

Oculus

Winter 2024

A Publication of
AIA New York
Volume 86, Issue 1
\$10

**URBAN
ECOLOGIES**



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WINTER 2024 Vol. 86, Number 1

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Zach Mortice, Anthony Paletta,
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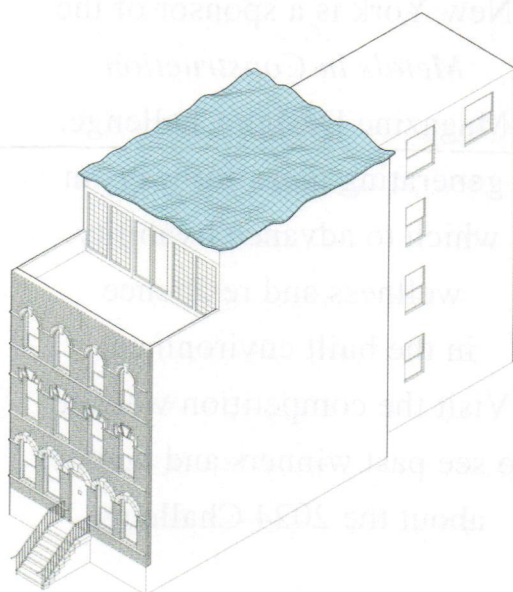
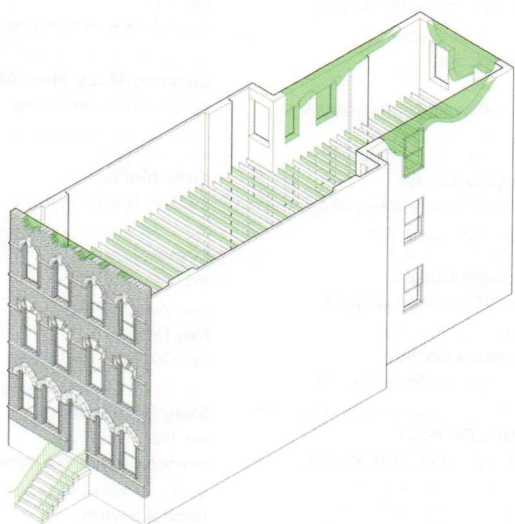
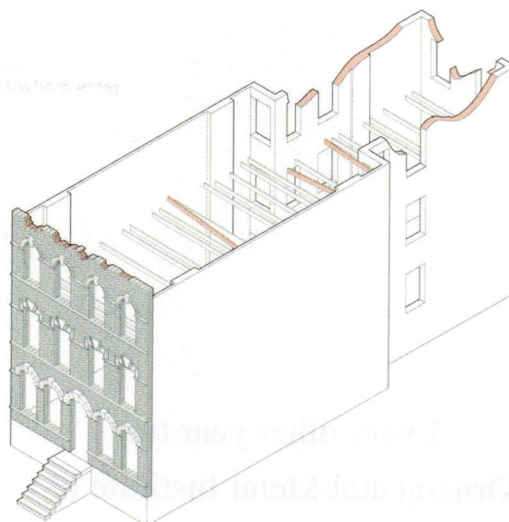
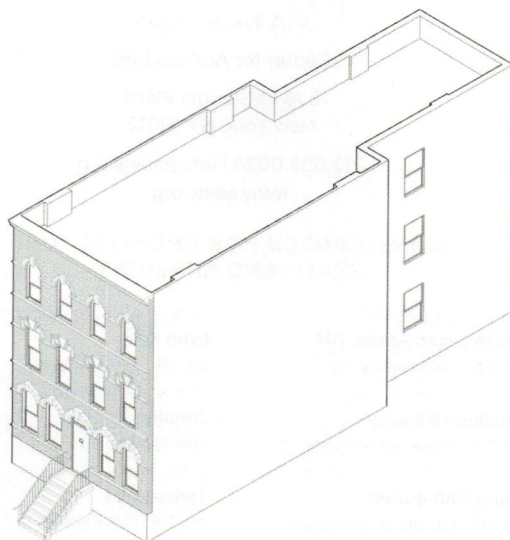
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AIA NEW YORK

Center for Architecture

536 LaGuardia Place
New York, NY 10012

212.683.0023 | info@aiany.org
www.aiany.org

AIANY/CENTER FOR ARCHITECTURE STAFF AND SERVICES

EXECUTIVE DIRECTOR

Jesse Lazar, Assoc. AIA
ext. 108 | jlazar@aiany.org

SENIOR SECURITY GUARD

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ext. 121 | dallaway@aiany.org

DEVELOPMENT COORDINATOR

Iyabo Babatunde
ext. 117 | ibabatunde@aiany.org

ACCOUNTING MANAGER

Carol Bartold
ext. 128 | cbartold@aiany.org

GRANTS MANAGER

Ruth Cole
ext. 125 | rcole@centerforarchitecture.org

EXHIBITIONS AND PROGRAMS ASSISTANT

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ext. 138 | scooke@aiany.org

ASSISTANT DIRECTOR, MEMBER SERVICES

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ext. 118 | jcorbin@aiany.org

FACILITIES ASSOCIATE

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ext. 130 | ccortes@aiany.org

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ext. 131 | mderosa@aiany.org

DIRECTOR OF DIGITAL CONTENT AND STRATEGY

Meghan Edwards
ext. 136 | medwards@aiany.org

MANAGER, GOVERNMENT AFFAIRS

Bria Donohue
ext. 116 | bdonohue@aiany.org

LEAD DESIGN EDUCATOR

Tim Hayduk
ext. 137 | thayduk@centerforarchitecture.org

PROGRAM AND EVENT COORDINATOR

Salmata Kaba
ext. 139 | kaba@aiany.org

DESIGN EDUCATOR

Breanna Katsman
ext. 127 | bkatsman@centerforarchitecture.org

COMMUNICATIONS COORDINATOR

Lynn Kim
ext. 114 | lkim@aiany.org

EDITOR-IN-CHIEF, *OCULUS*

Jennifer Krichels
editor@aiany.org

DEVELOPMENT MANAGER

Teresa Lillis
ext. 134 | tlillis@aiany.org

DIRECTOR OF EDUCATION

Lisa Mazzola
ext. 135 | lmazzola@centerforarchitecture.org

MANAGING DIRECTOR, AIANY

Suzanne Mecs, Hon. AIA NYS
ext. 115 | smecs@aiany.org

DIRECTOR OF EXHIBITIONS AND PROGRAMS

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ext. 120 | kmullen@aiany.org

AV TECHNOLOGY COORDINATOR

Reeve Nunn
ext. 124

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ext. 130 | rperez@aiany.org

YOUTH PROGRAMS MANAGER

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Rachel Serkin
ext. 132 | rserkin@centerforarchitecture.org

MEMBERSHIP & SPECIAL PROJECTS ASSOCIATE

Evelyn Serrano
ext. 110 | eserrano@aiany.org

IT/AV TECHNOLOGY MANAGER

Philip Stevens
ext. 124 | pstevens@aiany.org

TOURS ASSOCIATE

Alexis Yuen
ext. 644 | tours@aiany.org

PUBLIC INFORMATION ASSISTANTS

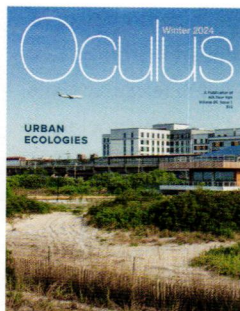
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URBAN ECOLOGIES



Cover: Arverne East Nature Preserve by landscape architects Starr Whitehouse is a 35-acre site on the Far Rockaway peninsula in Queens. A multipurpose community center and gender-neutral public restroom, designed by WXY Architecture and Urban Design, can be seen to the right.

Above: Terrain-NYC Landscape Architecture redesigned walkways, ramps, stairs, parking, and entry plazas across Morningside Gardens on the Upper West Side of Manhattan.

Features

15 Introduction: Urban Ecologies

By The Editors

16 The Gowanus Canal: Booming Test Bed for Climate-Change Adaptation

By James S. Russell, FAIA Emeritus

22 The Pathfinders

By Anthony Paletta

28 Cultivating the Urban Forest

By Zach Mortice

Departments

6 Letter from the Presidents: Looking Back, Looking Beyond

By 2023 AIANY President **Matthew Bremer**, AIA, and 2024 AIANY President **Greg Switzer**, AIA, NOMA, NCARB

8 Letter from the Editor: Ensuring Protected and Protective Urban Ecosystems

By *Oculus* Editor-In-Chief **Jennifer Krichels**

9 Contributors to This Issue Spring Issue Preview

10 At the Center: CFA Lab: Seeking Refuge and Making Home in NYC

10 Beyond the Center: The Bev

12 Street Level: Arverne East Nature Preserve

By **Beth Broome**

34 Lit Review

By **AJ Kushner**

36 Op-Ed: On Impactful Collaboration

By **Lee Altman**, AIA

37 Op-Ed: As the City Adapts, Will Nature Guide Design?

By **Claire Weisz**, FAIA

39 Index to Advertisers

40 New Year, New Action

By **Jesse Lazar**, Assoc. AIA, Executive Director, AIANY/Center For Architecture

Correction: In the Fall 2023 issue, in the story "At Home with Hemp: Climate-Positive Micro Homes at Wally Farms," the founder of Wally Farms was misidentified. Her name is Susan Danziger. We regret the error.

Looking Back, Looking Beyond

BY **MATTHEW BREMER**, AIA, 2023 AIANY PRESIDENT,
AND **GREGORY T. SWITZER**, AIA, NOMA, NCARB,
2024 AIANY PRESIDENT



Happy winter and welcome to 2024!

Over the past year, we embarked on a journey of self-reflection guided by the presidential theme, *Our City, Ourselves*. This theme prompted a shift in the scale of our thinking, from the grand symphony of cityscapes to the intimate and personal notes of our lives as New Yorkers, community members, architects, and activists.

As we write this, we hope we can bring the energy of the new year to improve our city further, in a way that will also help our changing planet. It's significant that this issue, themed *Urban Ecologies*, looks at how we are taking up these challenges. As we pursue stability and equilibrium, we engage in a delicate balancing act, in which environmental resilience and sustainability commingle with human equity, justice, and joy. It may seem like a daunting endeavor but, for New York architects, this routine is part of our daily professional lives.

In 2023, we were also proud to witness the emergence of the LGBTQIA+ Alliance within the AIA New York Chapter. A new committee, pulsating with fresh energy, contributes vibrant hues to our collective palette. This group will advocate for LGBTQIA+ colleagues by creating space to build community, host events and discussions, and foster diversity and inclusion within our profession.

We also launched the roundtable group *Small Firms, Big City*, which convened to discuss the challenges faced by smaller firms. As the largest AIA chapter in the nation, we must ensure that our rich tapestry of resources and networking opportunities is accessible to all members, regardless of scale or longevity. This new group aspires to nurture collaboration among small firms, creating a symbiotic environment for resource-sharing and knowledge exchange.

Expanding on the issue of equity, we asked ourselves, why do borough chapters tend to operate as completely siloed organizations? And how can we and the Center for Architecture (CFA) be more actively engaged with these other chapters? For the first time, AIA borough chapter presidents met throughout the year to discuss how we can collaborate better and more often. To be continued in 2024 and beyond...

Finally, *Our City, Ourselves* culminated with the first CFA Lab: "Seeking Refuge and Making Home in NYC," an exhibition currently on view in the Center's KPF Gallery outside Tafel Hall. Three residents were selected from more than 50 applicants to ponder the meaning of "home" in New York City through the lens of groups that have been marginalized in different ways in the city. (See "At the Center" on page 10 for a more detailed look at the exhibition's themes.) The show is up through March 23, and we

encourage anyone who has not seen it to stop in.

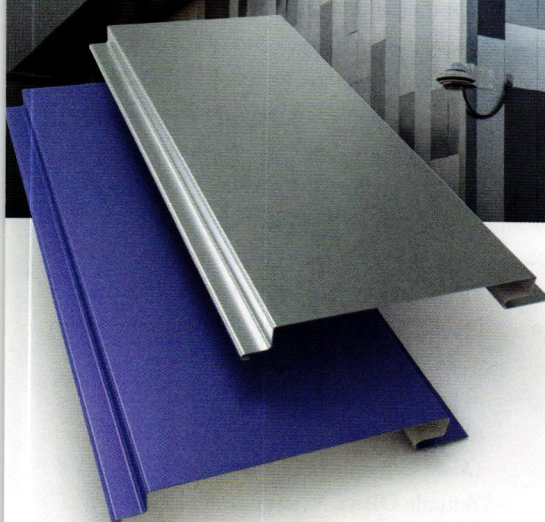
The exhibition is a great segue into the 2024 presidential theme, *Belonging and Beyond*, a clarion call for architects to dive deep into intentional listening, engagement, and interaction with traditionally marginalized groups. The theme underscores the importance of connecting, being attentive to, and immersing ourselves in the challenges faced by those touched by our architectural endeavors. It asks architects to play an active role in the metamorphosis of urban spaces, so that affordability, accessibility, and inclusion take center stage.

Standing before us as an enticing canvas, 2024 holds the potential to be a year to rebalance, reinvigorate, and reimagine the architects' role as public advocates and allies. Let us know about your challenges and wins as you embark on this work.

