



Conscientious Construction

Accounting for fan experience, climate change and social issues, next-generation architects build sustainable venues for future generations.

BY BRET MCCORMICK

THE EXPERIENCE is a funny one that Vanessa Hostick has had before. The HOK sustainable design leader enters a conference room where owners of a new sports venue were just debating how big their video boards would be when she unfurls her presentation on water-saving toilets. Not a sexy topic, but a critical one that could save the owners six figures annually while easing the new building's impact on the global environment.

These are the new kinds of conversations stemming from next-generation architectural and design thinking that venue owners have with the firms designing their sports temples. Of course, those next-gen ideas include wielding the latest from the never-ending march of tech development, like lightning-fast connectivity, wireless device charging for fans and curved video boards with life-like resolution. Those innovations, for example, are culminating in new venue types specifically geared toward esports.

The basics behind new venues aren't far removed from what made Baltimore's eponymous Camden Yards so groundbreaking when it opened in 1992.

Janet Marie Smith, a critical figure in that project and many more in pro sports, pointed out that over the next three decades

the ways that people live in cities and how huge venues fit into them and how publicly accessible these monoliths should be all changed. Retail and food experiences blended. Technology upped the ante. Going to a game is an afternoon or night out. And so, stadium design shifted to accommodate the fan.

"All of those things get muddled together in a really good way," Smith said.

Next-gen sports venue design is more than just throwing millions at the latest tech or fan-focused innovation. Design that enhances buildings' sustainability and flexibility and ties sports venues physically and spiritually closer to their communities is the new way.

"When I think about next-generation architecture, I think it has more to do with the planning than necessarily the architecture of the stadium," said Michael Marshall, design director and principal at D.C.-based Michael Marshall Design. "The state of art will always push those forward. But thinking of these sports venues as great neighbors and also catalysts and generators for complete neighborhoods, it's important."

Traditional bounds of what sports venues should do are breaking, too. It may be counterintuitive, but these stadiums and arenas can be a form of weaponry in some of our biggest fights, like addressing climate change.

The ice sheet at the conspicuously named Climate Pledge Arena opening this fall isn't just frozen water, but rainwater harvested by Seattle citizens. A growing number of NFL stadiums produce more power than they consume. Plants in the grounds around Atlanta's Mercedes-Benz Stadium aren't just decorative but edible, including six varieties of blueberries and two types of figs.

"We're not just creating space, we're creating food," which is used, said Hostick.

And sports venues can be similarly catalytic in advancing society. During the past year, sports venues across the country turned

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Landscape architect Mía Lehrer uses her interest in nature to create urban parks at L.A.'s sports venues.

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Five up-and-coming architects who are using new ideas to create sustainable and immersive spaces for fans.

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What is next-gen architecture? Here are 10 examples that stand out, from venues to clubs to environmentally friendly chairs.

Natural Development

Working with her Studio-MLA team, landscape architect **Mía Lehrer** has turned L.A.'s sports venues into renewable urban parks. **BY BRET MCCORMICK**

MÍA LEHRER was a bit annoyed. She was running late for a call after trying to sort out a situation with a client whose maintenance crew kept replacing the plants she had specifically designed for a space with non-native, easier to care for species.

Lehrer was talking with Sports Business Journal about the recent spate of sports work her landscape architecture firm, Studio-MLA, has done in Los Angeles at Dodger Stadium, Banc of California Stadium and Hollywood Park. Notable work from the first 20-plus years of Lehrer's successful career included designing some of the city's most beautiful parks and an ongoing effort to restore the Los Angeles River to its original state. She was honored with the American Society of Landscape Architects' highest honor, the LaGasse Medal, and served on President Barack Obama's Fine Arts Commission.

But nothing involving sports.

Going to Dodgers games with her adult children and their families changed that.

"It became clear to me how important sports are in our era, in terms of community building and how people relate to one another," Lehrer said. "It's very multigenerational. Generally speaking, it's an equalizer."

The importance of place-making has taken hold in sports during the past decade, and designers like Lehrer and venue owners have become more interested in each other. L.A.'s teams have fully embraced what it means to be an urban park, said Janet Marie Smith, Dodgers executive vice president, planning and development, who oversaw her organization's recent renovation of its 1962-built stadium. LAFC's Banc of California Stadium sits amid Exposition Park, while Dodger Stadium overlooks the city in Elysian Park, near the San Gabriel Mountains. And the newly built SoFi Stadium in Inglewood is surrounded by a 25-acre park that Lehrer designed from scratch.

