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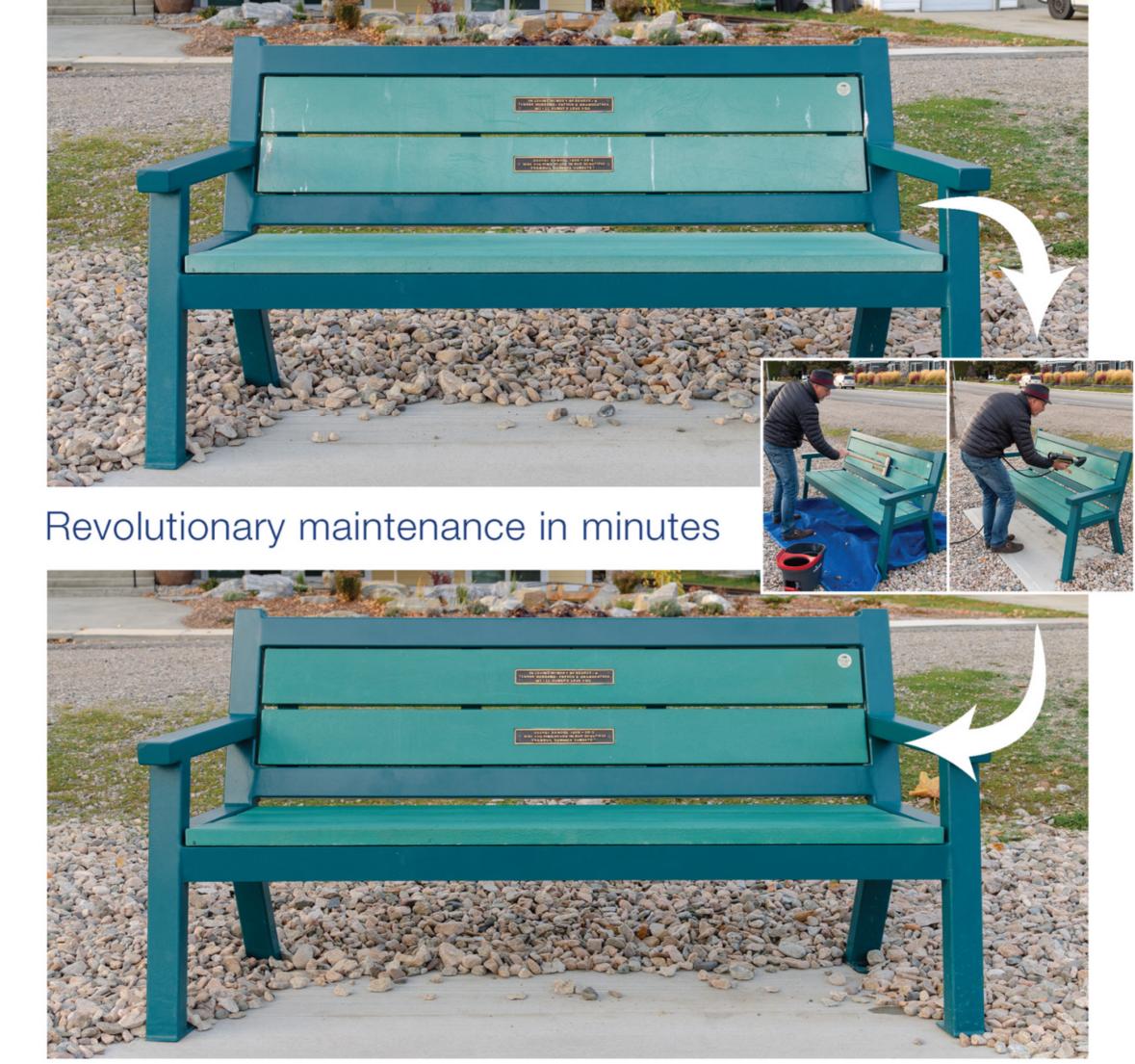
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LANDSCAPE ARCHITECTURE MAGAZINE

THE MAGAZINE OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

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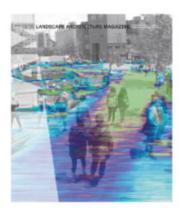
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ON THE COVER

The SWA XL innovation lab uses machine learning to analyze pedestrian activity, page 78.

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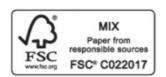
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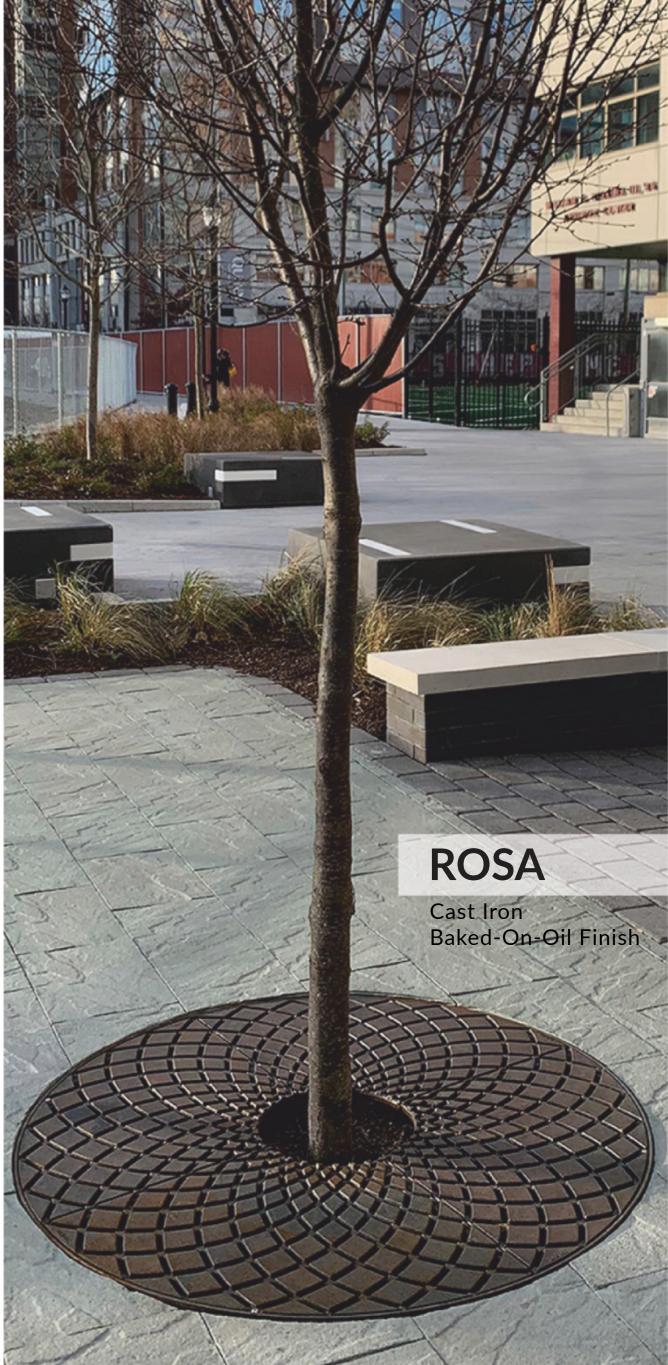
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LAM / INSIDE

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GABRIELLA MARKS ("The Huntress," page 90) is a Santa Fe-based photographer. You can follow her on Instagram @gabriellamarksphoto.

"Christie Green completely changed the way I think about design, especially with respect to the landscape. Her perspective has much more resonance with the natural ebb and flow of the environment. She really collaborates with, rather than 'works on,' the environment."



MIRIAM MOYNIHAN ("Changes Ferguson Can See," page 38) has written about topics such as architecture, music, commodities, and deregulation. Her e-mail is mir.moynihan@gmail.com.

"Ferguson is still in the news and popular culture. In October, the St. Louis Art Museum opened a group of large-scale paintings by Kehinde Wiley using African American models found in St. Louis and Ferguson, and in January, the St. Louis Black Repertory staged a new work titled *Canfield Drive*, after the street where Michael Brown fell."



MIMI ZEIGER ("Live and Learn," page 78) is a Los Angeles-based critic and curator. You can follow her on Instagram @mimizeiger.

"One of the most surprising things about writing this story was seeing how things that are vastly different in terms of scale and scope, like the sonic functions of the ear and electrical power lines in Hawaii, could be connected by AI research."

GOT A STORY?

At *LAM*, we don't know what we don't know. If you have a story, project, obsession, or simply an area of interest you'd like to see covered, tell us! Send it to *lam@asla.org*.

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LAND MATTERS

THE MEANING OF STEM

T hope readers this month will pay particular attention to the **▲** report by our contributor Brian Barth on the effort to have landscape architecture designated as a STEM profession by the U.S. Department of Homeland Security (DHS), which starts on page 70. The push for recognition as a STEM field is collective among educators, practitioners, and the landscape architecture leadership organizations, including ASLA, which put forward a formal petition to DHS for the designation in 2016 and awaits a decision. There is broad recognition within the profession that landscape architecture engages deeply with the STEM fields—science, technology, engineering, and math—though building a formal case for it to DHS, or, more specifically, its subagency, the office of U.S. Immigration and Customs Enforcement (ICE), has been a major challenge in recent years. The profession would benefit greatly from ICE's specific designation, and there is concern that, without it, the profession stands to lose out on federal education funding and the ability to continue attracting design talent domestically and from abroad.

Our story entwines several existential issues confronting landscape architecture, but the crux of them that concerns ICE is immigration, for which the agency has official oversight. ICE decides, in an inscrutable process, what is and is not a STEM profession for immigration purposes. Those purposes include qualification for student visas, extended stays for students after graduation, the eligibility of foreign nationals to obtain green cards for permanent residency, and the prospect of citizenship. And the reasons immigration matters so much to landscape architecture are plain to anyone who has spent time lately around a master's degree program: Many, and in some programs, most, new students are enrolling from overseas, particularly from China. I have heard the fear expressed countless times in the past several years that if the master's degree programs in the United States for landscape architecture had to rely on native-born American citizens to fill their seats, their enrollments would collapse. And the anti-immigrant rattlings from the White House over the past two years are not making foreign students more eager to come here to learn.

That fear of collapse encompasses a cluster of other issues regarding the narrow "pipeline" of newcomers to landscape architecture. A major obstacle is simply a lack of awareness of landscape architecture as a career choice, which is the main rea-

son this magazine produced the YOUR LAND special supplement in 2017 aimed at young readers (more than 20,000 and counting have gone out the door). It is also why ASLA now has a dedicated manager of career discovery and diversity, Lisa Jennings. Since Lisa joined ASLA last year, she has been taking our story to the professional STEM community and other audiences where landscape architecture is virtually unknown—not least, students of color who may not know that the creative calling of landscape architecture awaits them. Many ASLA chapters have started their own career discovery efforts. But then, if those potential recruits are persuaded, they face the high cost of earning a landscape architecture degree and must weigh the value proposition of paying back student loans on what they'll earn from the job market with an MLA in hand. That's partly why, for instance, the University of Illinois's MLA studios are not wall to wall with students from Illinois.

The architecture profession is in the same spot regarding STEM, though some landscape architecture educators recently have been led to believe that architecture has attained the coveted STEM status for higher education programs. Around the new year, an article circulated on the website ArchDaily with the headline "Architecture Becomes a STEM Subject in the United States." There are numerous federal definitions of STEM. In this case, the American Institute of Architects successfully lobbied in 2018 to have architecture included as eligible for STEM federal funding to state career and technical education programs in grades K–12 through revisions to an existing education law. As Jim Brewer, the AIA's chief lobbyist, clarified for me, "It doesn't apply to F-1 visa students."

That stroke can be made only by DHS and ICE, though some faculty in our field have convinced themselves otherwise without knowing the full picture. Educators in landscape architecture, plausibly, are nervous and impatient for STEM designation. It would help them to understand clearly what is and is not the case in pursuit of the goal, and to join their efforts with those of ASLA in urging DHS to look favorably upon this profession's active petition for inclusion.

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LAM / LETTERS

REFRAMING LANDSCAPE ARCHITECTURE

Misunderstanding of landscape architecture and why it matters has many consequences, as described in the October issue of *LAM* ("Make Yourself Known," Land Matters). One of these is the risk of harm to the public and environment resulting from policy changes based on incomplete or inaccurate information about the profession and its impact on public health, safety, and welfare.

While many factors contribute to ill-conceived policy proposals, a

common thread is the gap between the reality of professional practice and the perception held by much of the public about what landscape architects do.

Case in point: An October 21, 2018, editorial in the *News & Advance* (Lynchburg, Virginia), in support of a recent proposal to deregulate the profession, opined that landscape architects exist to solve the new homeowner's dilemma of "a yard of blotchy grass and a few shrubs."

Landscape architecture is one of the few professions regulated in all 50 states, the District of Columbia, Puerto Rico, and three Canadian provinces because of the consequence of incompetent or unethical practice on public health, safety, and welfare.

Because of our community's commitment to public protection, the Council of Landscape Architectural Registration Boards is pleased to join the American Society of Landscape Architects, the Council of Educators in Landscape Architecture, and the Landscape Architecture Foundation in a historic initiative to "re-frame" the profession so it's better understood and appreciated by the public.

We are optimistic about the initiative, as it's broadly supported within the profession, artfully employs the social sciences to gain a deep understanding of how people see the world, and, most important, responds to a persistent problem that has real urgency.

While it will not produce overnight change, it's an important, new approach at what may be an inflection point for the profession with respect to its legal status and, more important, its ability to serve the public interest.

We applaud our partners for taking collective action to address an intractable problem with fresh thinking, energy, and a collaborative spirit.

JOEL ALBIZO, HONORARY ASLA

CHIEF EXECUTIVE OFFICER
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REGISTRATION BOARDS
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THE HALPRIN I KNOW

In Justin Parscher's review of ▲ Alison Isenberg's Designing San Francisco ("Where Credit's Due," LAM, November), he rightly lauds the book for recognizing the many actors responsible for the city's urban design. The book brings to the fore the skills and expertise of the individuals and professions whose stories are typically unsung and play key roles in design and planning. They include model makers, graphic designers, publicists, design critics, and banks, while often highlighting the role of gender and how women have often been kept out of the historical narrative. Isenberg and the reviewer question the issue of a singular authorship of projects. A key case study in the book is that of Ghirardelli Square, the product of the collaboration between the architect William Wurster and the landscape architect Lawrence Halprin. The book accurately notes its complex history

and the many players in its story. However, Wurster and Halprin, as well as the staffs of their offices and consultants, were responsible for the design—they were the essential players. I would call them the authors. The reviewer and the book focus on the unfortunate event of the conflict between Halprin and Ruth Asawa, which I grant was not his finest hour. However, this does not diminish the significance of this landmark design or Halprin's career as one of America's greatest landscape architects. To characterize Halprin as a "swashbuckling hippie" is a cheap shot. Granted, I am biased as the author of the first comprehensive study of Halprin's career, with the exception of his posthumous autobiography (Lawrence Halprin, Library of American Landscape History, 2017).

KENNETH HELPHAND, FASLA EUGENE, OREGON

SUBMIT

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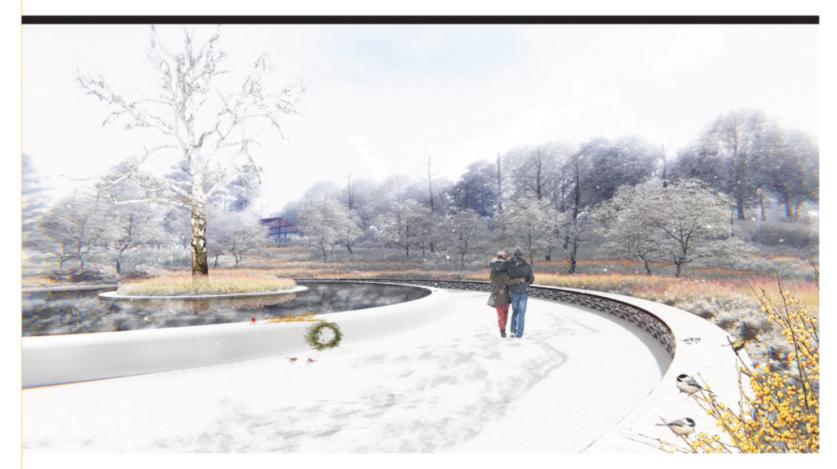








THE MAKING OF A MEMORIAL



A LONG SHOT COMPETITION ENTRY FOR THE SANDY HOOK ELEMENTARY MEMORIAL WINS WITH SUBTLE MOVES AND SEASONAL EMPHASIS.

BY TIMOTHY A. SCHULER

Dan Affleck, ASLA, and Ben Waldo, Associate ASLA, decided to respond to the RFP for a permanent memorial to the Sandy Hook Elementary School shooting partly to stretch underused design muscles but also to wrestle with the epidemic of mass shootings in the United States. "It felt like something we could do to actually engage with that issue with the tools that we know best," says Waldo, a designer in the San Francisco office of SWA. "We didn't expect to win."

The pair spent three months developing their scheme for the five-acre woodland site, not far from the new Sandy Hook Elementary School in Newtown, Connecticut. It centered on a "sacred sycamore" to be placed in a circular fountain, the edges of which would be inscribed with the names of the 20 children and six adults killed in the shooting. Waldo and Affleck, an associate principal at the firm, worked alone, trading ideas over coffee between project deadlines.

When Waldo and Affleck were named finalists in spring 2018, the designers had a decision to make: continue on their own, or involve their firm. They decided to seek the advice of Justin Winters, a principal at SWA/Balsley in New York, who had been something of a mentor to the two designers. Like Affleck, Winters was also from Connecticut. They called Winters and "laid the cards on the table," Waldo says. "He was a very impartial adviser on how to move forward." Ultimately, they decided SWA's 60-year history and institutional experience would be an asset.

Waldo and Affleck remained the lead designers, however, and Winters played a supporting role, alongside engineers from Fluidity Design and Sherwood Design Engineers. In August, after a

ABOVE

The chosen design for a permanent Sandy Hook memorial calls for a "sacred sycamore" and a circular fountain that will flow year-round.



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Shown here: Paco Sanchez Park, Denver Learn the story behind this amazing new playground at playlsi.com/paco.





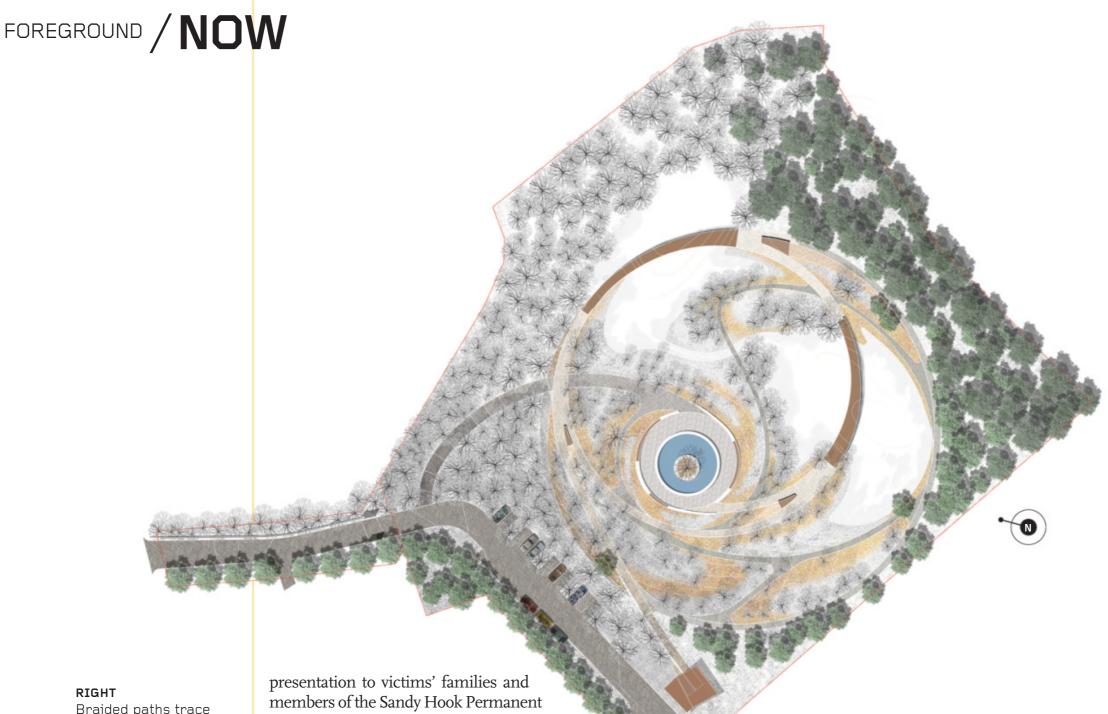












Braided paths trace through the woodland site, leading to the central fountain.

воттом

The fountain is designed to flow gently toward the tree in a circular fashion.

members of the Sandy Hook Permanent
Memorial Commission, the team was notified that its concept, which they named "The
Clearing," had been selected by a unanimous
vote. Daniel Krauss, the commission's chair, told
the *Hartford Courant* that the design was "universally
loved" by those who lost children in the shooting.

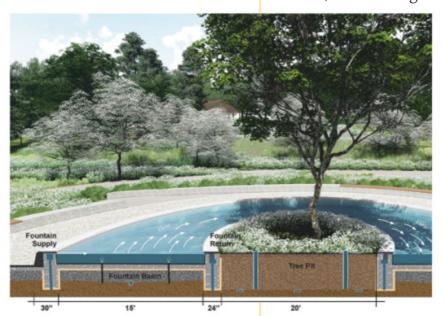
It's not hard to see why. The design is a braided path of concentric, intersecting circles that all lead to the fountain near

the center and help unify a site that, in its existing condition, feels quite fragmented, Affleck says. Because the tragedy occurred in December, the designers put special emphasis on how the memorial would appear in the winter, specifying fiery-colored cultivars such as *Ilex verticillata* 'Winter Gold' and *Cornus sanguinea* 'Cato' Arctic Sun. The warm colors also represent the flames of the candles that visitors will be allowed to place in the fountain, which will flow year-round and carry the candles toward the tree.

"The water was a way to instill motion in a still space," Waldo says. Affleck adds that the edge of the fountain becomes a threshold; the water separates a visitor from the sycamore tree in the center. "It's sort of like the void of the unknown between our life and the afterlife," he says. "We thought, wouldn't it be great if you could give something away that could bridge the divide?"

With the commission's selection, Newtown is one step closer to getting the memorial it committed to erecting more than five years ago. As the project enters its next phase (completion is expected in 2020), Waldo and Affleck say it was the right decision to bring their firm onto the project. "We came to an agreement together that the priority was that Newtown get the best memorial that they can," Waldo says, "and that working with SWA was the best way to get there."

TIMOTHY A. SCHULER, EDITOR OF NOW, CAN BE REACHED AT TIMOTHYASCHULER@GMAIL.COM AND ON TWITTER $@TIMOTHY_SCHULER$.







LEFT
Situated between
two former tobacco
warehouses, Brightleaf
Square's pedestrian
mall represents
Durham's embrace
and reuse of tobacco's
built legacy.

QUITTING TOBACCO

IN DURHAM, NORTH
CAROLINA, A CROP'S URBAN
IMPRINT IS REMADE INTO
PEDESTRIAN-FRIENDLY
PUBLIC SPACE.

BY MARGARET SHAKESPEARE

Big Tobacco built Durham, North Carolina. From a mid-19thcentury railroad station, the city grew into an international hub of the industry. After a hundred years, when its products became known as a proven health scourge, tobacco flamed out. But all did not go down in ashes. Tobacco's built legacy now has become the bones of a reverberant downtown: Handsome, oversized red-brick factories, warehouses, and auction houses, many in good structural condition, have taken on new roles as housing, offices, restaurants and retail, entertainment, and indoor and outdoor recreational facilities.

Dan Jewell, ASLA, a landscape architect and the president of Coulter Jewell Thames, a local engineering and landscape architecture firm, has been integral to the transformation. The process started with

an underground-up property analysis for the redevelopment consultant and the property management company. "All of the sites had a century-old history of undocumented underground infrastructure," Jewell says. Designers had to consider how to blend purpose and aesthetics, and which views should be preserved and augmented. Most important was how to create "a vibrant, pedestrian-scale realm from a place that used to be solely industrial and utilitarian," Jewell says. "We needed to make them safely accessible for folks of all abilities and disabilities, things not contemplated when the facilities were built."

At Brightleaf Square, one of several catalytic projects begun in the 1980s, two hulking, neo-Romanesque-style warehouses—listed on the National Register of Historic Places—imposed on Main Street. "The design goals were [for] an activated courtyard, as well as a more lively presence on Main Street," Jewell says. Working with architects, the landscape architects supplemented out-of-sight interior passageway entrances with storefronts opening directly on the courtyard,



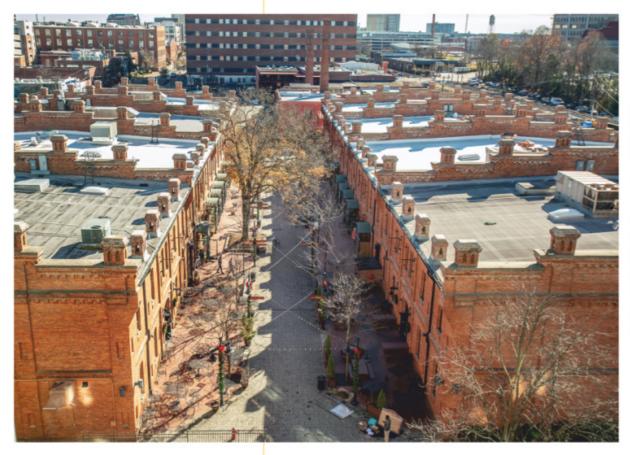


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locusts line the walk.

reinventing it as a pedestrian street. A richness of detail, along with large trees, new lighting, and street furniture, invites passersby in. Jewell combined bricks with concrete pavers to evoke cobblestones. Painted pipe railings extended the industrial detailing. Within the simple planting scheme, light and airy honey locusts "don't compete with the historic architecture" and make the courtyard feel larger. Jewell also managed to preserve an old oak tree, which lent "the space a sense of maturity the day it opened."