Matthew Bremer, AIA
2023 AIANY President

Gregory T. Switzer, AIA, NOMA, NCARB
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Ensuring Protected and Protective Urban Ecosystems

BY OCULUS EDITOR-IN-CHIEF JENNIFER KRICHELS



As the editors and contributors of this magazine began to work on the Winter issue, attendees of the global climate summit COP28 were gathering in Dubai. The headlines and details that came out of the conference were urgent and numerous, though one theme in particular resonated with us, as we examined the local issues related to climate change in New York: Our existing natural systems must be at the heart of human-led climate action. In short, protecting the existing and intact forests, marine life, and other ecological resources that we already have is a better investment than trying to replace them after they are gone. As Zoe Quiroz-Cullen, a director at international wildlife non-profit Fauna & Flora, told *The New York Times* in December, “We’ve got to focus on conserving the critical ecosystems, the irrecoverable carbon stocks that simply can’t be replaced.”

And the existing ecosystems, scientists are learning, are even more valuable than once thought. A 200-year-old tree that is felled stores more carbon than one of the same species planted today; new analysis of NASA’s Global Ecosystem Dynamics Investigation (or GEDI, for *Star Wars* fans) shows that forests hold an average of 30% more carbon than previously understood from individual nations’ reporting.

During discussions for this issue, landscape and urbanism experts observed time and time again that preserving our existing ecosystems has become more complex due to the many shifts at play in our city. Homogeneous species are more vulnerable than ever to climatic changes and blight, prompting a need for increased diversity and planning; areas that had not been prone to flooding are now frequently

underwater; trees and plants that used to thrive only farther south are now flourishing in our hardiness zone.

Those committed to solving the challenges related to climate change are immersed in boundary-stretching and cross-disciplinary work. As Chris Reed, founder of Stoss Landscape Urbanism, told reporter Anthony Paletta, conversations must be broad and address not only ecology and environment, but also social, racial, and ethical impacts of the work. “We’re not ecologists, but we need to know ecology; we’re not engineers, but we need to know engineering; we’re not sociologists, but we need to be very deeply involved in community conversations,” he said. In that vein, James Russell, FAIA Emeritus, looks at the massive collective effort behind transforming the Gowanus Canal neighborhood, one of the largest and most storied pieces of waterfront land in the city, into a livable, ecologically protected and protective place.

One of the city’s largest and most valuable ecological systems is its network of trees and green spaces. In his report about New York’s tree infrastructure, Zach Mortice examines how this resource must be studied, bolstered, and planned to serve the city and its inhabitants well into the future—a perfect representation of the symbiotic relationship between us and nature, even in our paved and planned metropolis. It is no secret that New York City’s green spaces versus green deficits coincide almost perfectly with well-endowed neighborhoods versus those that are underserved and facing health risks that could be mitigated by more green space and tree canopy.

I would also like to draw your attention

to two “Op-Ed” contributions from women working across many areas of the urban ecological landscape. In her essay, Lee Altman, AIA, a current *Oculus* committee member and generous contributor to the magazine’s ideas sessions, reflects on how landscape architects, planners, architects, and developers can collaborate to create impactful, ecologically responsible work. Claire Weisz, FAIA, writes about the challenge, and ultimate design problem, of delivering regenerative systems that work for people, land, water, and resources alike. Though public investment in urban ecological solutions may be lauded for its protective potential, she points to the growing fear of housing vulnerability for the current populations of newly resilient—and newly valuable—properties. In short, there is no end to the balancing act that professionals in this realm must execute if urban ecosystems are going to serve nature and citizens at once. We hope to revisit this topic frequently in future issues, and look forward to hearing more stories of perseverance and growth as our city and its design community work to foster and protect valuable natural resources.

I would also like to welcome new Board President Gregory Switzer, AIA, NOMA, NCARB, to the pages of the magazine, and wish Matthew Bremer, AIA, all the best as he moves to the golden land of emeritus presidents! We are also joined by new *Oculus* Committee members Nu Goteh, Yetunde Olaiya, Vyjayanthi Rao, and Amy Siegel, and look forward to collaborating with them on the work ahead in 2024.

A handwritten signature in black ink, reading "Jen Kr".

Jennifer Krichels, Editor-in-Chief
editor@aiany.org

Contributors to This Issue

BETH BROOME (“Street Level”) is the former managing editor of *Architectural Record* and a writer based in Brooklyn.

AJ KUSHNER (“Lit Review”) is a writer, researcher, and spatial designer in New York City. He is a current MA candidate at the Design Research, Writing, & Criticism program at the School of Visual Arts. His work centers on historic architecture, interiors, and decorative arts, with a focus on queer spaces and material culture.

ZACH MORTICE (“Cultivating the Urban Forest”) is a Chicago-based design journalist and critic focusing on architecture and landscape architecture. His work examines the intersection of design and public policy.

ANTHONY PALETTA (“The Pathfinders”) is a contributor to *The Wall Street Journal*, *Metropolis*, *The Architect's Newspaper*, *Architectural Record*, *Financial Times*, and other publications. He lives in Brooklyn.

JAMES S. RUSSELL, FAIA Emeritus, (“The Gowanus Canal: Booming Test Bed for Climate-Change Adaptation”) writes on architecture and cities. He is working on a book about how urban culture undergirds innovative companies in a uniquely challenging time for cities.

Spring 2024: Issue Preview

The Spring issue of *Oculus* will once again be dedicated to the honorees of AIA New York Chapter's Design Awards program, which recognizes projects that exemplify design excellence and demonstrate exceptional skill and creativity in the resolution of formal, functional, and technical requirements.

Visit aiany.org/architecture/awards/2024-aiany-design-awards to see a full list of this year's winners.

The 2024 prize winners were announced in a symposium on January 8, 2024, at the Center for Architecture. The Spring issue will feature the stories behind each project awarded, as well as comments from this year's esteemed jury, which included Sofía Aspe, Sofía Aspe Interiorismo; David Darling, FAIA, Aidlin Darling Design; Frank Harmon, FAIA, Frank Harmon Architect; Brian Johnsen, AIA, Johnsen Schmalig Architects; Mark Lee, Johnston Marklee; Fuensanta Nieto, Nieto Sobejano Arquitectos; and Andrew Thompson, AIA, NOMAC, LEED AP BD+C, Passaic County of New Jersey. The honorees will also be showcased at the annual AIA NY Design Awards exhibition, on view at the Center from May 2 to September 3, 2024.



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On View

AT THE CENTER

CFA Lab: Seeking Refuge and Making Home in NYC

Center for Architecture

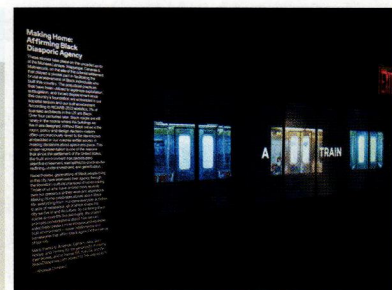
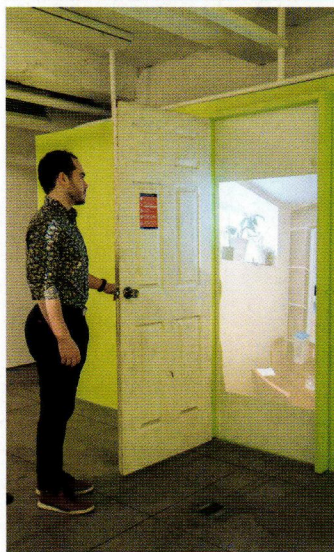
536 LaGuardia Place

Through March 23, 2024

The newest iteration of Center for Architecture Lab features the work of the residents from the lab's 2023–2024 cycle. Selected from 50 applicants, the residents were asked to respond to the idea of “home”—a concept that can take on many different forms and meanings, especially in post-COVID New York City. This lab is the first time since the program's launch in 2021 that the residents have created physical installations at the Center's location on LaGuardia Place.

The three residents—Kholisile Dhlwayo, NCARB, ARBV, NSWARB, an African-Australian creative working across multiple disciplines, including oral narrative, filmmaking, interior design, the built environment, and mapping; A.L. Hu, NOMA, NCARB, AIA, EcoDistricts AP, a transgender queer Taiwanese-American architect, activist, and organizer; and Karla Andrea Pérez, a first-generation Mexican-American designer, researcher, and folkloric dancer—focused on home as the porous threshold between public and private, and personal and political, which has outsized ramifications on marginalized communities. “CFA Lab: Seeking Refuge and Making Home in NYC” presents ways in which groups and communities have created rich experiences and dreamworlds that go beyond shelter. In the exhibited work conceived and presented by the three residents, visitors encounter the idea of “being at home” extended into practices of claiming public space, creating community, and safeguarding the right to shelter and refuge.

The CFA Lab is a multi-month, multidisciplinary residency program that



Clockwise from top left: (from left) Vyjayanthi V. Rao, A.L. Hu, Karla Andrea Pérez, Matthew Bremer, AIA, AIANY, Executive Director Jesse Lazar, Assoc. AIA, Kholisile Dhlwayo; Kholisile Dhlwayo's *Making Home: Affirming Black Diasporic Agency*; A.L. Hu's *Queeries: Designing Reality Equitably and Madly (Q:DREAM)*; Karla Andrea Pérez's *Undocumented*.

offers new voices in architecture and design full authorship over dedicated areas of the Center's platforms. This space allows them to share compelling and provocative content meant to elevate underrepresented perspectives. Created in response to the destabilizing forces of the global pandemic and the reinvigorated racial justice movement in the U.S., the program invites a greater diversity of professionals to participate in the fields of architecture and design, and encourages our community to consider new perspectives, critical questions, and innovative solutions to systemic problems.

Dhlwayo's *Making Home* is a counternarrative oral mapping project that celebrates the creativity and ingenuity of BIPOC communities as active agents that shape the city. The installation celebrates stories about Black life, including mundane everyday activities and acts of resistance, all of which shape our city and its culture. Hu's *Queeries: Designing Reality Equitably and Madly (Q:DREAM)* is a research-creation process and queer

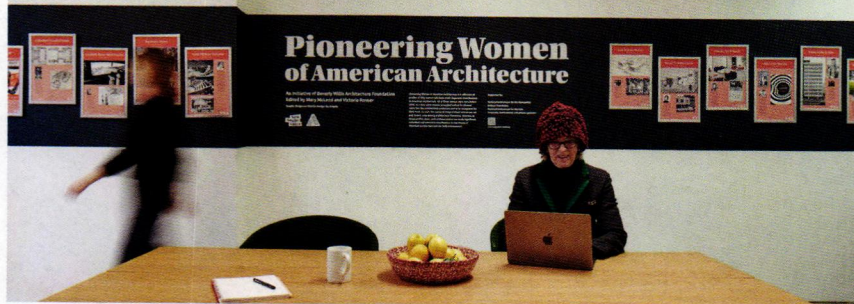
data analysis project that seeks to queer the architectural discipline by “telling new (queer) stories of ‘home’ in new (queer) ways, which demand new modes of assessment and accountability.” And Pérez's *Undocumented* uses video, photography, and interviews to present the existing homes of individuals who live with the status of “undocumented” in the New York City area.

BEYOND THE CENTER

The Bev

The Beverly Willis
Architecture Foundation
4 Manhattan West

The Beverly Willis Architecture Foundation (BAAF) announced in January the opening of The Bev, a new multiuse space and the foundation's headquarters, located at 4 Manhattan West. The headquarters offers space for incubating firms, the production of educational media, and strategic gatherings to advance women in their work lives, says BAAF Executive



The Bev is home to permanent and rotating exhibitions from the Beverly Willis Architecture Foundation.

Director Cynthia Phifer Kracauer, who spearheaded the initiative. Already The Bev has hosted BWAf's noted Emerging Leaders program, new interview recordings for its acclaimed audio documentary series, *New Angle: Voice*, and its first exhibition, "Pioneering Women of American Architecture."

Located at the nexus of local and regional rail, the High Line and the Hudson River Park, the 2,000-square-foot headquarters offers a newly appointed lounge, conference and meeting spaces, offices for the group's foundation staff, and setups for BWAf's board activities, including virtual and in-person meetings. "The Bev stands as a symbol of the power inherent in collaboration," says Michele O'Connor, PE, LEED AP, past chair of BWAf's board, and principal at the engineering firm Langan. "It is a testament to the boundless possibilities that arise when diverse talents and shared commitment come together. The dedication and expertise brought by these women have been instrumental in creating a space we are confident will help inspire and empower generations to come."

The second-floor space within the SOM-designed Manhattan West development has been provided with support by Brookfield Properties, whose executive vice president of design and construction, Sabrina Kanner, led the work and championed the inclusion of BWAf. Angelica Baccon (SHoP) donated full design services for the interiors. Other collaborators include JBB, Darby Construction, StickBulb, RavenHill Studio, Estiluz, and Crosby Street Studios, with select furnishings

donated by WeWork. An official launch party will be held this spring.

Founded in 2002 by the late Beverly Willis, FAIA, on the principle of

acknowledging, cultivating, and valuing women's contributions across the building industry, the BWAf champions gender equity in leadership and recognition in architecture, design, landscape, engineering, technology, real estate, and construction. The foundation achieves its mission through research, documentation, public education, and transformative industry practices, striving to build a global movement that celebrates women's impact on the built environment. ■

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Arverne East Nature Preserve

BY BETH BROOME

On a bright and brisk morning recently, high above New York City's eastern coastline, a pair of bald eagles circled overhead as a park ranger watched from below. In the surrounding grasslands, northern cardinals and red-winged blackbirds sang from their refuge. Just blocks to the north, a different symphony unfolded: sirens wailed, a tractor trailer downshifted, and the A train clattered along its elevated track. The convergence of these two contrasting worlds typifies the new Arverne East Nature Preserve, designed by landscape architects Starr Whitehouse.