"There are a lot of things that are unique about Los Angeles; the weather, the environment. The opportunities around place-making were unique," said Jason Gannon, Hollywood Park and SoFi Stadium managing director. "Mía has done some incredible things throughout the region, and she was involved very early on in the project because we knew we had to get that right."

PARK-LIKE AESTHETIC

INTERMITTENTLY DURING a phone call with a reporter, Lehrer broke into Spanish conversation with a co-worker. Lehrer grew up in El Salvador and has always looked at landscapes differently because of her Central American childhood. She described surroundings of pink and yellow flowers, soaring trees with surfboard-sized leaves, parakeets and parrots, pouring rain and singing frogs, and an ever-present volcano backdrop. A tropical Eden. Nature was palpable and her parents were actively involved in protecting it.

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LEFT: When Mía Lehrer started attending Dodgers games with her adult children, she realized how important sports are for community building.

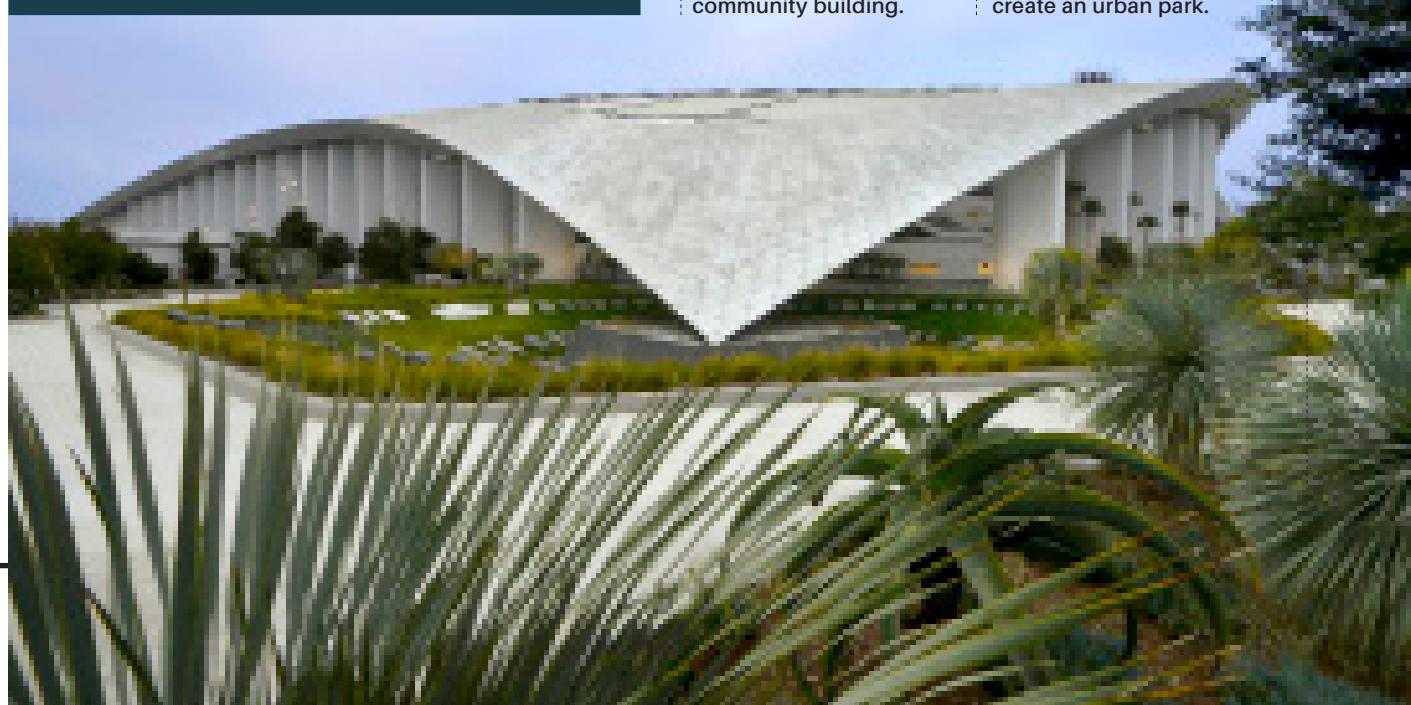
BELLOW: Lehrer and her Studio-MLA team used native plants all around SoFi Stadium including at the northeast corner to create an urban park.

into polling locations and mass vaccination sites, while plazas at many more became instant gathering places for frustrated social justice protesters. Venues demonstrated a flexibility and connection to the community that will be characteristic of the most valuable ones moving forward.