Since then, each adaptive reuse project has "built upon the foundation of successful conversions before it," says Sara Young, the assistant di-



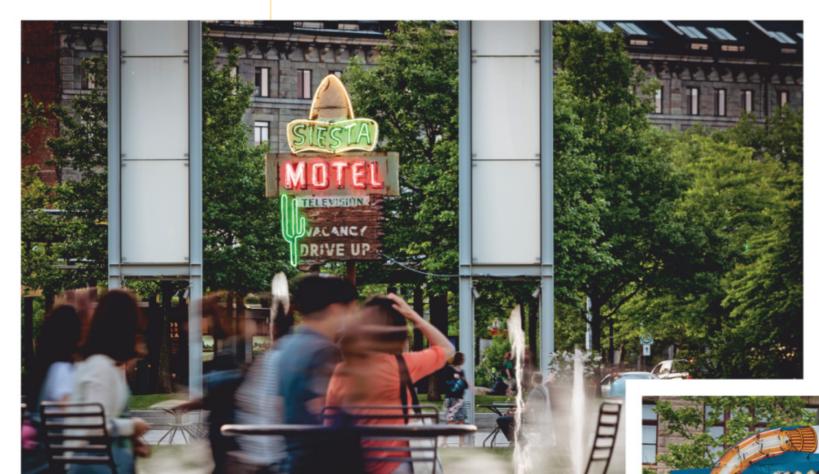
rector for the Durham City-County Planning Department. Reviving the downtown has led to the transformation of alleys into small-scale entertainment venues, the use of

pocket parks to showcase local art, and the rediscovery of local history, including Black Wall Street, a concentration of post-Reconstruction slave-descendant wealth. It's begun to attract new development. "There's not been this amount of [urban] construction in Durham since the 1920s," says Jewell, who also helped lead a public—private partnership in assembling and rehabilitating five acres to construct Durham Central Park, portions of which opened in 2014. Towering over the park is the salvaged brick wall of the Liberty Warehouse, which now bears the park's painted sign.

"People want art and parks and public outdoor spaces," says April M. Johnson, the executive director of Preservation Durham. "Multiple, compatible uses make for happy downtowns. And buildings that maintain [historic exteriors] maintain the story of the community and help us connect with the past." •







LEFT AND INSET
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Massachusetts.

The Flying Yankee restaurant in Auburn, Massachusetts, was indistinguishable from other adside diners of the 1950s, except for one thing: animated neon sign. Curling around the res-

NEO-NEON

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ALONG THE ROSE
KENNEDY GREENWAY
SHINES A LIGHT ON
LITTLE-KNOWN
HISTORY.

The Flying Yankee restaurant in Auburn, Massachusetts, was indistinguishable from other roadside diners of the 1950s, except for one thing: its animated neon sign. Curling around the restaurant's name, which was illuminated in bright orange and teal, was a rocket ship, its fiery tail rendered in blinking red neon. The sign was more than a roadside billboard. It was an homage to New England history: While the restaurant's name came from a popular streamliner train, the rocket was a nod to 1926, when the first-ever liquid-fueled rocket was launched right there in Auburn. "And, of course, it was a roadside sign, so it really brought together three kinds of transportation," says Victoria Solan, a design historian.

Solan recently helped mount the Rose Kennedy Greenway Conservancy's public exhibition *GLOW*, a celebration of New England neon on view through April 2019. The Flying Yankee is one of eight vintage signs in the show, all created between 1925 and 1970. Selected from the collection of Dave and Lynn Waller, the signs are

arranged relative to their original location across the state, allowing visitors to take a virtual road trip from Natick to Boston.

Much more than a nostalgic nod to the past, the neon signs in *GLOW* tell the story of small business owners in postwar New England, both those who made the signs and those who commissioned them, and raises questions about why many of these businesses have since disappeared. "Neon is a dying art form," says Lucas Cowan, the public art curator for the Greenway Conservancy. "There's very few neon vendors left in the United States, let alone in Massachusetts. The idea really was, what happens when light disappears from a community?" If *GLOW* is destined to generate new interest in neon's unique aesthetic, it also serves as a rare window into a very particular and underappreciated past.







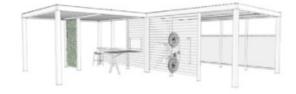


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FOREGROUND / NOW

BLACK TO GREEN, WITH A FIGHT IN BETWEEN

CHICAGO ACTIVISTS PUSH TO MOVE A HISTORIC SITE FROM COAL TO URBAN AGRICULTURE.

BY ZACH MORTICE

lmost seven years ago, Chicago's Little Village A Environmental Justice Organization (LVEJO) and other grassroots activists succeeded in getting the Fisk and Crawford coal-fired power plants in its predominantly Latinx neighborhood of Little Village closed down for good. LVEJO envisioned a new future for the 70-acre site: urban agriculture and green jobs training. Crawford's current owner, Hilco Redevelopment Partners, however, has been approved to demolish the Crawford power plant and install an industrial truck shipping hub, slated to be one of the largest warehouses in the city. LVEJO's leaders fear that another industrial use (in a neighborhood filled with them) will fill the air with more noxious diesel fumes as hundreds of trucks service the hub daily.

Preservation Chicago has taken up LVEJO's cause, placing the early 20th-century power plants on its 2014 Most Endangered List and advocating for their adaptive reuse. The Crawford power plant was designed by Graham, Anderson, Probst, and White (the successor firm to D. H. Burnham and Company), the Fisk plant by Shepley, Rutan, and Coolidge, successors to H. H. Richardson. Crawford was "the most powerful plant of its age" and a monumental feat of technical engineering, says Ward Miller, Preservation Chicago's executive director. Kim Wasserman-Nieto, the executive director of LVEJO, says the preservation of these buildings goes "hand in hand" with the organization's mission.



RIGHT Chicago's Crawford coal-fired power plant closed

in 2012.



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RIGHT

The power plant is on the banks of the south branch of the Chicago River.

BELOW

The Little Village neighborhood borders one of Chicago's largest industrial corridors.

Hilco has said the Crawford building is structurally unsound and can't be saved, but has presented no evidence of this. The company did not respond to specific questions regarding plans for the building.

Previous plans for the site have recognized the value of reuse, including a 2012 report on potential uses that

prioritized healthy environments, public space, and collaboration with community stakeholders. "Hilco has taken a lot of the language from [the report] and used it as a way of saying they have fulfilled

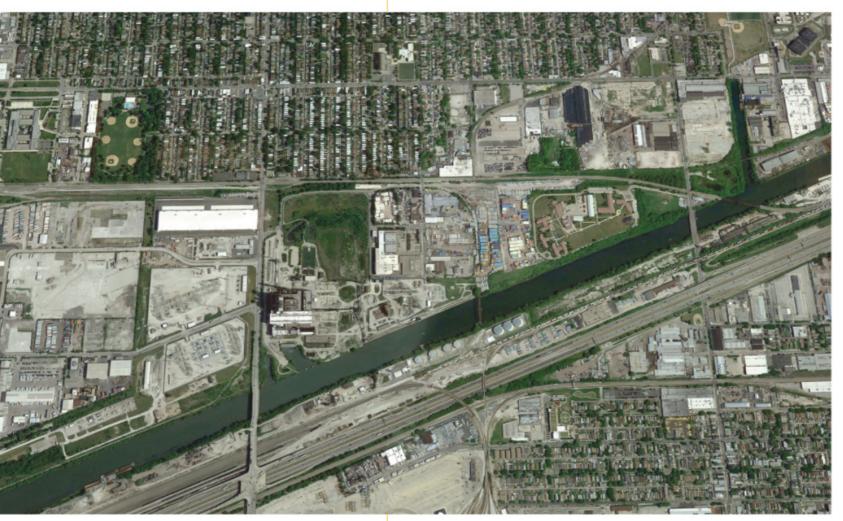
the goals, but the reality is, in their true meaning, they haven't done that," Wasserman-Nieto says.

The city's planning department has offered the

Pilsen and Little Village Preservation Strategy to "preserve the culture, character, and affordability of the Midwest's largest Mexican community." It includes more affordable housing requirements, open space improvements, and a designated landmark district that does not include Crawford or Fisk. It also advocates for industrial modernization. Hilco's plan seems to serve the latter at the expense of the former.

> The conflict reinforces the history of Little Village as a sacrifice zone: a relatively poor, minority neighborhood whose residents are asked to absorb environmental hazards for the sake of economic growth. "I think it's wrong for Chicago to go down the path of heavy-duty industrial [uses] again, especially in neighborhoods that fought so hard for clean air and clean water [by] closing down those plants," Miller says. "A place that once poisoned people could now be a place of healing." •







BREAKING DOWN BARRIERS



IN SCAPE'S RESILIENCE PLAN FOR BOSTON HARBOR, THE KEY IS TO RUN TOWARD THE WATER, NOT AWAY.

BY KIM O'CONNELL

Rather than wait anxiously for worst-case sea-level-rise scenarios to play out, the City of Boston recently hired SCAPE Landscape Architecture to develop a comprehensive waterfront plan, called Resilient Boston Harbor, that stitches together existing and planned projects to strengthen Boston's 47-mile shoreline. The idea is to not build barriers between the city and the water, but to break existing ones

down and to increase social equity while protecting Boston's natural and built environment.

"Boston has done a ton of planning about its communities and resilience but never come up with a comprehensive plan where someone stitched these plans together," says Alexis Landes, ASLA, the managing principal at SCAPE. "This plan includes not just technical aspects [of building resilience], but it's also very aspirational about where the city should go."

SCAPE synthesized several ongoing planning efforts with new projects such as developing parks and boulevards, raising vulnerable buildings and incorporating new flood adaptations, and creating floodable areas that can absorb storm events. The plan focuses on four main areas of the metropolis—Downtown, South,

ABOVE

Throughout the plan, including in this vision for Boston's Dorchester area, new elevated landscapes are shown in chartreuse.







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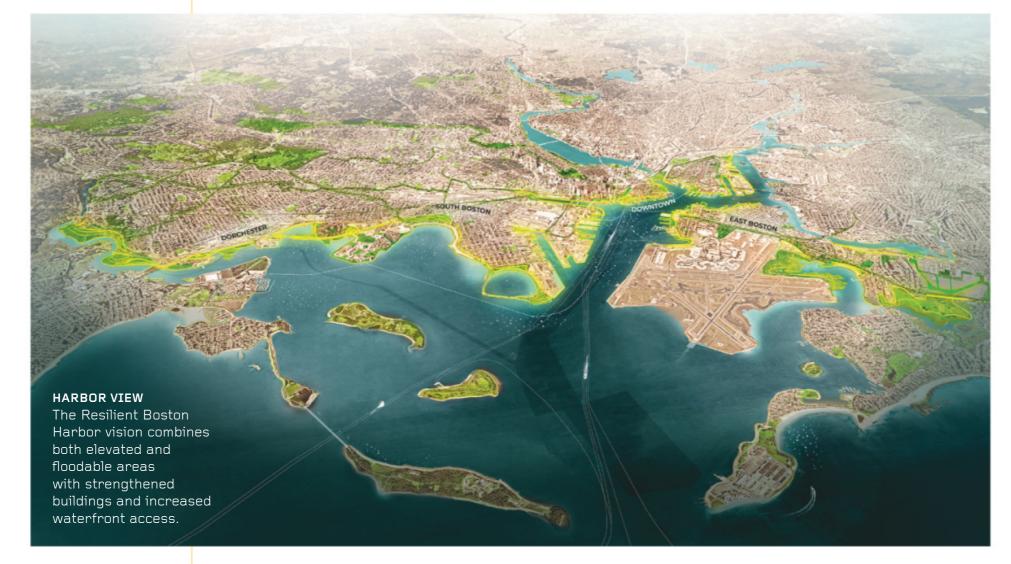
SCAPE'S RESILIENT BOSTON HARBOR PLAN AIMS TO INCREASE SOCIAL EQUITY WHILE PROTECTING BOSTON'S NATURAL AND BUILT ENVIRONMENT.

East, and Dorchester, an ethnically diverse neighborhood that would benefit from greater public waterfront access. The Dorchester plan includes the proposed DOT Greenway, led by OJB Landscape Architecture, which increases green space and promotes multimodal transit and greater interconnectivity. Other partnering firms represented in the plan include Arcadis and Michael Van Valkenburgh Associates.

When Boston Mayor Martin Walsh publicly unveiled the plan in October

2018, he was met with a standing ovation. "In Boston, some areas already have amazing places like salt marshes and beaches, but they don't have great access points," says Alisha Pegan, the coordinator of Climate Ready Boston, the city's resilience initiative. "We want to bolster our identity as a city on the shore." Pegan adds that the city is working with partners in the academic community on new climate change research that could inform the more detailed plans that are expected to come out of this visioning process.

Perhaps most important, according to SCAPE, is that the plan leads with landscape, versus, say, engineering. "What is most groundbreaking is that the mayor has embraced landscape and public life as key drivers toward reorienting this city," says Kate Orff, ASLA, SCAPE's founder and principal. "The plan synthesizes efforts by many existing landscape architects, and puts that forward along with connective elements and spaces. Ideally, other cities can follow that lead." •





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FOREGROUND PLANNING



A GRIM ARTERIAL ROAD WAS UP FOR REDESIGN WHEN TROUBLE BROKE OUT AND CHANGED EVERYTHING.

BY MIRIAM MOYNIHAN

TOP West Florissant Avenue is a pedestrian-heavy corridor, but much of it lacks clear and safe sidewalks.

BOTTOM

The Great Streets master plan will incorporate needs of pedestrians and cyclists by creating a wide path and better designed crossings.

Bonnie Roy, ASLA, describes her the competing priorities and zoning master planning project for West issues of multiple small municipali-Florissant Avenue in Ferguson, Missouri, as a lesson in endurance. West Florissant is one of the main arteries through Ferguson. The project began in 2013 when the city of Ferguson and neighboring Dellwood started work with St. Louis County and the East-West Gateway Council of Governments, a regional planning organization, on the West Florissant Avenue Great Streets Master Plan. The plan is one of more than a dozen in the metropolitan area to improve mobility, infrastructure, and visual quality on major roadways and to cut through

ties. In this case, it involves a four- to five-lane roadway through several somewhat faded older suburbs. In June 2014, the groups finalized the roadway design portion of the plan.



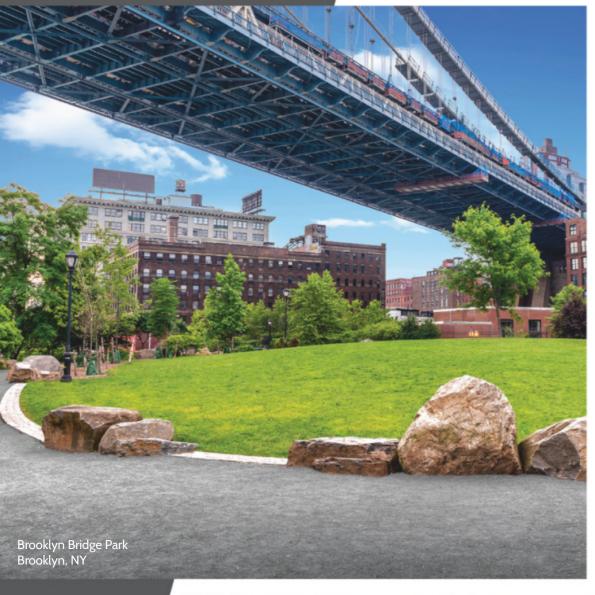
Two months later, Michael Brown, 18, was fatally shot by a Ferguson police officer on Canfield Drive, just off West Florissant. Brown, who was suspected of theft at a nearby convenience store, was African American. The officer, Darren Wilson, was white. Brown's death sparked intense anger in the community. Protests, at times violent, erupted along West Florissant Avenue and cascaded into arson, looting, and numerous arrests. The episode bared long-building tensions between a majority African American population in Ferguson and a city government and police force that remained

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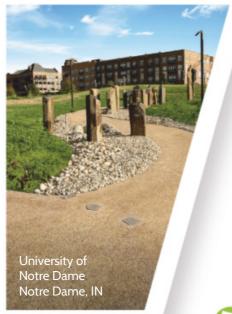
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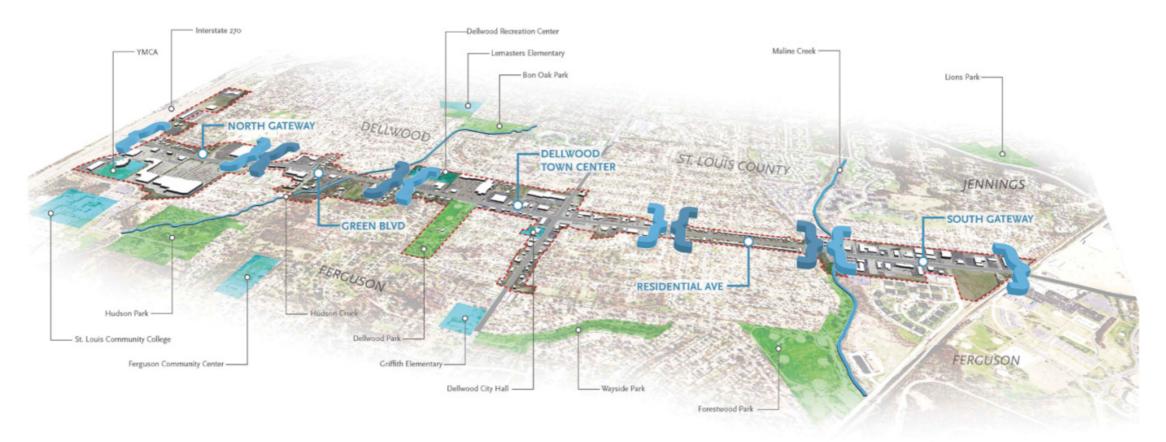


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almost entirely run by whites. The avenue appeared nearly nonstop on news programs worldwide that showed police in riot gear deploying tear gas against protestors, and the burning of several businesses.

With the community in shock and recovery mode, the Great Streets project was shelved.

"The vision was set, most of the capacity-building within the agencies that would push that vision for-Roy, a partner of SWT Design, a document to guide them, but they lost a lot of that momentum."

work was complete, but some of the ward had not been completed," says landscape architecture and planning firm in St. Louis. "They still had a

Cordaryl Patrick, the economic recovery coordinator at the St. Louis Economic Development Partnership and, as a former Dellwood city administrator, a major supporter of the master plan, says: "Uncertainty kills projects."

Nearly five years after the unrest, there is less uncertainty. Law enforcement and civil rights reforms are under way in Ferguson under the terms of a federal consent decree. There has been turnover in the municipalities along West Florissant Avenue, including the election of two additional African American members, for a total of three, to the six-member Ferguson city council (the city is 68 percent African American). (One of those new members, Wesley Bell, was elected in an upset victory to the position of St. Louis County prosecutor.) And some employees in the departments of planning and public works who had been on the job during the initial planning process remain and are still behind the project.

"We've hit a little bit of a reset button," Roy says. "We've met with over 50 organizations. Obviously, lots of things had changed in that interim, so we didn't just pick up where we left off."

About a year after the protests, St. Louis County and East-West Gateway funded and selected Crawford, Murphy & Tilly to move forward and engineer the transportation infrastructure piece. The firm subcontracted with SWT for the 30 percent preliminary engineering work, which is still in progress, Roy says.

The project will cost around \$30 million. About \$10 million in local grants has been identified, including funds to create a community development corporation or business improvement district in the corridor, to fund maintenance and other improvements. The groups are pursuing federal funding to pay for the rest.

"What you see on West Florissant is an eyesore," says Ella Jones, a city council member in Ferguson. "Right now, it's not a good feeling." The roadway and surroundings are built almost solely for vehicles, with few pedestrian crossings and a lot of accidents, including with pedestrians. Between 2010 and 2016, 24 people

Major nodes identified in the master plan help focus the priorities of the different sections.

BELOW

Bonnie Roy, ASLA, right, reviews proposed alternatives with community members.



w/left turns

landscaped

Hew, modified, or

Center raised median

Center raised median,

Closed driveway or street

maintained driveway

Ferguson Ave realignment

BELOW A pop-up midblock crossing helped the designers note where



were injured in pedestrian and bicycle crashes along West Florissant Avenue. Residents along the West Florissant corridor rely heavily on public transit; 17 percent of working residents in the southern portion of the project zone have no access to a car. The poverty level in Ferguson was 22.5 percent in 2017, according to the U.S. Census Bureau, which is more than twice the overall rate in St. Louis County. There are 16 empty storefronts along the 1.7 miles of the zone. The sidewalks, where they exist, are inconsistent and poorly maintained.

In the summer of 2017, in an effort to bring the project to the residents in a more concrete way, SWT partnered with the St. Louis County Department of Transportation, the Missouri chapter of the American Planning Association, and Trailnet to use a tactical urbanism strategy and hold a pop-up midblock crossing.

the roadway, closed several vehicle

With inexpensive and easily transportable materials—painted tires, plastic cones, temporary paint, and stencils—the team created a median island, defined the edges of

Shared-use path

crosswalk

GRG Maline Trailhead

Midblock crosswalk

Landscape/streetscape

enhancements

¹_■ Signalized intersection

and potential transit

Bus stop (no shelter)

Future BRT stop

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Lighting throughout

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The illustrative site plan shows proposed improvements in lane configurations, medians, and intersections.

OPPOSITE

The plan adds plantings to a gray streetscape and better defines lanes and street crossings. entrances, and striped a midblock transforming the public spaces, and crosswalk, says Larry Welty, the improvement programs manager for the St. Louis County Department of Highways and Traffic.

"The fact that we did a pop-up demonstration on a major arterial within St. Louis County is huge and sets a new precedent for what ting on an orange safety vest, "felt other organizations like ours can like there's no way they were get-

having the county as a partner in that," Roy says.

In a four-hour window, the team surveyed around 50 people for real-time feedback. There still were hesitant pedestrians who, without someone walking with them or without putdo to help communities envision ting across this road," Roy says. "We

could really understand how much of a deterrent five lanes of asphalt can be to pedestrian circulation."

They witnessed a lot of jaywalking. Although some pedestrians probably just wanted to avoid interacting with the team, SWT took note of the locations where the residents chose to cross and have used that information to inform and evolve the plan.









"WE COULD REALLY **UNDERSTAND HOW UCH OF A DETERRENT** FIVE LANES OF ASPHALT CAN BE."

-BONNIE ROY, ASLA









The upgrades in the built and green space of the corridor will include a continuous, multiuse pathway wide enough for both pedestrians and bikes; a raised green median with pocket turn lanes; wider, Americans with Disabilities Act-compliant sidewalks and buffers; pedestrian-scale lighting and street trees; improved

and additional signal crosswalks and midblock crossings; and bike racks, benches, and trash receptacles.

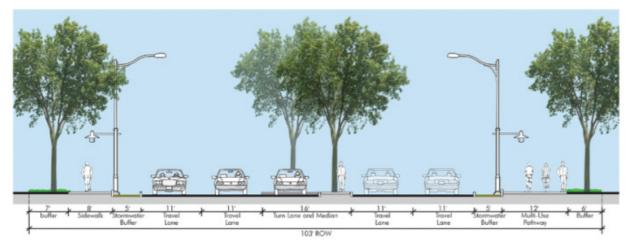
The various nodes will have other lane-calming features, improved and additional bus stops, larger canopy trees, and drainage and signage improvements. Adjusting the timing

of the traffic signals will save area commuters a projected 59 hours annually, a savings that is expected to increase to 70 hours by 2050.

Spatial justice is an important element of the plans moving forward. "We're shifting space within the public right-of-way for a better distribution of users," Roy says. "We have a few diagrams actually from the master plan where we show how much of that physical space was dedicated to automobiles and how much of that was shifted to other users, since a large portion of those community members don't even own an automobile."

Janet Wilding, the vice president of major projects at the St. Louis Economic Development Partnership, cited West Florissant as a "great example" of a community that will turn a transportation project into a catalyst for the community. "It's a







difficult conundrum when you're trying to do community development and trying to get some quality of life around these corridors that are moving 30,000 cars a day," she says.

A new transit center opened nearby in 2016, which will help serve the 19 percent of metro-area bus riders who originate in north St. Louis County. It has an indoor waiting room, restrooms, and concessions. With 10 bus bays, it provides nine direct routes to destinations such as Clayton, the county seat, and downtown St. Louis. New bus stops also have been added in many area communities.

There are a number of other positive developments in or near the West Florissant Avenue corridor. In 2016, Centene Corporation, a managed health care company, built a new service center on the location of an abandoned used-car lot in Ferguson and now employs more than 200 people. The QuikTrip Corporation removed the underground tanks from its station that was burned during the unrest and donated the land to the

Urban League, which built the Ferguson Community Empowerment Center to offer workforce development to residents. In this food desert, some residents miss the QuikTrip, but Jones sees hope in the Urban League's programs. "They're not selling you a hot dog, but they're giving you skills to get a job, get a car, and go buy yourself a package of hot dogs and some buns," she said.

The Great Rivers Greenway, a regional parks and trails organization, is building a new trail along Maline Creek with a trailhead at West Florissant. A new \$12.4 million Boys & Girls Club teen center is scheduled to open this year. And the U.S. Environmental Protection Agency and the Missouri Department of Natural Resources are conducting site assessments to redevelop six brownfield sites along the route.

The federal government named the area a Promise Zone, a designation created for high-poverty communities to partner with government leaders to improve economic and educational

opportunities, investment, crime prevention, and public health. Thirteen government agencies offer preferential access to grants and technical assistance in Promise Zones. West Florissant also lies in a federal Opportunity Zone, created in the 2018 tax reform bill to promote investment in depressed areas by delaying capital gains taxes for up to seven years.

"There are a lot of vacant commercial sites along the corridor," Patrick says. His group is working with owners to redevelop these sites or sell them to new owners who are willing to conform with the Great Streets master plan. So far, they have created redevelopment plans for five commercial sites along this corridor, Patrick says.

Though the Great Streets plan for West Florissant began as a way to target a community in need of physical change, it has become part of a larger mission since the upheaval of 2014. "I think we've learned how important it is to make sure that we're engaging all aspects of the community in a process like this, to really understand what they need and what the desire is," Roy says. "It's more than just an engineering effort—it's amenities, branding it as a destination."

Over time, she says, the residents understood that the process would provide opportunities for economic return to the community and brought their ideas and concerns to the planning meetings.

