

WEST COAST SPORTS RENAISSANCE



Walter P Moore engineers and sports enthusiasts Ryan Anderson, Jeff Nixon, and Bart Miller explore design trends among recent west coast sports venues.

In recent years the west coast of the United States has seen a re-emergence of world-class professional sports venues. The region now is dotted with iconic design showcases that leverage the mild local climate, respect environmental sustainability, and anchor ground-breaking entertainment destinations and mixed-use developments.

Walter P Moore continues to contribute to the delivery of these revolutionary sports venues. The firm has risen as the premier structural engineer for sports venues on the west coast by pushing the boundaries of design, building materials, and technology on projects such as **SoFi Stadium** and **Hollywood Park** and the **Inglewood Basketball and Entertainment Center (IBEC)** in Inglewood, California; **Allegiant Stadium** in Las Vegas, Nevada; and **Chase Center** in San Francisco, California.

ICONIC ARCHITECTURE & MATERIAL INNOVATION

The last decade has seen a rebirth of high design ambition in west coast sports venues, reflecting a culture that adores the glamour of Hollywood and the glitz of the Vegas Strip. The region has set lofty expectations for iconic architecture, complex geometric forms, and innovative applications of building materials—demanding that sports venues become more than just a place to play the game, but also pieces of art that integrate seamlessly into the urban context.

SoFi Stadium, home of the **Los Angeles Rams** and **Chargers** of the **National Football League (NFL)**, boasts the world's largest cable-net roof structure and application of single-skin ethylene tetrafluoroethylene (ETFE).

Designed by **HKS Architects** and supported by Walter P Moore's

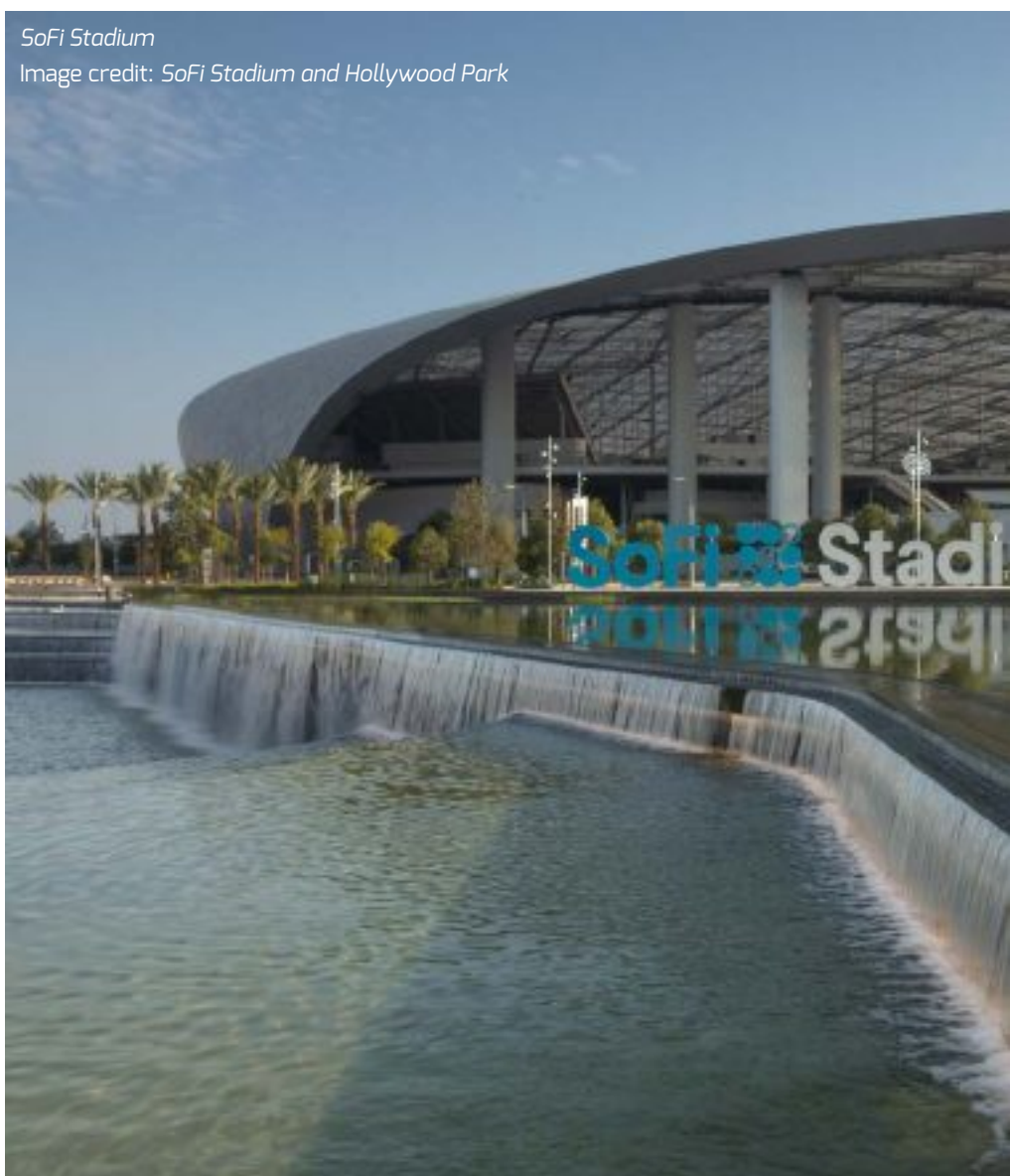
structural and enclosure specialists, the stadium roof demonstrates the state-of-the-art in the design of long-span, lightweight structures.