Just 2% of America's registered architects are Black, and fewer than one in five new architects views themselves as a racial or ethnic minority, according to the National Council of Architectural Registration Boards. Improving those percentages are critical because sports venue design needs diverse voices providing input on these projects, which will affect what American cities look like in the coming decades, and who benefits from the projects and subsequent development.

Camden Yards was one of the first modern ballparks that moved back into a city center and opened itself to its surroundings 29 years ago. The stadium helped rejuvenate downtown Baltimore, which was hemorrhaging businesses. It took a while, but the sports industry, and other stakeholders, are firmly hip to that trend. Key to its long-term success will be avoiding the urban planning sins of the past and bulldozing the less fortunate in pursuit of shiny progress.

"I think that cities will look for opportunities to use these projects as catalysts of regeneration for what those areas are," said Marshall. "And it's very smart and keen to make it mixed-use, as long as those owners or whoever is building the venues understand that they really need to mesh with what's around them." ✪



IN-DEPTH NEXT-GENERATION ARCHITECTS

5 architects

CHI BHATIA

Senior designer, HKS



LONDON-BASED BHATIA is working on immersive venues for HKS, spaces built around cutting-edge digital technology that make ideal homes for esports anchor tenants but are flexible enough to host other types of events. Creating fully immersive worlds in entertainment spaces is increasingly feasible because of rapid technological advancement, especially in LED. But, Bhatia said, "It's not about the technology itself but the experience it enables." Bhatia spent several years researching and tracking esports and entertainment trends and

collecting venue client feedback to develop a facility concept that would fit future consumption habits, especially for gaming. The immersive venues group isn't a separate business yet within HKS, but there is a team drawn from many of the firm's core competencies.

"It was a culmination of what it means to perform and what it means to be an entertainment space, and I guess that's where a lot of the thinking came: 'What if we define this idea of owning the immersive venue space that no one has really defined,'" said Bhatia.

The venues heavily feature revenue-based design, the kind of thinking that HKS employed when designing AT&T Stadium, which well suits Bhatia, who double majored in architecture and business at Southern Cal. HKS built the V.Hive, for the Team Vitality esports franchise in Paris. During a day, the 10,700-square-foot, four-story space's first floor can shift from a public gaming center to a Team Vitality competition space, to hosting an apparel launch.

EDITH PONCIANO

Design director/associate, Gensler

WHEN PONCIANO was a kid and she and her mother moved to a new apartment, she would oversee any interior decorating of the new place. That sparked Ponciano's professional career creating inviting spaces, first in the hospitality world, and for the past seven years in sports venues, including LAFC's training center, Chase Center and Q2 Stadium in Austin.

Venue owners are ever more attuned to enhancing the experiences of their fans, but also their players, attention to detail that surfaces in locker rooms and training facilities like the ones that Ponciano influences. And her



MICHAEL MARSHALL

Design director/principal, Michael Marshall Design

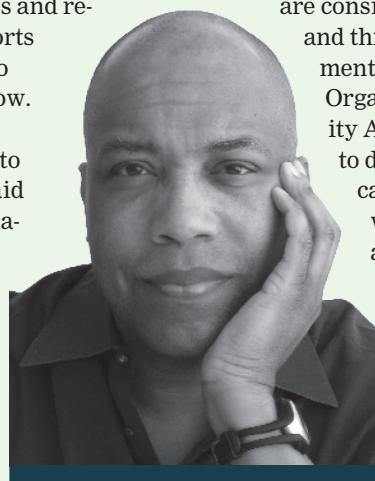
MICHAEL MARSHALL'S 32-year-old architecture firm is carving out a nice niche as local Washington, D.C., sports venue project experts. MMD worked with Populous on D.C. United's Audi Field and with Rossetti on Monumental Sports' Entertainment and Sports Arena, in each case lending local expertise navigating the city's various historic and planning-related commissions. Firms like Marshall's will be critical in the coming years as venues return to urban cores, which often provide more challenges for development than suburbs and require national sports venue designers to find local know-how.

