

INNOVATION OUT OF LEFT FIELD

Walter P Moore's Jeff Jansing, Shruti Sharma, and Joe Dowd explain the structural engineering achievements that helped bring Globe Life Field to life.

Globe Life Field—the new \$1.1 Billion home of Major League Baseball's (MLB) Texas Rangers—caters to baseball fans of all ages.

Loaded with stunning architecture designed by **HKS**, state-of-the-art technology and fresh new gameday experiences at every turn, the 1.7 millionft², 40,300-seat venue features an exceptionally intimate seating bowl, a multitude of premium amenities and a distinctive, ETFE-clad retractable roof to protect cheering fans from rain or the sweltering Texas sun. The 300,000ft², single-panel roof takes a mere 12 minutes to travel over 400ft, creating an open-air ballpark experience when desired and exposing spectacular views.

Additionally, the otherwise climate-controlled venue maximises natural light entering the stadium when the roof is closed through the extensive use of ETFE and glass.

The ballpark's exterior design blends a historic, retro-style brick façade with structural steel accents and extensive

glazing throughout. A sprawling glass wall on the stadium's north side frames an inviting main entry from the adjacent Texas Live! Entertainment District, a complex of hotels, retail and restaurants anchored by the new ballpark.

Globe Life Field replaces **Globe Life Park**, itself a retro-style park that opened in 1994. The interior arches along the left field and centerfield upper concourses of Globe Life Field are an ode to the original ballpark's iconic exterior architecture. Incorporating the latest in LED technology, expansive

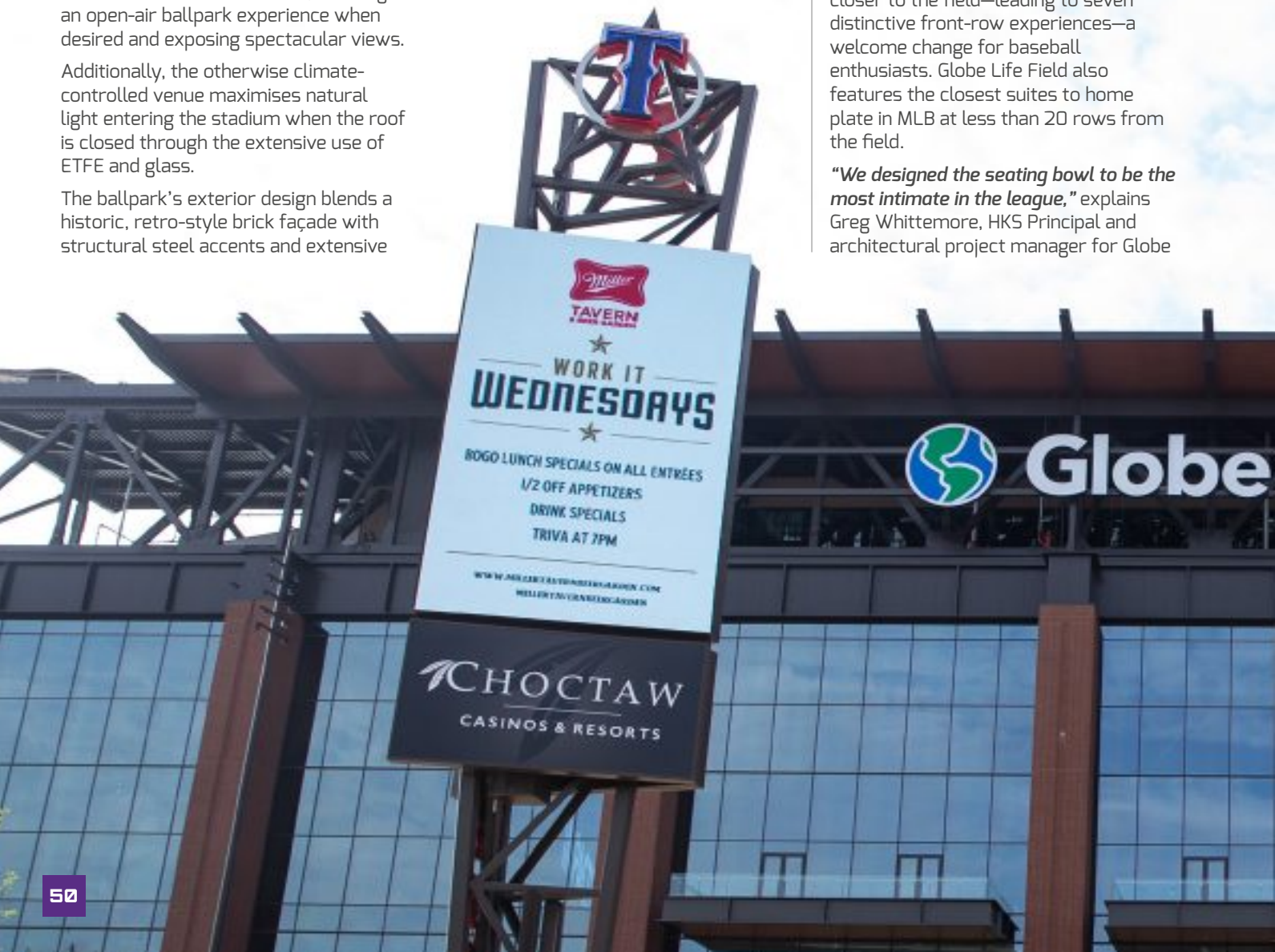
video boards visible from any vantage point in the seating bowl ensure that spectators never miss out on the action.