The soaring, transparent roof transitions seamlessly along the perimeter into a custom-perforated and

custom-finished white anodised metal panel system, curving gracefully to touch the ground at four discrete points. Located directly below the flight path from Los Angeles International Airport and equipped with integrated and customisable LED lighting, the colossal

SoFi Stadium

Image credit: *SoFi Stadium and Hollywood Park*



roof surface provides the ultimate branding opportunity for the stadium's primary sponsor.

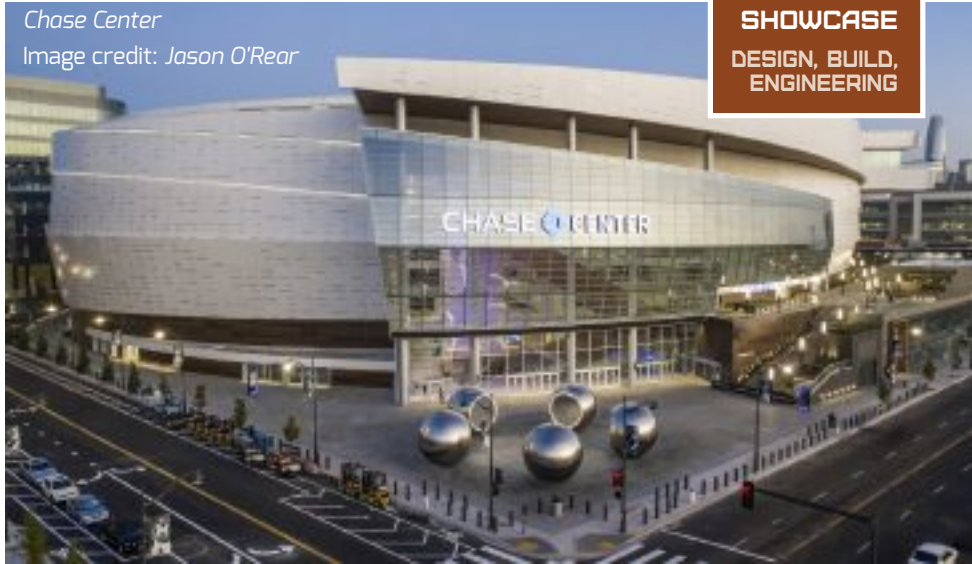
The IBEC, future home of the **Los Angeles Clippers** of the **National Basketball Association** (NBA), will feature an 18,000-seat arena, training centre, and 100,000ft² of team office space tightly wrapped in a striking, elliptical grid shell clad in shimmering polytetrafluoroethylene (PTFE) fabric and transparent ETFE.

Walter P Moore is collaborating with **AECOM** to provide the structural design for both the triangulated grid shell and the facilities inside. Scheduled to open in 2023, the entire venue is a one-of-a-kind, artistic composition that raises the bar for arena design around the world.

Alliegiant Stadium, home of the NFL's **Las Vegas Raiders**, is also leaving its mark on the sports landscape. Continuing a trend of lightweight,



Chase Center
Image credit: Jason O'Rear



SHOWCASE
DESIGN, BUILD,
ENGINEERING

translucent roofs in the NFL, Walter P Moore partnered with **MANICA Architecture** to provide enclosure engineering for the support structure beneath the triple-layered, air-inflated ETFE cushion system.

The roof surface features a combination of white, clear, and printed ETFE layers, delivering critical solar performance in the desert heat and a novel indoor-outdoor experience.