"We bring the urban sensitivity to these projects," said Marshall, a D.C. native, whose outfit is involved in multiple practice areas besides sports. "Firms from the outside might not have

that sensitivity."

Marshall is one of the 2% of registered American architects that are Black, according to the National Council of Architectural Registration Boards. He was a talented artist as a child and was exposed to architecture through a friend's dad's blueprints. After founding his own firm, he moved into working on government projects, which had minority inclusion mandates.

Marshall is working to increase the percentage of minority architects by funding an scholarship for minority students at his alma mater, Yale, by connecting graduate students with HBCU architecture students that are considering a master's, and through his involvement with the National Organization of Minority Architects. Efforts to diversify are critical given the speed with which cities are growing, and the need for their diverse inhabitants to be represented in their design and development.



VANESSA HOSTICK

Sustainable design leader, HOK

HOSTICK GOT her professional start working on government projects in Washington, D.C., where sustainability goals were baked into every plan. She learned to use sustainability efforts — more efficient light or water fixtures, for example — to save money, which then funds more expensive changes, a ploy she now uses to fund bigger sports venue sustainability initiatives, like solar power arrays. Sports venues can negatively affect the environment in many ways, but given their cultural prominence, they can do the opposite, too.

"It's a million square feet at a

time," said Hostick, a native Nebraskan. "There are these huge impacts, and you touch thousands of people."

Venue owners and stakeholders are increasingly interested in the conversations that Hostick wants to have with them — her work on St. Louis City SC's stadium will be a good template when it's finished — but initial reactions still run the gamut, and different regions have different focuses (the importance of water in the U.S. West, for example). Her favorite clients have been the ones that came to her because their municipality or university had sustainability requirements they needed to hit, before ultimately embracing the pursuit of a building with less impact on the planet.

Sometimes that's achieved by creating urban density, which Hostick and HOK did in their work on the Little Caesars Arena district in Detroit. And Hostick's interests are expanding beyond just the health of the planet and into how buildings can impact athletes' physical and mental health. It's another way of thinking and designing that's quickly growing in importance, and in which only the surface has been scratched.

to know

BY BRET MCCORMICK

work in premium spaces incorporates sponsors earlier in the design process and more subtly in the results, more resembling a residence or hotel and are used for non-game-day functions.

"In the past, it might have been about how many suites you would have, but implementing the hospitality aspect has become more and more important," said Ponciano, a native of Los Angeles. "I want people to come into a space and feel like they're in a hotel lobby or some cool venue they would go to for a concert."

The days of shoebox, cookie cutter suites are over with Ponciano using a growing array of seating products, like loge boxes, ledge areas and patios to create custom venue experiences. Desire among venue owners to stand out is continually growing, prompting Ponciano to turn to unique fixtures, porcelain tile from Italy, or to the Gensler product development team for custom furniture to differentiate valuable revenue-generating premium areas.

EDDY TAVIO

Senior associate/project designer, Populous

TAVIO WENT to the University of Kansas to study architecture because the gaming industry covets designers with the spatial awareness that architects possess. He eventually pivoted toward learning to design buildings in the traditional sense but maintained his gaming influences. Video games bring fantasy worlds to life, the inspiration for Tavio's use of virtual reality to let clients experience their sports venues before they exist. He enables owners to walk the concourse of the future stadium or see the view from a particular seat.

"The best architects out there are always 'architects and ... something else,'" said Tavio. "They have some other interest that they're bringing into their architectural practice to make their practice better, the buildings better, whether it's sustainability, technology or storytelling, whatever other thing they gravitate toward."

Tavio's virtual reality interest isn't limited to

digital simulations of prospective venues. He's thinking about how VR can host virtual events, akin to the Travis Scott Fortnite concert, experiences geared toward fans who will never set foot inside their favorite team's venue, for reasons like living in another state or country. And Tavio is designing in real life too; he was integral in Populous' creation of Daily's Place in Jacksonville, the Jaguars' practice facility with an appended theater, a versatile type of building that Tavio is calling "the multiflex."