The preserve occupies a 35-acre site on the Rockaway Peninsula in Queens, part of a barrier island system along Long Island's southern shore. Within the dense Arverne and Edgemere neighborhoods, it is wedged between a roadway and the elevated subway to the north and, to the south, a popular boardwalk, which skirts a broad, sandy beach. Once a vacation retreat filled with bungalows and hotels, the area long ago fell into decline and, following various urban renewal efforts, has become a patchwork of large public housing developments, prewar single-family residences, mixed-use projects, and vacant lots.

Following the 1968 establishment of the Arverne Urban Renewal Area (the earliest iteration of the redevelopment

effort for the two-mile stretch), a Final Environmental Impact Statement (FEIS) laid out, in 2003, the current development parameters for the area. In 2006, the city issued an RFP for a 116-acre parcel at the site's east end, which is envisioned as a large net-zero, mixed-use project with affordable and market-rate housing. To mitigate the impact of the construction, a nature preserve—which would restore and promote the fragile ecology here and be owned and maintained by the New York City Department of Parks and Recreation—was mandated as the first phase of the plan.

The land designated for the preserve was overgrown and derelict, crisscrossed with crumbling roads, and used as an illegal dumping ground. Nonetheless, Starr Whitehouse's team immediately saw its potential as a diverse and vibrant maritime habitat. "When I first visited the site," recalls Starr Whitehouse partner Laura Starr, "I thought, *Wow! What an opportunity to create a maritime forest for this community and for all of New York.*" To the east were natural dunes, grasslands, and shrublands with an intact habitat of bayberry, winged sumac, and red cedar. The west side, though ensnared in a tangle of invasive trees and plants, had an appealing hilly topography—to facilitate a tour, the contractor came with machetes. The southern portion of the site along the beachfront is designated a Coastal Erosion Hazard Area, which limits grading and landscaping.

While the FEIS dictated keeping the preserve as natural as possible, the design team soon learned through its conversations with the community that creating this kind of wilderness would

alienate the residents and render the site—a critical connector between the neighborhood and the boardwalk—unsafe at night. It needed to include direct, well-lit paths. And it needed to demonstrate that it would serve not just nature, but also people. (Restrictions to protect the nesting grounds of the endangered piping plover already prevented use of an adjacent stretch of beach for recreation.) “The community’s input changed the team’s approach,” says Starr. “Because the preserve is in an urban area, the human system needs to integrate with the natural system—it moved from being a pure nature preserve to an urban nature preserve.” While promoting maritime flora and fauna in a naturalistic landscape (and counteracting storm surge in this flood zone), the preserve would simultaneously become an immersive retreat for a historically underserved community and other visitors. Reenvisioning the scheme to meet this critical need required coordinating among the numerous stakeholder agencies involved in city projects, adding another layer of complexity.

To reframe the site’s perimeter, the team specified new sidewalks and curbs (with cuts from the street to channel stormwater runoff into a system of bioswales) and a low, single-rail timber fence. The preserve includes five habitat types: a maritime woodland at the hilly western end, dunes skirting the boardwalk, and shrublands, grasslands, and wet meadows to the north. Team members built on plant populations that were already successfully established, like American beachgrass, seaside goldenrod, and beach plum, specifying a variety of sizes to create a multilevel canopy. They also retained certain non-native species that were thriving, such as Japanese black pine, which had been planted by RISE, a local community organization long invested in improving the derelict site.

The existing condition was also remarkable for its hodgepodge of soil conditions mixed with rubble. While the team removed a swath of asphalt, it left the soil largely untouched. That was one of the challenges, says Starr. “We couldn’t do a lot of regrading or bringing in soil—it was not in the budget,” she



Facing: The preserve offers space to walk, meditate, and experience native ecologies just minutes from a dense urban community.

Above: Previously, portions of the site were used for off-street parking. An aerial view of the preserve, nestled between the neighborhood of East Arverne and the Atlantic Ocean.

Below: A graphic aerial shows the preserve’s five habitat types.

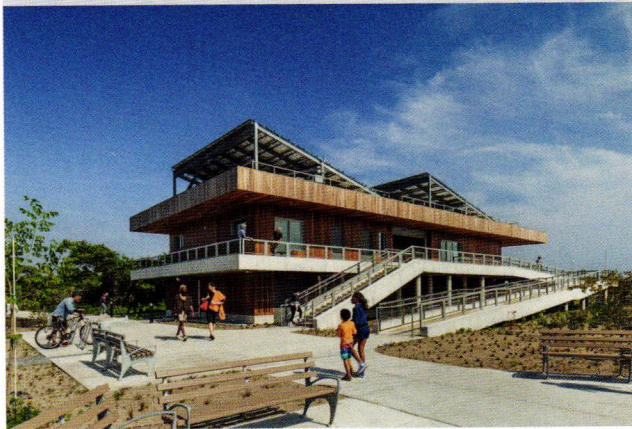




Above: Strategic use of standard lighting provides safe access for residents at night, while minimizing impact on wildlife.

Arverne East Multipurpose Building

Designed by WXY, the preserve's multipurpose welcome center, community room, and gender-neutral public washroom provides a built demonstration of "living with water" in the sense that this public building shows through its design how resilient, accessible, and shade- and light-conscious a net-zero building can be.

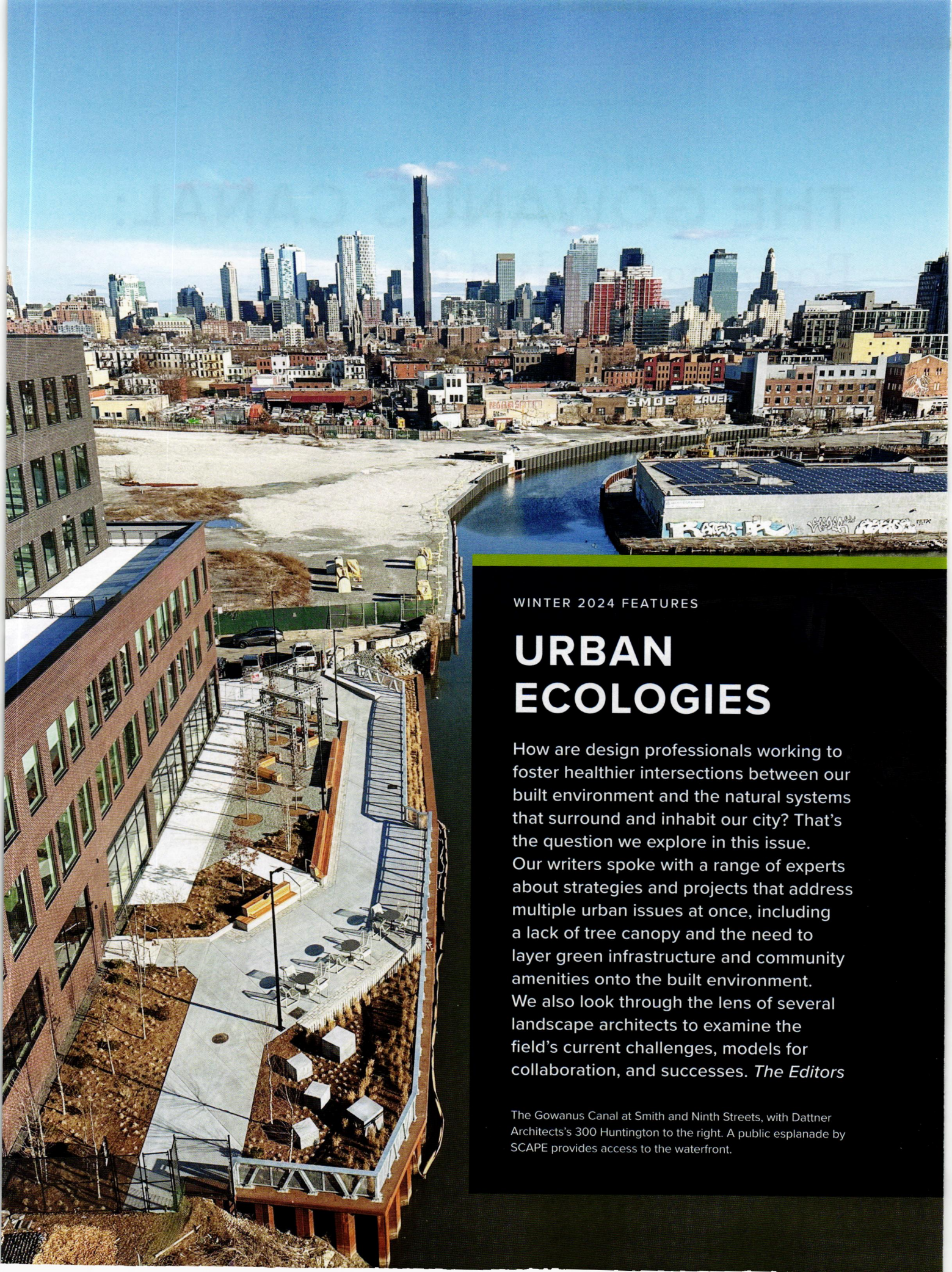


says. "We had to accept the conditions as they were, which, in a way, made it a testing ground for what can grow when you do the minimal amount of soil remediation."

A series of footpaths crosses the preserve. Running north to south, from the street to the shore, they are straight and direct. Those running east-west meander, creating a "journey" through the landscape. Circumnavigating sensitive plant communities, the paths are largely concrete, though Starr Whitehouse also incorporated recycled plastic lumber boardwalks—a move that, along with interpretive signage, make the site feel like a nature preserve.

Importantly, paths connecting to the community are illuminated with black-painted pole lighting selected from the Department of Transportation's approved list. To accommodate the trucks that service the fixtures, paths were widened, straightened, and strengthened. A handful of "seating nodes" with simple benches acknowledge the preserve's role as a community amenity, and at the site's eastern end is a handsome, sustainable 5,000-square-foot wood-clad building designed by WXY. This houses a ranger station and classroom space, which is a hub for educational programs.

These programs will be a key ingredient to the Arverne East Nature Preserve's success. "This is a new type of landscape, and it needs stewardship and programming," says Starr. "The more people who use the preserve in positive ways, the more momentum it will gain as a nature destination for New Yorkers." ■



WINTER 2024 FEATURES

URBAN ECOLOGIES

How are design professionals working to foster healthier intersections between our built environment and the natural systems that surround and inhabit our city? That's the question we explore in this issue. Our writers spoke with a range of experts about strategies and projects that address multiple urban issues at once, including a lack of tree canopy and the need to layer green infrastructure and community amenities onto the built environment. We also look through the lens of several landscape architects to examine the field's current challenges, models for collaboration, and successes. *The Editors*

The Gowanus Canal at Smith and Ninth Streets, with Dattner Architects's 300 Huntington to the right. A public esplanade by SCAPE provides access to the waterfront.

THE GOWANUS CANAL:

Booming Test Bed for Climate-Change Adaptation

BY JAMES S. RUSSELL, FAIA EMERITUS



The design for Selldorf Architects's CSO headhouse in Red Hook, Brooklyn, was inspired by the industrial quality of the historically industrial Gowanus neighborhood. A 1.6-acre public space designed in collaboration with landscape architects DLAND Studio will be located to the south of the headhouse, offering seating and access to a waterfront esplanade.

Tower cranes sprout from sections of the 1.8-mile Gowanus Canal frontage, one of the few New York City neighborhoods where large development sites can still be found—especially those on the waterfront.

Yet it is also one of the most challenging places in the city to build. Heavily polluted soils, with those chemicals seeping into the fetid waterway, are the legacy of more than 150 years of industrial

activity in what had once been a network of tidal creeks meandering through marshland. Add to that climate-change effects such as rising seas (an entire foot since 1900), storm waves surging up the canal, and increasingly heavy rains that send runoff rushing downhill from surrounding Brooklyn neighborhoods, including Boerum Hill, Carroll Gardens, and Park Slope.

Walter Meyer, a founder of Local Office Landscape and Urban Design, who has extensive experience managing flooding, lives and works in the neighborhood. "Water backs up into basements," he says. "Seams open in pipes, squirting water into the ground, closing streets, and impacting businesses."

Since the early 2000s, the Gowanus has been a test bed for adaptation to these interlocking and dynamic forces. Today's building boom involves collaborations among developers, local activists,

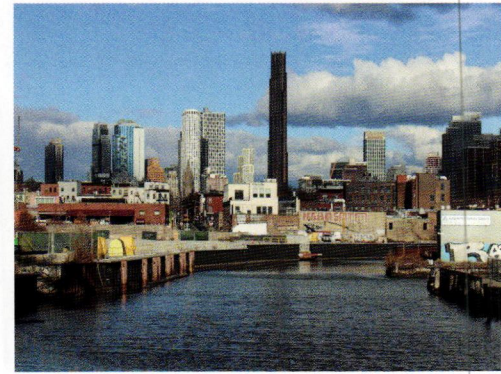


and an alphabet soup of local, state, and federal transportation, sanitation, and environmental agencies. Under the aegis of the Environmental Protection Agency (EPA), which declared the canal a Superfund cleanup site, soils largely polluted by coal tars are being excavated and removed, although deeper soils will be capped by an impermeable membrane.