MAKING MARKET STREET

The seating bowl at Globe Life Field is designed to bring the fans closer to the action than ever before. The first row at field level is 7ft closer to the diamond than the first row at Globe Life Park, while the second tier is 14ft closer, and the upper bowl seating tier is 23ft closer.

The seating bowl is divided into seven tiers stacked vertically and drawn in closer to the field—leading to seven distinctive front-row experiences—a welcome change for baseball enthusiasts. Globe Life Field also features the closest suites to home plate in MLB at less than 20 rows from the field.

"We designed the seating bowl to be the most intimate in the league," explains Greg Whitemore, HKS Principal and architectural project manager for Globe



Life Field. *“Fans will be closer to the field on all levels – the lower bowl, as well as the main and upper concourses. The seven-tiered bowl configuration creates more variety in front-row seating experiences. We also improved comfort by increasing both legroom and the width of all seats.”*

Faced with the challenge of suspending multiple elevated seating decks and the suites directly above the lower bowl, Walter P Moore devised a system of multi-storey cantilevered trusses concealed within each suite divider wall that eliminated any columns that would have otherwise obstructed the sightlines in the lower bowl below.

As a result, 70% of the seating in the ballpark is between the foul poles, with unparallelled sightlines and access from every section.

Globe Life Field is also the first MLB ballpark with two 360-degree

concourses: the Main Concourse at street level and the Upper Concourse behind the top-loaded upper bowl. Locating the concessions and the restrooms on the outer perimeter of the concourses and sloping the structural columns, braces, and shear walls away from the field allowed both concourses to be kept free of visual obstructions and connected to the action on the field at all times.

Walter P Moore worked closely with HKS to strategically locate sizeable openings in the Upper Concourse and suite floor levels and utilise transparent ETFE cushions in the roof above to bring abundant natural light into the Main Concourse.

As a result, the Main Concourse maintains the feel of an outdoor street environment and an extension of Texas Live! even within the confines of the ballpark. The spacious concourses,

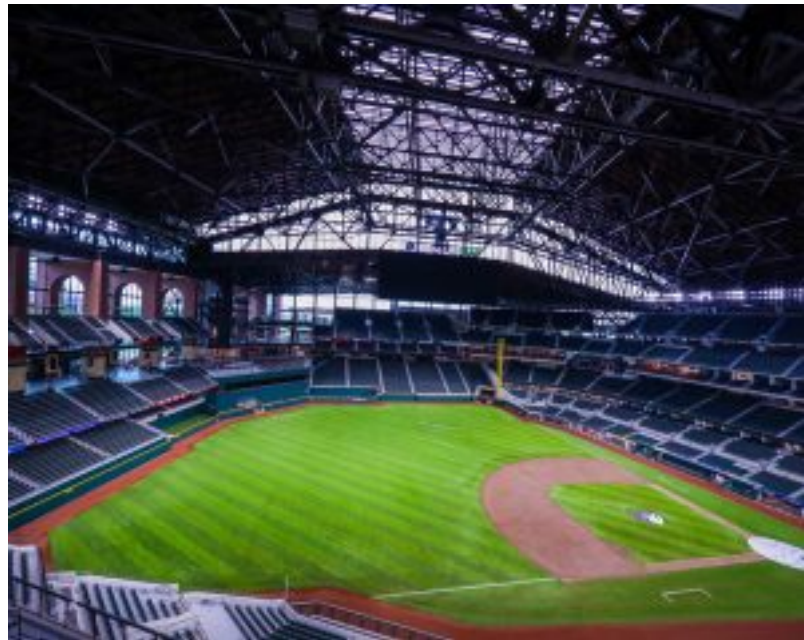
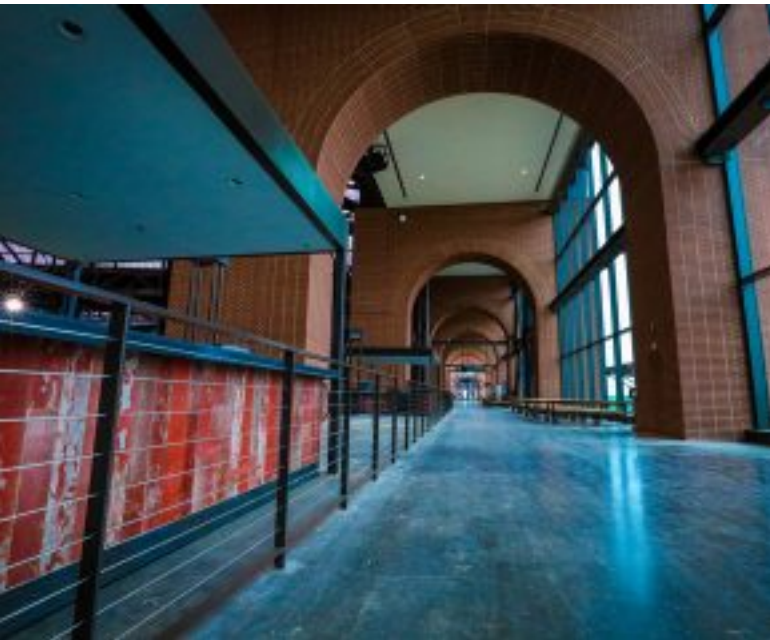
designed as “market streets,” offer access to abundant food and retail opportunities sprinkled throughout the ballpark and an avenue for the fans to congregate and socialise.