"Ferguson led the change," Roy says. •

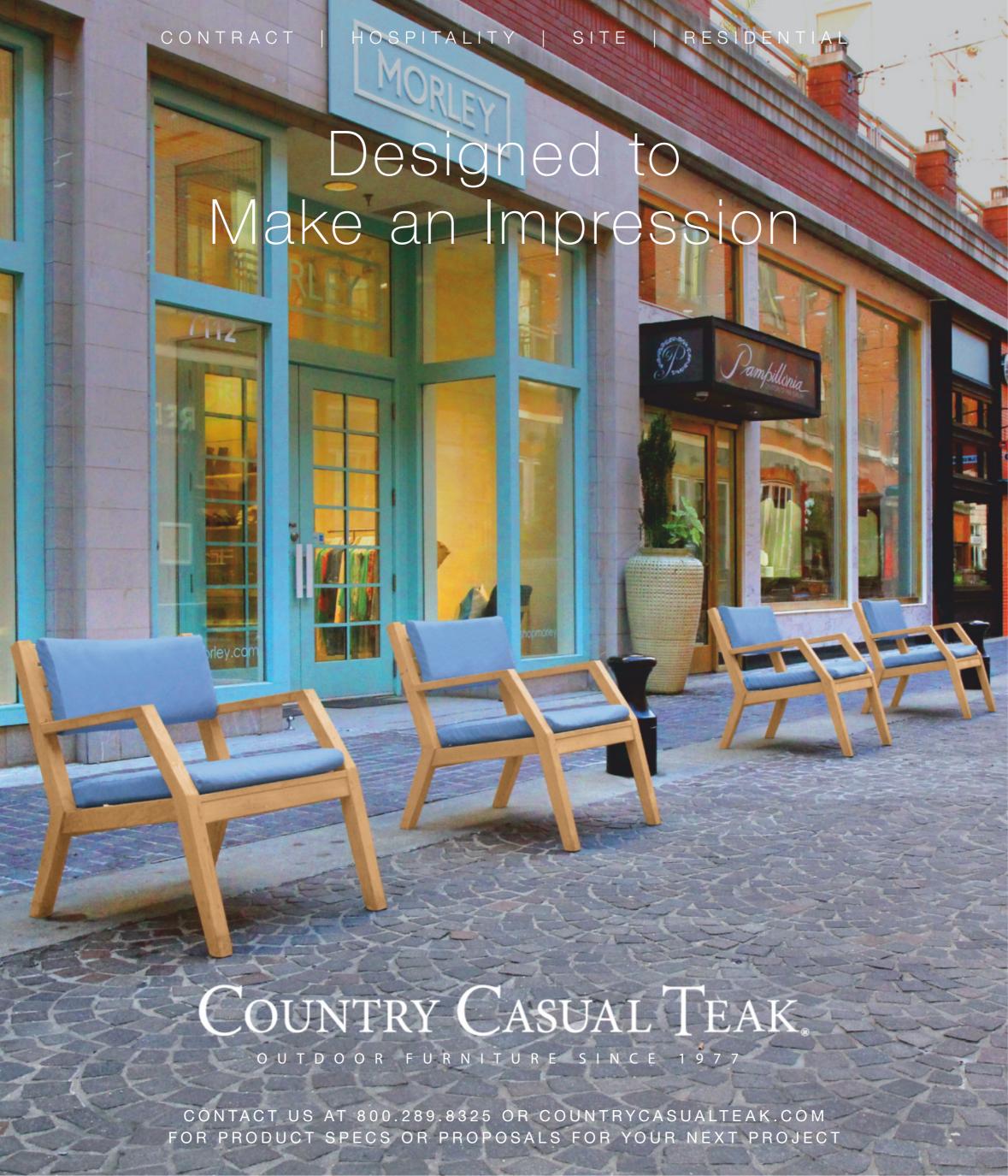
MIRIAM MOYNIHAN IS A WRITER AND EDITOR BASED IN ST. LOUIS.

TOP

A street diagram shows a proposed transformation of West Florissant Avenue at Dellwood Park.

BOTTOM

The city of Dellwood embraced this suggested signage concept for its park and followed through with the fabrication and installation.







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FOREGROUND / MATERIALS



WARRANTIES ON PLANTINGS OFTEN SEEM REASONABLE. UNTIL THEY AREN'T.

BY ANDREW LAVALLEE, FASLA

Most landscape architects are familiar with specifications about plant warranties. We often apply them without much thought because many consider it to be an industry standard practice. A typical plant warranty, usually lasting one or two years, requires the contractor to replace plantings that have died or appear to show unsatisfactory growth. Standard specification language often seems reasonable and enforceable. Until it isn'tespecially a few months after you thought the job was complete, or worse, after the end of the stated warranty period when the client calls upset that some of the plants are looking bad or are outright dead. Now comes the hard part. Whose responsibility is it if plants don't

succeed? Aren't the dead or dying plants supposed to be covered by the warranty? If not, what was the warranty actually supposed to cover? These are all good questions that are symptomatic of a larger problem in the landscape industry.

The idea behind a warranty is to protect an owner from the inherent risks of building a project. Landscape architects have a fiduciary responsibility to clients. Ensuring that there are checks and balances in the contracting process is certainly necessary. Some contractors don't always do the best work, especially in competitively bid situations. On projects where construction managers are apt to look the other way when landscaping is installed, rigorous specifications requiring onerous



ABOVE
Dead and dying
plantings on a crowded
urban landscape
project.

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FOREGROUND / MATERIALS

THIS SORT OF SPECIFICATION LANGUAGE SEEMS STRAIGHTFORWARD, BUT IT IS RARELY CLEAR IN PRACTICE.

warranties are often the only device serving the landscape architect's purpose of protecting the owner's investment. Unfortunately the scope and reach of the one- or two-year warranty do not really provide

that much protection to an owner beyond blatant plant failure. However, owners think that the warranty is their best option for getting a good landscape outcome. Although warranties are part of most standard construction contract language endorsed by the American Institute of Architects, the Engineers Joint Contract Documents Committee. and the Associated General Contractors of America, they seem appropriate for hard items such as concrete walls and asphalt pavements, or for mechanical systems such as irrigation or drainage. Yet a warranty on living plants is trickier. As part of a company that both estimates and oversees landscape construction designed by a variety of landscape architecture firms, my staff and I are often charged with sorting out the various reasons, costs, and responsibilities surrounding planting failure. We often ask ourselves if there is a better way to handle the intent behind the warranty.

To begin with, warranties raise costs to the owner without a clear return

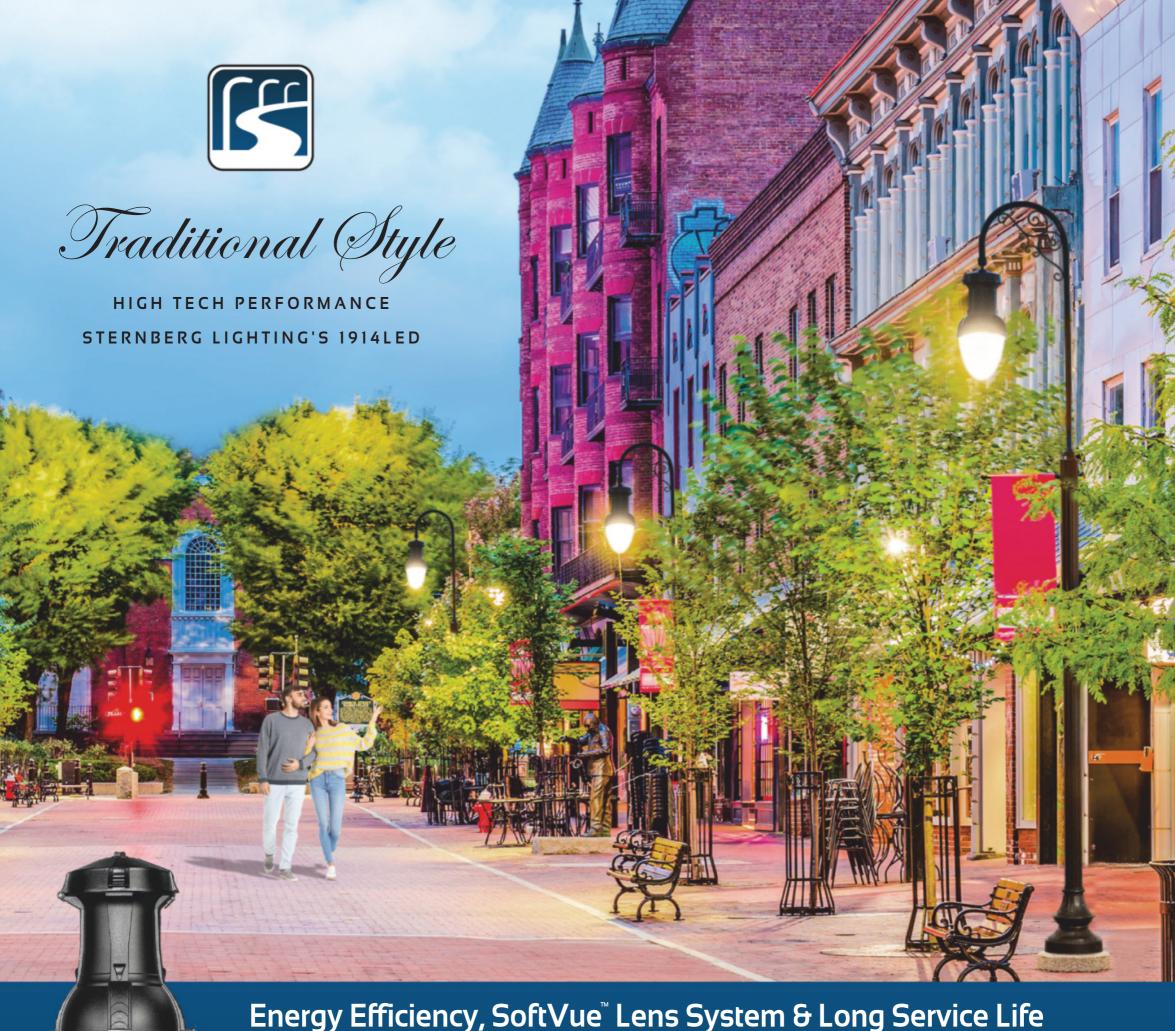
on investment. When a warranty is required as part of a contract, the contractor has to raise its planting price to cover the risk of plants requiring replacement. The additional cost of the warranty replacements includes removal of the dead or dying plants, plant replacement, and, typically, the additional warranty period for the replacement plants to match the duration of the original plant warranty. If the job has been bid with bonds, the one-year warranty period often draws out the bonding duration, representing additional contractor costs that have to be factored into the bid price. By requiring a contractor to assume the responsibility to replace plants via a warranty, the contract effectively burdens the owner at the time of bidding with costs, whether or not the plantings fail.

Most wholesale nurseries will not readily warrant their material beyond the point of sale, especially with regard to perennials and ground covers. Even if they do, they typically cover only the cost of the replacement plants, not the cost of transportation of replacement plants to the site or the time, materials, and equipment to install them. Yet somehow we expect the installing contractor to do better than the people

who grow the plants. This is a tough one, and it simply adds costs. On a small job, the extra cost can be seen as a necessary evil or an insurance plan against plant failure. On larger jobs, especially jobs designed to provide critical ecological functions, the added costs can be substantial, putting much-needed ecological improvements at risk owing to inadequate funding. Might there be better ways to spend our clients' money?

Moreover, warranties often lead to or are a source of disputes. Typical specification language requires the contractor to repair or replace plantings and accessories that fail within the warranty period. Failures are often defined to include plant death and unsatisfactory growth, except for problems as a result of vandalism, lack of adequate maintenance, or neglect by the owner. This sort of specification language seems straightforward, but it is rarely clear in practice.

Disputes often arise around what is "adequate" maintenance, because adequate can mean both proper and



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FOREGROUND / MATERIALS

timely care. As we all know, establishment care, especially watering, needs to be diligent and weather-dependent. It requires skill and experience to know what to do. It is hard for a contractor to control warranty risk if the contractor does not control maintenance. Even with written maintenance instructions and periodic inspections by the warrantying contractor, things can go sideways quickly. We see this sort of problem a lot.

One of the most common warranty disputes centers around proper watering. At the completion of the job, the installing contractor typically sets the irrigation clock and rain sensor. Within a few days or weeks, the owner or the site representative notices the plants looking wilted and immediately overrides the system controls and overwaters the landscape without notifying the installation contractor who has warranted the job. Within a short time, the plants are either overwatered and rotting or they are dying of drought because the automation of the system has been fouled. With shared responsibility, issues such as disease or infestation can also be hard to pin on one or the other entity. If the owner is going to take over maintenance while the plants are under the installing contractor's warranty, the owner needs to know how to carry out responsible landscape maintenance or hire an entity that does. Then the question arises as to who is watching the maintainer. Enforcing the requirements of the warranty falls at the end of the job, when the contractor, designer, and owner all are suffering from project fatigue and may have overextended their resources on the job. But remember, the owner has paid for the replacement that is being abandoned.

Warranties don't always improve contractor performance. Many of us have experienced contractors who fail to return to the job after they have received their substantial completion payments. If you try to impose a heavy retainage factor on completed work to ensure the contractor returns to the site to cover its warranty obligations, the contractor typically will inflate its bid prices to cover costs ahead of the retainage factor. Some contractors game the requirements for warranty replacement. They wait until the last minute to make replacements to avoid additional maintenance or warranty coverage. Owners often get frustrated and just give up. In the scheme of things, a few dead plants in the year after the end of a job suddenly becomes acceptable, and long-term plant performance gets compromised.

Perhaps most troubling is that warranties perpetuate a regressive view of landscape plants as agricultural commodities rather than as instruments of valuable ecosystem services. Many landscape architects see their primary role as creators of a design to be built by someone else, often choosing to be less engaged during the building and establishment process. A reluctance to engage postbid, either willingly or because of fee restrictions, means we are not serving the needs of the landscape itself because we are failing to communicate its importance to owners. If we want to be taken seriously as stewards of ecological function, we need to ensure that our designs, including the construction of soil and hydrological systems into which plantings are placed, are being properly built. We are setting into motion conditions meant to ensure planting success. It is not a "plug and play" operation in which, if the plant dies, you can simply swap it out with another. If the plants do not grow over time, well beyond a year or two after planting, we don't reap long-term ecological benefits. We need to drive home with our clients that plants are not commodities. They are living, long-term investments.

We need to remind owners that landscape architects provide true value during the construction and postconstruction phases of a project. We are often the only people on the design or construction team who can provide qualified third-party oversight of the selection of plants at reputable nursery sources, including appropriate delivery and unloading practices. We should both require planting mock-ups to ensure the contractor understands the planting requirements and be on site to observe planting activities, including percolation testing at multiple

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FOREGROUND / MATERIALS

WARRANTIES PERPETUATE A REGRESSIVE VIEW OF LANDSCAPE PLANTS AS AGRICULTURAL COMMODITIES RATHER THAN AS INSTRUMENTS OF VALUABLE ECOSYSTEM SERVICES.

planting pits. We should also be on site observing postinstallation care before substantial completion including mulching, staking, watering, corrective pruning, and integrated pest management. Rather than trusting the contractor to perform properly and trying to use the warranty to enforce performance after the fact, we provide better value as landscape architects by getting ahead of potential problems before or as they occur, not once the plants start declining.

The bottom line is that a warranty does not really ensure planting success. It is more fundamentally a matter of proper selection, installation, and maintenance. We are relying on the warranty in lieu of actual engagement and knowledgeable oversight appropriate to construction and maintenance. Unfortunately, to do this, we need to be negotiating better contracts and fees to better serve our clients' interests well before the start of projects. Make no mistake, this is not an easy task.

What are some alternatives to a warranty? In our practice, we have identified a combination of strategies that can be used instead of plant warranties.

• In bid documents, require the contractor to identify the replacement

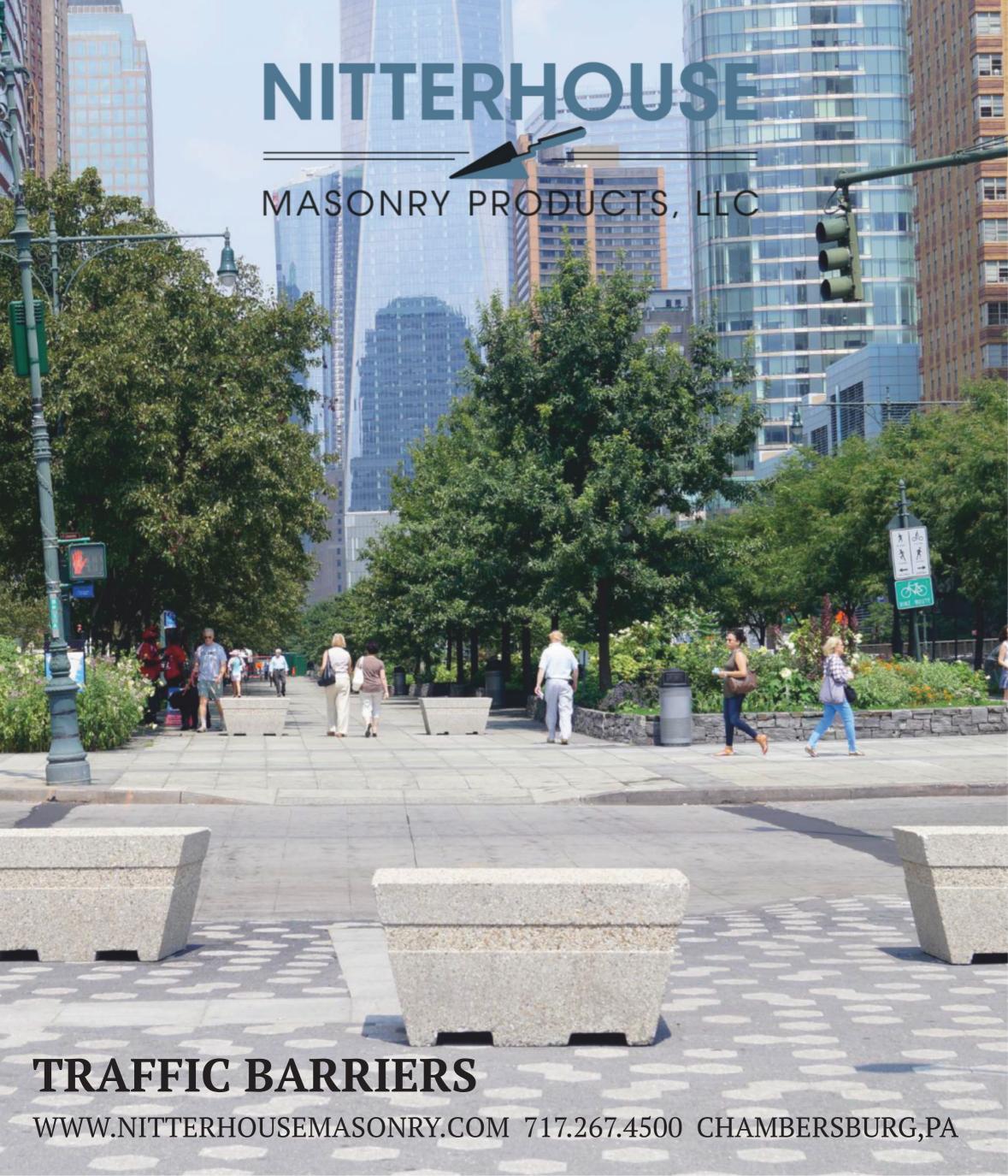
cost of each species of plant as part of its bid. These costs should be vetted and negotiated prior to the award. These costs can then be used for replacement costs as described below.

- On larger projects, require the prepurchase of additional plantings to assure adequate availability during construction.
- Encourage owners to set aside 10 to 15 percent of the estimated planting budget as a contingency fund to cover plant replacement rather than paying the contractor for replacements as part of the bid price.
- Specify maintenance separately from installation over an appropriate period of time to cover the likely establishment period of the plantings—often two or three years, unless the owner has the inhouse capability to appropriately maintain the plantings. The maintenance cost should be a separate bid item price that can be vetted and negotiated before the award.
- Require participation in plant selection, inspection during planting, and periodic observation during the maintenance period as part of a standard scope of landscape architecture services. This require-

ment provides clients with peace of mind that they will have some level of protection from faulty work. It is also important to note that providing more attentive care during construction and maintenance costs more, though this additional cost is often offset by lower planting bids because warranties are not required, especially when applied at scale.

Rather than sticking to these wellknown fundamentals, the warranty serves as a crutch. It comes down to this: A warranty is largely a strategy to preassign fault as a result of construction so a project owner has a sense of protection from the inherent risks of building projects. While this approach is a viable way to limit short-term risk, it does little to actually encourage successful longterm planting outcomes. And it does nothing to change the mind-set of our clients about the importance of proper plant installation and establishment care. The urgency of improving durable ecological performance with vegetation for the benefit of our communities should give all landscape architects pause. It is time to reconsider the broader consequences of our business-as-usual approach to using plant warranties.

ANDREW LAVALLEE, FASLA, IS A PARTNER AT SITEWORKS LLC IN NEW YORK CITY.





INFORMATION AND DEADLINES

Awards presented at the ASLA Conference on Landscape Architecture in San Diego, November 15-18, 2019.

Entry fees are due: **May 10, 2019** Submission deadline: **May 17, 2019**

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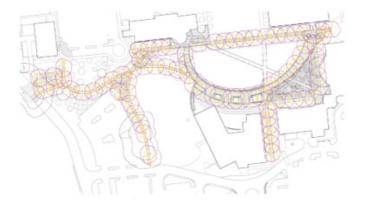




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THE CREEKVIEW

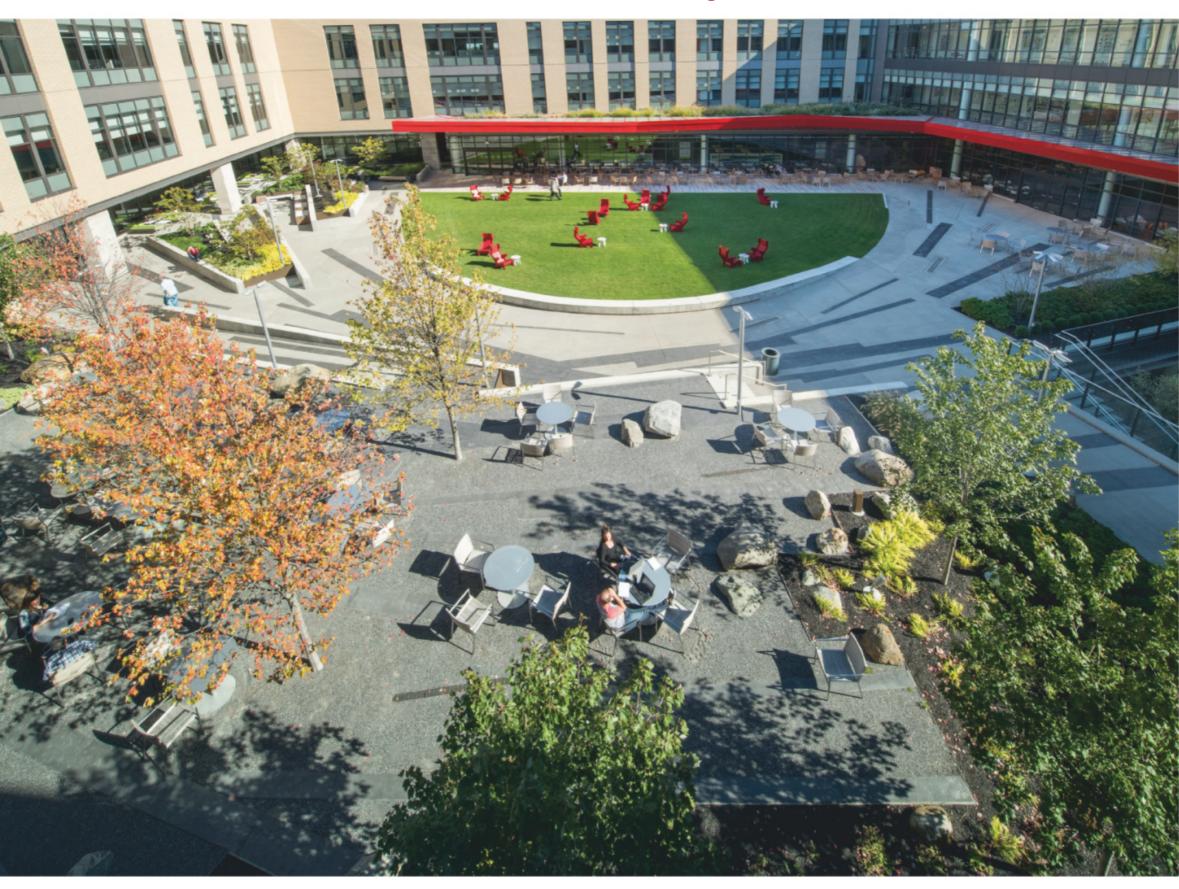
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STEM (science, technology, engineering, and math) is all the rage in academia these days. STEM degrees confer significant prestige in a high-tech world, and STEM education is funded to the tune of billions of dollars by the federal government. Privileges afforded to STEM students include eligibility for the National Science Foundation Graduate Research Fellowship Program, which excludes non-STEM students. Minority students are incented to pursue STEM degrees by grants available to those who attend historically black colleges and universities and Latinx-serving institutions.

STEM is also deeply enmeshed in immigration policy. Out of concern that the flow of native-born STEM graduates falls short of labor market demand, the United States offers foreign graduate students in STEM fields an extension on their F-I student visas to encourage them to remain



in the country as high-skilled workers—a boon to the students, but also to firms that are seeking to retain top global talent in a country increasingly bent on tightening its borders. F-I visa students in any field of study are eligible for I2 months of "optional practical training" (OPT), a form of temporary work authorization that may be used for jobs or internships related to their field. But in 2008, an additional I7 months was offered solely to students in STEM fields; in 2016, the OPT visa extension grew to 24 months, for a total of three years of work authorization.

The three-year OPT visa extension is no small trinket for foreign students who are eyeing U.S. degree programs. The ability to stay in the country after graduation greatly enhances their job prospects, which in turn enhances their long-term immigration prospects: The H-1B visa that typically comes with a job in an American firm is a well-worn path to a green card and, eventually, citizenship. Because STEM figures so heavily in career choices and funding streams, professions of every stripe clamor to get in its tent. But the door is heavily guarded.

The list of federally designated STEM fields is maintained not by the Department of Education but by the Department of Homeland Security—specifically by the U.S. Immigra-

tion and Customs Enforcement division, better known as ICE.

The list, which includes more than 200 areas of study, ranges from the four core STEM disciplines and their subdisciplines to subjects with a more tangential relationship, such as archaeology and urban forestry. Environmental health, geographic information science, natural resources conservation, architectural and building sciences, and water, wetlands, and marine resources management—these and many other fields with a nexus to landscape and design are included on the list. Landscape architecture is not.