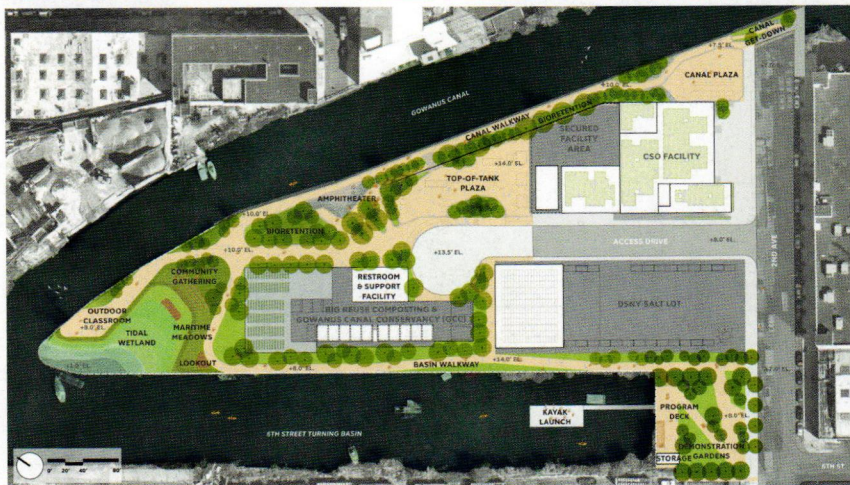
Stormwater volumes that double during storms overwhelm aging sewers that are able to manage combined wastewater and stormwater on dry days. That excess, including bacterial pollution

and roadway waste, is routed into the Gowanus by combined-sewer outfalls (CSOs). These are the largest sources of polluted waters around New York, and the EPA has mandated that these be mitigated (as it has in other cities).

Sewer hydrology may not make the typical architect's heart beat faster, but mitigation includes a range of design tactics that operate from the scale of individual sites to entire watersheds. The methods used are evolving as lessons are learned, and design professionals—especially landscape architects—are leading innovation in the field.



Above: The Gowanus Canal as it appears now, with Downtown Brooklyn on the horizon.



Top: Bird's eye view of the salt lot and Sixth Street turning basin, developed by SCAPE as part of the Gowanus Lowlands Master Plan for the Gowanus Canal Conservancy.

Bottom: The concept plan for SCAPE's Owl's Head CSO facility project.

The city's Department of Environmental Protection is the client for two of the most prominent and expensive projects. At the head of the canal, a phalanx of cranes is excavating what will become an eight-million-gallon tank below grade that stretches across a two-block site. The Red Hook CSO facility will detain stormwater during major storm events, diverting it from the sewage-treatment plant it feeds, until capacity returns to normal as runoff flows decline. Selldorf Architects has designed a brick-red terra-cotta enclosure of louvered panels that will wrap a filtering, pretreatment, and odor-control headhouse (engineered by Hazan and Sawyer with Brown and Caldwell) above grade. The louvers aid ventilation and selectively reveal the workings within.

"The idea was to build not a fortress, but a public amenity," explains Kevin Keating, a partner at Selldorf. The site includes publicly accessible open space, most of it atop the tank. Walkways that accommodate maintenance trucks will curve between oval patches of green roofscape and rain gardens that attractively extend an adjacent park to the canal. The landscape architect is Susannah Drake, a principal at Sasaki.

Several blocks south, a second facility, called Owl's Head, comprises a four-million-gallon subterranean tank

that will share its site with structures housing a salt shed, a composting center, and a small building to accommodate programming by the Gowanus Canal Conservancy. Selldorf will clad the structures in convex precast-concrete flutes that recall the rhythms of a nearby derelict grain elevator, “the vernacular of industrial forms along the canal,” explains Keating.

On the five-acre wedge of land that is mostly surrounded by the canal and a boat slip called a turning basin, landscape architecture firm SCAPE has designed 1.6 acres of waterside esplanade and landscaped public space. This includes a 3,000-square-foot constructed salt marsh, which recreates native habitat from the water’s edge to the public space atop the tank.

The landscape will join a 20-acre network of café-lined esplanades, pedestrian bridges, and boat launches that are coming together along the canal as sites are redeveloped. “Already 10 properties have applied to create these privately owned public spaces,” says Diana Gruberg, landscape director of the advocacy and stewardship group, the Gowanus Canal Conservancy (GCC). For an esplanade that fronts the recent conversion of a 1906 electricity-generating plant into the Powerhouse Arts incubator, landscape architect Ken Smith took cues “from the sheet-pile seawall to speak to the historic vocabulary of the canal and powerhouse.” He extended the metal bulkhead above grade as a railing, since “the corrugations are the perfect size to stand in.” A stone revetment would have been the default solution to manage the transition from walkway to the high ground floor, but Smith called for a steep soil berm planted with a tangle of native species that is retained at its floodable base with massive precast-concrete industrial blocks. (The public can’t reach the esplanade yet. Because the walkway predated current esplanade standards, a dispute about potential alterations has not yet been resolved.)

In the shadow of the elevated subway station at Smith and Ninth Streets, 300 Huntington, a just-completed six-story building of mixed office and light-industrial space, SCAPE designed an 8,700-square-foot esplanade that will become a gateway to the esplanade network. It terraces gently from a porous decomposed-granite surface hosting shade trees and trusswork trellises to the 12-foot esplanade walkway. Intertwined with the diagonally braced railing, a planted edge was installed a couple of feet lower. SCAPE Principal Gena Wirth says the edge “increases planting

“The idea was to build not a fortress, but a public amenity.”

—KEVIN KEATING,
SELLDORF

Below, from top: The amphitheater at the Owl’s Head CSO Facility, located between Second Avenue and the Sixth Street turning basin. The Owl’s Head CSO Facility and public canal walkway.



area, adds stormwater storage and permeability, and also encourages plants that drape and fall over the edge, reminiscent of the wild ecology of the Gowanus in its post-industrial era.”

Wirth and others would like to see more native microecologies lining the canal edge that can enhance stormwater and flood management as they add shade to combat the heat-island effect. To confine the canal’s remaining pollutants, the EPA insists on limiting interruptions to the fixed steel bulkhead. “People think urban habitat is icing on the cake,” says Wirth. “It is increasingly important to preserve biodiversity.

Native bees, for example, are more attracted to urban areas because there are fewer detrimental chemicals and pesticides than in rural areas.”

Indeed, the 2019 Gowanus Lowlands master plan, drawn up by SCAPE for the GCC, envisions routing stormwater from nearby streets through constructed marshlands that filter out sediments and break down pollutants at the shallow inland end of the canal’s several turning basins. These are partly inspired by a successful street-end bioremediation pilot project called a sponge park, designed by Drake and completed in 2015. Several observers see the parks as a useful way

to enhance public access and to manage large volumes of stormwater in the public right-of-way, by using biological means rather than more pipes and tanks. “We need more projects like sponge parks to integrate absorbent landscapes into the city,” Drake says. “Street ends are an ideal place for them.”

A 2021 rezoning set off the current building frenzy along the northern stretches of the canal, with towers exceeding 20 stories. In return, the developers must raise the ground floor of buildings above projected flood levels; remediate soils; and manage (and treat) all the rain that falls on their sites using green (planted) or blue (water-detaining) roofs and rain gardens, porous pavements, and other water-management tactics. The collaboration between architects and landscape architects is most fruitful where buildings hit grade.

With the CSO tank projects coming in at a staggering \$1.6 billion, green infrastructure will inevitably play an increasing role in stormwater and flood management, especially since its benefits

Several observers see the parks as a useful way to enhance public access and to manage large volumes of stormwater in the public right-of-way, by using biological means rather than more pipes and tanks.





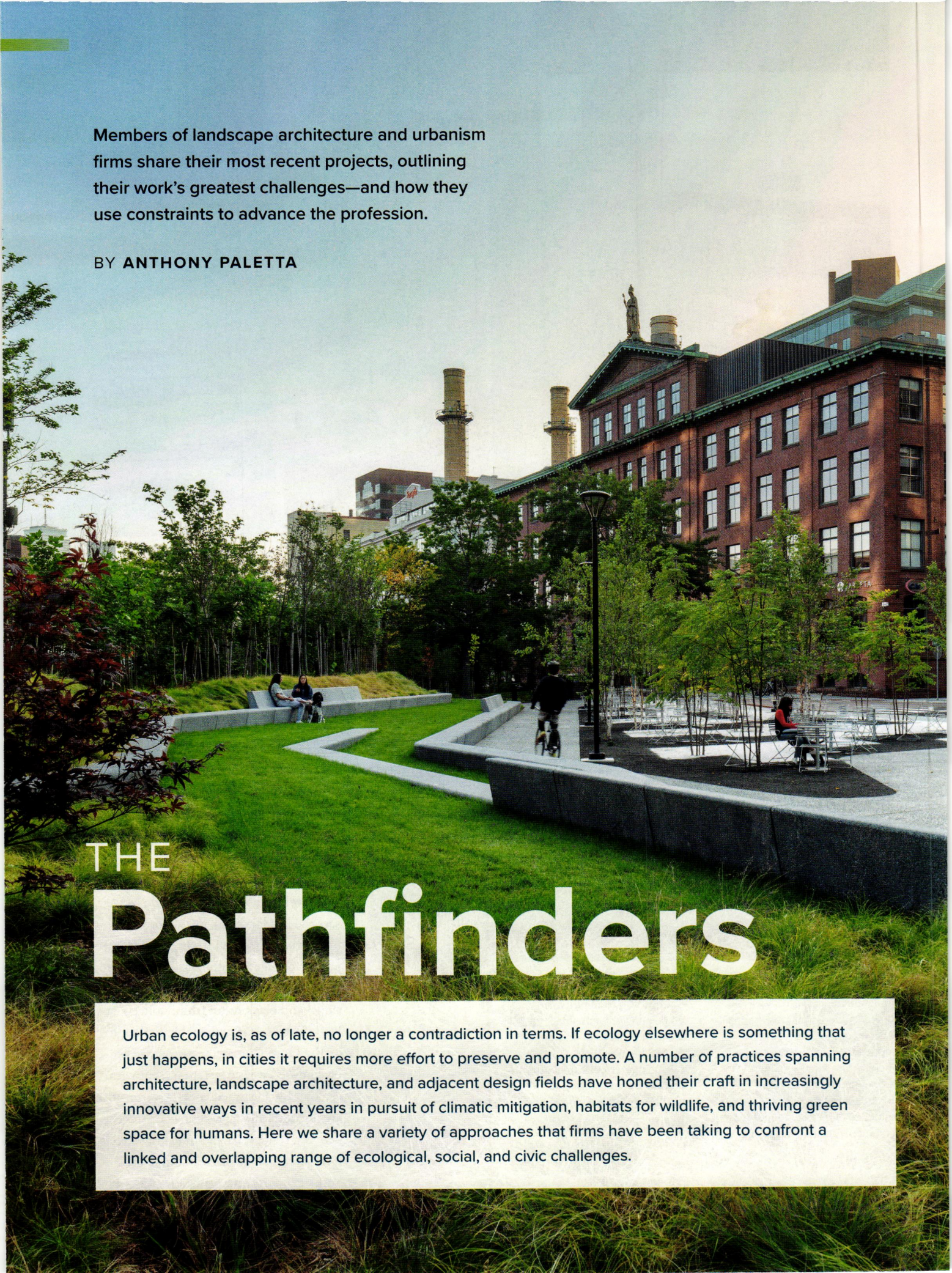
Facing: As part of the transformation of a 118-year-old power station into Powerhouse Arts, a contemporary art and fabrication space, landscape architecture firm Ken Smith Workshop reshaped and restructured the waterfront's edge, celebrating and reusing common industrial materials.

This page: At Smith and Ninth Streets, 300 Huntington, an office and light-industrial building by Dattner Architects, SCAPE designed an 8,700-square-foot esplanade that will become a gateway to the canal's esplanade network.

include enhancing habitat, adding value to the neighborhood, and expanding the green space that communities are demanding.

Landscape architect Walter Meyer says coordination among the many involved agencies is essential because water is more effectively managed near its source and more comprehensively at watershed scale. "You may need big buried pipes for triage," he says, "but streets need to be made fully porous from sidewalk to roadbed." This concept is finding increasing acceptance in cities like Copenhagen, but has been only tentatively adopted in New York. Meyer sees the need to bring private property owners and their architects onboard not just to manage runoff on-site, but also to increase recycling of gray water (think sinks) and black water (think toilets), at least in areas most vulnerable to flooding.

The Gowanus canalscape may never be confused with Amsterdam, but with ecologically informed landscape, sensitive architecture, and a peaceful coexistence between residential and industrial streets, it may yet take its place among New York's extraordinary waterway places. ■



Members of landscape architecture and urbanism firms share their most recent projects, outlining their work's greatest challenges—and how they use constraints to advance the profession.

BY ANTHONY PALETTA

THE Pathfinders

Urban ecology is, as of late, no longer a contradiction in terms. If ecology elsewhere is something that just happens, in cities it requires more effort to preserve and promote. A number of practices spanning architecture, landscape architecture, and adjacent design fields have honed their craft in increasingly innovative ways in recent years in pursuit of climatic mitigation, habitats for wildlife, and thriving green space for humans. Here we share a variety of approaches that firms have been taking to confront a linked and overlapping range of ecological, social, and civic challenges.



Facing and left: At Triangle Park, Stoss introduced 400 individual new canopy trees on a one-acre traffic island lot, former site of a petroleum and storage facility.

What is your biggest challenge?