Tavio's upbringing in Venezuela painted his opinion that architecture should have lasting cultural and aesthetic impact. "In the U.S., it's almost taboo to say we're doing this because it's beautiful," he said.



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IN-DEPTH NEXT-GENERATION ARCHITECTS

10 trending next-gen architecture highlights



IDAHo CENTRAL CREDIT UNION ARENA

Oopsis Architecture
Moscow, Idaho

THE MAJORITY of the University of Idaho's new \$51 million basketball arena, practice facility and special events center is made of mass timber harvested from an experimental forest that's maintained by the school's College of Natural Resources. Seedlings planted

decades ago in the 80-year-old forest became the venue's glulam beams and undulating roof line, which mimic the surrounding Palouse region's rolling hills. The facility received a U.S. Forest Service Wood Innovation Grant and created a "living laboratory for engineered wood," according to the school, as well as a model for sustainable materials sourcing. The 4,700-capacity structure was built by Hoffman Construction and opens this fall.

POTENTIAL USL CLUB AND STADIUM

Kristen Fulmer, Recipric
Portland, Maine

THE PORTLAND, MAINE, USL League One soccer club doesn't exist yet and it may never. The group has a key presentation on July 20

to the city's council to present its stadium plans, which, along with the foundation of the club, are built on sustainability and social justice. It's a novel idea for the U.S., and Fulmer's Recipric consultancy has been helping the upstart outfit. Fulmer, a registered architect, also had conversations with MLB teams this summer, but the holistic approach would be easiest to pull off in an expansion team, or a new venue build. English League Two soccer side Forest Green Rovers, a completely vegan club with ambitious designs for a fully wooden stadium designed by Zaha Hadid Architects, would be a blueprint for any American club trying to do something similar.



U.S. OLYMPIC/ PARALYMPIC MUSEUM

Holly Deichmann Chacon, Diller Scofidio + Renfro
Colorado Springs, Colo.

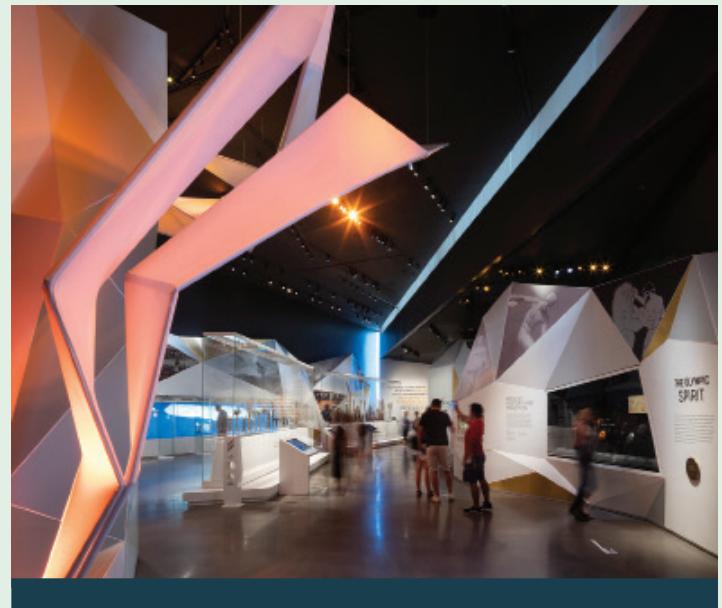
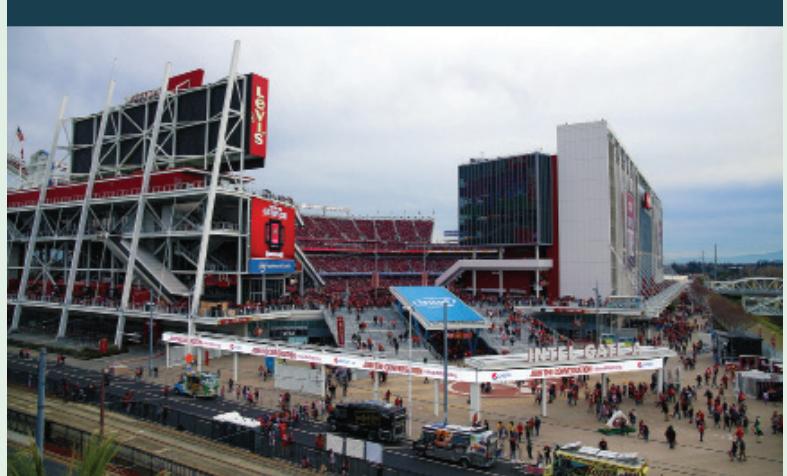
THE AWARD-WINNING, 60,000-square-foot museum highlights Olympians and Paralympians alike, and an inclusive visitor experience was baked in from the start of the design process. Every visitor receives an RFID tag that they can program to account for any personal physical needs or athlete or sport interests. The museum's exhibits react to the tags and present information accordingly, and the flow and layout of the museum's exhibits enhance accessibility. The building's twisting outer