In June 2016, ASLA submitted a 26-page brief to ICE to make the case that landscape architecture, given its underpinnings by the environmental sciences and close links to engineering and tech innovation, is most certainly a STEM discipline, especially considering ICE's seemingly broad interpretation of STEM. An analysis by Roberto Rovira, ASLA, the chair of Florida International University's Landscape Architecture + Environmental and Urban Design program, found that one-third of ASLA's "Landscape Architecture Knowledge Base" categories contain STEM content. At least one federal agency, the Bureau of Labor Statistics, already considers landscape architecture a STEM profession.

THE H-1B VISA IS A WELL-WORN PATH TO A GREEN CARD.

But ASLA received only a short form letter from ICE in response to the request, says Kristopher Pritchard, ASLA's manager of accreditation and education programs. "When you look at the list, it seems kind of arbitrary why they've chosen some disciplines and not others," Pritchard says.

ICE established the list in 2008, and issued an update in 2012 and again in 2016, just before ASLA submitted its request for inclusion. This pattern suggests that 2020 would be the next opening, but Pritchard and his ASLA colleagues have been unable to confirm that timing with ICE. Nor have they received a response to questions about the protocol for adding disciplines to the list or the criteria by which a discipline is judged to be STEM-worthy or not.

In October, I e-mailed ICE for clarification. "The Department of Homeland Security has been very cautious about creating overbroad eligibility for the STEM [visa] extension[s]," replied Carissa F. Cutrell, in the ICE public affairs office. To be added to the list, a field "must involve research, innovation, or development of new technologies using engineering, mathematics, computer science, or natural sciences." Who decides? "Subject matter experts within the Department of Homeland Security determine whether a degree program should be added to the list of qualifying STEM degrees," Cutrell said.

ASLA representatives were told that they will not be notified if or when the profession is added to the ICE list. Simply check the *Federal Register* from time to time to find out,

they were instructed. "It's frustrating," says Pritchard of the agency's black box approach.

CRADUATE-LEVEL landscape architecture programs in the United States are increasingly reliant on international students to fill their seats. This fact has produced a sense of urgency around acquiring STEM designation among program administrators as they field calls from prospective students who wonder whether they'll be eligible for a visa extension if they choose to enroll.

Landscape architecture enrollment declined following the Great Recession, according to ASLA statistics. Undergraduate programs have rebounded healthily, but graduate enrollment has flatlined. When graduate enrollment is broken down by foreign and native-born students, however, it's clear that the number of American students continues to trend downward while a dramatic increase in international students has made up the difference: In 2013, 28 percent of MLA students came from abroad; currently, more than 40 percent do. The majority of those international students come from Asia, especially China, where the profession is booming.

Susan Apollonio, ASLA's director of education and marketing, says that ASLA's next step will be asking program administrators

to sign a letter petitioning the Department of Homeland Security to speed up the process, in hopes of steering even more students toward the profession.

and administrators at some landscape architecture schools have discovered a workaround.

The Department of Education assigns each field of study a number in its Classification of Instructional Programs (CIP), a taxonomic system for tracking enrollment data and other bureaucratic purposes, including visa matters. Simply by changing the CIP code (as these numbers are known) of a degree program to one that is on ICE's list, students in the program are eligible for the coveted three-year OPT extension, effective immediately. Individual schools have wide discretion over their use of CIP codes; consulting the immigration authorities is not required.

When Chelsea Zhou, a recent graduate of the University of California, Berkeley's MLA program from Nanjing, China, learned of this loophole in 2017, she organized a group of fellow international students in the program to persuade her school's administrators to make a code switch—to environmental studies, a STEM-designated discipline that over-

laps significantly with landscape architecture curricula. The administration declined the request. Undeterred, the students circulated a petition among their peers and collected letters of support from faculty, along with documentation to show that the new CIP code would not have adverse effects on funding, licensure, or accreditation. They also mentioned that other landscape architecture programs, including the one at Harvard, were making the switch. The second time around the university agreed and, in March 2018, the code was changed.

Zhou, who graduated that spring, says about a third of her class was from China. But she insists that their motivations went beyond immigration. "We are not the only beneficiaries of the STEM designation. The department also benefits—the way we approach landscape architecture at UC Berkeley is very scientific and research-driven, and this opens up more opportunities for [STEM-based] funding."

Derek Lazo, an American student who graduated alongside Zhou, joined the group working to change Berkeley's MLA CIP code for his own reasons. "Keeping international talent here is super important. But this is also just a really personal thing. I made some dear, dear friends from all over the world at

Berkeley, and I want my friends to be able to stay here as long as they want. They're having immense difficulties getting visas under this administration, so helping them get an extra two years is a no-brainer."

ers have also taken up the STEM cause. "More and more international students are filling up the classrooms at design schools, which means that if we don't come up with a way to keep that talent in the U.S., we will not be producing enough landscape architects to satisfy [domestic] demand," says Brian Jencek, ASLA, the director of planning at HOK. "The amount of work we have versus the number of licensed professionals is really out of whack. And it's only getting worse."

Part of the business case for the OPT extension, Jencek says, is that it gives employers and employees time to determine if the working relationship is a good fit before they begin the process of applying for an H-IB visa. (Employers must sponsor their employees for the visas.) Plus, obtaining an H-IB visa can be a lengthy ordeal. The office of U.S. Citizenship and Immigration Services conducts an annual lottery for the visas—if you're not selected, the OPT extension assures that you can continue to work legally until applying again the next year.

"THE AMOUNT OF WORK WE HAVE VERSUS THE NUMBER OF LICENSED PROFESSIONALS IS REALLY OUT OF WHACK. AND IT'S ONLY GETTING WORSE."

-BRIAN JENCEK, ASLA

"It's very difficult to get H-IB approvals, and we've had to shift many great designers outside of the U.S. to our overseas offices as a result," Jencek says. "So getting STEM designation is a big deal, with tremendous value for employers. It's a vehicle for the profession to capitalize on the amazing talent that's coming from overseas."

The MLA programs at four other schools have recently made the code switch: UC Davis, the University of Virginia, the University of Pennsylvania, and the University of Illinois.

The University of Illinois, where more than 70 percent of MLA students are from overseas, mostly from China, changed its CIP code to sustainability studies in July 2018. "Our motivation was clear and simple: It supports our students," says William Sullivan, ASLA, the head of the Illinois landscape architecture program. "We want to provide every opportunity for our students to stay in the United States for as much time as they want, within the constraints of the law. And we feel that this ridiculous misdesignation of landscape architecture as *not* a STEM degree is arbitrary and capricious."

Sullivan says he doesn't worry that Illinois's sustainability studies designation will confuse anyone—CIP codes are part of the inner workings of academic bureaucracies, after all, not public-facing symbols of degree programs—but he has heard complaints from people in other landscape architecture programs who fear there will be repercussions.

The main concern is that aggregate data about landscape architecture education will become skewed. The Department of Education collects figures on things such as enrollment based on CIP codes, for example. If Illinois's MLA students are now being counted as sustainability studies students, enrollment numbers for landscape architecture will drop accordingly, at least as far as the federal government is concerned. How much that matters was a point of debate in a panel on immigration and landscape architecture at the most recent ASLA conference.

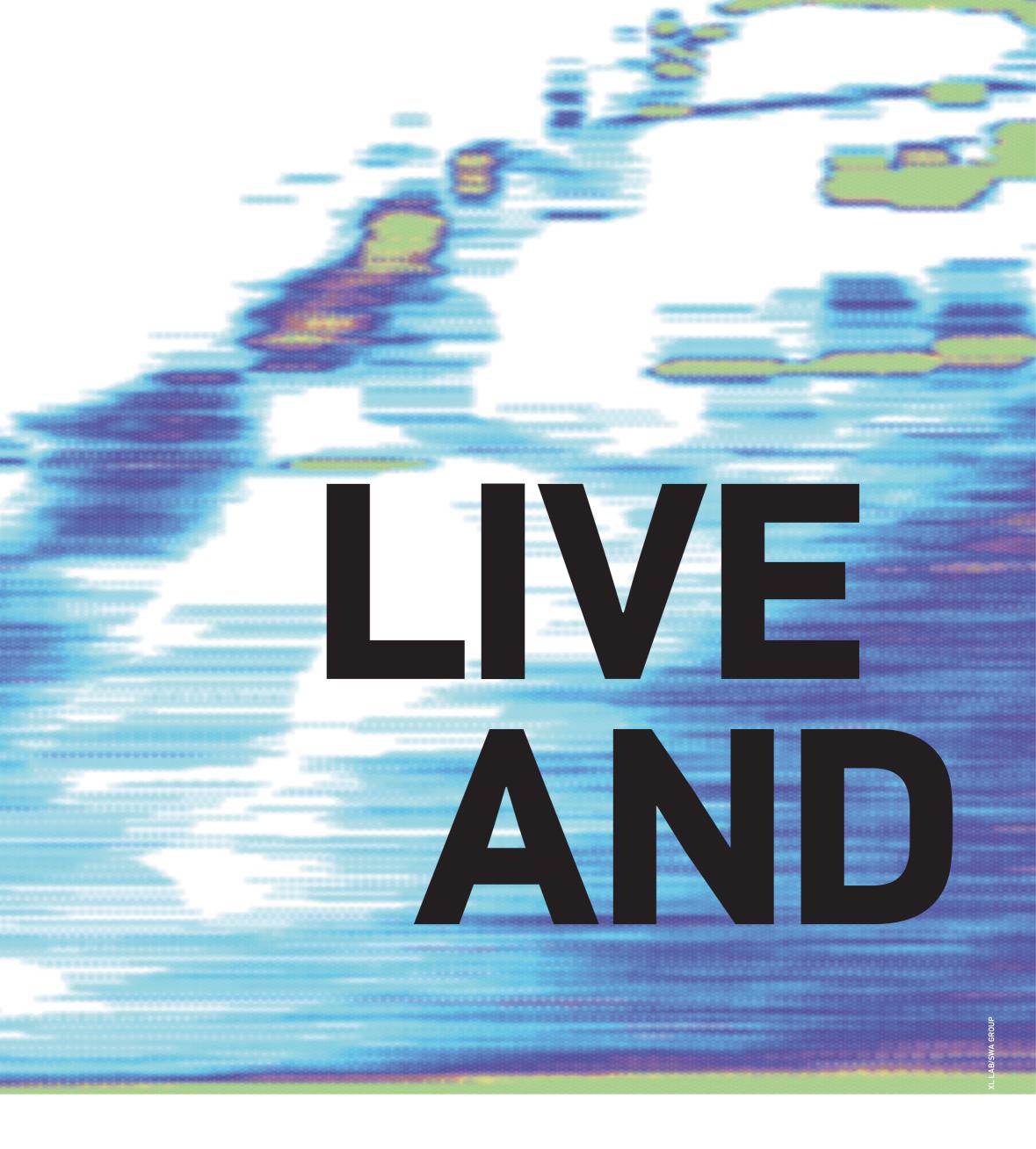
Sullivan, who participated in the panel, acknowledges the potential risk, but says that, in his view, the benefits outweigh it.

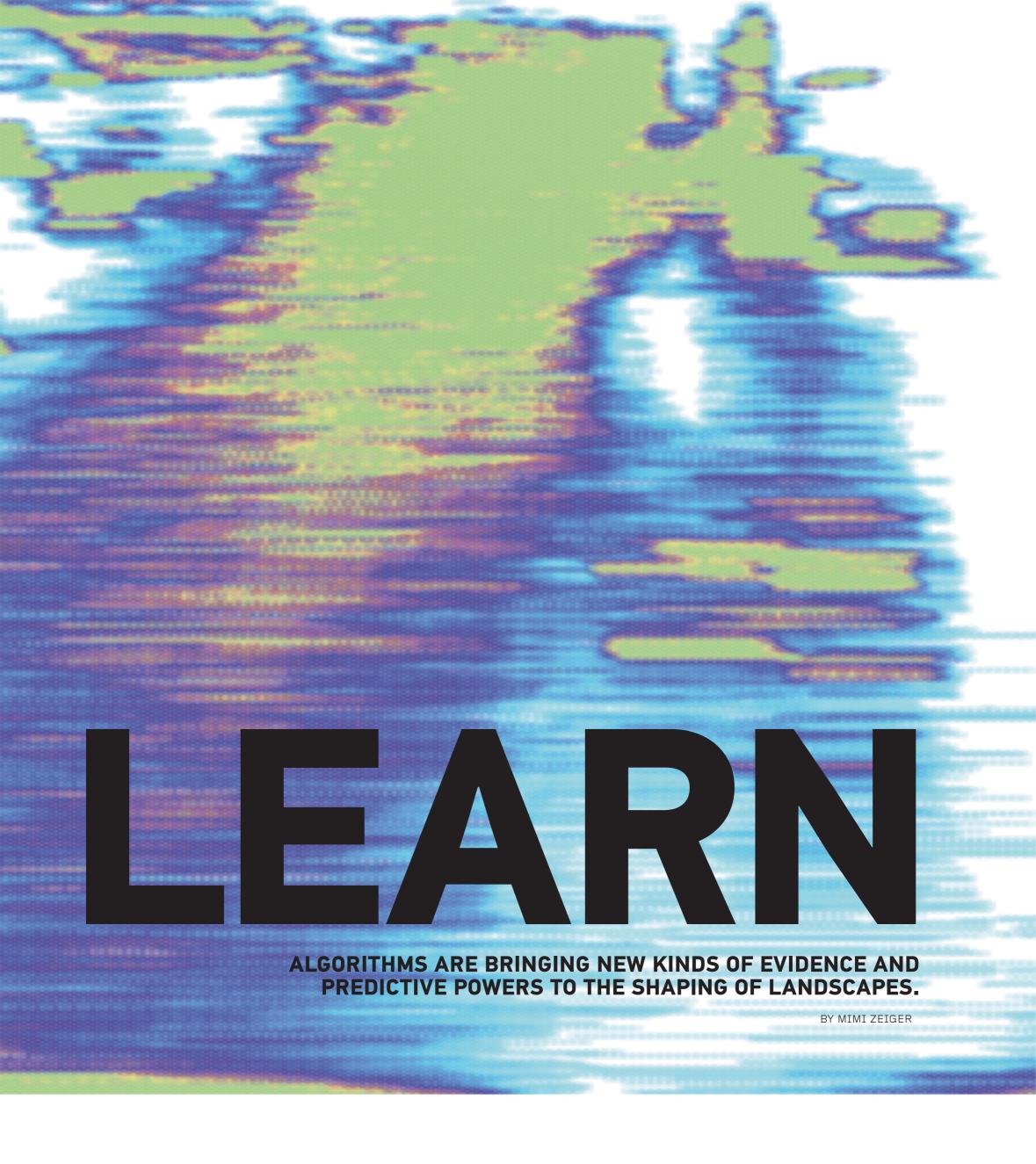
"The idea that rogue schools are threatening the clarity of what a landscape architecture degree is and will confuse the good people at the U.S. Department of Education—and that the confusion will result in costs to us—was raised with a lot of passion. I understand that concern, but at this point it's essentially a hypothesis. I haven't seen any data to support it. I'm not convinced we're going to confuse many people by changing our CIP code, but we will remove a very significant barrier for some of our students who want to stay in the U.S."

No one argues, however, that getting the landscape architecture CIP code added to the ICE list would be preferable to individual schools' changing CIP codes. That way, faculty, administrators, and students can spend less time in the labyrinthine halls of the immigration system and more time in the design studio.

"It took more than a year of constant work, trying and trying to change the code," says Zhou, who now works full-time at a residential design firm while moonlighting as a product designer for Bay Area tech start-ups. "So I think it's super progressive that ASLA wants to do this for the entire profession." •

BRIAN BARTH IS A FREELANCE JOURNALIST WITH A BACK-GROUND IN ENVIRONMENTAL PLANNING AND LANDSCAPE DESIGN. LEARN MORE ABOUT HIS WORK AT *BRIANJBARTH.COM* AND ON TWITTER *@BRIANJBARTH.*





TREE. PERSON. BIKE. PERSON.
PERSON. TREE. ANYA DOMLESKY, ASLA,
AN ASSOCIATE AT SWA IN SAUSALITO,
CALIFORNIA, RATTLES OFF HOW SHE AND
THE FIRM'S INNOVATION LAB TEAM TRAIN
A COMPUTER TO RECOGNIZE THE FLORA
AND FAUNA IN AN URBAN PLAZA.

The effort is part of the firm's mission to apply emergent technologies to landscape architecture. In pursuing the applied use of artificial intelligence (AI) and machine learning, the research and innovation lab XL: Experiments in Landscape and Urbanism follows a small but growing number of researchers and practitioners interested in the ways the enigmatic yet ubiquitous culture of algorithms might be deployed in the field.

Examples of AI and machine learning are all around us, from the voice recognition software in your iPhone to the predictive software that drives recommendations for Netflix binges. While

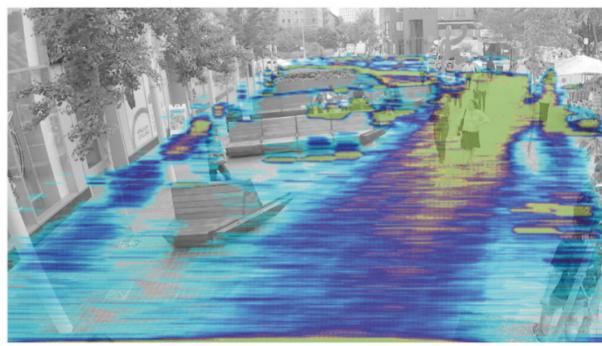
the financial and health care industries have quickly adopted AI, and use in construction and agriculture is steadily growing, conversations within landscape architecture as to how such tools translate to the design, management, and conservation of landscapes are still on the periphery for the field. This marginality may be because despite their everyday use, mainstream understandings of AI are clouded by clichés—think self-actualized computers or

anthropomorphic robots. In a recent essay on Medium, Molly Wright Steenson, the author of *Architectural Intelligence: How Designers and Architects Created the Digital Landscape* (The MIT Press, 2017), argued that we need new clichés. "Our pop culture visions of AI are not helping us. In fact, they're hurting us. They're decades out of date," she writes. "[W]e keep using the old clichés in order to talk about emerging technologies



LOW TRAFFIC

HIGH TRAFFIC



TOP AND BOTTOM

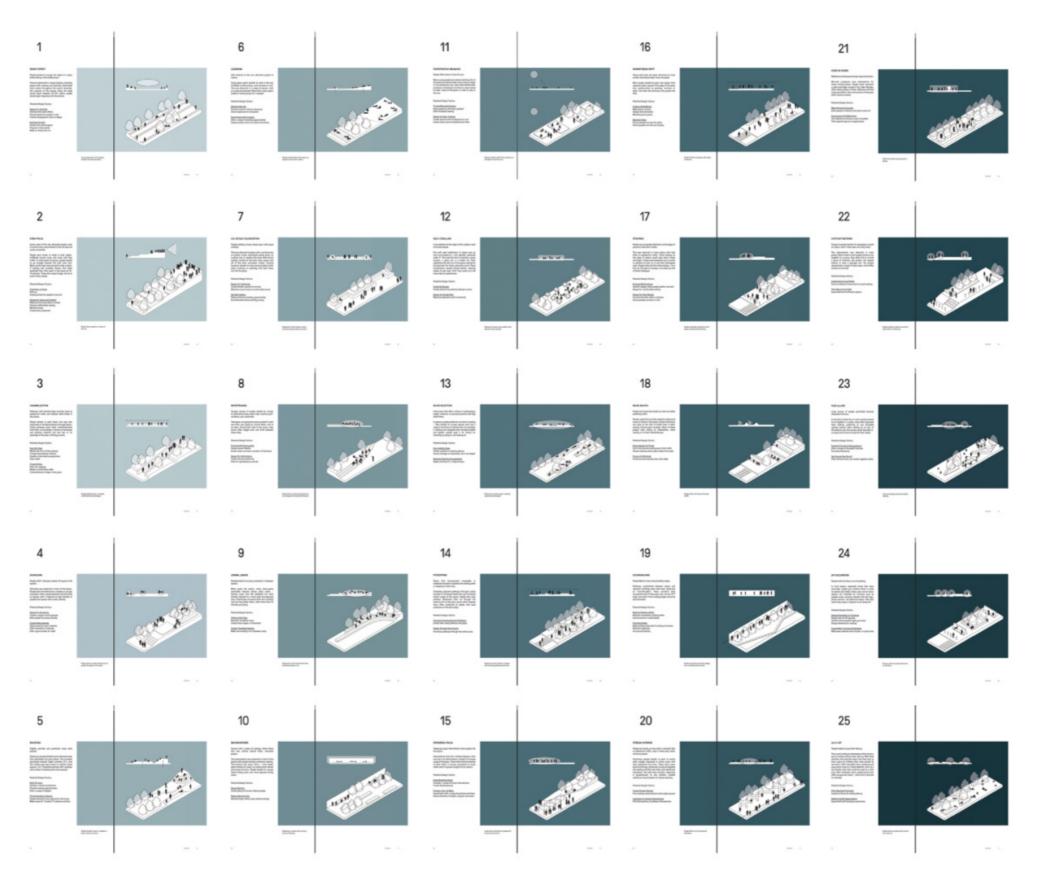
SWA's innovation lab XL uses machine learning to track pedestrian activity (top) and produce heat maps (bottom) of lunchtime occupation of small urban plazas.

today. They make it harder for us to understand AI—what it is, what it isn't, and what impact it will have on our lives."

So then, what is a new vision—a vision of AI for landscape?

At a layperson's level, what we consider intelligent are tools, devices, or entities that use suites of

algorithmic code to process information. What we might, as humans, describe as "thinking" rapidly takes place in black boxes. Trained on "learning sets" of information, AI tools are taught to identify specific inputs. As such, these tools are incredibly good at sorting data. "The code can recognize a lot of chaos at eye level and quickly detect what is human and nonhuman," Domlesky explains.



Domlesky and her lab partner, Emily Schlickman, ASLA, used the algorithmic software Darkflow, a real-time object detection system, to revisit the findings of William H. Whyte's Street Life Project and his 1980 study *The Social Life of Small Urban Spaces*. Whyte's research relied on direct observation and time-lapse photography to document how New Yorkers occupied public space. Domlesky and Schlickman's project is part postoccupancy study and part historical research. When SWA and Thomas

Balsley Associates merged in 2016, SWA inherited Balsley's back catalog of corporate bonus plazas and other parks in and around New York City. (Balsley was an editorial adviser on this project.) Domlesky says the team is also interested in "infrastructural leftovers," alleys, and "tactical urbanist interventions."

ABOVE

Anya Domlesky, ASLA, and Emily Schlickman, ASLA, analyzed public use of more than two dozen pocket parks and small plazas in Manhattan. By teaching a machine-learning algorithm how to identify a tree, a person, a bike, etc., the SWA team was able to let Darkflow do the sorting of where, when, and for how long people were in a series of Manhattan plazas constructed or renovated in the past 15 years. The team filmed these places over the course of a week, and then, working with a data scientist, fed the footage to the

algorithm. The software appears to read the video by drawing a colorful bounding box around objects (such as people) and assigning identifying count numbers and categories. This data can then be processed into heat maps that indicate dwell time or pedestrian traffic. SWA's findings weren't necessarily

"WE SEE MACHINE LEARNING AS AN ALTERNATIVE MODEL, NOT THAT MACHINES SHOULD TAKE OVER."

—ANYA DOMLESKY, ASLA

radical reconsiderations of Whyte, but they do provide solid metrics to back up a changing set of assumptions of how we occupy public space.

"We found that some of Whyte's findings are simply not true anymore," Domlesky says. "[His] study values the idea of street theater—men watching women. Our analysis shows a huge surge of devices. People are in public space to be around other people, but not watching other people. The idea of street theater is less important. This kind of information allows us to reevaluate the dominant forms of new urban space."

The XL research and innovation lab, along with Penn State University and using funding from the Landscape Architecture Foundation, used AI tools paired with video to conduct a postoccupancy study of Hunter's Point South waterfront park. The first phase of the park withstood Hurricane Sandy, and the new research focuses on both user occupation and coastal resilience. As with the plaza study, small segments of video footage were processed using Darkflow to detect objects. SWA's data scientist modified the machine learning algorithm, adding more than 1,000 lines of new code to enable tracking of objects across the site, counting, and ultimately creating a heat map to show a gradation of user locations. Additionally, they used the Python programming language to define the output. For XL's research on coastal resilience and SWA's waterfront projects, the team uses Aquaveo, a hydrodynamic modeling software, to model Hunter's Point South to simulate flood dynamics.

Domlesky sees AI as a way to digest information—to crunch data. Noting that at a time in the profession when clients crave quantifiable answers beyond projective renderings (SWA

works with many public sector and health care clients that are, in her words, "metrics sensitive"), the analytical tools provide hard evidence. There's also a potential shift in design authorship at play. "Design is so personality-focused and about what

the genius designer thinks and feels," she says. "But anecdotes have their limitations. We see machine learning as an alternative model, not that machines should take over."