It's obviously climate change—and especially how we deal with that from a governance and jurisdictional point of view. We all know what the scientific challenges are, and how design can help us adapt, but climate change raises issues that are cross-jurisdictional. The solution doesn't end at your property line. If the person next to you isn't in sync with what you're doing on flood control, water is going to get into your property (and theirs). This applies to both private and public property. Consequently, we need to set up commissions that cut across traditional lines of governance, that can work in a cross-disciplinary and cross-jurisdictional way. Whether it's a small-scale or a large-scale site, we inevitably need to have these conversations where broader systems and solutions are coordinated.

What's a rule you like to break?

The one I would suggest breaking is the adage “stay in your own lane.” For us as designers, it has always meant thinking far beyond the extent of the site we're dealing with: What are the bigger social, cultural, and economic forces at play, and how can we work with larger-scale systems, even at a local level? With the climate crisis and ongoing social/racial/ethical reckoning, we need to have different kinds of broad conversations. We're not ecologists, but we need to know ecology; we're not engineers, but we need to know engineering; we're not sociologists, but we need to be very deeply involved in community conversations. Start deep within your own disciplinary training, for sure, but look far beyond the edges to address the complex problems we face.

BOSTON, MA

Chris Reed

Founder and Design Director, Stoss Landscape Urbanism

What is or was your defining project of the last year?

Triangle Park, Cambridge, MA

Triangle Park is the city's first demonstration and iteration of its urban forestry plan. It stems in part from many years, or decades, of cities working from a small, select list of trees they thought were best for urban streets. Here, the city asked, “Why can't we do more in terms of biodiversity, and in terms of planting and maintenance practices that might ensure better outcomes?” Historically, if a street tree dies out suddenly, it's like

somebody lost a tooth. At Triangle Park, we used almost 24 new species instead of six. This allows for natural competition among individual trees and species. If you have a biodiverse group of trees and some die off, it isn't a crisis because it just leaves room for the species that are thriving.

There are other recent biodiverse micro forests, but they're not always designed as real social spaces. We wanted to say there's room for people in this mix. We thought it was important to design it as a social space, but as one that still had all these trees.



NEW YORK, NY

Terrain-NYC

What is or was your defining project of the last year?

Morningside Gardens Renovation New York City, NY

A defining series of projects in 2023 was our ongoing work, rehabilitating and reimagining modernist-era housing throughout Upper Manhattan and the Bronx. This includes the completion of our Morningside Gardens landscape renovation, just north of Columbia University. The cooperative apartment campus was in serious need of renovations when we were hired in 2017. It became a case study in preservation, community engagement, building on the legacy of modernist landscape architects, and addressing contemporary problems, such as accessibility and decentralized stormwater management.

We were also busy designing at eight New York City Housing Authority (NYCHA) sites from the same era. It is immensely powerful and gratifying to be devoting our office's resources to the reimagining of these sites with the residents who call them home. Our work often extends beyond landscape

architecture and touches on aspects of social and environmental justice as we work with the Tenant's Associations and private developers through NYCHA's PACT program.

What is your biggest challenge?

As landscape architects, we see the impacts of climate change firsthand; sites are flooding that never flooded before, and new plant species are thriving. The NYC Department of Environmental

This page: Terrain-NYC redesigned walkways, ramps, stairs, parking, and entry plazas across Morningside Gardens, preserving much of its original 1957 landscape design by Clarke and Rapuano.

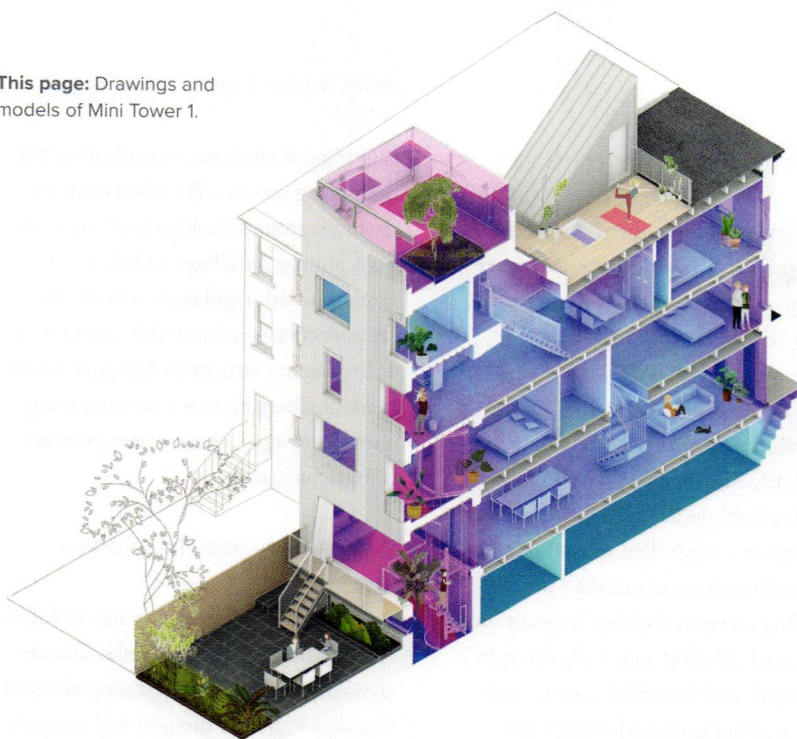
Protection's revised Stormwater Manual and Stormwater Pollution Prevention Plan requirements—meant to address the results of climate change—are impacting nearly every project in our office. These regulations provide agency to landscape architects to play a bigger role in designing stormwater infrastructure and, because such interventions are required by code, we see real opportunity for additional quality public space as a result.

What's a rule you like to break?

It's not breaking a rule per se, but our office gathers every other week for an in-person design workshop where we draw together. That time spent drawing is incredibly productive. We may have eight or 10 designers quickly developing ideas. We believe that working this way helps us get to the heart of the design issue quickly and identify areas outside the original brief that are worthy of exploration, which can add value to our projects. It also creates consistent design opportunities for our staff and, we think, keeps our design ideas fresh.



This page: Drawings and models of Mini Tower 1.



BROOKLYN, NY

Rachely Rotem and Phu Hoang

Founding Directors, Modu Architecture

What is or was your defining project of the last year?

Mini Tower One

Brooklyn, NY

Mini Tower One is an extension to a multifamily residential building in Brooklyn. This extension, adhering to passive house principles, reduces energy consumption during extreme weather seasons and features multiple indoor-outdoor living spaces, fostering connections with the outdoors during milder seasons. The addition serves a dual purpose: it acts as a precooling buffer for incoming air, and it provides residents with a panoramic view of the changing seasons.

The project initiated our Mini Towers research—it serves as a prototype for urban development, mapping potential city sites for similar constructions. Each lot is characterized by small footprints that offer vertical expansion possibilities. This strategy introduces diverse microclimates into New York's housing stock and offers

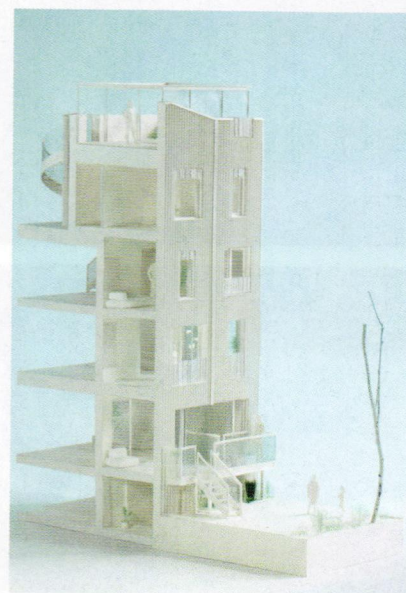
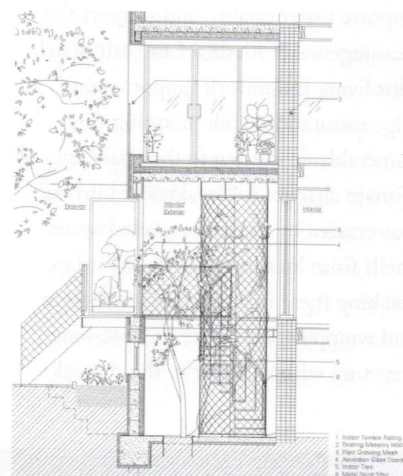
versatile floor plans, ensuring adaptability and growth over time. It's a blueprint to address New York's housing shortage while offering varied experiences with urban natures.

What is your biggest challenge?

Our challenge lies in reimagining architecture not as isolated structures, but as components of a broader environmental system, encompassing ecological, climatic, and sociocultural aspects. Instead of confining design within traditional inward-oriented exterior walls, architecture can extend outward, integrating and interacting with its surrounding environment. This approach involves designing for varied microclimates that cool air before it reaches exterior walls, thus reducing energy usage and enhancing residents' well-being. Features like public shade areas and enhanced biodiversity can benefit a local community, contributing to the creation of a more inclusive city.

What's a rule you like to break?

Every rule can be broken, but the key lies in identifying which rule to break based on the opportunities it presents. We believe that constraints are powerful catalysts for design innovation. Clear programmatic, climatic, financial, and functional constraints are the foundation of a creative design process. Within these boundaries, open-ended design processes can uncover a rule that can be broken, leading to architectural innovations and the potential for living better. This understanding guides when and why a rule can be broken.



NEW YORK, NY

Dirt Works

What is or was your defining project of the last year?

West Pond Living Shoreline Jamaica Bay Wildlife Refuge, Gateway National Park, Queens and Brooklyn, New York

For the West Pond Living Shoreline project, we considered the complex interplay of a shifting estuarine ecosystem and the National Park Service's programmatic and accessibility goals to reestablish, protect, and sustain its critical marsh habitat. Breakwater structures, additional sediment, marsh plantings, and erosion control coalesce to attenuate wave action, improve water quality, and support the reemergence of mudflats and salt marsh. This living framework supports pond edge restoration while adapting this vulnerable ecosystem to the challenges of climate change. A "breakwater burrito" was created by packing recycled oyster shells from local restaurants in burlap, stacking these in a pyramidal structure, and wrapping the entire 12-foot-long structure with coir fabric. These break-

water structures together with recycled Christmas tree fascines attenuate wave action, accrete sediment, and protect the newly constructed shoreline.

We repurposed 70,000 cubic yards of fill from construction at JFK Airport to establish nine acres of new habitat and 2,400 linear feet of shoreline. Silt sock barriers, which allow water to flow through at a controlled rate while trapping sediment, were installed for 680 breeding terrapin females. In addition, we placed 240,000 native plantings in salt marsh and intertidal zones, creating a resilient ecotone between the high marsh and the freshwater pond. Ongoing monitoring and data-driven research will sustain and inform this living shoreline design.

Protecting and sustaining West Pond is critical to the resiliency of the larger Gateway National Park ecosystem. Equally critical is protecting and sustaining the idea of community stewardship. This multidiscipline, community-based initiative establishes an effective and vital response to our changing climate.

What is your biggest challenge?

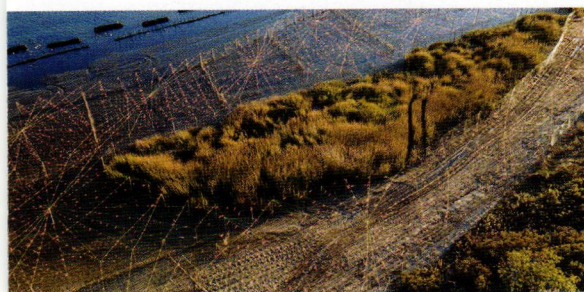
Our biggest challenge is navigating the permitting process. We often want to try more groundbreaking techniques for pilot projects, and have to balance this approach with regulatory reviews. We are particularly interested in oyster reefs as breakwater structures, but have found them challenging to use because many clients and agencies see these as an attractive nuisance.

What's a rule you like to break?

As landscape architects, we like to follow rules while taking design risks. Our design risks include incorporating elements that add a layer of thought and research to projects. This could be a braille rail with poems for visually impaired users, deck board patterns that mimic the sonogram of native bird songs, or plantings that encourage a sensory experience.

Clockwise from top left:

Breakwater structures;
West Pond in winter; planting
volunteers.





BROOKLYN, NY

Barbara Wilks

Founding Principal, W Architecture and Landscape Architecture

What is or was your defining project of the last year?

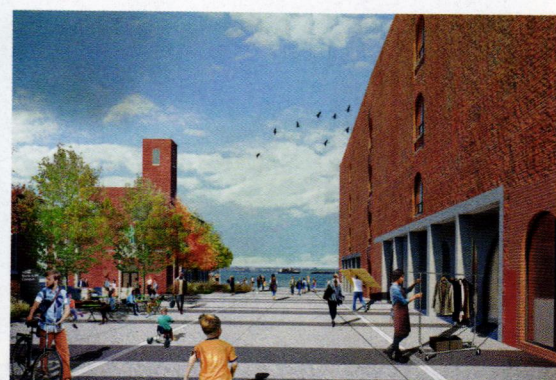
Shoreline projects, Brooklyn and Queens

Many of our urban projects involve reimagining and making public formerly disturbed and isolated private areas. This past year, our projects at Bush Terminal and the West Wharf, in Brooklyn, and Downtown Far Rockaway Streetscapes and Plazas, in Queens, are good examples of reintegrating such places back into the community, while also making them more inviting to other species. Bush Terminal was carefully designed to reinterpret the unique historical aspects of this former bustling transfer hub by opening the waterfront to the public, with multiple spaces for gathering for the rechristened Made in New York campus. West Wharf opens Greenpoint to the East River, providing a variety of

pedestrian environments, including woodlands and beaches. A diversity of seating types and areas invite gathering and strolling. Far Rockaway provides greater pedestrian amenity and safety, rebalancing vehicular, pedestrian, bike, and bus networks to extend public space throughout downtown, and connecting the A train terminal to the Long Island Railroad.