LEVI'S STADIUM

HNTB
Santa Clara, Calif.

COMPLETED IN 2014, Levi's Stadium speaks to many next-gen architecture trends, including its connection to public transit — the stadium has an adjoined light rail stop — and its nearly 9,000-square-foot, NFL-first rooftop farm. Most notable is its tech backbone, which consists of 400 miles of data cable, including 70 miles specifically for Wi-Fi, as well as

1,300 Wi-Fi access points throughout the stadium, eliminating dead zones and providing per-second bandwidth capabilities four times greater than the NFL's recommendation. Stemming from a partnership with Taiwanese tech giant Foxconn Technology Group, the venue became the league's first with 8K video when it was upgraded in 2020. That video muscle supports a 40-plus-person content team capturing action from games for broadcast and social media repurposing.



shell is made from 9,000 aluminum panels, each uniquely sized and shaped, and stretched onto the building like an Olympic

athlete's leotard or singlet. Holly Deichmann Chacon led DS+R's design team on the museum, which opened in July 2020.

FUSION ARENA

Brian Mirakian, Populous
Philadelphia

POPULOUS' ESPORTS design guru Brian Mirakian led the work on this 3,500-capacity facility, the first purpose-built esports arena in the Western hemisphere. The \$50 million venue is a joint venture between Comcast Spectacor and Cordish Companies and will sit within a mixed-use development near the city's other pro sports venues. Two thousand

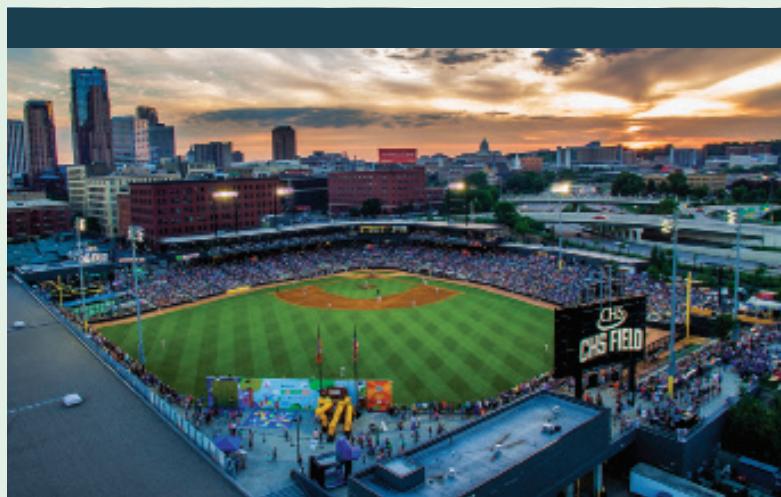
square feet of interactive media surface hover over the building's public entry, while 5,400 square feet of media display for game content and 1,000 more square feet of game-aware reactive lighting create an immersive experience. A training facility for the Philadelphia Fusion Overwatch League team is among 10,000 square feet of back-of-house space. The venue was originally scheduled to open in 2021 but that was pushed back indefinitely because of COVID-19.

**CHS FIELD**

AECOM, Snow Kreilich
St. Paul, Minn.