During the game, three main video boards provide an immersive experience for the fans. The right-field board (58ft x 150ft), left-field board (40ft x 111ft), and the centerfield display (80ft x 20ft) are substantially larger than their respective counterparts in the previous ballpark.

Walter P Moore devised the structure supporting the left-field video board in particular, skillfully hidden behind the display, to allow the LED display to float effortlessly above the **Texas SkyPorch**. >>

All images courtesy of Kelly Gavin / Texas Rangers





« a fan amenity designed to make patrons feel as if they were enjoying the game from their own relaxing front porch.

CONNECTED TO HISTORY

Globe Life Field’s most distinctive architectural feature is a series of 18 arches clad with Texas limestone, granite and brick. These 100-foot tall arches are spaced at 60ft along the 1,000ft long connection to Texas Live!, presenting a compelling entrance into the new facility as well as supporting the retractable roof, an elegant example of form following function.

Curtainwall glass, standing over 100ft tall, spans between the arches and provides views into the ballpark from beyond left field. The main and the upper concourses weave through the arches and open up toward the field into 60ft wide cantilevered balcony seating sections.

“One of the primary project drivers was maximising transparency,” says senior designer Fred Ortiz, HKS Principal. *“The vast north-facing ‘window,’ offering views into and out of the ballpark, is scaled proportionately to the entertainment district and provides an incredible backdrop to the overall arrival sequence.”*

While staying connected to the history of its predecessor on the north side, the architecture at Globe Life Field is a unique blend of modern and traditional materials. Multistorey tall curtainwall, metal panels, green screen, ETFE, precast and brick feature along multiple faces of the building and are supported by steel girts and columns or vertical trusses.

The other three main entry points into the ballpark—south, southeast and east entrances—are inspired by Texas porches. They feature 45ft to 60ft tall free-standing columns clad in brick, stone and granite and a roof trellis providing much needed shade to arriving spectators.

The uneven site which climbs 40ft in elevation from northwest to southeast posed a challenge but ultimately presented a unique opportunity. Aligning the Main Concourse with street level outside the park provide several advantages, including awe-inspiring views of the field upon entry. However, depressing the field level 70ft below highest street level and into a severe slope created structural, circulation, and entry challenges along the entire perimeter of the park.

A 4,000ft long soil nail wall, which at more than 250,000ft² of total area is considered the largest permanent soil nail wall ever constructed in North America, surrounds the lower levels of the park.

The permanent retention system removed enormous unbalanced soil loads from the structure, providing increased space and flexibility in the lower levels of the ballpark. Walter P Moore collaborated with HKS to step the retention wall inward where possible to optimize interior spaces while reducing exterior skin materials and vertical circulation elements.

ROLL WITH IT

The showpiece of the operable roof design is the 650ft span and a 180ft wide racing stripe of ETFE pillows down the centre.

As referenced in *PS&AM*’s third quarter 2019 piece “Clear Cover,” ETFE features are prevalent throughout the ballpark.

“Strategic placement of ETFE breaks down the massive scale of the roof to create clerestory and skylight effects,” Ortiz recalls. *“The ambient light quality within the seating bowl and visual connectivity to the exterior will enhance the overall viewing experience.”*

The retractable roof is bounded on the east and west ends by two monumental box trusses serving to seal off the volume contained within the stadium when the roof is in the closed position.

Planar trusses span from the back of the seating bowl to the bottom of each box truss creating a massive shade structure that evokes the cantilevered canopies of the old ballpark. When the roof is in the open position, the fixed east box truss features prominently to accommodate the massive right field video board. The east box truss also leads into and is supported by a signature sloping trussed column that slices through the seating bowl anchoring the fan experience in the southeast corner of the facility.

Globe Life Field represents a new era of baseball for the Texas Rangers and their devoted fans. Created to progressively bring fans closer to the action than ever before, the shifting geometry of the stadium invites patrons to truly connect with each other and the overall gameday experience. Designed to host major concerts as well as professional sports, the stadium raises industry standards and serves as a premier venue in Major League Baseball. ■

EXPERTISE OF EPIC PROPORTIONS

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