What is your biggest challenge?

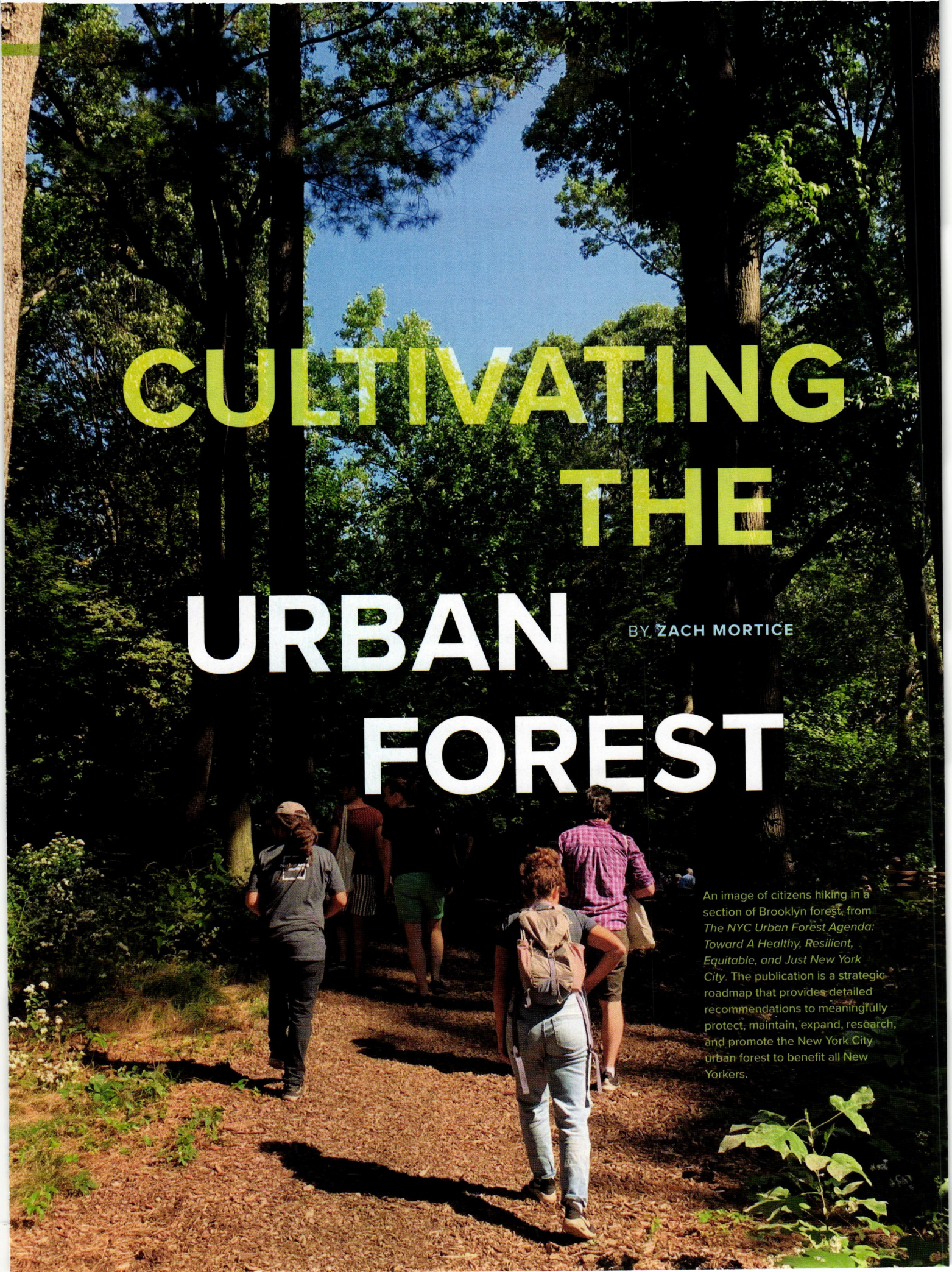
It's always a challenge to make unique places that derive from the geography of the area and the people involved. We like to make places that feel welcoming and of the place, not alien. On many occasions, traces of former inhabitation have been erased, and many types of research are required to reestablish identity. We look to leave a place more diverse and healthier than we found it.



Clockwise from top left:
West Wharf in Greenpoint,
Brooklyn; Bush Terminal campus
in Sunset Park, Brooklyn;
Downtown Far Rockaway.

What's a rule you like to break?

Why do streets look similar, no matter where we are in the city? If we could walk through the city as it was in the 1600s, there would be great diversity in the environment. Could streets tell us more about where we live? For instance, if we live in a low-lying area, could the streetscape reflect a wetland environment, helping to control flooding as well as providing identity? Are there areas that could be considered for future forests? Could parking spaces, for instance, become linear forests? We'd like to see more innovation in rebalancing public space for people and for greater health. This would include more space for a diverse nature. ■

A group of people are hiking on a dirt path through a dense forest of tall trees. The path is covered in brown leaves and mulch. The people are seen from behind, walking away from the camera. The trees are tall and green, with sunlight filtering through the canopy. The sky is visible through the branches.

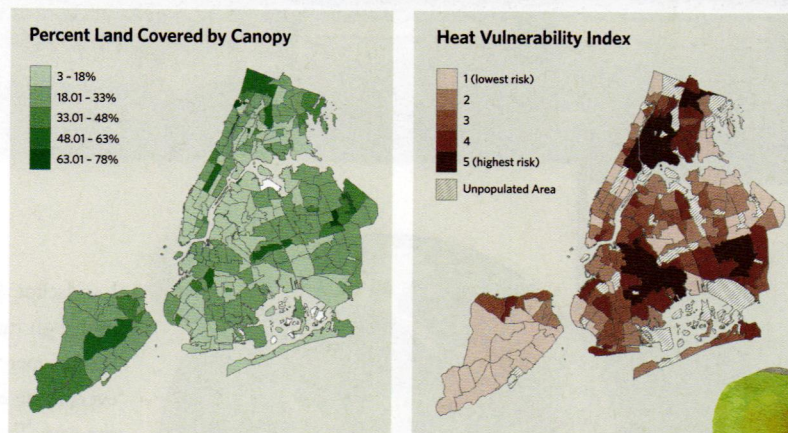
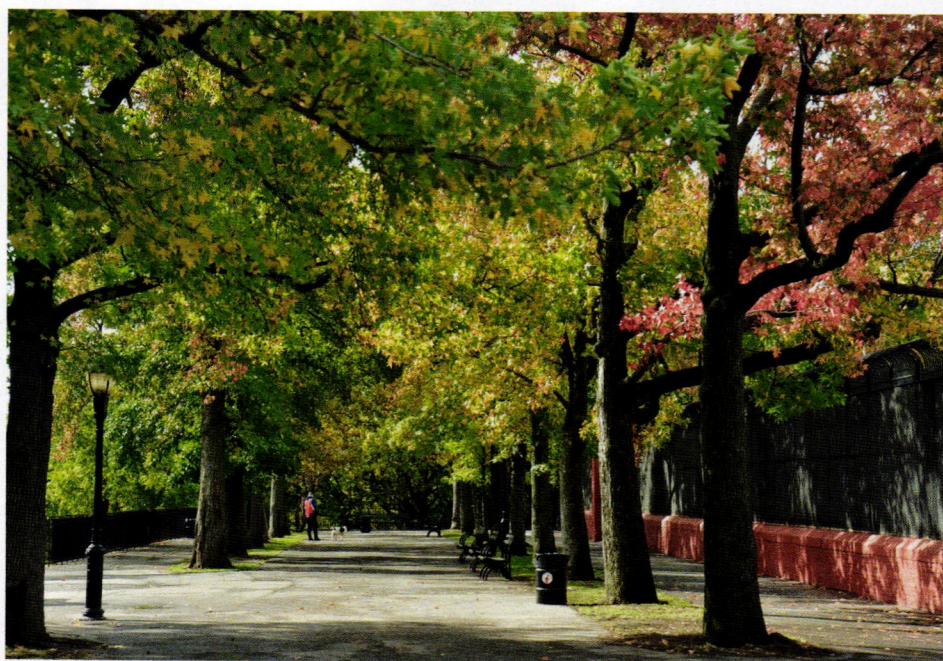
CULTIVATING THE URBAN FOREST

BY ZACH MORTICE

An image of citizens hiking in a section of Brooklyn forest, from *The NYC Urban Forest Agenda: Toward A Healthy, Resilient, Equitable, and Just New York City*. The publication is a strategic roadmap that provides detailed recommendations to meaningfully protect, maintain, expand, research, and promote the New York City urban forest to benefit all New Yorkers.

New York City has roughly one tree for every resident. That's a good thing, because trees are necessities, given the reality of catastrophic climate change and the simple delights that make urban life livable. Put simply, "The urban forest cannot survive without people, and people cannot survive without the urban forest," says Tami Lin-Moges, interim director of the Cities Program in New York at The Nature Conservancy, the international environmental non-profit. The conservancy helped assemble a coalition of 130 public and private sector groups to advocate for increasing the city's tree canopy from 22% to 30% coverage by 2035, under the banner of the Forest for All initiative, and established a dedicated budget and steady funding of urban forestry at the NYC Department of Parks & Recreation. The city has signed on to the 30% goal—without acceding to the coalition's deadline—but, per the legislation, will be required to create a comprehensive urban forest plan. (For more on the subject, see "Forests for All: A New Initiative Aims to Create a More Equitable Urban Canopy," *Oculus*, "Street Level," Winter 2022.)

This effort will set the bar for how landscape architects and their collaborators expand the reach of limbs and roots across the city. Indeed, the benefits of trees are too good to hoard. Among the ecosystem services trees provide, there's cooling via shade and evapotranspiration, the process by which water is transferred to the atmosphere by evaporation from the soil and plants. Trees filter and clean the air and soil, and manage erosion by mitigating flooding. Beyond sequestering carbon, trees offer biophilic benefits, improving mental and physical health. And if people like them, their dollars will follow; trees have also been connected to higher real estate values. All told, New York City's 7 million trees across 138 species generate ecosystem services estimated at \$260 million.

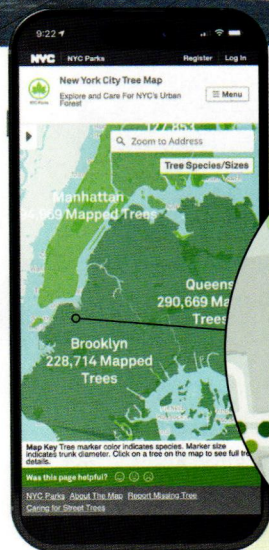


Top: Mature trees line a scenic overlook near the recently restored High Bridge Water Tower.

Bottom: The percentage of NYC land covered by tree canopy (left) compared with The Heat Vulnerability Index, which uses socioeconomic and environmental indicators to estimate risk of health-related illnesses or death. Many of the most heat-vulnerable communities have relatively low tree canopy.

Cities can be inhospitable places for trees, however, facing challenges like pollution, soil compaction, insufficient space, and a lack of maintenance to help them flourish in urban contexts. Climate change is adding new stresses to trees as well, as saltwater inundation from coastal flooding and increasing temperatures take their toll. Extreme weather events, like Superstorm Sandy, which uprooted 20,000 street trees, are an intensifying threat.

While 54% of the city's canopy is on land managed by NYC Parks, more than 30% is on private property, where the priorities of private-sector clients such as developers may not be focused on the vital role the urban canopy plays. In complex urban projects with layers of subterranean infrastructure (like Hudson Yards), densely-planted landscapes may require structural soil mixes with a greater proportion of aggregate placed in subdivided beds that can both nourish trees and support surrounding infrastructure. But this comes at a premium. "When projects get value engineered, that's often one of the first things to go," says Laura Starr, FASLA, founding partner of Starr Whitehouse



In 2022, NYC Parks launched a new Tree Map that includes 150,000 newly mapped park trees and 650,000 previously mapped street trees. The interactive map allows New Yorkers to report tree conditions directly to parks staff, as well as see tree species and how each tree contributes to a healthier, more resilient city.

Visit tree-map.nycgovparks.org to learn more.

Above: A visitor to Hudson River Park in Manhattan sits on a bench in the shade of trees.

Landscape Architects and Planners. Lee Altman, AIA, director of design management at SCAPE, says she's never come across a developer who's uninterested in trees, but "the challenge is everything else that's needed to support successful tree growth," she says. That means adjusting projects—and budgets—for tree-savvy soil volumes, space constraints, and natural light exposure.

To maximize ecosystem services and minimize environmental hazards, designers have to perform a complicated balancing act abetted and hindered by city life. "Human interaction is an added stress, but also an added opportunity," says Kirk Gordon, associate at SCAPE. With maintenance regimens impossible in remote areas, the city can become "more of an arboretum," he says.

This level of species diversity is a boon to ecosystem resilience and sustainability, and trees' ability to work as a baseline support for urban biodiversity is boosted when they supply nectar, nuts, and fruit. But these features, perceived as messy in an urban context, can make such trees undesirable. "We can't just go with what's going to be easier to sweep up after the fall," says Wendy Andringa of Assemblage Landscape Architecture, another member of the Forest for All NYC coalition.