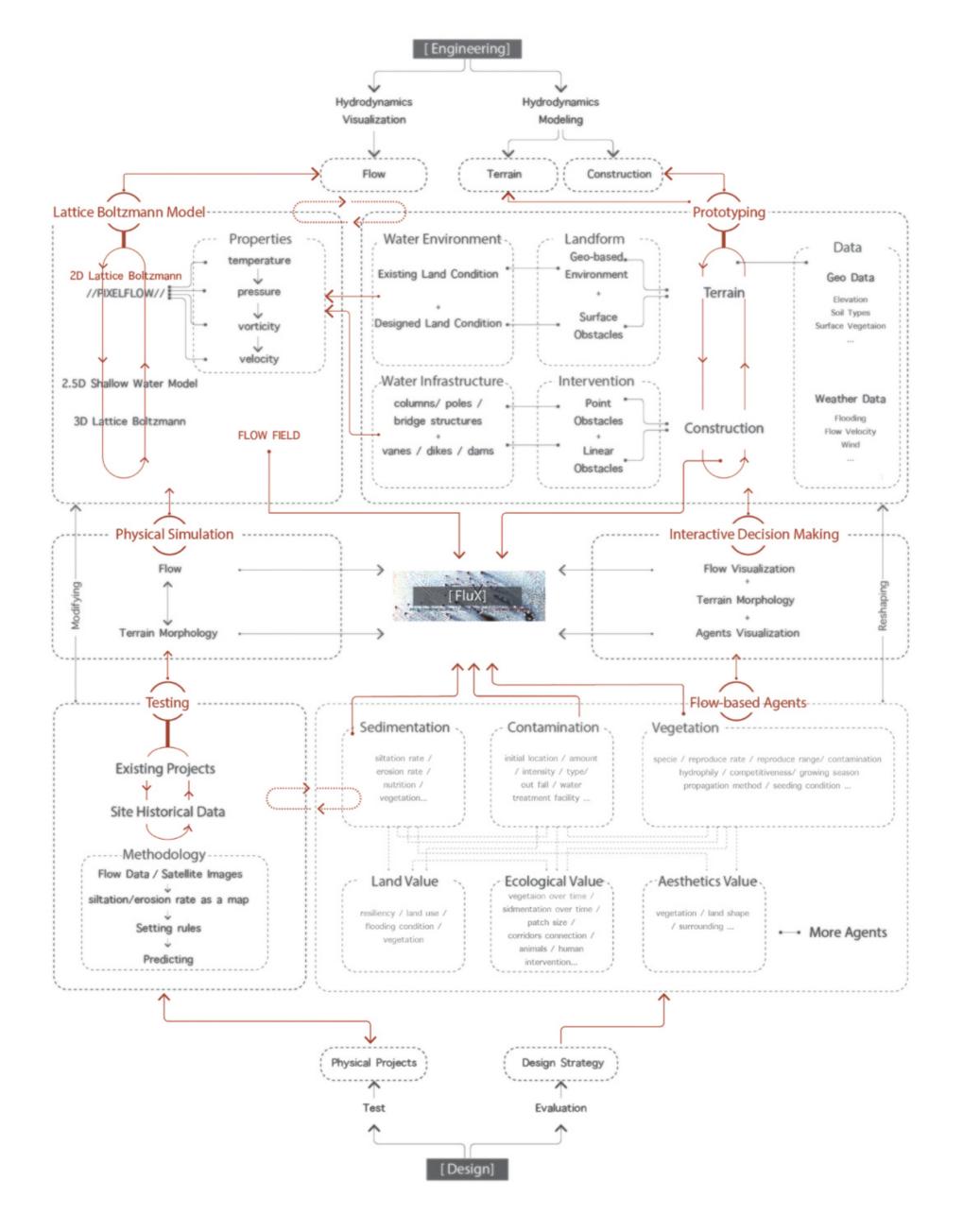
But what if machines do take over? In 2016, Bradley Cantrell, ASLA; Laura J. Martin; and Erle C. Ellis published the paper "Designing Autonomy: Opportunities for New Wildness in the Anthropocene" in the journal *Trends in Ecology & Evolution*. The group—a landscape

architect, a historian and ecologist, and an environmental scientist—speculated on the ways intelligent systems might be used in the management of protected wilderness areas. They suggest that through responsive technologies, robotics, and AI, a landscape could, over time, learn to conserve itself and ultimately be managed without human input. The paper also included a proposal for a wildness creator, a conceptual design for an autonomous entity that would learn from its own development, taking in data from a surrounding context—pollutants, noise, human occupation—and implementing the needed protocols for the continued environmental success of the ecosystem. (For more on this research, see "Ecology on Autopilot," *LAM*, June 2017.)

Similar to Domlesky's observation that there are now alternatives to the authorial hand of the designer, design autonomy envisions an exciting future in which the natural environment,

OPPOSITE

A flow diagram by Xun Liu and Ziwei Zhang—Harvard Graduate School of Design students in Robert Gerard Pietrusko's mapping and geosimulation class—illustrates the many agents at play in a modeled system.



when paired with the right AI tools, would author a landscape free from the methods and inherent cultural biases that come with human-centered design. As the trio writes, "In time, the operations of the wildness creator would become unrecognizable and incomprehensible to human beings, the resulting ecological patterns and processes would diverge from any previously created and sustained by humans, and nonhuman species and environmental processes at the site would be able to go about life without experiencing human influence."

Yet it would be wishful thinking to believe that AI can provide the hands-off neutrality so craved. Applications of artificial intelligence in policing and human resources have been problematic. Recently Amazon scrapped the AI tool it had

OPPOSITE

Liu and Zhang's visualization of interventions within a terrain, with floodplain data and sediment.

developed to sift through job candidates because it showed bias against women. Trained on résumés submitted to the company over a decade, the computer model favored patterns shown in male applications, thus mirroring tech's existing gender imbalance. And in May 2016, Julia Angwin, Jeff Larson, Surya Mattu, and Lauren Kirch-

ner of ProPublica published *Machine Bias*, a report that showed software developed to predict future criminals systematically considered black defendants more likely to be at risk of committing future crimes than white defendants. As landscape practitioners adopt machine learning, these examples serve as cautionary tales about the dark side of getting carried away by the thrall of techno-utopia. They also ask us to look more closely at the seemingly neutral assumptions embedded in the pedagogy of how AI "learns."

Still, Cantrell, currently the chair of landscape architecture at the School of Architecture at the University of Virginia, sees these seemingly new technologies as part of a slow evolution of landscape architecture's tool kit. Because machine learning has the power to recognize patterns and processes in landscapes over time, it could bridge between the field's bifurcated history that places formal design (gardens, plazas, and other spaces for humans) on one side and large-scale regional planning on the other. AI and machine learning extend from and change modes of analysis just as Ian McHarg's overlays, and then geographic information systems, ushered in new, comprehensive ways of understanding ecology. He gives land use classification as an applied example of AI's strengths. Rather than having researchers visually scour aerial photographs, pixel data from images is fed into the algorithm. "The relationships that the computer makes classify land in ways that we wouldn't normally see it: Patterns in ecology or river systems might be registered as working on similar time scales as productive agriculture," Cantrell explains over the phone, adding that machine learning undoes the binary between natural and constructed, opening more complex relational patterns between the two.

Machine learning entities "can act in the world as mediators," Cantrell says, adding that humans are not in opposition to the natural world, but intertwined with it, so our technology needs to reflect that linkage.

In his words are echoes of the philosopher Bruno Latour's 2004 *Politics of Nature*, which includes a critique of political ecology among its arguments. In the introduction to the work, Latour writes: "Far from 'getting beyond' the dichotomies of man and nature, subject and object, modes of production, and the environment, in order to find remedies for the crisis as quickly as possible, what political ecologists should have done was *slow down* the movement, take their time, then burrow down beneath the dichotomies like the proverbial old mole."

For the scientist David J. Klein, the chief AI developer for Conservation Metrics (a company that provides the measuring tools and data for wildlife conservation and management) and Cantrell's occasional collaborator and colleague, it is precisely

"CAN ACT IN THE WORLD AS MEDIATORS."

—BRADLEY CANTRELL, ASLA

where the built environment intersects, abuts, or intrudes upon wilderness areas that AI tools might have important impact—where they might burrow down deep.

Early in his career, Klein helped develop the auditory-inspired algorithms that led to the kinds of sensors in your iPhone that allow Siri to "hear" you ask for directions or call a contact. Conservation Metrics employs that technology to make field recordings in wilderness environments. Trained to differentiate among sounds such as trees rustling, bird calls from a variety of species, or human intervention such as noise pollution, the AI can also generate a temporal-spatial analysis that maps where and when the sounds occur.

"Data might reveal species behavior that wasn't captured before," Klein explains. "A heat map can show bird call activities as a function of the time of day and year, differentiated across types of behavior, such as chicks hatching or birds mating." Data-driven conservation work is also seen in the open-source efforts of projects like Global Forest Watch, an online platform that uses multiple data sets and analysis to monitor deforestation and illegal clearing activity in real time, or Global Fishing Watch, which tracks commercial fishing activities in the world's oceans.

Klein notes that much of Conservation Metrics's revenue comes from monitoring the relationship between wildlife and the built environment. He points to the example of the Tristram's storm petrel, an endangered bird that lives on Tern Island in the Hawaiian Islands National Wildlife Refuge. Working with the U.S. Fish and Wildlife Service, Papahānaumokuākea Marine National Monument, and Hawai'i Pacific University, Conservation Metrics used acoustic surveys and machine learning tools to monitor the species. "[The storm petrel] had been known for years to be colliding with power lines in a

rugged jungle terrain," Klein says. "The species would go out on long feeding runs and come back at night and hit the lines. The utility company has to pay reparations for each endangered bird killed."

The company's sensors could detect the sounds of birds hitting the power lines, tracking data for how many and where the collisions were happening.

Klein says the data revealed that the number was exponentially worse than the study team had thought. However, the team found that 5 percent of the span of power lines represented 95 percent of the collisions, accounting for covariates such as moon phase, terrain slope, and electrical tower height. The analysis pointed to places where human intervention—power lines—could be moved underground in deadly areas.

"Because we've put the data into a model, it gives us an idea of how to plan for future development...adjustments to the built environment, modularity of design, or lighting, and the anticipation of possible need for future modifications," he explains.

Both SWA's and Conservation Metrics's projects suggest machine learning as a problem-solving tool skilled at pattern

OPPOSITE

Geospatial data visualized by Martin Fernandez and Aaron Hill, students enrolled in Pietrusko's course at Harvard.

PATTERN RECOGNITION IS ONE MACHINE SKILL. GENERATING DESIGN WOULD REQUIRE A RETHINKING OF ARTIFICIAL INTELLIGENCE.

recognition in visual or auditory data. Its application generally involves existing site conditions and analysis. But can these computational entities be generative to the landscape design process?

Robert Gerard Pietrusko, an associate professor of landscape architecture at Harvard University's Graduate School of Design, believes design is possible, but requires a slight rethinking of how AI has been defined thus far. We need to break

OPPOSITE

Visualizations by
Christopher Reznich
and Collin Cobia of the
Harvard Graduate School
of Design. Pietrusko
challenges his students to
develop dynamic models
that show how design
develops over time.

into AI's proverbial "black box." Because we tend to anthropomorphize AI, we imagine that neural networks "think" and "learn" as they invisibly and inscrutably crunch code. But what if we were able to see and better control what is in the box?

Instead of the black box, Pietrusko prefers an agent-based model (ABM) to test a variety of situations within the design process. ABM simulates conditions based on the

behavior of individual "agents" subject to particular boundaries or parameters. "These tools allow us to prototype and speculate on future urban conditions and landscapes," he explains. "Their potential is in dealing with ecological complexity. Input might take the form of a community of species and the type of land management; then you might be able to predict how something performs over time."

A computational modeling system similar to AI, ABM allows for more transparency and flexibility within the computational process. Whereas the black box offers surprise, ABM clears the fog of mystery. Designers can go back and track which parameters and decisions led to which outcomes. "When something seems absurd and interesting, but useful, you want to be able to drill down and find out what happened."

Pietrusko works with students to develop cartographic representations that simulate urban and ecological processes (generally animations rather than fixed maps). The goal is to prototype, speculate on, and predict future urban conditions or landscapes over time. Design agents allow for the testing of multiple scenarios using simple rule sets in dialogue with each other, such as the grade of a slope combined with percentage of land cover, planting strategy, or type of species. The results might look complex, but they are representations of a system's intrinsic behavior and limited parameters.

"When you throw complexity at something and it results in complexity, no one is surprised," Pietrusko says, touching on a much-needed distinction between machine learning and other software that generates elaborate, formalist designs. "The point of the tool is to inspire design moves rather than trying to model the world."

MIMI ZEIGER IS A LOS ANGELES-BASED CRITIC AND CURATOR.



WITH HER ONE-WOMAN PRACTICE, RADICLE, CHRISTIE GREEN WORKS TO REPAIR OUR RELATIONSHIP WITH NATURE—INCLUDING THE ANIMALS AND PLANTS WE EAT.

BY TIMOTHY A. SCHULER / PHOTOGRAPHY BY GABRIELLA MARKS

HE STARS WERE STILL OUT when Christie Green, ASLA, parked her Tundra and turned off the engine. We were somewhere near Glorieta Mesa, Game Management Unit 45, about 30 minutes southeast of Santa Fe, New Mexico. In the moonlight, I could make out the bristle-brush tops of ponderosa and piñon pine. I grabbed the camouflage gear Green had lent me and got out of the truck. The April air was just a few degrees above freezing,

and the only sounds were the howls of coyotes and the quiet murmurs of cattle somewhere in the valley. As the chill began to seep in, I tugged on my gloves and cowl. I had no idea how long we were going to be out there.

Green, who for the past five years has run a one-woman landscape design practice in Santa Fe called Radicle, had agreed to take me turkey hunting. Almost all of her projects, in some

way or another, work to repair what she sees as humankind's broken relationship with nature, specifically the plants and animals that we eat to stay alive. Green herself hunts the majority of the meat she eats, and what began as a hobby has informed her practice in surprising ways. Being out in the wilderness, "you see what's happening with the vegetation, what's happening with the water," she said. "Where's the wildlife this year where it wasn't last year?"





I had assumed that Green, who grew up in Alaska, had learned to hunt as a kid. But the women in Green's family didn't hunt, she said. It was just a few years ago that Green accompanied I had never been hunting. Growing her then-husband to Vermejo, Ted Turner's 920-square-mile ranch on the Colorado-New Mexico border. On their second day, Green shot her first elk. After that, there was no going back. Green always had felt a strong, almost physical connection to the food she grew; working in a garden sometimes felt like entering an altered state, she said. "It's not book knowledge. It's when you do something because it's in your body." Hunting, she said, "was like that times 10." You had to become an animal yourself, paying close attention to what you heard and smelled. "It's the most immediate way to re-

move all the layers of city, culture, and be this other biological thing," Green said.

up in rural Kansas, classmates often wore camo to school, bragging about the bucks they shot. Hunting was a rite of passage. But my parents didn't believe in shooting animals for sport. "No Hunting" signs were posted on the barbed-wire fences that surrounded our property. They treated the old farmstead like a wildlife preserve, fastidiously planting native grasses to provide habitat for quail and deer. They did own a gun, a .22 rifle, which hung in a glass case in my mother's office above her drafting table. But the only time I remember her using it was to shoot a cat that had been mutilated by a disc harrow.

All this is to say that I wasn't sure how I felt about killing a wild turkey and watching it die. But I wasn't against the idea. In any case, I wasn't going to be the one pulling the trigger. It also helped that everything I had learned about Green had convinced me that her respect for living things was quite near limitless, so much so that any time she shot an animal, whether an elk or grouse or even a squirrel, she would sit down and "have a cry." In other words, she didn't like killing things. Green just felt like it was the right thing to do.

After a quick safety briefing and a description of what would happen if we did get a turkey—she would make sure the bird was dead, then, starting at its sternum, cut it open, remove its guts to let the meat cool,

then arrange the entrails on the male turkey) or a jake (an adolesground as a sort of altar—Green slung her 20-gauge shotgun over her shoulder and set off through the pines. With almost no understory, walking was easy, but a super-dry winter in which New Mexico saw just a fraction of its typical snowfall had left the ground littered with dry twigs, pine cones, and needles, which snapped underfoot like little land mines. "I feel like a Mack truck coming through here," Green whispered.

We made our way south toward an area where Green suspected the turkeys might be roosting. Every few minutes she would stop and use a wooden box call to make a scratchy, high-pitched honk. The idea was to attract a gobbler, a tom (an adult

cent), by mimicking the sound of a hen in heat. Thus far that year, Green had yet to hear any gobbles, and she was worried that the lack of water and harsh conditions had accelerated the birds' mating season. If the climate continued to change, she said, the whole idea of "turkey season" could be moot.

A soft chirp made Green stop short. I froze. She motioned for me to crouch down, then lowered herself to the ground. She was in a halfsupine position, back against a tree, shotgun pointed between her knees. Silence. I could feel my heart beating at a horselike clop. Turkeys roost in trees, then come down in the morning to forage for seeds. I scanned the ponderosa for turkey-like shapes but

couldn't make out anything in the gray-black dawn.

After what seemed like 10 minutes. Green began to stand. A deafening chatter erupted in the trees just ahead of us. I had never a heard a turkey make a noise like this. It wasn't a gobble or a squawk. It was arpeggiated, a sort of burbling, full of staccato bleeps and bloops. It sounded fake, computer-generated. Listening to them talk in their melodic gibberish, I realized that there must be half a dozen hens above us.

We sat there, waiting for the telltale gobble of a tom. Surely they'd be summoned by all this ruckus. Five minutes went by. The chatter began to lessen. The birds seemed to know we were there. They grew quiet. Green stood. At least 10 turkeys burst out of the top of the pines. Their wings stirred the air, and the noise it made was louder even than their vocalizations. As quickly as they were there, they were gone. They soared eastward above the trees until they disappeared, swallowed by the rising sun.

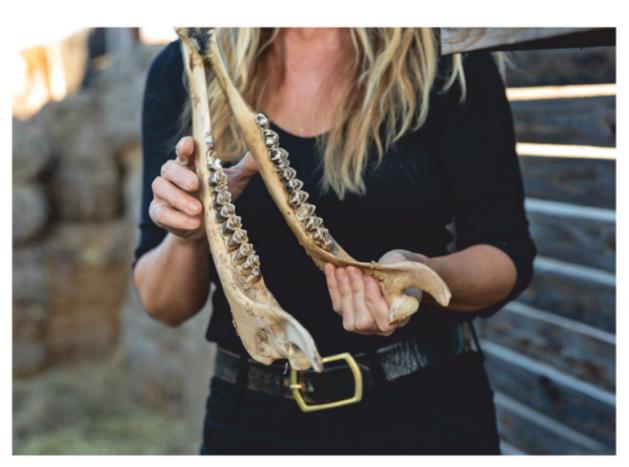
FIRST SAW CHRISTIE GREEN on stage at the ASLA Annual Meeting in Los Angeles in 2017. Her presentation was unlike any I had seen. Prior to the panel, on each of the room's round tables, Green had laid a piñon branch, a handful of pine nuts (both shelled and unshelled), and a plate of homemade pine nut bars. She explained the piñon's cultural significance to pueblos of northern New Mexico, how the tree has been used for centuries as a source of food and also for paints, dyes, and glues.

Walking the audience through some of her work, including an "edible invasives" dinner at the Leonora Curtin Wetland Preserve in Santa Fe, in which she made tea from Russian olives and jerky from gray squirrels, she recounted how, one night, in preparation for that dinner, she and her daughter were both hard at work in the kitchen: Her daughter was baking a birthday cake, and Green was skinning a squirrel.

It wasn't just Green's work or her tales of hunting that grabbed the audience's attention. She had a presence that filled the room. She was funny and charismatic and self-deprecating, and bore more than a passing resemblance to the actress Laura Dern: the iridescent blue eyes, the powerful stature. Underneath it all ran this vibrating intensity, as if she really were a wild animal.

I was particularly taken by Green's intuitive and ecologically conscious way of working. That sounds a bit clichéd in this era of climate resilience, but Green will sometimes spend years building a site's soil with mulch and manure, outwaiting both droughts and pests. She's a fan of letting landscapes evolve over time and will rely on a client's behavior to tell her what should be done, watching as desire lines form and then laying stones. In some cases, Green makes only a single sketch, a process











CLOCKWISE, FROM TOP LEFT

Green's house is a museum of past hunts. Trophies include an elk jawbone and the clawed feet of wild turkeys. Elsewhere, seedpods of *Proboscidea parviflora* are displayed in a grid.



LEFT

The courtyard at the Academy for the Love of Learning is planted with edible species, including grapevines.

BELOW

The rest of the sylvan campus is mostly evergreens and native shrubs and grasses.

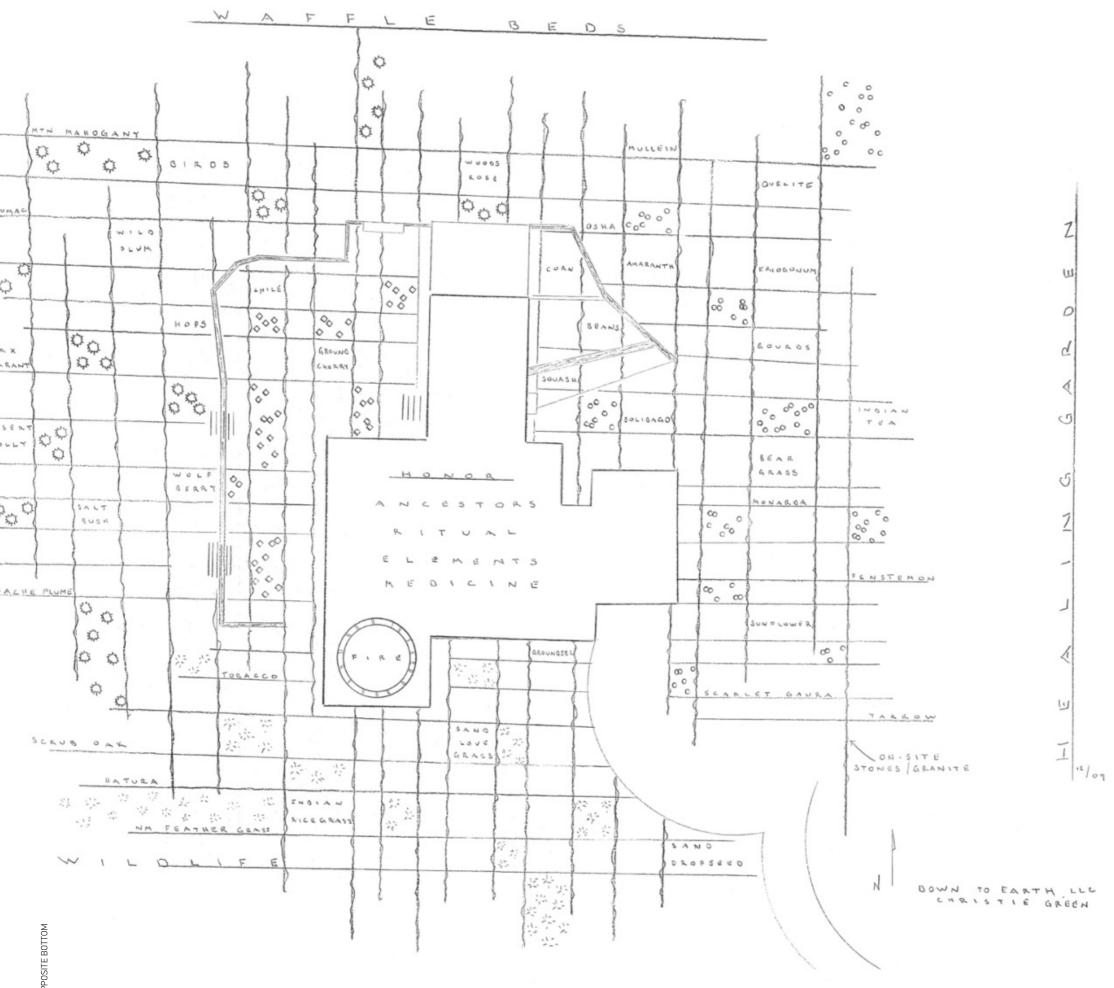
made possible by the fact that Green intricate web of berms and swales handles the majority of her own construction administration. intricate web of berms and swales that she planted the property's requisite stormwater detention basin

The result is a rugged, do-it-yourself aesthetic, with an emphasis on natural or repurposed materials. Her work exhibits an undeniable level of pragmatism, a ruthless commitment to conserving resources. For the 86-acre campus of Santa Fe's Academy for the Love of Learning, the entire landscape design revolves around slowing and capturing water. Green had enough confidence in her

intricate web of berms and swales that she planted the property's requisite stormwater detention basin with the dryland species *Ephedra viridis*. In 2012, the academy won a Sustainable Santa Fe Award for water conservation.

Green's process is a product of an unusually circuitous path to landscape architecture. At age three, Green moved from Texas to Anchorage, Alaska, returning each summer to her grandfather's farm in the Texas Panhandle, not far from the New





Mexico border. Growing up in such rural, wild places gave Green an appreciation for untamed landscapes. When she moved with her mother to Palo Alto, California, and enrolled at the University of California, Berkeley, majoring in cultural history, she couldn't stand the thought of living in the Bay Area forever. She spent her summers back in Alaska, living with her father and working very odd

RADICLE, TOP AND OPPOSITE TOP; MINESH

jobs: cleaning up the Exxon Valdez oil spill and fleshing hides at an Alaskan hunting lodge.

After graduation, Green got a job with Bioneers, an environmental education organization, and eventually moved to Santa Fe. To Green, New Mexico was the Alaska of the Southwest. In both places, "people don't want to live by the rules," she

said. "And they have a deep connection to place, through seasons and through food. It's who they are." Among other things, Green helped with the Bioneers' Restorative Development Initiative, working with farmers all over the country to educate them about how to grow higher-value, more ecologically beneficial crops and connecting them with potential markets.

ABOVE

Radicle's plan for Seton Castle, located on the Academy campus, features a landscape modeled on Zuni waffle gardens.

AS SHE LEARNED MORE ABOUT THE POLITICS OF FOOD, GREEN DECIDED SHE WANTED TO GET HER OWN HANDS DIRTY.







As she learned more about the politics of food, Green decided she wanted to get her own hands dirty. In the winter of 1999, she quit her job and started a landscape design/build company focused on edible plantings and backyard gardens. She called it Down to Earth. "It was purely political," Green said. "It was like, we cannot let monocrop agriculture win, or have children think the only kind of tomato that there is is what you find in the store."

Green's first client was Paula Baker-LaPorte, a well-known architect and environmental activist, who hired Green to design the landscape of her personal residence just outside Santa Fe. Soon, Green began to get referrals, working on ever-larger and higherend residences, until she was designing clients' fifth and sixth homes. Often these clients cared little for native species, much less growing and harvesting their own food. "Those are like the worst projects of my career," Green told me. "I mean, they looked pretty but [they had] zero meaning."

As her business grew—at its peak, Down to Earth employed eight people

-Green felt like she was increasingly forced to compromise who she was and why she had gotten into design in the first place. The pace, too, was unrelenting. She found herself working around the clock, a single mother commuting to Santa Fe every day from her "dream farm" outside Española, New Mexico, breastfeeding her daughter on the side of the road. "I was fried," she said. Running a firm only added to the pressure. "It was like this beast that I had to keep feeding because you have to keep all these people employed."

She considered scaling back. Before she could, the economy forced her hand. In 2008, the recession came. "All of a sudden, the phone stopped ringing," Green said. She had little choice but to lay everyone off.

Shortly after, Green was invited to team up with a local landscape architecture firm on an RFP for an affordable housing project. Their team didn't win, but the experience convinced Green that she wanted to pursue RFPs herself. At almost 40 years old, with a five-year-old daugh-

ter, Green enrolled in the graduate landscape architecture program at the University of New Mexico (UNM) in Albuquerque.

