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Horseshoe Casino Cleveland

***Architecture team faced intricate challenges with new casino in Higbee Building;
Combination of historic integrity, redevelopment and new technologies***

June 21, 2012- CLEVELAND- Nothing could possibly be more rewarding for an architectural firm, practicing in downtown Cleveland for over fifty years, than to take part in breathing new life into the place it calls home. The collective efforts will create thousands of new jobs while repurposing a notable Cleveland landmark, reimagining the main entry to the City, and reinvigorating restaurants, retail and hotels in the urban core. Such a dream came true for **ka** architects when they were tasked with assisting Rock Gaming and Caesars Entertainment to transform the historic Higbee Building into the State of Ohio's first full-service casino.

Well suited for the challenges through five decades of architectural practice serving commercial real estate developer clients, **ka** was able to share its knowledge of Northeast Ohio, the City of Cleveland, Tower City and the Higbee Building. Having worked on several re-adaptive use projects involving historic structures, including earlier exercises on the Higbee Building itself, **ka** was familiar with the issues that needed to be addressed for the building, which is listed on the National Register of Historic Places. "We took a piece of the building's historic design and made it more current and reflective of the Horseshoe brand," explained Craig Wasserman, principal-studio leader at **ka**.

"We're proud of **ka's** role to help bring this historic structure in Public Square back to life," Wasserman said, "and for having the opportunity to contribute to the ongoing transformation of downtown." Wasserman said the casino project is a vital component of the ongoing reinvestment being made throughout the city, from Public Square to University Circle, and from the Flats Eastbank development to the installation of a new Innerbelt Bridge.

While yielding many advantages like connectivity and accessibility, the Public Square address also came with significant obstacles that needed to be overcome for the project's success.

Building technologies

Utilizing the latest technology of Building Information Modeling (BIM), **ka** and the design and construction team were able to coordinate their efforts in working with the conditions of the existing building. BIM technology was a major component of the design and build process from an architectural standpoint. Essentially, it allows for the virtual construction of the project with best coordination practices. The benefit of using BIM was that drawings were well coordinated and unique features of the existing building were more easily identifiable to all disciplines. As a result of this project, the team's knowledge and experience base with the technology grew tremendously.

Structural considerations to meet occupancy requirements

ka and the team faced several major tasks on the inside of this eighty-plus year old portion of one of the earliest and largest mixed-use commercial developments. The change in use from a former grand department store to a casino called for an increased occupancy load in the four floors and 300,000 square feet of space. The exiting and life safety requirements needed to be met while simultaneously upholding the security requirements and operational function for the increased capacity of guests at the new gaming facility.

Existing structural materials were tested to determine their strength and composition. The floor structure was analyzed and reinforced to support hundreds of slot machines weighing up to 600 pounds each. New raised

floors were installed to facilitate the distribution of data cables and power, and offer a means to easily reposition gaming equipment while protecting the historic marble flooring below. The floors were blended to comply with ADA guidelines allowing full access into and around the new facility.

New exit stairs, five sets of escalators, and elevators were also added to move guests throughout the casino. With these additions came changes in layouts and modifications to the existing building frame. The building structure was also reinforced to support dozens of new chandeliers, and steel framing was added to support unique shelving and other features of the bar areas.

Mechanical and electrical systems

A new mechanical system was necessary to support the casino and keep guests comfortable. Many of the existing building systems needed to be relocated, as their prior locations interfered with the new layout. All systems needed to be fitted into the building envelope without intrusion into existing tenants' operations, while still honoring the historic nature of the building. Electrical and mechanical fixtures were largely concealed, with electrical conduits and air conditioning ducts installed in recessed ceilings along with fixtures supporting lights, security cameras and utilities.

The large electrical loads required for the new casino were met by existing capacity in the building; the building had recently had electrical service increased to meet the needs of anticipated tenants. This afforded the casino multiple electrical service feeds and a diesel fuel storage area to provide for uninterrupted power. One specific requirement of the casino was to house a dedicated emergency generator. Since the casino floorplan was maximized, a sub-basement area, which had been previously used as the original equipment room for the department store and later for storage, provided an area to house the generator and additional mechanical equipment.

Efficiently emulating previous building qualities

Much of what was accomplished by the team respected the historic nature of the Higbee Building and in many cases, returned elements of the building's existing condition in closer alignment with its original intent. For example, the removal of partitions that subdivided the former open department store floors to incorporate later subtenants were removed to recreate larger spaces that the casino operation demanded. Dropped ceilings similarly were removed to return to the original ceiling heights that would also better serve the casino's needs. Original decorative plaster details on the columns and beams were also restored and made more visible.