Meanwhile, climate change on its own is bringing new species to New York City. Recent updates to U.S. Department of Agriculture hardiness zones reflect a northward march for southerly species, with trees native to Virginia and North Carolina, such as bald cypress and willow oak, making New

York City their home. But this shift in growing zones isn't attuned to urban heat island, says Gordon. Quite literally, he says, "cities can be incubators," places where landscape architects can experiment and push out ahead of the warming climate frontier.

This climate change migration is warping notions of what are considered "native" plantings (favored for their climate attunement and low-maintenance needs), separating the idea of native range from actual viability. "If you can't replicate the native ecosystem the tree came from, you shouldn't be putting in a native tree," says Gail Wittwer-Laird, ASLA, principal at Starr Whitehouse.

Evaluating how New York's tree canopy will be altered by climate change, however, may well be a luxury. A series of 5% cuts from Mayor Eric Adams's administration to all city agencies promises to debilitate the city's urban forest budget, tree advocates say. NYC Parks spends just 0.04% of the city's non-personnel budget to manage its urban forest, an average of \$23 million from fiscal year 2018 to 2022. Ben Osborne, assistant commissioner of forestry and horticulture at NYC Parks, says the department is not anticipating cuts to its tree planting budget. Altman says any such reductions would be "a huge blow. If we can't sustain that, it's a major piece of infrastructure that's becoming very vulnerable"

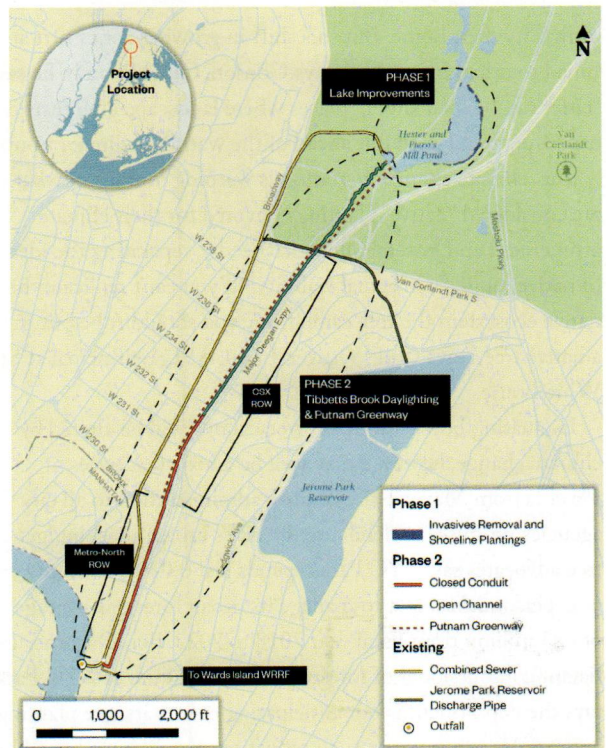
Below: A group of people stand before a rain garden on an educational walking tour. In 2018, the Gowanus Canal Conservancy and The Nature Conservancy launched the Gowanus Tree Network to engage and support stewards to care for 130 trees in the Brooklyn neighborhood.

It's not hard to surmise where these budget cuts might be felt most acutely. Urban trees grow along the same lines of racial and class divides that define the built and designed urban environment in nearly all ways. In several boroughs, lower canopy cover is associated with the legacy of racially restrictive redlining, and communities of color average one-third less tree canopy than white neighborhoods. The trees that do exist in low-income Black and Brown neighborhoods are less likely to be maintained and replaced if they die. Victoria Sanders, a research analyst with the NYC Environmental Justice Alliance, speculates that it might be "because people who are wealthier have more time to call 311 a million times to get them to pay attention, and people in lower income communities might not speak the language or know about these resources." However, trees can be a harbinger of



gentrification and displacement, and simply adding them where they're absent isn't sufficient. In New York City, street tree planting has been correlated with increased housing values and the presence of white people.

"The challenge is actually how to implement solutions like tree planting in ways that don't cause displacement," says Timon McPhearson, an urban ecology professor at The New School. "What we need to do is couple housing policies—like rent controls and affordable housing investments—with neighborhood greening, including new tree planting, so we can ensure that people can stay in their homes while improving a neighborhood from an environmental perspective. This is a fundamental



Above: A map of the Tibbetts Brook daylighting plan, which is being led by Starr Whitehouse and Hazen and Sawyer. The brook historically ran from Yonkers to the Harlem River, and was diverted into the sewer system in 1912.

Left: Tree planting on Creston Avenue in the Bronx (top and middle); NYC Parks opened a new greenspace with a skate park, seating, water fountains, and sports and fitness features in December of 2023 at Gateway Estates, an affordable housing neighborhood in East New York, Brooklyn (bottom).

right of making the city livable for New Yorkers." Green jobs focused on tree maintenance is another policy outcome that's required for a thriving urban canopy. "If you don't have people to maintain a richer landscape, you're not going to let a landscape architect design it," says Starr.

"We need to foster a workforce that can actually do things like pruning, watering, and mulching," says Wittwer-Laird. "If we had people to maintain the landscape, it would create a green revolution." Wittwer-Laird has been working on a modest green evolution in the Bronx since she was a student in the 1990s. Starr Whitehouse is now working at the southern end of Van Cortlandt Park to bring the long-buried Tibbetts Brook to the surface by reducing sewage overflows into the Harlem River with green infrastructure and carefully selected trees. A joint project with NYC Parks and the Department of Environmental Protection, the project encapsulates many



of her ideas about equity and progressive tree planting in an urban context.

During intense rainstorms, stormwater from the buried brook mixes with sewage and is dumped into the river. Starr Whitehouse's plan (with engineering firm Hazen and Sawyer, which is the prime consultant) creates a narrow greenway trailing south from the park along an abandoned rail corridor and the Major Deegan Expressway. By unearthing the stream, 2.1 billion gallons of water per year will be diverted from the sewer, lessening the risk of combined sewer overflows. Additionally, wetland plantings and trees will allow water to infiltrate the ground and slow its flow. It's a pool-cue narrow site, 25 feet at its narrowest, tucking in an elevated walkway and the stream next to the expressway. "The space that's left is for trees," says Wittwer-Laird, and that's not much. That calls for trees with thin, 15-to-20-foot-wide canopies, like swamp white oak and sweet gum.



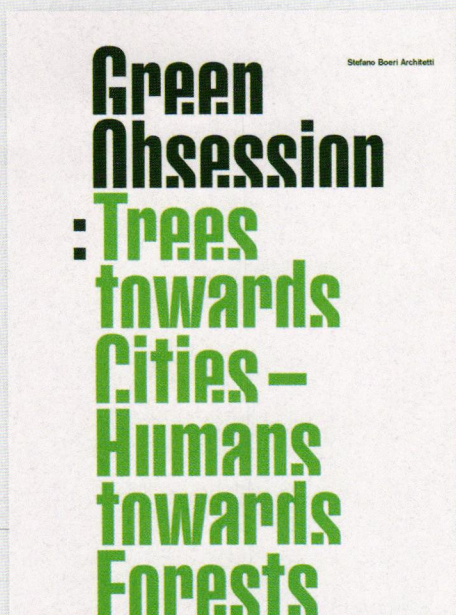
Above: Renderings of the planned daylighting of Tibbetts Brook show the newly unburied waterway, which will significantly reduce pressure on the Broadway sewer while adding recreational and environmental co-benefits to the Bronx.

Construction should begin in the next several years. These trees "will provide a green buffer between adjacent high walls and the stream corridor, native oaks will provide acorns for wildlife, and the presence of the trees will provide a cooling effect on the exposed corridor adjacent to the Major Deegan," says Wittwer-Laird.

It's a compelling synthesis of green and gray infrastructure that will have to become the rule instead of the exception. "This dichotomy of 'urban versus nature' is something we want to break apart a little bit," says Altman. "It doesn't really exist. The city is part of nature." ■

Lit Review

BY AJ KUSHNER



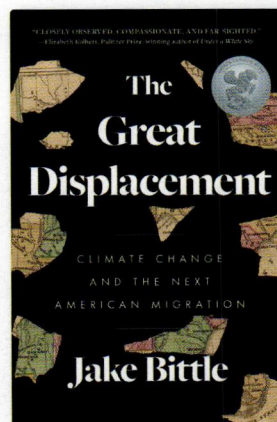
FEATURED REVIEW

Green Obsession: Trees Towards Cities, Humans Towards Forests

Edited by Stefano Boeri, Stefano Boeri Architetti, and Fiamma Colette Invernizzi

ACTAR, 2022, 352pp.

With contributions from prominent scholars, environmentalists, architects, urban planners, and others, this anthology proposes a radical rethink of the relationship between cities and nature. With a focus on tree planting, preservation of natural areas, the circular economy, and renewable technologies, *Green Obsession* argues that cities can and should be laboratories for societal innovations towards a greener future.

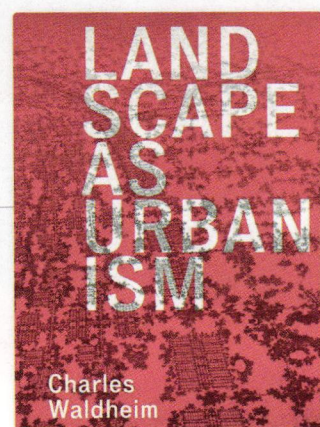


The Great Displacement

By Jake Bittle

Simon & Schuster, 2023, 368pp.

This urgent book compiles wrenching personal stories from the first American refugees of the global climate crisis, highlighting the systemic failures that left communities vulnerable to extreme weather. Vivid testimonies are interwoven with digestible scientific and historical data, and Bittle provides policy prescriptions that are worthy of consideration by citizens, governments, and industry leaders.

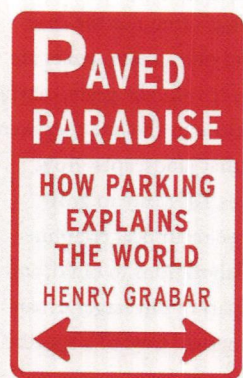


Landscape as Urbanism: A General Theory

By Charles Waldheim

Princeton University Press, 2022 (Paperback Edition), 216pp.

A leader of the landscape urbanism movement, Waldheim provides a comprehensive look at urban planning examples—from the Renaissance to the present—that take their design cues from their geographic surroundings. A counter to New Urbanism, this approach advocates for building, recreation, and infrastructure projects to be more adaptive to nature, more community-inclusive, and more attentive to social concerns.

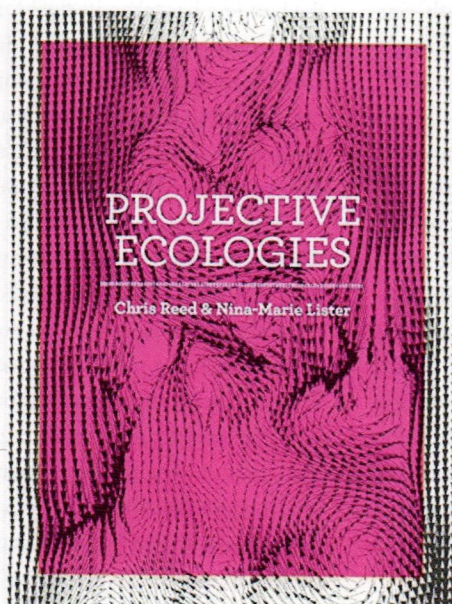


Paved Paradise: How Parking Explains the World

By Henry Grabar

Penguin Press, 2023, 368pp.

Taking a deep dive into the history and development of the American parking spot, Henry Grabar shows how our obsession with cars is a major impediment to cities' tackling issues of housing, infrastructure, and climate change. Hilarious and damning, the book encourages a new approach to urban living that's less car-centered and more thoughtful about getting around and using public space.

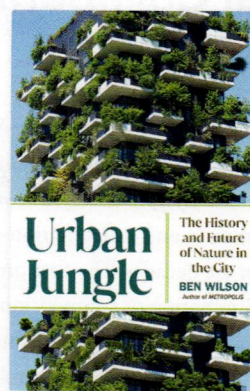


Projective Ecologies: Ecology, Research, and Design in the Climate Age

Edited by Chris Reed and
Nina-Marie Lister

ACTAR, Harvard Graduate
School of Design, 2020
(Second Edition), 288pp.

Working from philosophical considerations of ecology and ecological thinking, *Projective Ecologies* compiles essential essays from the past few decades along with contemporary papers from architects, scientists, landscape designers, urbanists, and others. It poses the question: How might ecological theory and research aid design and planning practices in meeting the climatic challenges to our built environments?

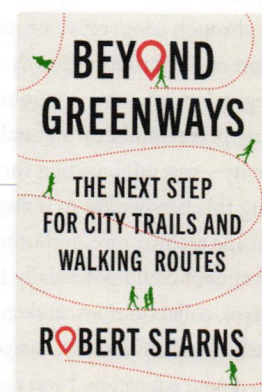


Urban Jungle: The History and Future of Nature in the City

By Ben Wilson

Doubleday, 2023, 304pp.

Wilson takes readers across centuries and continents to examine how cities and nature square off, coexist, and intertwine. Examples of current projects, including Staten Island's Freshkills Park, highlight the potential for reintegration of wildlife and civilization to form a unified, healthier urban ecosystem.



Beyond Greenways: The Next Step for City Trails and Walking Routes

By Robert Searns

Island Press, 2023, 246pp.