N SCHOOL, GREEN MADE an immediate impression on her professors. "I was blown away by her," Katya Crawford, an associate professor in the landscape architecture department at UNM, told me over the phone. "At the time she was a single mom, she was driving from Santa Fe, which was an hour [away], and she never once missed a deadline, never once had an excuse, and before final reviews and things like that, she would bring these amazing meals that she had cooked." From the first day of class, Crawford said she saw Green as more of a peer than a student. "Even though she knew so much, she was also really humble," Crawford said.

Kim Sorvig, a research associate professor at the university (and an occasional contributor to this magazine), recalled a similar dynamic in his own class, a graduate seminar called Sustainability, Landscapes, and Construction. Green was outspoken yet

ABOVE

Green's temporary installation, *Death of an Ideal*, explored the energy that goes into achieving an idealized feminine form.

OPPOSITE

Green's art is more often ecological:
Mounted elk scat and mountain mahogany leaves comment on the animal's superlative nutrient cycling.







considerate of others' opinions. "She was thoughtful about the dynamics of the group," Sorvig said.

Being exposed to theory expanded Green's understanding of what land-scape is. But she had a hard time reconciling her newfound identity with her love for working with her own hands. She remembers thinking, "If landscaping is déclassé in the eyes of landscape architects, and landscapers think landscape architects only do things on paper, and I want to do all of it, what am I supposed to do?"

Sorvig finds this sort of dichotomy tragic—and all too real. "As a profession," he said, "I think we train people out of their pragmatic affection for real landscapes. We forget a lot of the things that actually connect us to the Earth. That's something that Christie is *not* doing."

Green graduated in December 2013, determined not to repeat the past. She wanted to bring her whole self to her practice. She rebranded her firm and named it Radicle, the term for a seedling's embryonic root—the very first part of the seed to grow. She decided to stay small and pursue only projects that she believed in, such as an outdoor recreational facility for the Ohkay Owingeh Pueblo north of Española, or the landscape for *House of Eternal Return*, an immersive, psychedelic art installation produced by the Santa Fe-based artist collective Meow Wolf.

To explore larger ideas, she rented an old warehouse and converted it into studio space. She held salons on topics such as "consumption and waste," and ripped up the building's concrete parking lot, making it into a pop-up outdoor art gallery. She used the space for "goofy art installations," as she called them, like Death of an *Ideal,* in which she positioned nine Barbie dolls on top of small mounds of soil that had been arranged in a grid. In front of them, she had dug nine doll-sized graves. It was a commentary, she wrote, on "the idealized feminine form and what is consumed and wasted to achieve this ideal."

ABOVE

Representatives from Tewa Women United pore over drawings for the Española Healing Foods Oasis.

OPPOSITE

Green and Beata
Tsosie-Peña have
worked with community
members to coax
what was once a
vacant and eroded
hillside into a public
ethnobotanical garden.





ABOVE LEFT

The site of the Española Healing Foods Oasis before construction.

ABOVE RIGHT

Today, the slope is planted with edible, medicinal, and culturally significant plants.

OPPOSITE

The garden is conceived as a series of rock-lined terraces. with curving bands and benches that reference the Tewa water god.

In both form and irreverence, the residency program, as a part of which artwork was a descendant of the Bagel Garden by Martha Schwartz, FASLA. Crawford told me she sees similarities between the two designers' work, "in that a lot of what [Green] does, professionals probably don't think is landscape architecture." Case in point: mounting elk scat and the leaves of Cercocarpus ledifolius (one of the animals' favorite foods) as a comment on the superlative way that nature handles waste. "Elk do such a nice job of cycling their own nutrients," Green said during her ASLA presentation. "They don't have landfills. Everything they give back is beneficial." Plus, she said, they have the "most perfect shit."

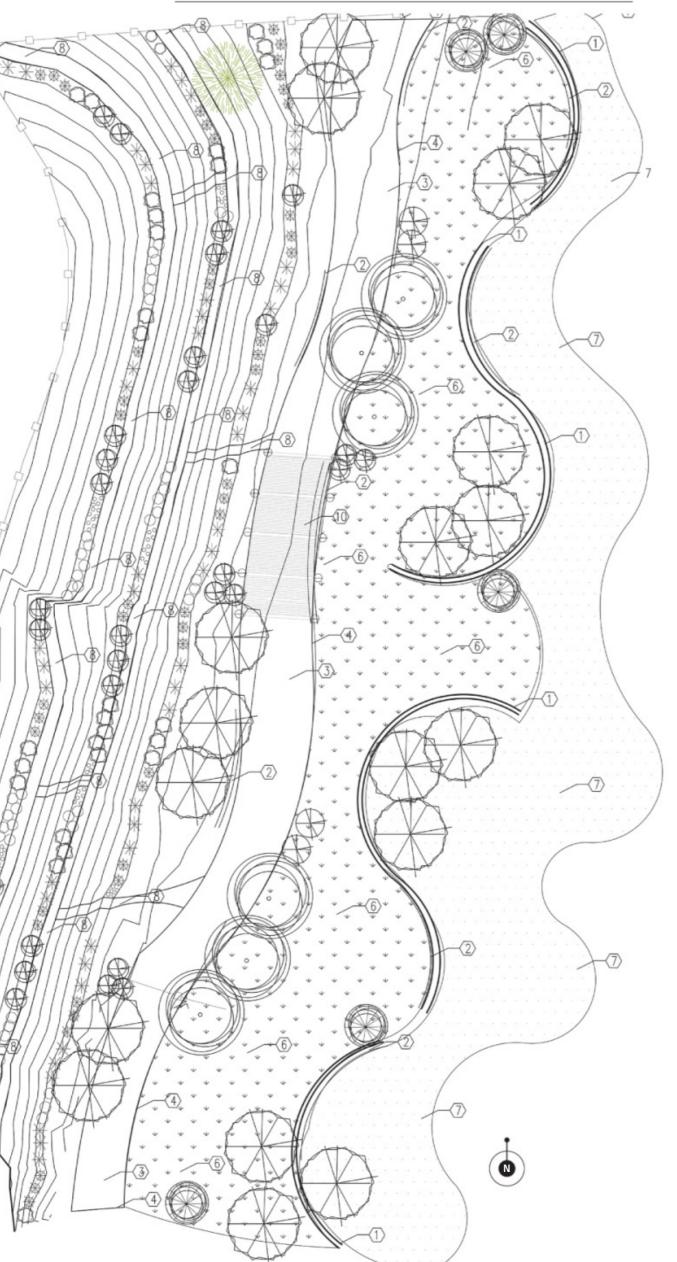
Art offered Green a way to continue explorations she had begun in school, as well as a world with fewer constraints than design. In 2014, she was invited to participate in the Santa Fe Art Institute's Food Justice

she hosted her "edible invasives" dinner, the one with the Russian olive tea and the squirrel jerky. Two years later, she was invited back, this time as an artist in residence to explore the subject of water rights. Her performance piece, "Holy Communion," imagined a religion in which "God" did not take human form but rather that of nature. She served participants New Mexico spring water in communion cups and a "holy sacrament" of elk. "I was trying to have a sense of humor before I got burned out," Green said.

If there is one consistent theme across Green's work, it is food. Her career is an attempt to challenge the mindlessness with which we approach what we consume. "Humans are so arrogant and entitled most of the time, not because we're assholes, but because we can be," she said. "We flip a switch and we get what we want."

Even as tastemakers like Alice Waters and Michael Pollan have steered the culture back toward an appreciation for food's provenance, the vast majority of us remain disconnected from what we eat. Even if a label promises "free range" or "GMO free," few of us see where our food comes from, much less participate in its harvest. Which is why Sorvig considers landscape architecture's obliviousness to rural ways of life problematic. "The landscape is the thing that supports us," he said. "It's where our food comes from, whether it's wild or cultivated, animal or plant. This is why I attach quite a bit of importance to what Christie is doing. If we're going to survive, we're going to need to recognize how dependent we are on the landscape as a total system."

HEALING FOODS OASIS - PLANTING PLAN



KEY COMMON NAME BOTANICAL NAME

TREES

0

PE PINON PINE M APPLE 'CHIC

GAMBEL OAK NEW MEXICO LOCUST

PINON PINE PINUS EDULIS
APPLE 'CHICKADEE', 'AKERO', 'BLUE PERMAIN' MALUS SP.
PLUM TREE 'STANLEY' OR 'WANETA' PRUNUS SP.
WILD PLUM PRUNUS AVIUM
CHERRY TREE 'STELLA' PRUNUS AVIUM
CRABAPPLE 'PRAIRIE FIRE' MALUS SP.
CHOKECHERRY PRUNUS VIRGINIANA
CAMBEL OAK OUEFCUIS CAMBELII QUERCUS GAMBELII ROBINIA NEOMEXICANA

ATRIPLEX CANESCENS

ARTEMESIA FILIFOLIA ARTEMESIA FRIGIDA

RIBES CEREUM ROSA FENDLERI

RIBES INERME

RUBUS IDEAS

RHUS TRILOBATA SAMBUCUS NIGRA YUCCA BACCATA YUCCA GLAUCA

CLEMATIS LIGUSTICIFOLIA HIMROD, VANESSA, VITUS ARIZONICA

ANDROPOGON SCOPARIUS BOUTELOUA CURTIPENDULA BOUTELOUA GRACILIS BOTHRIOCHLOA LAGUROIDES

ERAGROTIS TRICHODES HIEROCHLOE ODORATA

HIEROCHLOE ODORATA LYCURUS SETOSUS MUHLENBERGIA PORTERI MUHLENBERGIA RIGENS NASELLA TENUISSIMA ORYZOPSIS HYMENOIDES PLEURAPHIS JAMESII PASCOPYRUM SMITHII

PANICUM VIRGATUM SORGHASTRUM NUTANS SPOROBOLUS WRIGHTII

ASCLEPIAS ASPERULA ANEMOPSIS CALIFORNICA ABRONIA FRAGRANS ALLIUM CERNUUM

ALLIUM CERNUUM
ACHILLEA LANULOSA
CUCURBITA FOETIDISSIMA
CYMOPTERUS FENDLERI
CASTILLEJA INTEGRA
CLEOME SERRULATA
GRINDELIA APHANACTIS
ECHINOCYSTIS LOBATA
ECHINOCYSTIS LOBATA
ECHINACEA PURPUREA
ERIOGONUM UMBELLATUM
HEMEROCALLIS FULVA
HELIANTHUS TUBEROSUS
IPOMOPSIS LONGIFLORA
LAVENDULA ANGUSTICIFOLIA
LUPINE CAUDATUS
LINUM LEWISII
MONARDA MENTHAEFOLIA

LINUM LEWISII
MONARDA MENTHAEFOLIA
MIRABILIS MULTIFLORA
MENTHA SPICATA
MARRUBIUM VULGARE
PELARGONIUM GRAVEOLENS

PELARGONIUM GRAVEOLENS
PLANTAGO MAJOR
RATIBIDA TAGETES
RUMEX
SPHAERALCEA COCCINEA
SYMPHYTUM X UPLANDICUM
THELESPERMA MEGAPOTAMIC
VERBENA MACDOUGALII

AMARANTHUS BLITOIDES
ANETHUM GRAVECLENS
ASPARAGUS OFFICINALIS
ALLIUM SCHOENOPRASUM
BORAGO OFFICINALIS
CHENOPODIUM LEPTOPHYLLUM
CROTON TEXENSIS
DESCURANIA PINNATA
HELIANTHUS ANNUS
PHACELIA CURRUGATA
PHYSALIS HEDERACEA
ROSMARINUS OFFICINALIS
SALVIA APIANA

SALVIA APIANA SOLANUM ELAEAGNIFOLIUM SOLANUM JAMESII

SALVIA OFFICINALIS TROPAEOLUM MAJUS TARAXACUM OFFINALE

VERBASCHIM THAPSHS ZINNIA GRANDIFLORA

PLIRPLE THREEAWN

ARTEMESIA TRIDENTATA

ARTEMESIA TRIDENTATA
CERCOCARPUS LEDIFOLIUS
CERCOCARPUS MONTANUS
CHRYSOTHAMNUS NAUSEOSUS
EPHEDRA
FALLUGIA PARADOXA
GUTTERREZIA SAROTHRAE
LYCIUM PALLIDUM
NOLINA MICROCARPA
RIBES CERELIM

PINUS EDULIS

C SHRUBS

FOURWING SALTBUSH SAND SAGEBRUSH FRINGED SAGE BIG SAGE BIG SAGE
CURL LEAF MAHOGANY
MOUNTAIN MAHOGANY
RABBITBRUSH
MORMON TEA
APACHE PLUME
BROOM SNAKEWEED
WOLFBERRY
BRARGBASS

BEARGRASS WAX CURRANT WILD ROSE GOOSEBERRY

RASPRERRY RS RT SN YB YG THREE LEAF SUMAC ELDERBERRY BANANA YUCCA NARROW LEAF YUCCA

GRASSES AP ARISTIDA PURPUREA ARISTIDA PURPUREA LITILE BLUESTEM SIDEOATS GRAMA BLUE GRAMA SILVER BEARDGRASS SAND LOVEGRASS SWEET GRASS

AS BC BG BL ET HO LS MP MR NT OH PJ PS PV SN SW SWEET GRASS
WOLFTAIL
BUSH MUHLY
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WESTERN WHEATGRASS
SWITCHGRASS

O PERENNIALS

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HATCH LEGEND

GALLETA AND WESTERN WHEAT GRASS

LANDSCAPE ARCHITECTURE MAGAZINE FEB 2019 / 103

FROM INCORPORATING OUR SPIRITUALITY INTO THIS GARDEN."

—BEATA TSOSIE-PEÑA

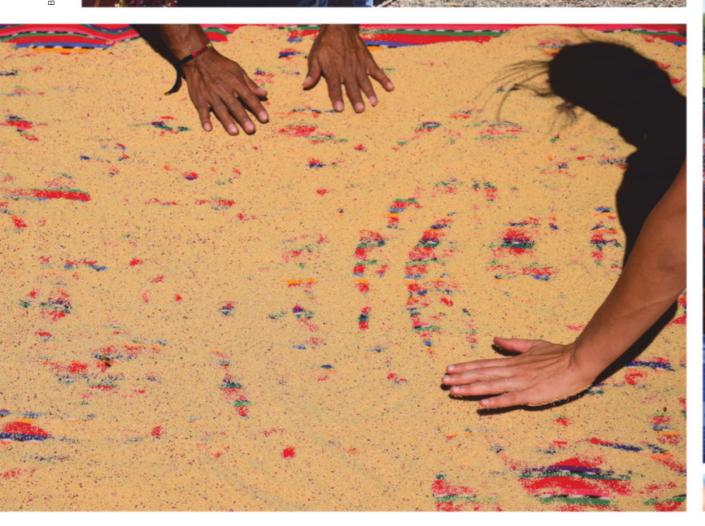




OPPOSITE

Amaranth, an important food of many pueblo peoples, is among the edible species planted at the Healing Foods Oasis.

CLOCKWISE, FROM LEFT This past fall, Tewa Women United organized an amaranth harvesting workshop, in which community members learned to sort the grains and then spread them out to dry.





> Nothing in the Radicle portfolio recognizes this fact more thoroughly than a tiny, ragged, community garden project known as the Española Healing Foods Oasis. Initiated in 2012 by an environmental justice organization known as Tewa Women United (TWU), the Healing Foods Oasis occupies a scrap of leftover land between Española City Hall and Valdez Park. Once a barren and rocky slope, today the space has grown—or, rather, been actively cultivated—into a public demonstration ethnobotanical garden, providing opportunities to teach younger generations traditional Tewa techniques of dryland cultivation, passive water harvesting, and bioremediation. Almost every plant is either edible or medicinal and culturally significant to the Tewa people.

Green became involved in the project in 2015, recommended by an engineer named Martin Garcia, whom she knew from Meow Wolf. By then, Beata Tsosie-Peña, TWU's environmental justice program coordinator and the garden's instigator, had a fairly well-developed vision for the space, but many of the per-

mits and grants the organization was seeking required a licensed design professional. To hear Green tell it, she merely translated TWU's vision into working drawings and an Excel spreadsheet. But Tsosie-Peña described Green's involvement as catalytic. "It started out really simple," she told me. "I just wanted to plant some trees and catch water. And then when Christie came on board, she really taught me to dream big. And then scale down as you need to."

Today the slope has been graded into a series of rock-lined terraces, which intercept runoff from the parking lot. Serpentine bands of dry-stacked stone reference the Tewa water god, Awanyu, and also trap moisture and regulate the temperature of the soil. "This is dryland farming 101," Green explained.

Between the stone bands are plantings of sage, amaranth, piñon, and comfrey. There are fruit trees, a pollinator garden, and plans to plant Indian ricegrass (which is harvested for its grain) in a linear band that traces the route of a long-buried *acequia*, or irrigation canal. There are plants

specific to the needs of midwives, and others whose pigments are used to make dyes. The planting design reflects the seasonality and harvest time of each species: Those plants that are harvested more often are located next to the garden's primary path, while those harvested annually are planted farther up the slope. "The idea is that people can walk through and graze, or harvest and take home," Green said.

To ensure that the space feels welcoming to all, signage (which instructs visitors to ask permission from the plants before harvesting) is in Tewa, English, and Spanish. But the garden is much more than some feel-good exercise in positivity. For Tsosie-Peña, the Healing Foods Oasis is just that—an oasis, a space in which the people of the Santa Clara Pueblo can reestablish their ancestral connection to the land and do so publicly in an urban context. "We don't shy away from incorporating our spirituality into this garden," Tsosie-Peña said. "It's really [about] seeing these plants as living beings. My experience with herbalism is that the plants do what you ask them to."

CHRISTIE IS A BRIDGE. SHE CAN COMMUNICATE WITH JUST ABOUT ANYBODY."

—KATYA CRAWFORD

The garden is also a testing ground. Among the organisms that have been "planted" around city hall are shoebox-sized bricks of oyster mushroom mycelium. Oyster mushrooms, specifically those belonging to the genus Pleurotus, are the MVPs of mycoremediation, researchers have found. And environmental contamination is one of the most pressing issues facing the Tewa pueblos, owing in large part to the proximity of Los Alamos National Laboratory. Tsosie-Peña said demonstration projects like the Healing Foods Oasis can help normalize landscape-based strategies. "Given the urgency of the issues and the times that we're in, we really need to combine indigenous knowledge with western technology," she said.

With the construction of the garden in its final stage, Green and Tsosie-Peña have begun plotting how to replicate the concept in other communities around New Mexico, including at Santa Clara Pueblo. Crawford, of UNM, told me that she recently included the Healing Foods Oasis in a talk she gave at the

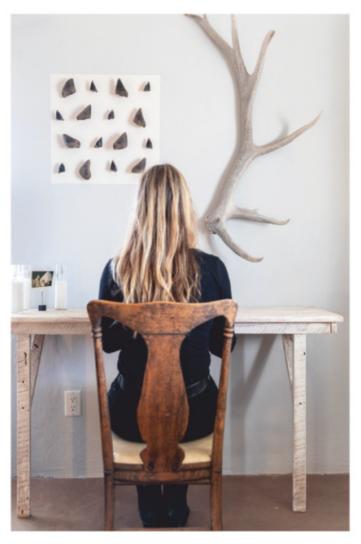
Albuquerque Museum. She too has become convinced that indigenous knowledge will be vital to the survival of the human species, and is worried that it remains a fringe topic in the world of design. "Christie is a bridge," she told me, a translator of ideas, of cultures, of worldviews. "She can communicate with just about anybody."

THE NIGHT AFTER our hunting expedition, I drove to Green's house with my wife for a "wild game supper." There was no mistaking which house was Green's. Deer legs, stripped of everything but their hooves and a few tufts of fur, hung on the wooden fence, and a metal sign said, "Food is LOVE is food." There were garden beds of spring peas and potatoes and neat stacks of hand-chopped firewood, guarded by a mannequin whose head had been replaced with a rack of elk antlers.

Inside, the dining room table had been set for at least 10 people. In the center, amid a constellation of flickering tea lights, was the skull of a white-tailed deer, its antlers still attached. Around it were the remains of the rest of our dinner: the delicate, black-clawed feet of a grouse, the deer's white-striped tail.

On a white sheet of paper, Green had printed the menu: "SPRING SUPPER: tasting landscape, with wild love and gratitude, Christie." It listed nearly a dozen items, many of which were preceded by their place of origin: "east garden golden and red pickled beets," "hopewell grouse bites + broth," "amos tank elk; she had white elbows." Other items evidenced Green's sense of humor: "whitetail buck balls, y'all" delicious venison meatballs slathered in a deep burgundy, pomegranate balsamic glaze—or the "damn salad," made from the samaras of Siberian elm, along with carrot, radish, and sprigs of dill. Dessert consisted of individual peach cobblers, baked in ramekins and topped with whipped cream.

As I watched Green interact with her guests, and listened to stories of dinners past, I reflected on the way in which Green has lived most of her life straddling seemingly disparate worlds: urban and rural, design



LEFT

Green in her home office in Santa Fe.

OPPOSITI

Green's life and work are two threads of a singular effort to insert the "rural into the urban."

and construction, whimsy and pragmatism, and increasingly, in a way, human and animal. To live within this liminal space is to sometimes feel like a stranger in both.

The poet Susan Hertel, who also called Santa Fe home, once wrote, "I am not a person of the people tribe. I am an immigrant among the animals." Green, I thought, lived a similar existence. It was true, of course, that each of the animals we were eating—the grouse, the elk, the white-tailed deer—had been alive before Green shot it, with her bow or her shotgun. And yet it was impossible to see any malice in Green's actions. In the care she took to prepare the meal, in her willingness to share her bounty, I saw only love, respect, gratitude.

Several months after the supper, Sorvig told me that although he admired Green's approach to design, he also understood that it cost her. "It's a limit on what kind of client she's going to get," he said. A slow, iterative, uncompromisingly environmental ethic is not what every individual or organization wants. A part of Green seems to be okay with this. But another part of her wonders if she's made the right decisions. Maybe she never should have quit the Bioneers, or started her firm, or gone back to school. "I'm not good at strategy," she told me more than once.

Even now, she said she doesn't consider Radicle a success. Success means growth, she said, and she's done the opposite of grow. "In nature, if it's not

growing, it's dying," she said. Which is true, to a point. But it's also true that what looks dead is sometimes very much alive. Sometimes it's just that the growth is happening underground, in the dark, life-giving world of the Earth. Of all people, Green should appreciate that.

If it's true that Green has no master plan, she always has been more intuitive than rational, more wild than tame. She's a farmer, not a strategist. For her, design should be about observing and listening to the landscape: When the desire lines have formed, that's when you lay the paths. •

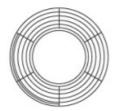
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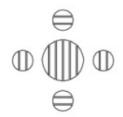


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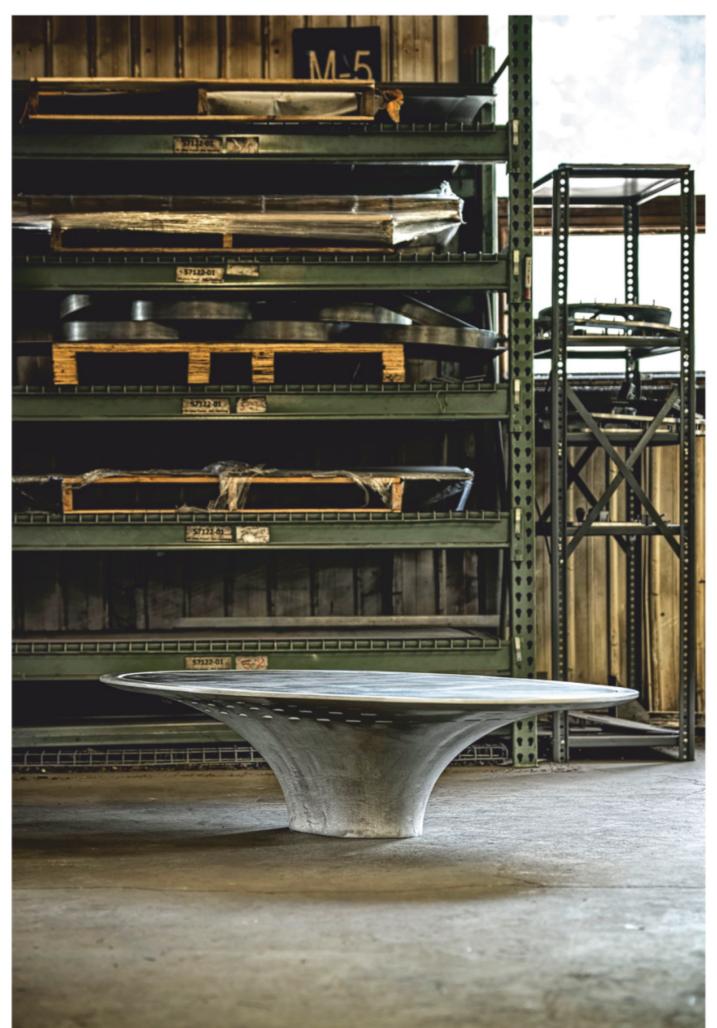
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THE BACK



GGN: LANDSCAPES 1999-2018

By Thaïsa Way, Jennifer Guthrie, Kathryn Gustafson, Shannon Nichol, and Rodrigo Abela; Portland, Oregon: Timber Press, 2018; 296 pages, \$50.

The work of Gustafson Guthrie Nichol (GGN) now spans three decades, and according to this beautifully illustrated retrospective of the firm's landscapes—with text by the landscape historian Thaïsa Way, FASLA—designing furniture for public spaces is not so different from designing the public spaces themselves. "Both must respond to the scale and form of the human body, must be comfortable as well as beautiful, and must be elegant regardless of budget."

GGN's low Stella table (left), named to call to mind "a beautiful, mature woman," is part of the firm's UrbanEdge park furniture line for Landscape Forms. Other GGN furniture includes a bench for Millennium Park called Maggie—in honor of the wife of Chicago Mayor Richard M. Daley, Honorary ASLA—and the Charlie table, after the brother of Kathryn Gustafson, FASLA.

HARDCORE

SECTIONS OF THE ANTHROPOCENE

AT MORRIS ADJMI ARCHITECTS, NEW YORK CITY

NOVEMBER 15, 2018, THROUGH MARCH 1, 2019

BY JENNIFER REUT / PHOTOGRAPHY BY ETIENNE FROSSARD

avid Seiter, ASLA, is the principal and design director at Future Green Studio, a landscape architecture firm based in Brooklyn, New York. Like most firm principals, he's consumed with the quotidian responsibilities of running a busy firm—landing, executing, and installing design projects in cities like New York and Washington, D.C.—while also trying to see around corners and anticipate where the next project or idea might be coming from. Yet he's also the founder of the beloved Spontaneous Urban Plants database (and subsequent book) that documents the urban upstarts of the plant world, and which won a 2015 ASLA Professional Honor Award in Research. The project drew attention to the ecological benefits of plants that grow in places such as cracks in the pavement.