The signature design element of the Chase Center, home of the **Golden State Warriors** of the NBA, is the sinuous exterior façade that reflects the dynamic flowing forms of the site's unique waterfront location and the nautical history of the San Francisco bay area.

As envisioned again by MANICA Architecture, the façade consists of a series of elliptical ribbons with offsetting interfaces between each band. To rationalise the geometry and create economy through repetition, Walter P Moore created customised parametric workflows to systematically panelise the façade into a series of mega-panels, in both glass and aluminium, supported by a series of secondary steel trusses that bridge between the primary structure and its exterior skin.

LEVERAGING LOCAL CLIMATE

The desire for an outdoor stadium experience in an indoor, temperature-controlled environment is rising in the ranks of fans' most wanted lists. California and the surrounding areas provide an ideal climate to deliver on this expectation and venue owners and designers are taking full advantage.

The entire fan experience at SoFi Stadium and Hollywood Park is based on a feeling of being outdoors while also being covered by the world's largest transparent roof. The resulting gameday atmosphere is unlike any in the U.S. and perhaps could only be achieved in southern California.

The stadium is open on all sides allowing for cross breezes and natural ventilation in the seating bowl, while the roof invites natural light into the space and protects fans and performers from a rare southern California rain. The roof even features micro-operable panels, the world's first in a stadium application, to further ventilate the space below, and provides support for the world's largest two-sided videoboard.

Even the pre- and post-game experience features clubs, lounges, and amenity spaces that are outdoors while still protected from the elements. Native California landscaping can be found beneath the canopy on stadium terraces and throughout the venue.

Meanwhile, the nearby IBEC provides an indoor/outdoor atmosphere truly unique in arena design. Fans enter into a vast open lobby that opens up to the grid shell above, inviting natural light into the lobby, promotional court, terrace concessions, and other pre-function spaces. Only once seated in the arena are fans reminded they are in an indoor venue.

ANCHOR FOR ENTERTAINMENT

Today's professional sports venues, more than ever before, are being conceived as multi-purpose, entertainment venues that >>>

« anchor multi-use developments and entertainment districts.

Designers are responding with solutions that provide maximum flexibility and convenience and optimise space to curate the best experience for fans while maximising revenue generation opportunities.

There is also a focus on translating the unity fans feel to the physical space, expanding opportunities for connection outside of the venue, and creating a memorable experience beyond the game. Owners are looking for multi-purpose, flexible venues with high-capacity rigging grids and state-of-the-art technology that create a deeper, more memorable connection to fans.

Chase Center activates an underutilised, 11-acre waterfront site in San Francisco's Mission Bay neighbourhood. The arena development serves as a year-round destination for fans, residents, and visitors, providing a community gathering place for leisure activities with a focus on health and wellness.

Scheduled to host a variety of concerts, shows, and performances, the arena is easily accessible to pedestrians, cyclists, and mass transit, encouraging patrons to choose sustainable methods of arrival.

The mixed-use development includes two new office buildings providing 580,000ft² of office space; 100,000ft² restaurant and retail space; in addition to a 250-person observation deck open to fans and host to pre and post-game events. The site will eventually include a 5.5-acre waterfront park, creating pedestrian connectivity to the venue and surrounding buildings with views of Oakland and the iconic Bay Bridge.

SoFi Stadium is already proving to be a catalyst for economic growth, expected to bring thousands of employment opportunities to the region. The stadium and performance venue will be host to **Super Bowl LVI** in 2022, the **2023 College Football National Championship**, and the opening and closing ceremonies for the **2028 Summer Olympic Games**.

The stadium is the centrepiece of an immense, sports-anchored entertainment district to be developed through a multi-year phased plan that includes retail, office, hotel, residences, and open park community spaces.

A true multi-purpose venue, the stadium's cable-supported roof structure boasts a 300,000lbs. rigging capacity and provides flexibility for accommodating numerous concert configurations and other entertainment events.