THE ST. PAUL SAINTS, who just joined Minor League Baseball after 28 years as an independent, play in one of the greenest sports venues in America, a result of the Saints, the city of St. Paul and the state of Minnesota's collective desires. The field is irrigated solely by collected rainwater, via a 27,000-gallon cistern, saving up to 450,000 gal-

lons of water each year. A 100-kilowatt solar array supplies 12.5% of the venue's power, while innovative field lighting reduced the number of fixtures needed by 40% compared to the team's previous stadium. Ninety-eight percent of construction waste was diverted from landfills and nearly all the concrete from a building that was demolished to make way for the stadium was used as structural fill beneath the new \$63 million venue's field.

**WAR MEMORIAL AUDITORIUM (REPURPOSING)**

Matt Taylor, Rossetti
Fort Lauderdale, Fla.

THE REPURPOSING of the 71-year-old War Memorial Auditorium speaks to several next-gen sports architecture trends, like the public-private partnership between the city of Fort Lauderdale and the Florida Panthers that's funding the \$65 million project, the reuse of an

old building instead of demolishing it and giving a venue multiple purposes and uses. The reimagined venue includes a ballroom-style theater with capacity for up to 3,800, two regulation size indoor rinks — one for the Panthers and one for the public — that make up the Baptist Health IcePlex, and public restaurants and recreation and fitness spaces. Rossetti's Matt Taylor led the design on this project, which is expected to be completed in the summer of 2022.

**CROWN CLUB AT BARCLAYS CENTER**

Ken Fulk, Major Food Group
Brooklyn, N.Y.

RENNED INTERIOR DESIGNER Ken Fulk is leading the design of the Crown Club, a new 7,700-square-foot courtside club at Barclays Center featuring a level of cuisine and luxurious ambience not typically found in a sports venue. Fulk's inclusion speaks to a steadily growing

trend of sports venue owners hiring designers from the hospitality and residential sectors for their premium space work. Just this year, Climate Pledge Arena (Rockwell Group), UBS Arena (Goodrich) and Lower.com Field (Blur Workshop) are among the new venues opening that will feature have high-end, unique premium spaces from non-sports designers.

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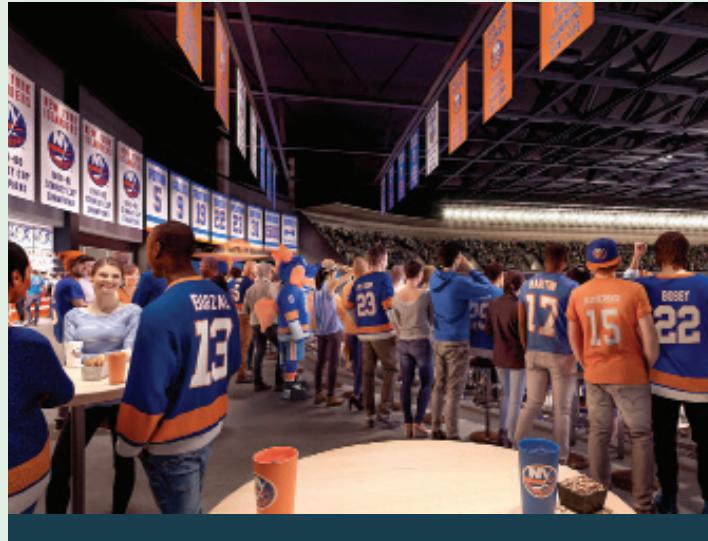
IN-DEPTH NEXT-GENERATION ARCHITECTS

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STANDING SECTION AT UBS ARENA

Populous
Elmont, N.Y.

ISLANDERS OWNERSHIP wanted to revive Nassau Coliseum's famous Section 329, where fans stood for entire hockey games, at the team's new building next to Belmont Park, slated to open in October. UBS Arena's Section 329 has capacity for around 250 fans, and it contains fold-down seats for non-Islanders events. The standing section, perched in front of a massive 95-foot-long bar and open gathering area, is indicative of the increasing cross-pollination



between American and global sports industries, as well as soccer's increasing impact on fan experience in North America. And the standing section is an

example of how arena and stadium seating bowls will begin to change in the coming years, becoming more varied and flexible for different types of events.