This fall, Future Green Studio debuted a new body of work that continues that research into diminutive urban ecologies and blows up the scale, both temporally and geologically. The show, called *Sections of the Anthropocene*, is on exhibit at Morris Adjmi Architects, and contemplates

IMAGINED REALITIES 6, 2018 (DETAIL) ▶

Concrete, rebar, mulch, india ink, wood, soil, vegetation, miscellaneous found materials





♦ SUSPENDED ROAD CUT, 2018

Concrete, aggregate, fibers

▼ SUSPENDED ROAD CUT, 2018 (DETAIL)

the impacts of the human footprint on the earth in novel ways. Concrete sculptures formed in Sonotubes serve as both totems and core samples of the urban crust, a representation of the city's strata and its heavy impact on the land. A section of sidewalk is lifted from a street and installed above a mirrored surface, and small squares of concrete mixed with other materials—rebar, mud, burned wood, salt, straw—are studies in addition and subtraction. In aggregate, and of aggregate, the work imagines and re-presents the urban substrate, drawing on precedents such as Gordon Matta-Clark's architectural cuts and Robert Smithson's recontextualized nature, and recovering them for the era of climate change.

Seiter says many of these ideas have been kicking around in his head since graduate school and have grown to include narrative components as they've evolved. "Most of my inspirations are art-based inspirations, so it's always about applying those lenses to landscape and to urban environments, and using those conceptual tools to reframe our condition." As he has evolved from a single practitioner to the head of a 30-person firm, Seiter observes that the staff's collaboration on making the work has enriched all of the firm's projects. "The process is the thing that makes everything so gratifying," he says. "If you had asked me what was the most exciting thing in my life in the fall, it was making these things."





SIDEWALK STUDIES, 2018

Concrete, aggregate, fibers, butter, mica, india ink, recycled foam, rebar, charred wood, charred twigs, salt, charred straw









Concrete, rebar, mulch, india ink, wood, soil, vegetation, miscellaneous found materials





◆ IMAGINED REALITIES 7, 2018 (DETAIL)

Concrete, rebar, india ink, wood, soil, vegetation, miscellaneous found materials





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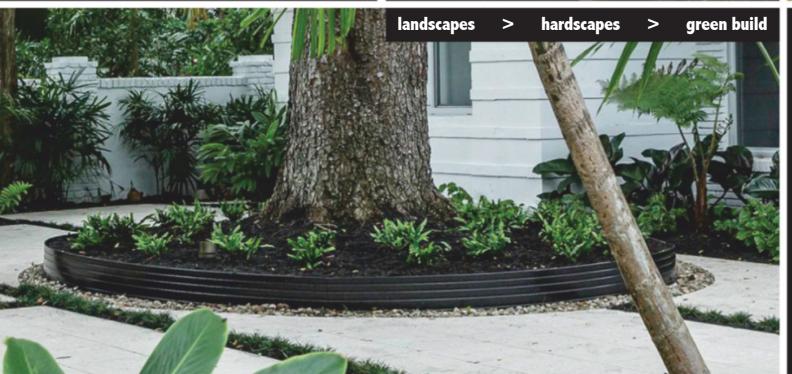
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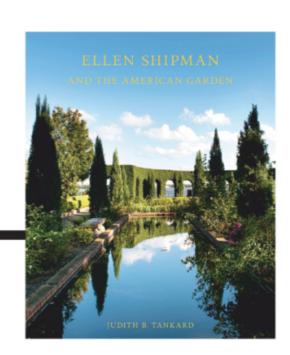
THE BACK / BOOKS

BEYOND HER BORDERS

ELLEN SHIPMAN AND THE AMERICAN GARDEN, REVISED AND EXPANDED EDITION

BY JUDITH B. TANKARD; ATHENS, GEORGIA: UNIVERSITY OF GEORGIA PRESS, 2018; 310 PAGES, \$39.95.

REVIEWED BY JANE GILLETTE

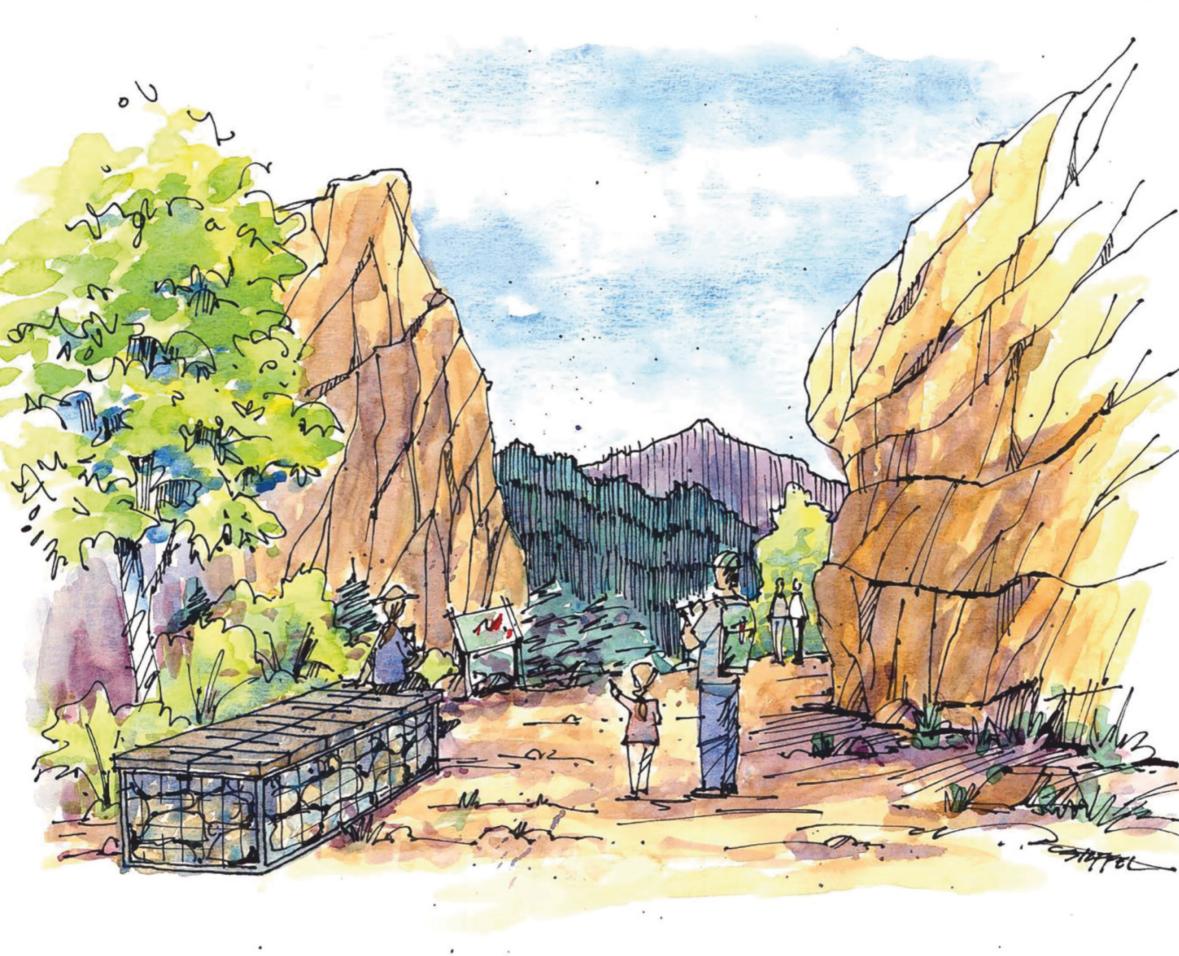


E llen Shipman and the American Garden was originally published in 1996 (under the title The Gardens of Ellen Biddle Shipman), "among the first [books] to apply art historical methodology to an American practitioner," says Robin Karson, Honorary ASLA. Reissued in conjunction with the Library of American Landscape History, it now begins with a preface by Karson, the founder and director of that imprint, and a revised introduction by Tankard that reveal how important the original publication was both in establishing Shipman as a consequential figure and in leading to the restoration of a number of her gardens. Subsequent chapters reveal why Shipman's reputation as well as her work needed to be restored.

Shipman's story is riveting. She was born in Philadelphia in 1869. Margins of notebooks from her teenage years are filled with drawings of house and garden plans, evidence of an early interest in residential design. Shipman did manage to attend Radcliffe (then known as Harvard Annex) for a year. But she made an unfortunate marriage and soon found herself living in the remote artists' colony of Cornish, New Hampshire—a location that, however, proved fortunate in several ways. For one thing, she experienced a garden created by the Cornish resident Charles A. Platt that was so beautiful it inspired her to become a landscape designer. Tankard depicts architecture and landscape architecture as the continuing expression of a male/female cultural divide, noting that landscape architecture

was one of the few professions open to women. But how could Shipman learn to be a landscape architect in her straitened circumstances? Although several schools that trained women in landscape and horticulture had already opened, Shipman's finances were too constrained for her to attend. And she was at this point the single mother of three children. Cornish again provided an answer in the architecture office of Platt, with whom Shipman began working in her early 40s. Reading along, we may from time to time experience an uneasy feeling that there's a story hidden behind this narrative. If so, it shall remain hidden, in part because of the problems, repeatedly expressed by Tankard, of depicting an artist and her work when much of the documentation has disappeared.

In any case, there were definite limits to Shipman's education. Platt, a landscape painter turned architect, was not an accomplished landscape designer and so he was willing to collaborate when a talented woman came his way. Nevertheless, the Platt-Shipman partnership was less collaborative and "rather more reflective of the traditional, gendered division of labor in this country by which men oversaw architectural tasks and women tended to planting design." When considering Shipman's later career, Tankard is particularly critical of the professional organizations (none of which Shipman belonged to). For example, she quotes the historian Diane Kostial McGuire's description of the American Society of Landscape Architects



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of the time as an organization that welcomed white male graduates of eastern colleges and emphasized larger public-scale work over residential gardens. In the course of her career Shipman did create a number of successful public projects. But Tankard suggests that this work was limited because she had not acquired, in her "short apprenticeship" with Platt, the necessary technical skills in large-scale planning, grading, and natural resource management.

Shipman divorced in 1927 and reputedly never found another emotional partnership. Still, there were good aspects to her life as well as her career. She was close to her daughters, if not her son. She created and ran an all-woman office eventually based in New York City. She was tightly connected to the Garden Club of America and the chain of clients created by its female membership. Throughout her life, Shipman also learned a lot from books as well as "a tide of sophisticated gardening magazines," which Tankard describes for our delight. Shipman also profited from extensive coverage in these magazines, which advertised her skill and promoted her work.

Nevertheless, as time went on, things got darker. During the Great Depression, clients for smaller projects disappeared and rich clients wanted more elaborate gardens. Shipman was able to rev up her style by incorporating more European elements, especially after her trips to Europe in 1929 and the early 1930s. Travel was a source of inspiration she had previously experienced only in books. But during World War II she suffered unmitigated financial stresses because "lifestyles had changed dramatically, and so had garden fashions." In 1946, Shipman had to move from her New York residence and office. She began a book about her career (*The Garden Note Book*), but it was never published—a poignant reminder of the way landscape designers have depended on publications to enhance their reputations. The book's epilogue briefly describes the Shipman family's difficulties in persuading a reputable library to accept the gift of her papers, which were finally acquired by



Cornell University. At her death in 1950, Shipman's gardens were falling apart and her reputation was on the wane.

Tankard emphasizes throughout that "domesticity, intimacy, and sensual seclusion characterized the best of Ellen Shipman's landscape designs, distinguishing them from the grander, self-consciously European schemes many of her colleagues created." Her basic approach was to "keep the plan simple almost always rectangular, in axial relation to the house—and make it interesting with plants and garden architecture." In part this simplicity reflected the rustic influence of Cornish, where people were interested in doing their own gardening, frequently with hardy plants. Shipman also benefited from the popularity of traditional Colonial Revival spatial layouts and the influence of Gertrude Jekyll's "drift-style plantings." Included are examples of Shipman's charming pen-and-ink illustrations for clients, which depict the "prim layout and profligate planting" hallmark of her style as well as her belief that "design need not draw attention to itself to be exquisite." Simplicity pervaded her practice.

ABOVE

Detail from the inkon-linen preliminary plan for the flower garden at the Philip B. Jennings estate in Bennington, Vermont, August 1914.

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In describing Shipman's career, Tankard refers to many small gardens and gives us amusing, enlightening accounts of Shipman's work at larger estates, for example, Chatham in Fredericksburg, Virginia; Rynwood in Glen Head, New York; and Longue Vue in New Orleans. She also discusses Shipman's office and her way of approaching landscape design. Shipman took an active role in every aspect of a project, providing both a design and alternative design solutions, watercolor renditions for larger estates, site visits to monitor the garden's condition, extensive horticultural instructions, and "an annual discretionary sum to purchase plants."

All gardens are fragile because they are created with living things. Shipman's were especially so because of her emphasis on plants rather than architectural components. "Her responsiveness to place and to the wishes of her clients led her to create gardens whose sensuality and delicacy depended on an evanescence that made their eclipse almost inevitable," Tankard writes. This preference for plants also had its bright side. Shipman

had more frequent contacts with women clients than did her male counterparts, and she paid a lot of attention to her clients' wishes. Women "who were often extremely knowledgeable and informed gardeners themselves, almost certainly helped to shape her collaborative design approach." Shipman knew what women wanted and set about providing it.

Women, even rich women, liked to interact with their gardens, "planning, planting, cultivating, cutting, and arranging flowers for meaningful experiences beyond aesthetic appreciation." The most amusing and conceivably the most telling story in the book involves Shipman's work for Henry and Clara Ford in Dearborn, Michigan. Clara did not like the scarcity of flowers in the Fords' Jens Jensen garden—for which Henry had presumably been the dominant client. She wanted "big, bold flower borders" and "intimate horticultural contact," and in 1927, when Shipman arrived on the scene, her work "led to garden spaces that enriched her clients' lives. At a time when women's expressiveness was not encouraged—at home or

LEFT

Pool vista at Avalon, the estate of Mrs. Robert S. Brewster Jr., in Mount Kisco, New York, circa 1923.

RIGHT

September borders at Penwood in Mount Kisco, New York, in the late 1930s.



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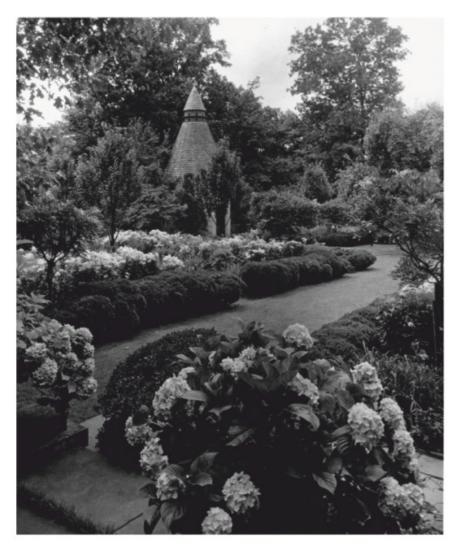


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in the world generally—flower gardens provided female clients with sensuous havens and a grounding link to seasonal rhythms and cycles."

Over the years Shipman's plant palette became more limited as her design confidence grew. She moved to more subtle color harmonies in her most telling design trait: the creation of flowering borders, to which Tankard devotes one of her most interesting chapters. Borders were extremely popular during the period because homeowners, especially women, loved growing flowers. Shipman's intuitive understanding of the emotional importance of lush borders would prove crucial to her success. To some degree we experience the beauty of these borders because the book includes wonderful photography by artists in their own right. Most are in black and white, thus emphasizing the formal attractions of Shipman's work.

The photographs also reveal to the modern eye a world that has passed away, a revelation that encourages imaginative explanations. Because Tankard includes the names of clients and occasionally tells where their money came from, she draws attention to something that was particularly relevant. Because Shipman made a point of deferring to her clients' wishes, this means that her gardens can tell us something about the America of almost a century ago. Who, I found myself wondering, were these rich folks who loved flowering borders and a pond or two? Children of the Gilded Age fleeing the extravagance of their parents? A High WASP ascendancy flaunting typical WASP modesty? Magnates of the Industrial Revolution keeping their heads down? Privacy was certainly one of the most important aspects of Shipman's work, the "most essential attribute of any garden, whatever type or period." A certain sort of privacy has always appealed to the rich, and we can easily imagine its appeal for women clients. Garden Club ladies were sociable, but only with each other. And although the exciting new garden magazines advertised the living spaces of the rich, these were, after all, paper representations and hardly an encouragement to actual visits. Indeed, experiencing the beautiful gardens of the wealthy in a magazine might have provided vicarious pleasures for people who would never own one, as photographs still do today. Happily, Tankard provides a long, intriguing list of clients organized by state, clues that could provide a solid starting point for an intriguing examination of America's ever-changing client class.

The new edition also offers us a solid bibliography as well as a list of 19 Shipman gardens that we can now visit. The Tregaron Estate in Washington, D.C., is at the top of my list. I can hardly wait to begin.

JANE GILLETTE IS A FORMER FEATURES EDITOR AT *LAM* WHO CURRENTLY SPENDS HER TIME WRITING SHORT STORIES. HER COLLECTION, *THE TRAIL OF THE DEMON* (MISSOURI REVIEW BOOKS, 2017), IS AVAILABLE ON AMAZON.

ABOVE

The dovecote at Rynwood, on Long Island's Gold Coast, in 1935.



THE BACK / BOOKS

BOOKS OF INTEREST

Martha Schwartz Partners Landscape Art and Urbanism

AMONG MORE LASTING WORKS, SCHWARTZ SHOWS THAT THE TEMPORARY IS EVER-READY.

MARTHA SCHWARTZ PARTNERS: LANDSCAPE ART AND URBANISM

BY MARKUS JATSCH AND EDITH KATZ; STUTTGART/LONDON: EDITION AXEL MENGES, 2018; 351 PAGES, \$76.

This monograph spans the decades of Martha Schwartz Partners' global work. Divided into categories including residential, commercial, civic, and corporate commissions, the book shows both well-known work (including projects in China) and less familiar efforts. The Littman Wedding, for example, was an ephemeral art installation for two New Jersey clients. Schwartz's permanent design for the couple's garden wasn't ready yet, so a temporary setting was constructed for the wedding ceremony: giant yellow circles painted on the pool deck, bundled sunflowers placed on purple grass, and pots of black-eyed Susans to surround the bride and groom.



THE SPOILS OF DUST: REINVENTING THE LAKE THAT MADE LOS ANGELES

BY ALEXANDER ROBINSON; SAN FRANCISCO: ORO EDITIONS/ APPLIED RESEARCH AND DESIGN, 2018; 256 PAGES, \$30.

California's sprawling Owens Lake was sucked dry in the early 20th century to divert water to a booming Los Angeles; the parched and salty lake bed left behind became a source for decades of dangerous dust storms. More than a billion dollars had been spent on dust control by the time the Los Angeles Department of Water and Power released its first lakewide plan in 2013, a report based on "transitioning to waterless and water-wise solutions." This extensively illustrated book by Alexander Robinson, ASLA, documents an array of efforts to rehabilitate Owens Lake—none of which ever involve actually filling it back up.



WALKABLE CITY RULES: 101 STEPS TO MAKING BETTER PLACES

BY JEFF SPECK; WASHINGTON, D.C.: ISLAND PRESS, 2018; 310 PAGES, \$30.

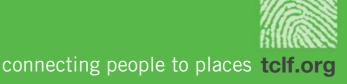
All the things you should do to make places more walkable—and some things you shouldn't—are enumerated (true to its subtitle) in this engaging book. Some are big ideas involving infrastructure: #28 is "Tear Down a Highway"; #37 is "Keep Blocks Small." And some are simple and surprising: #71 is "Remove Centerlines on Neighborhood Streets." Without lane markings to reassure drivers, cars' speeds can drop by seven miles per hour.



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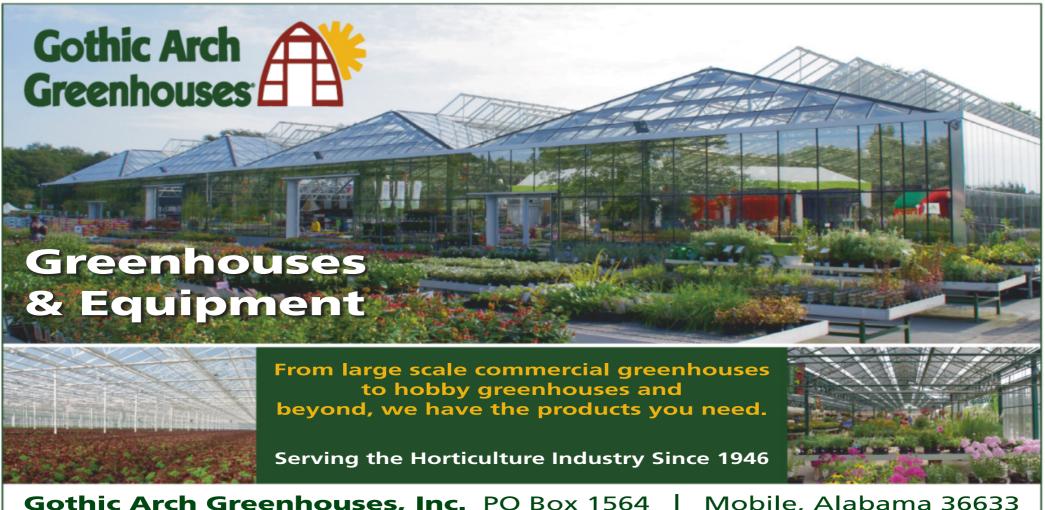
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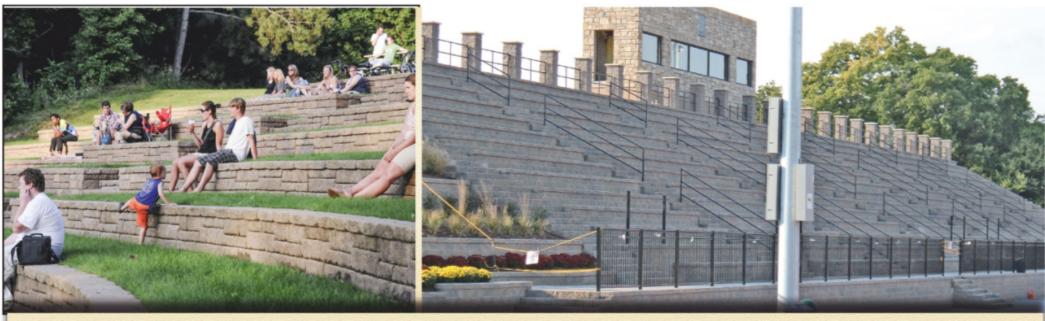




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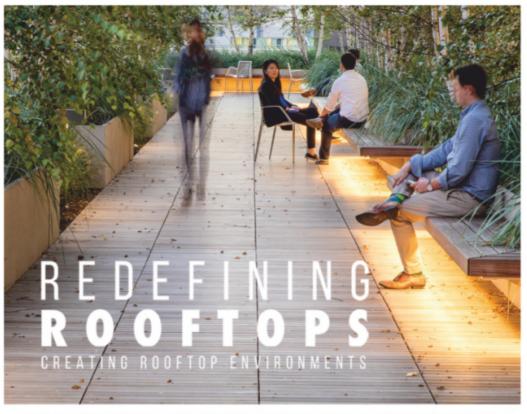
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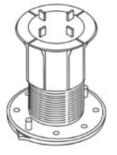








project: Partners Healthcare Administrative Campus (Boston, MA) | architect: Gensler | landscape architect: OJB Landscape Architecture | photographer: Kyle J Caldwell









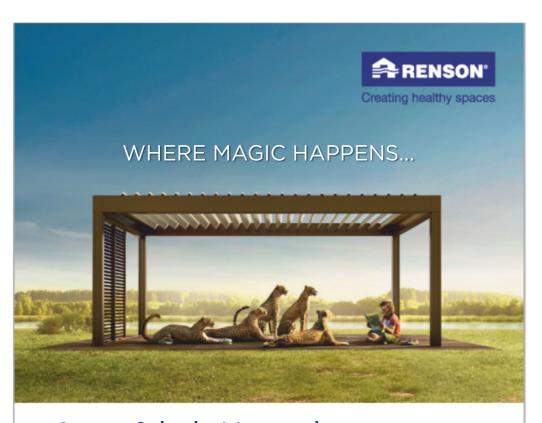
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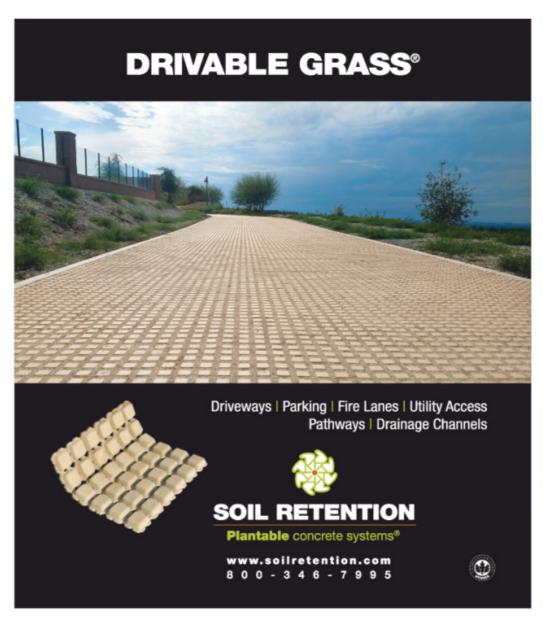
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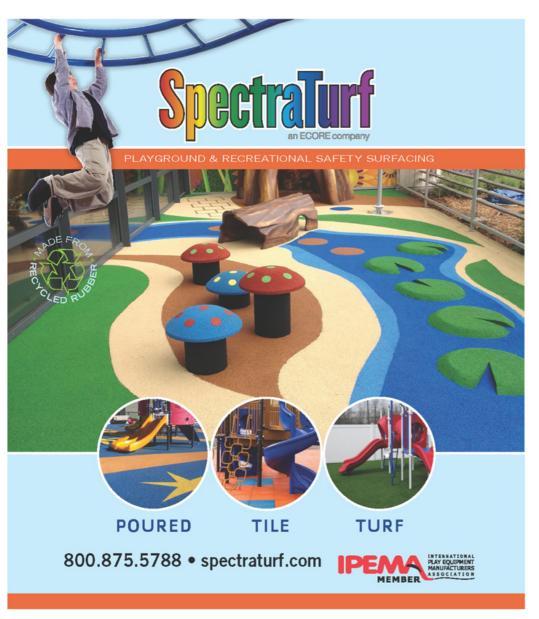