Windows that had previously been closed off from the interior were opened up to let daylight and views into the new casino, filtered through decorative golden sheer scrims, which would also reinstate the building as a well-lit space at night. A procession of new crystal chandeliers were hung above the main gaming floor, which stretches from the main street-level entrances at Public Square and Prospect Avenue, emulating a similar row of light fixtures that existed in the original department store.

An exterior lighting scheme was created to dramatically re-establish the visibility and stature of the Neoclassical and Art Deco style structure, and to accentuate its historical details. Moreover, much of this was accomplished with newly available energy efficient and long life light sources, such as LED technology and metal halide.

Some of the building's historical elements were modified to fit the requirements of newer building codes. Wood and glass door leafs were removed from the department store's charismatic revolving doors, and were replaced with compatible swinging bronze and glass doors. The decorative cylindrical enclosures and frames of these entrances were also restored to their former brilliance. The identity goals for Horseshoe Cleveland were to make the building visible from long vistas and within surrounding areas, as well as at the pedestrian level. New casino signage was designed and installed in positions similar to locations where such signage formerly identified the Higbee department store. Likewise, prominent flagpoles, which had fallen into disrepair and nonuse, were restored and repurposed to display new Horseshoe logos accentuated by external feature lighting.

Parking challenges

Two parking challenges were posed to the **ka** team. The first was to identify and provide an adequate supply of convenient parking; the second was to create an opportunity for guests to valet park and retrieve their cars. "Although mitigated by being at the hub of Cleveland's RTA public transit system, our team's local knowledge was used to help identify potential parking solutions in proximity to the Horseshoe Cleveland and map access routes to the new attraction," Wasserman said.

With heavily trafficked streets on all open sides of the building and no lanes available for use, Darrell Pattison, Director of Design for **ka**, suggested acquiring an existing 900-space parking garage and several properties diagonally across the main intersection from the casino to create a new off-street valet and self parking structure. The developers subsequently acquired the garage and several of the parcels, and **ka** designed a new six-story, cast-in-place post tensioned concrete parking facility which connected to the existing structure to provide 1,200 dedicated parking spaces for casino guests.

The resulting Collection Auto Group Centre, which opened with the casino in May 2012, unifies and interconnects much of the existing environment and serves as a safe, well-lit parking structure.

Consultant team played imperative roles

Working with construction and design leaders from Rock Gaming and Caesars Entertainment, a highly motivated and skilled team of consultants was assembled to collaborate on the Higbee transformation process. The developers voluntarily established a 20 percent economic inclusion goal for construction contracts to MBE/WBE companies, and **ka**'s rich experience in the market assisted those efforts. Through the completion of the project, nearly 45 percent of contracts were awarded to MBE and WBE certified companies.

As **ka** "quarterbacked" the team of design and construction consultants, the direction for the Horseshoe Cleveland came from casino design experts The Friedmutter Group, from the gaming capital of Las Vegas. The firm envisioned the potential of the raw space, and illustrated their recommendations through the use of BIM technology in conjunction with **ka**, producing detailed renderings that ensured an inspirational metamorphosis. Friedmutter also recommended interior finishes and furnishings, and provided the interior construction drawings necessary to complete this unbelievable transformation.

ka worked seamlessly with a large team of local and national experts on this monumental undertaking, coordinating many services such as engineering, code analysis, security systems, communications, traffic engineering, acoustics, lighting, environmental graphics, wayfinding signage, interior design and construction. The team of consultants provided solutions which sought to incorporate new technologies while preserving historic elements of the building within the guidelines of the Horseshoe brand. Collectively, the team successfully delivered a magnificent project that opened on time, fulfilling the developer's expectations and delighting the public with the new entertainment destination in downtown Cleveland.

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About ka, Inc. Architecture:

Founded in 1960 and now in its second generation of ownership, **ka** has evolved into a nationally recognized firm based in Cleveland, Ohio. The firm's emphasis on providing value-added design services to clients in a range of marketplaces has culminated in the design of projects in 41 states, Puerto Rico, Canada, and Mexico. These include entertainment, open-air shopping centers, regional malls, department stores, hospitality, office, residential, healthcare and higher education facilities. For more information, please visit www.kainc.com.