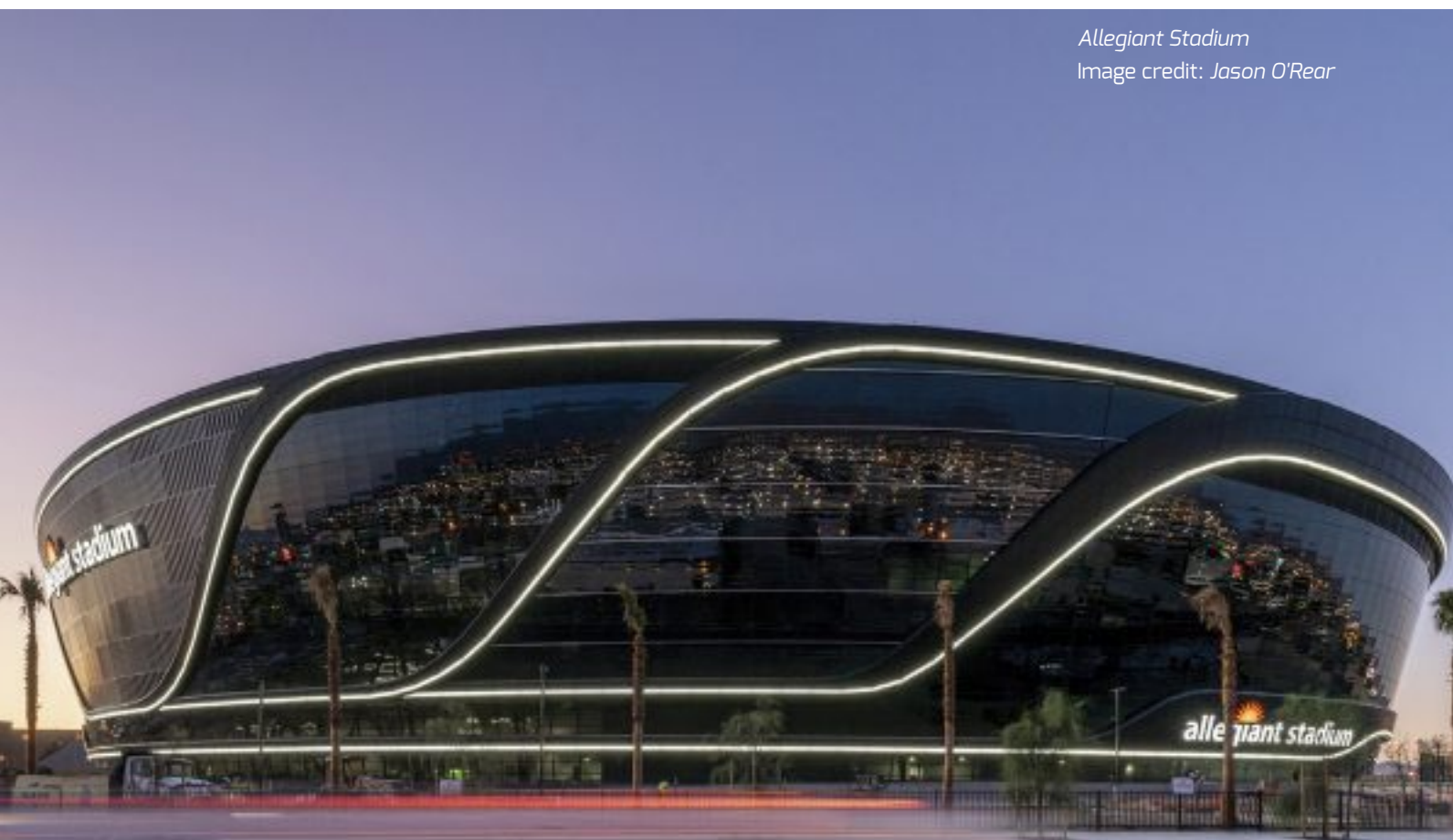
The IBEC will not only share in anchoring the Hollywood Park development but also bring a community atmosphere with public plaza buildings, outdoor park space, and a promotional, outdoor basketball court open to the public.

AECOM uniquely designed the space to prioritise fan comfort. This facility is reimagining live entertainment. Inglewood is undoubtedly staking its claim as a premier entertainment district in the region with the ability to serve sports and entertainment of all shapes and sizes.

Nothing brings the excitement quite like Las Vegas and Allegiant Stadium is ready for the challenge. Basked in the glow of the casinos and dancing lights of the Strip, the venue is ideally located and fully equipped to become a global destination for events and entertainment.

The unprecedented revolution in professional sports venue design on the west coast of the U.S. has set a new standard for designers across the U.S. and around the world. The palpable shift in expectations fans and owners have for venues continues to rise. The trends seen among these giants of innovation will continue to press the envelope. ■

Allegiant Stadium
Image credit: Jason O'Rear



SoFi Stadium

A World-Class Innovative Structure

World's largest **ETFE cable net roof structure**

World's first application of **roof micro-operability** over a Sports Entertainment Venue



Project Role

Structural Engineering
Enclosure Engineering
Construction Engineering

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