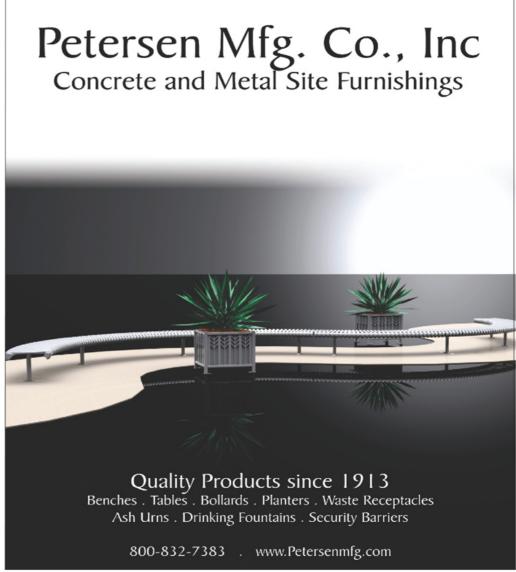
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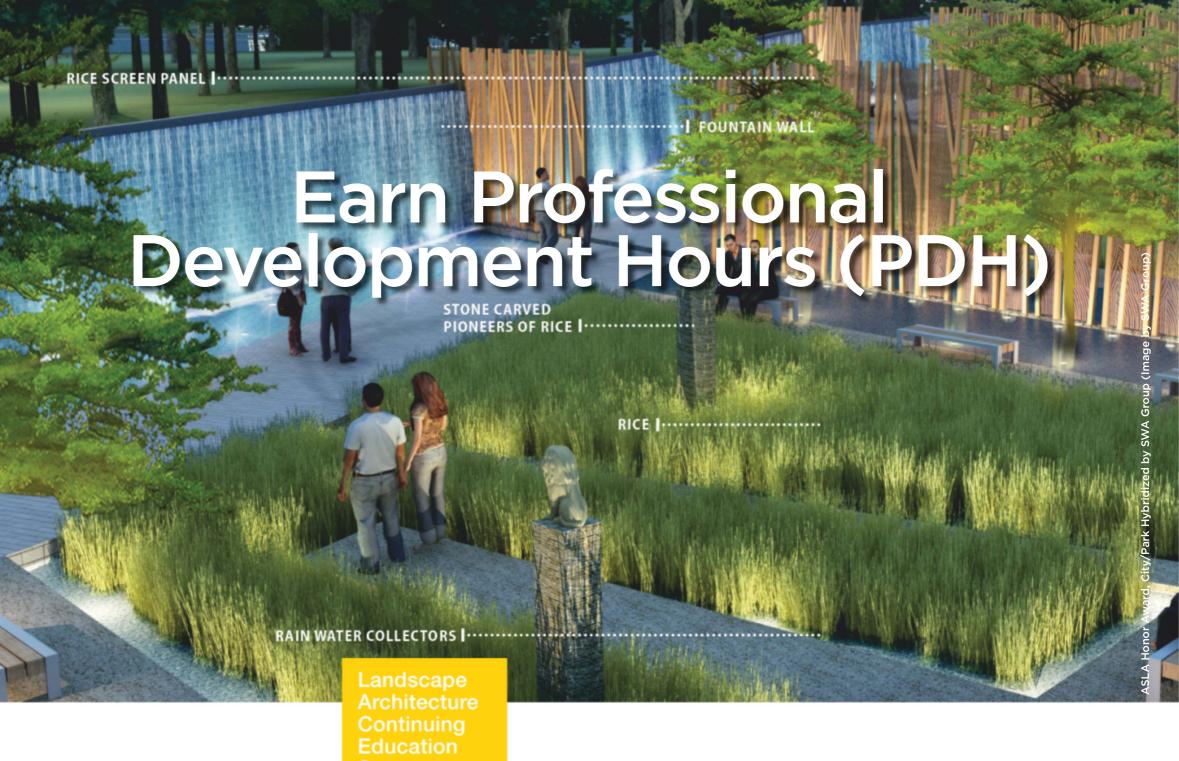
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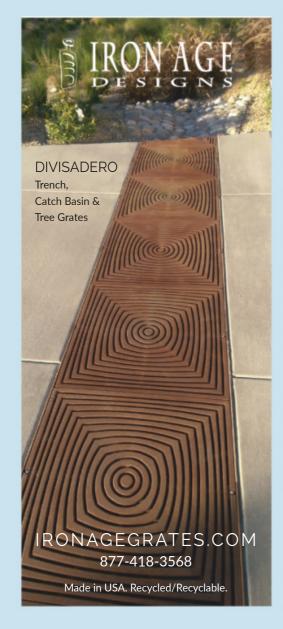
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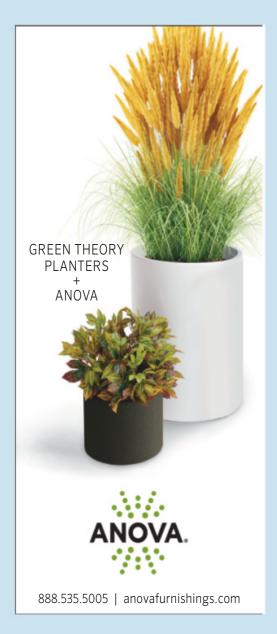
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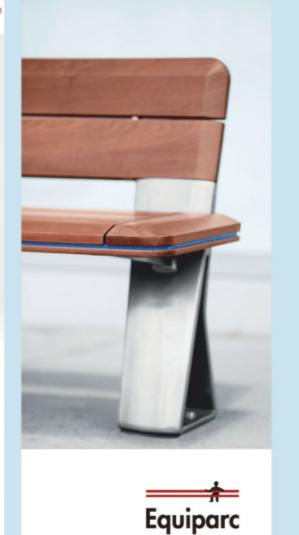




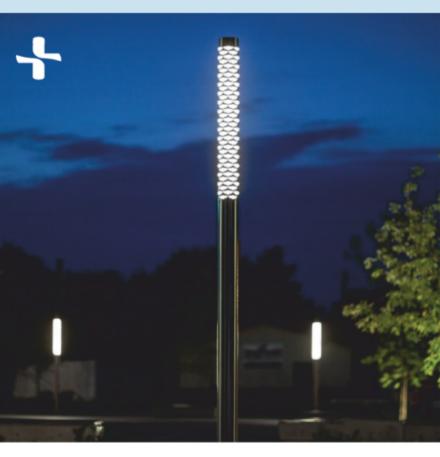








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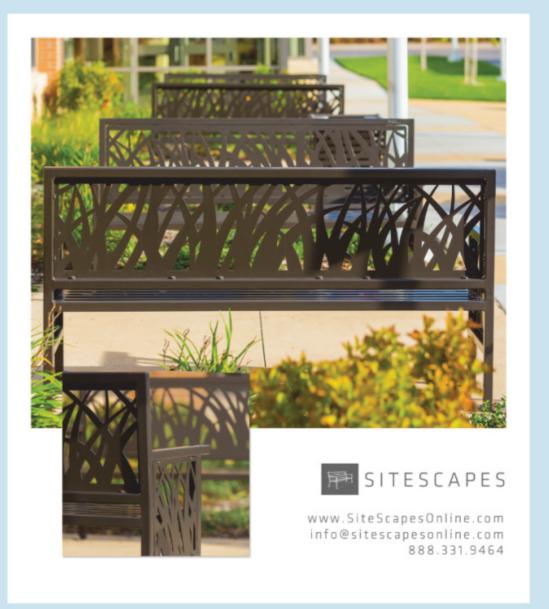




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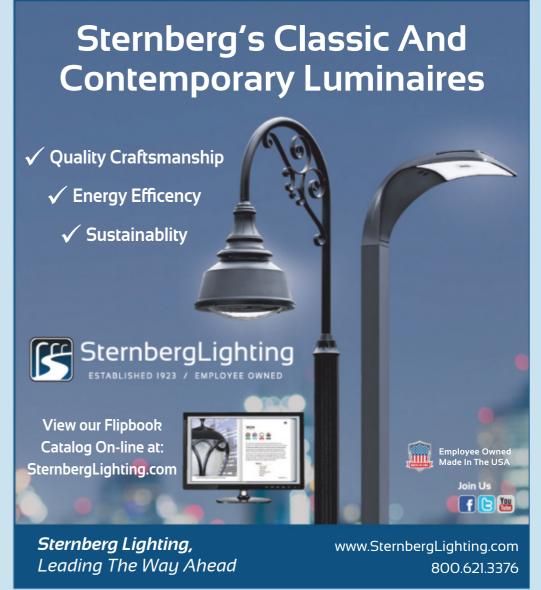
















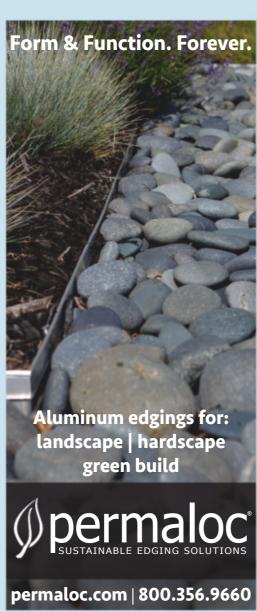
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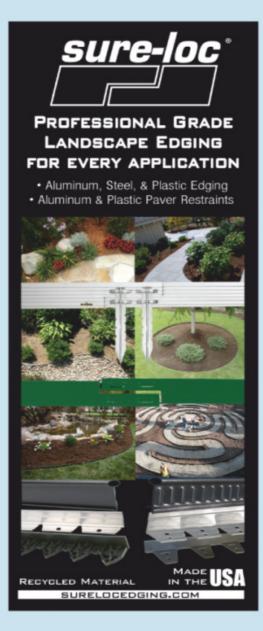
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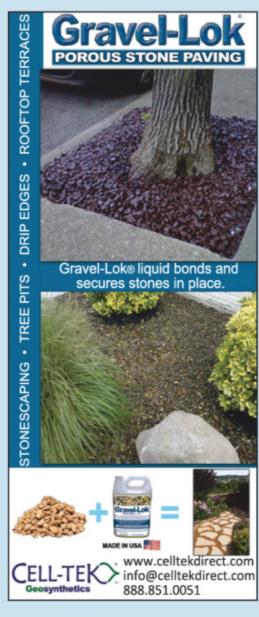
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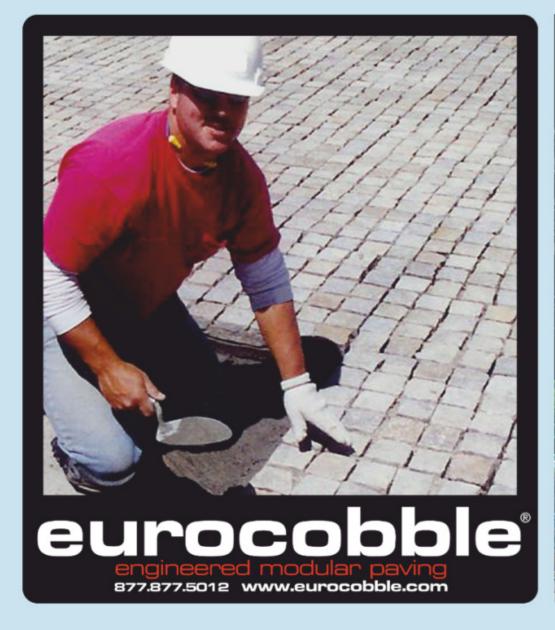


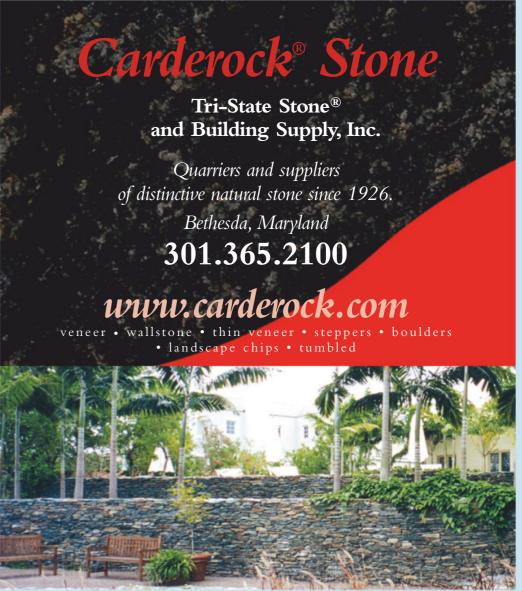


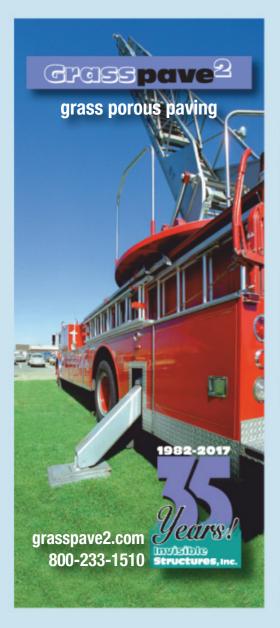




















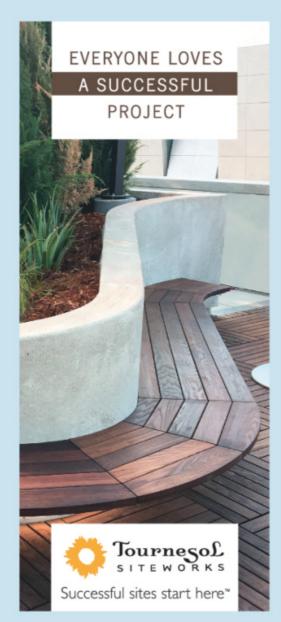
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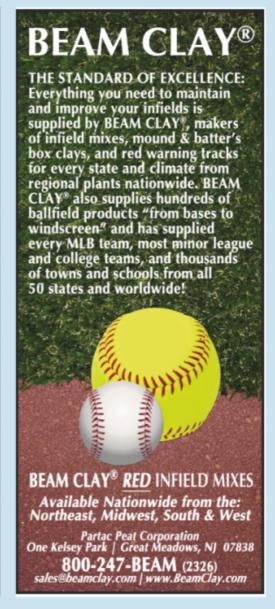
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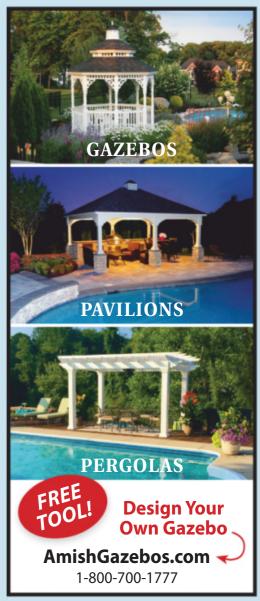
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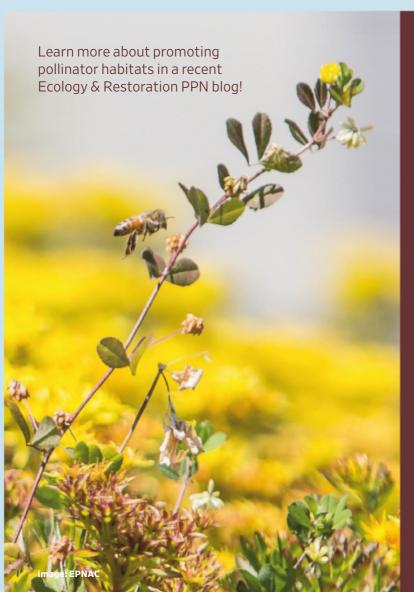
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Climate Zones Matter... and They Don't Matter

Weather patterns are intrinsic to the work of landscape architects. That said, exhibitor products at the 2019 ASLA Conference on Landscape Architecture in San Diego aren't restricted to an arid Mediterranean climate zone.

By Russ Klettke

Executive summary:

- Of course regions affect attendance at the annual Conference to a certain degree. But many landscape architects work nationally and relocate with job changes.
- Product vendors learn from landscape architects on the expo floor, and vice versa, regardless of where the Conference is held.
- The annual meetings are often branding opportunities, useful to exhibitors who sell indirectly through distributors, retailers or franchisees.
- Those conversations between designers and manufacturers often result in product innovations and improvements.

No one will claim the American Society of Landscape Architects' Annual Conference on Landscape Architecture is married to any particular region or climate zone. A simple review of recent past meetings (Philadelphia 2018, Los Angeles 2017, New Orleans 2016, Chicago 2015) and upcoming events (San Diego 2019, Miami 2020, Nashville 2021, Seattle 2022) proves this out.

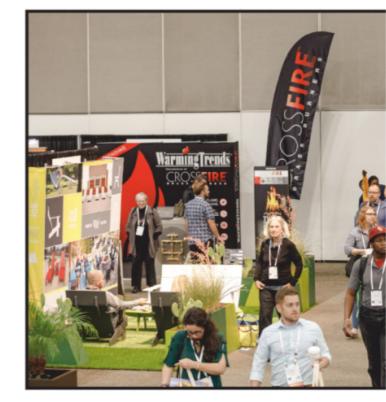
But of course the attendance of landscape architects at each show skews to populations nearest that year's location. It's a simple fact of time and money. Education programs are a bit less regionalized, but the ASLA would be remiss to overlook climate-specific factors such as drought, heat, saltwater intrusion, insect infestations, and polar vortices in the curricula.

Should that influence which companies participate in the exposition? Does it make sense for purveyors of products most suited for the Northeast to exhibit at a show in the Southwest?



From conversations with several vendors and ASLA Fellow **Stephanie Landregan**, PLA, FASLA, LEED AP, it seems this regionalism should be recognized and understood. But for the most part, it makes sense to be at the shows regardless of location.

"I think every company should be aware of opportunities in other markets," says Landregan, whose career has taken her from Kentucky to California by way of Virginia. She recalls not being able to find evergreen vines in Kentucky,



so she's always valued getting a broad exposure to plants and hardscape materials. She makes an effort at every Conference to visit new vendors to see what they are introducing to the market.

Designers from larger landscape architecture firms who routinely work on projects around the country, if not around the globe, are well represented at ASLA events. Which is something that vendors such as **J. Frank Schmidt & Son Co.** understand well. A propagator and grower of shade, flower and specialty ornamental trees, the firm supplies young plants to nurseries across the continent. Most of their trees are too small to be specified directly into landscapes and in fact may not reach landscape-ready size until a decade after leaving the Schmidt farms in Oregon's Willamette Valley.

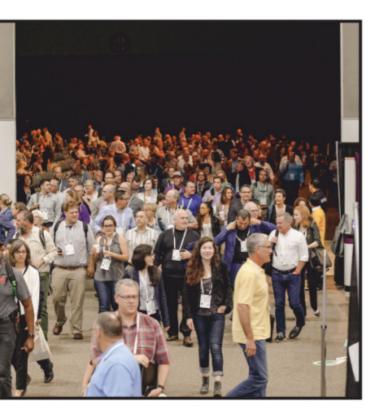
So why has the company participated in every ASLA show since 1995? Nancy Buley, Honorary ASLA and communications director for Schmidt, says the expo serves to connect landscape architects with those local nurseries.

Our product line of more than 500 tree species and cultivars is regional in nature," Buley says. "By exhibiting every year, regardless of the Conference location, we have become 'the tree people.' Landscape architects trust us as a source of premium quality trees, and for referral to local suppliers of climate-appropriate trees." They do this with a proprietary tree-locator service, but also invite local customers to join them at the expo. Over two decades, 54 nurseries have joined them as exhibit partners. Eight of them – from Georgia, Maryland, New Jersey, Pennsylvania and Virginia – brought trees to Philadelphia to create a leafy "grower's grove" in 2018. West Coast

ASLA SAN2019

Conference on Landscape Architecture November 15-18 San Diego

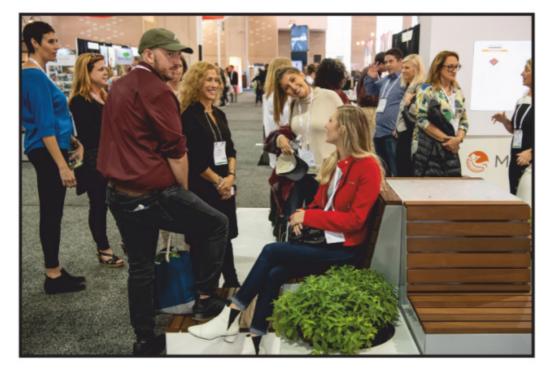
#ASLA2019



nurseries will join them in San Diego in 2019.

Other exhibitors that sell through distributors, and who might be perceived as regional players, nonetheless find value in the annual meeting. One is Southwest Greens, makers of fine synthetic grasses and lawns primarily used for event spaces, playgrounds and dog parks. The company sells through franchisees that are responsible for sales and installation. Garren Palmer, the company's business development manager, uses the ASLA meeting to promote the brand and to engage in

conversations with landscape architects. "We are there to learn about trends," he says, adding how those trends vary by region. The Georgia-



based company largely benefits from warm climates, but he learned last year of rooftop applications on tall buildings in Philadelphia.

Two companies under one roof, **Danver** and **Brown Jordan Outdoor Kitchens**, manufacture sleek outdoor entertainment spaces, of the type

typically depicted in magazines such as Southern Living and Sunset. But from the company's Connecticut manufacturing facility product shipments are also made to Boston, North Dakota and Calgary. "The popular misconception is that outdoor entertainment is a warm climate phenomenon," says Philip D. Zaleon, sales and marketing director of the company. "Landscape architects make up a large percentage of our client base and we find that the annual ASLA Conference is a great way to connect." He says shows in colder climate locations help them overcome

misperceptions, including how their stainless steel cabinets hold up to winter weather (quite well as it turns out). In hurricane zones they provide special installation instructions.

Brent Markus, founder of InstantHedge, is a relatively newcomer to the ASLA national meeting. "But in two years of exhibiting with ASLA we've made national



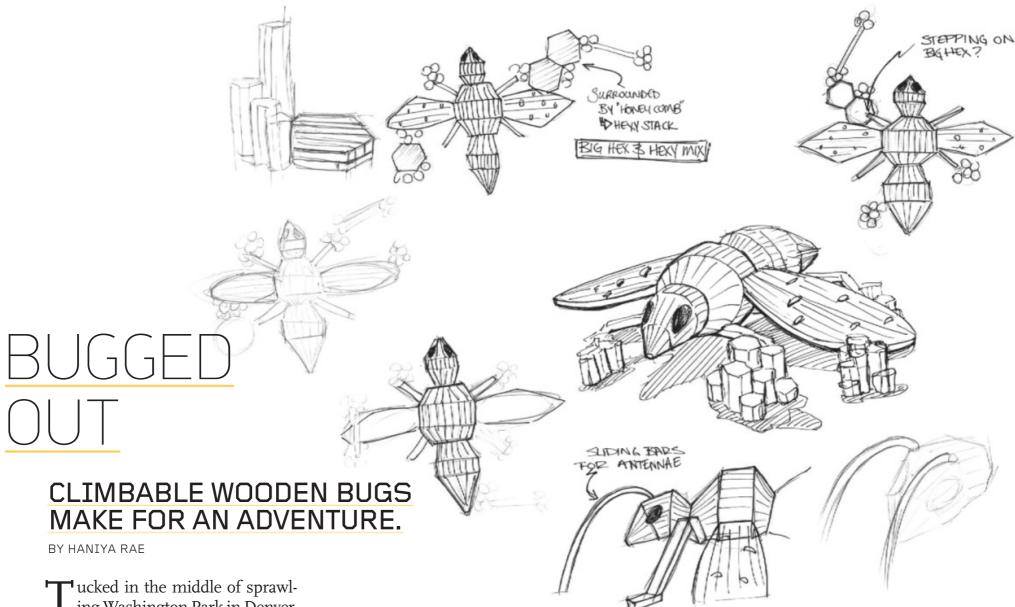
connections," says the company founder, who sells more than 20 varieties of pre-formed hedges. The instant hedge products vary by region – Flame Amur Maples grow anywhere but the southerly, coastal areas of California, Texas and Florida, while Schip Laurels can pick up the slack in most of those places.

A Seattle landscape architect contacted Markus after the 2017 expo to encourage him to develop a particular shrub variety for the Pacific Northwest climate. Long story short, that variety is now in production.

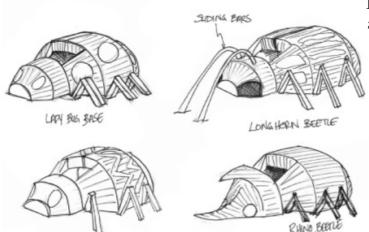
"It's easy to google for products," Markus notes. "And I find that plant shows tend be regional in nature. But ASLA is different. It's the only exhibition of its kind."



THE BACK BACKSTORY



a giant ladybug and a worker bee crawl on the ground. Large interconnected logs become twigs on a forest floor—and a fun place to climb. "We thought it'd be really cool to make this larger than life," says Laura Williams, a playground designer at Earthscape, a playground design/ build firm based in Ontario, Canada. "That's how the idea for the bugs came into play. Kids could imagine themselves on the forest floor."



Williams's team started with a few initial concept images as part of a design proposal, then moved into hand sketching with custom details. Williams says that Earthscape and the landscape architecture team at Stream Landscape Architecture + Planning in Denver decided on bugs because the slight incline of a bug's shell, especially on the ladybug, would be easier to climb. At most, the bug sculptures reach a height of five feet. The designers then used SketchUp and created a layout of the overall site

with the models included. Once the designs were set, black locust was used for the log elements and jungle climber and Douglas fir and white oak were used for the tower. The cladding and decking are made of Accoya, a modified wood, and the bugs are topped off with Sansin exterior water-based stain.

The playground installation, though, was the real challenge: Washington Park has mature trees all around, making it difficult to move and position each element of the playground. Instead of risking damage to the trees, the team built the park with enough space on its perimeter so that they weren't moving machinery all around it. They pulled the playground elements closer together, but not haphazardly. The team left small circulation patterns, or little loops, within the equipment itself, so the kids can go through and create their own paths. •

HANIYA RAE IS A DESIGN WRITER IN BROOKLYN.



TOP AND LEFT

Hand sketching the bugs allowed designers to figure out custom details.

INSET

A clad and painted ladybug awaits its final placement in the park.



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