Below, in the first of a series of articles, we note two such advancements.

SCAFFOLDING

Without a doubt, one of the mason contractor's most valuable tools is his scaffolding. Thanks to modern advancements, tubular scaffolding and even hand-cranked models are now a thing of the past. Taking their place are the electric and gasoline hydraulic models. According to **Vince Irwin,** president of **Irwin Products,** these new units represent a significant step forward for the industry.

Irwin carries Hydro Mobile brand scaffolding, whose M series he calls "the workhorse of the industry." Units in this series have a load capacity of 20,000 pounds and a climbing rate of three ft. per minute. Workers are able to perform their jobs in comfort on the units' seven-ft. wide decks.

The safety features alone are impressive. "These easy-to-move units eliminate the need to have laborers with hods on their shoulders climbing ladders," Irwin says. "You don't have to re-erect frames and put on new guardrails every time you start going up, because they're attached to the bottom." By reducing worker fatigue, hydraulic units considerably reduce the risk of injury.



HYDRO MOBILE M-SERIES.

Both the M-Series and the smaller, lighter P-Series are estimated to contribute to a 30% increase in productivity. "(The new equipment) gets rid of traditional hods, ladders and boards," Irwin concludes. "Bricklayers are able to work comfortably no matter what the height, and because laborers don't have to erect tubular scaffolding or crank all day, they are freed for other tasks."

CONTINUED ON NEXT PAGE