SEA CHAIRS

Dan Meis and Adrian Grenier

SPORTS VENUE ARCHITECT

Dan Meis met actor and environmentalist Adrian Grenier on a whale watching tour several years ago. The pair later had lunch where they cooked up the idea of a stadium seat made from recycled ocean plastic. The pandemic slowed Sea Chairs' progress, but the next step is to settle on one of several manufacturing processes that have been tested, find an early adopting owner and take the product to the market. Sea Chairs are more expensive than a regular plastic stadium seat, but venue owners have told Meis they'd be interested in buying and using the seats, even if it was in one section of a stadium or arena. — Bret McCormick



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"Nobody was sitting back," said Lehrer.

War—El Salvador's civil war broke out in the late 1970s, prompting the family to move to the U.S.—and love—she met husband, Michael, a native Californian, while studying at Harvard—led Lehrer to L.A. She launched her practice in 1982 and grew from designing the lavish backyards of movie stars to gradually more public-facing work, including the Dodger Stadium renovation starting in 2012.

In Smith, Lehrer found a project manager with one of sports' greatest track records for creating experiential venues that meshed with their surroundings. In Dodger Stadium, with its iconic history and nestled position in the distinctive Southern California hills, Lehrer found a canvas ready to highlight that concept.

"Our goal was to make these very public concourses at Dodger Stadium have a park-like aesthetic and feel like they belonged in this Elysian Park setting," said Smith, "and not try to be a traditional concourse with columns on one side and walls on the other."

Hollywood Park and SoFi Stadium presented a different challenge, creating something from a blank slate, landscape-wise. Lehrer convinced project overseers to include a 5.5-acre lake, which collects the development's runoff and helps it meet California water regulations. She created literal arroyos, gravel gullies native to the Southwest that help drain water run-

off, and figurative canyons, staircases and escalators surrounded by native trees and running water that leads to the lake, and a botanical garden featuring the Mediterranean biome, a climate like Southern California's.

"As long as we kept in our budget and in our lane, they were happy," Lehrer said. "They were like 'OK, they seem to be making magic, whatever is happening over there.'"

MANIPULATING SPACE

BOTH DODGER STADIUM and Hollywood Park embody the blurring of edges between public and ticketed spaces that's occurring more often in sports venue design.

At Dodger Stadium, Studio-MLA's design expanded the park's circumference by 50%, Smith said, and made a huge difference in how fans experience the venue, especially its chang-

es in elevation.

"Good landscape architects can manipulate space and can really craft the changes in elevation to make things work in a way that you have [Americans with Disabilities Act] accessibility without it feeling like a bunch of ramps," Smith said.

New wayfinding through sloped gardens created an oasis—featuring bird of paradise, New Zealand flax, Weber's agave, bottle trees and jacaranda—between the venue and the surrounding parking lots and often dry hills. New restaurants and bars, whimsical children's areas and historical exhibits gave fans different places to gather as they made their way up to the higher reaches of the stadium.

"The uniqueness matters and the ability to have your finger on the pulse of the culture of a place," said Smith. "All of those things end up combining

into an experience that embraces high tech and low tech and no tech."

The barriers between SoFi Stadium and its surrounding public areas are almost unnoticeable at times, as is the divide between indoors and outdoors thanks to the massive ETFE roof that covers the stadium, a plaza and YouTube Theater. Instead of moving the site's dirt—expensive, loud and dusty for the surrounding community—Studio-MLA decided to keep it on site and create a series of gardens and promenades around the edges of the stadium.

"Oftentimes you see renderings that have a lot of great pictures two or three years out, but then to be able to deliver on that is probably easier said than done," said Gannon. "To have someone like Mía involved, someone who really understands place-making and the importance of the place outside the venue, is so important."

It's not yet clear how successfully the edges of Hollywood Park will blend into surrounding Inglewood, in part because the rest of the project beyond the stadium has yet to fully take shape. But early indications show successful landscape design has beckoned locals into Hollywood Park. Lehrer saw firsthand while showing people around as graduation ceremonies were letting out at YouTube Theater recently.

"It was so beautiful. They were all coming out, people were selling flowers, and families were taking photos with the fountains, with the lake, with the stadium," she said. "It was just a source of pride." ✕



Mía Lehrer and Studio-MLA have created rest and gathering spaces all around Dodger Stadium, including this children's playground.