Recognizing the importance of convenient and accessible walkways in the pandemic era, greenways specialist Robert Searns offers a guide to planning and developing pedestrian trails within and around urban areas. Intended for a broad audience of designers, city planners, nature enthusiasts, organizers, and activists, this book is also a template for anyone interested in getting a recreational project off the ground.

On Impactful Collaboration

BY LEE ALTMAN, AIA

In her essay “Reciprocity” (published in *All We Can Save*, an essay collection edited by Ayana Elizabeth Johnson and Katherine K. Wilkinson), ecologist Janine Benyus describes two opposing ecological theories—competition and collaboration—that have evolved over the past five or six decades. The first proposes that a species benefits from the elimination of competition from other species that strive for the same resources, such as sun, water, and nutrients. The latter perspective posits, and ultimately proves, that plant communities have evolved over eons to support each other through cooperative or reciprocal relationships, facilitating and nursing robust growth. In Benyus’s words, “to read these strategies is to discover a manual for how life evolved on a challenging planet, and how natural communities heal and overcome adversity—essential reading for a climate-changed world.” Borrowing this perspective to reflect on the practice of architecture, landscape architecture, and other disciplines impacting our built environment could potentially help us develop more resilient practices, collaborations, and environments.

Early in my architecture career, as well as in my architecture and urban design education, I was taught that architecture is not only about the creation and articulation of space, but also about the facilitation and manifestation of process—that our role as architects is to orchestrate the different disciplines involved in design and construction toward what we believe to be the best outcome. To the extent this means that architecture is, or should be, an inherently collaborative process, I believe this premise still holds true. It does, however, position the architect at a vantage point that is somewhat removed from other disciplines, not to mention the communities and stakeholders affected by our work. If we are not careful, this premise can lure us to believe that we not only orchestrate, but also can become (or replace or override) planners, landscape architects, or ecologists without the necessary knowledge and training required for these specialized fields, and deny our projects the perspective these experts would otherwise offer.

I have spent the past several years working at SCAPE, a landscape architecture and urban design practice, first as a project manager and currently as a director of design management. Most of our projects are done in collaboration with other disciplines, many of them with architects. This has allowed me to participate in and lead many different projects and pursuits and engage with various architecture and engineering firms with vastly different approaches to practice.

One of the most prominent and defining differences among firms and disciplines has to do with time and the conceptual approach to when a project happens. This manifests in a few ways. More often than not, architecture projects culminate on “opening day.” Whether it’s receiving a Temporary Certificate of

Occupancy, holding a large celebratory event, or simply opening the doors, it is the day on which the building or buildings are ready to be used, experienced, and enjoyed. Of course, the users are those who make the spaces their own, enliven them, and modify them over the life of the building, but, in essence, the building has taken its final form. This is often not the case with landscapes. Parks, streets, plazas, and other open spaces are rarely in their final form on opening day. It will take years, maybe decades, for landscapes to reach a form close to the one they were designed to meet, for the simple reason that landscapes grow. As a colleague likes to remind me, it takes 100 years to grow a 100-year-old tree. It takes time for those reciprocal relationships to establish, for environmental collaborations to build, and for a new piece of landscape to become part of our larger urban ecosystem. Landscapes should not be designed toward a specific point in time, but rather be conceived as a process.

It may be for this reason—though I suspect it has more to do with the everyday constraints of project schedule and budget—that some of our architect collaborators see landscape as an afterthought. Too often in our practice, landscape architects are brought into the project after decisions have already been made about building massing, circulation, and other key programming aspects. At this point, the landscape architect is expected to either color the leftover spaces green or to solve practical and performative needs, such as stormwater management, with little adequate space or technical flexibility.

In our more successful collaborations, architecture, landscape, and urban design are an integrated whole, working to set goals, identify priorities, and chart a roadmap for the project as a process from its onset. Programming, circulation flows, and spatial hierarchies work better and more seamlessly when conceived with multiple perspectives in mind. The projects that grow out of these collaborations are more resilient and versatile—more successful and meaningful for our clients and users, but also for the environments beyond. It is our responsibility to pursue these deeper collaborations, not only so our individual projects function, perform, and look better, but also so the larger urban ecology we all rely on can continue to be there to sustain and support us.

In accordance with Janine Benyus’s essay, studies have shown that reciprocal, collaborative relationships grow stronger, not weaker, in times and places of crisis. In fact, as she emphasizes, “the more stressful the environment, the more likely you are to see plants working together to ensure mutual survival.” Facing the extreme shocks and ongoing stressors of climate change, we could all stand to learn a thing or two from plant communities.

Lee Altman, AIA, is the director of design management at SCAPE Landscape Architecture. She draws on her experience in city government as well as on her past work with architects, artists, scientists, and public health professionals to form a multifaceted perspective on the built environment.

As the City Adapts, Will Nature Guide Design?

BY CLAIRE WEISZ, FAIA

The onslaught of atmospheric rivers and subsequent flooding, extreme heat waves, and record snowfall have offered a real-time demonstration of how interconnected our waterways, developed land, and urban settlements actually are. In 2024, as we continue to search for what resiliency and adaptation mean, it is incumbent on the design and planning communities to be part of changing the narrative from “the resilient city” to “the regenerative city.” In 2012, Superstorm Sandy reminded the world that coastal storms are among the world’s costliest and deadliest disasters when they strike urban centers. While disasters might be initiated by extreme weather events, human vulnerabilities that cross boundaries from aspects of environmental justice to social inequity—and from crumbling physical infrastructure to deteriorating social infrastructure—are what truly define the parameters of a disaster.

The occurrence of extreme weather events brings awareness of the need to adapt to our social, economic, and interdependent environmental systems. Responding to risks, rethinking ways we build, and adapting urban frameworks are all connected to the threats we share. But architects, and others who design and plan, hold both the pencil and the ability to bring people together.

Ten years ago, based on mid-range climate sensitivity models, scientists estimated in the journal *Climatic Change* that the U.S. faces a nearly \$1 trillion price tag for sea-level rise and storm surge leading into the year 2100. This calculation does not include losses for economic output and intermediate expenditures for mitigation, resiliency, and adaptation interventions. Costs for those interventions—for New York City alone—were initially estimated by city officials to be \$20 billion; updates, however, suggest that the actual cost with debt service, capitalized operations, and maintenance expenses could nearly double that figure. Indeed, the National Oceanic and Atmospheric Administration weighed in this year with its 2023-billion-dollar disaster report, showing that we didn’t have to wait until 2100: In the years 2017–2023 alone, 137 discrete billion-dollar disasters have killed at least 5,500 people. The scale of the challenge is daunting.

Despite updates to the Flood Insurance Rate Maps (FIRM) showing that the number of housing units in New York City in a 100-year flood zone was anticipated to nearly double (from approximately 35,000 to 67,000), this figure has only grown. The very real implications of these revised efforts translate into what will burden households as they strive to afford federal flood insurance. Per “PlaNYC: Getting Sustainability Done,” the 2015 FIRM 100-year flood zones are home to more than 400,000 residents. WXY’s work on PlaNYC estimates that 15% of the

city’s land area is within the flood zone, and the total area of the 100-year floodplain is expected to grow 49% by 2050. The prospects seem even starker for managing any form of retreat when swimming against the tide of housing scarcity.

Urban ecology intertwines people and their environment. Now, with the lessons from a global pandemic and the realization that our climate is changing rapidly, the economic impact of extreme weather for New York and New Jersey in terms of public health, infrastructure, and commerce nearly defies calculation. Economics and statistics tell only part of the story, however; they do not speak to the tremendous emotional and psychological impacts on people, and the immeasurable losses of biodiversity in the natural environment. How do we understand this impact and discover other metrics? Valuing communities as stakeholders and investing the time and creativity in designing an engagement process can unearth and make the case for other important metrics that will point to regenerative approaches to addressing urban growth.

We are seeing that some of the hard engineering solutions, such as The East Side Coastal Resiliency (ESCR) Project, pay a high price in community disruption to achieve the change and protection desired. There is a growing fear of public investments further pushing people out of their homes due to rising property values. Many individuals and communities of color who contributed to the neighborhoods, businesses, and cultural hallmarks and traditions that emerged despite the burden of housing discrimination now face housing vulnerability and potential evictions, as real estate values and rents increase in areas being valued for their resiliency, according to the Georgetown Climate Center. Equally important, the creation of more natural habitats is being weighed against the cost of caring for parks and gardens. Even street trees, when lost, take a minimum of four years to replace, not including the growth of a new tree canopy. With more heat emergencies expected, shade is critical, but our planting and protection of trees and funding of green roofs, shade structures over public spaces, and similar measures have also not gained the momentum necessary. Whether hard or soft solutions are designed, planned, and funded, it is becoming clear that the things we have already built are valuable for the huge carbon investment they already embody.

Creating regenerative systems among people, land, water, and resources is a design problem. The interconnected role of the built environment and community solutions is emerging. If systems can be regenerative, then ecological value through ongoing maintenance will not be understood as the most important factor in design. Creating synergies between existing places and any new fixed solution to flooding, power, and protection will shift our focus.

If our urban oceans and waterfront cities are seen as the stable and reliable carbon market, then the result will be a vibrant ecosystem of interdependent scales that adapts the city and

its systems to climate stress. It is the funding of remaking our cities into true regenerative systems that could shift how we value and support urban ecologies. While atmospheric scientists cannot predict when extreme climate and related weather events will strike or with what impact, it is inevitable that the next precedent-setting major storm event, whether a hurricane or Nor'easter, will hit the mid-Atlantic coast sooner rather than later. When these storms arrive, the economic burdens will continue to be borne by a diverse range of public and private stakeholders, with little relief in sight.

Advances in oceanography and artificial intelligence together offer a potentially unappreciated perspective on how to prepare for future events. The predominating sociotechnical bias has been to conceive of solutions on existing terra firma without thinking about coastal interventions. Coastal processes are controlled by wind, waves, ocean currents, and the highly predictable tides that move water and sediment day in and day out. These processes are responsible for the constantly changing landscape of the coast. In theoretical terms, the benefits of green infrastructure are infinite if you use the forces of nature. Likewise, the energy and materiality of natural systems are far more efficient and cost effective in their deployment than oil, concrete, and steel. However, the reality is that these interventions are not “natural,” as we generally conceive them. They are manipulations of material and ecological processes at the hands of humans. For these reasons, the design and scientific challenge is to explore the extent to which natural processes and energy dynamics may be harnessed for scaled interventions that serve either resilience or adaptive ends.

Public and private sectors have increasingly sought to find co-benefits that inure us to the advantage of environmental conservation, disaster risk reduction, and social and economic stability. But the reality is that only some neighborhoods benefit because of limited resources and tradeoffs. What could unite these often-oppositional forces is the universal risk from climate change, the disproportionate impacts, and the necessity to find efficiencies that bring interventions within the realm of feasible—if not possible.

The artificial archipelago off the coasts of New York and New Jersey—chronicled in the book *Blue Dunes: Climate Change by Design*, which I edited with climate adaptation scholar Jesse M. Keenan six years ago—distinguished itself among many other competing ideas at the time, not only by its scale and ambition, but also by its utilization of oceanographic science. *Blue Dunes* offers a lesson on how discipline-specific methods of scientists and designers intersect and diverge, but are otherwise resolved because of the desire to acknowledge that the challenges confronting society do not have a single solution grounded in a single discipline.

As a proposal, *Blue Dunes* was not just the engineering of sand and dredge for purposes of land reclamation. It progressively evolved into a much more complex design for landscape and

architecture that had the dual task of accommodating natural and human ecologies, from the balancing of the conservation and commercialization of fisheries to the balancing of recreation with habitat preservation. With less turbulent waters, *Blue Dunes* raised the prospect that critical breeding grounds could expand regionally, or that surf conditions might change to the benefit of the fishing community.

But it is the young participants of Shore Corps at RISE (riserockaway.org), which focuses on environmental stewardship in Far Rockaway, who are a testament to the power of Dunes to lead the way. “I saw a change in the Shore Corps students in how they thought about the process of planning,” recalls Melina Chin, urban planning teaching assistant, RISE, Hunter College, and a 2021 Shore Corps alum. “Instead of wanting a perfect world, they thought about the people involved, the City Council members to reach out to, and community initiatives to build on. We were inspired to reframe things with a bigger, yet more detailed lens.” Ultimately, these and other concerns are all paradigms of shifting to the value of urban ecological thinking. What has happened and will happen for the Rockaways and its urban ecology highlights a broad array of potential benefits and innovations that could manifest themselves because of a vast industrial mobilization to address climate change.

For architects, landscape architects, and planners, in terms of spatial planning and design, it is not simply a matter of repurposing a previous generation's coastal or other infrastructure. It is an opportunity to redefine our work as designers who seek to promote sustainable accommodation of a unified ecological state, whose boundaries weigh human and biophysical processes. Cities and their systems hold an embodied carbon investment that cannot be squandered. There is a strong interest today in figuring out how projects and plans can increase biodiversity and create better places to live and work. This is the only way we will change the currently carbon-intensive “resilient city” to a “post-fossil-fuel natural city” and be able to design and plan cities as urban ecology.

Claire Weisz, FAIA, is an architect, urbanist, and educator. She is a founding principal of the award-winning firm WXY architecture + urban design, whose New York City-based practice focuses on innovative approaches to public space, buildings, and cities. WXY is a leader in advancing resilience practices at the intersection of architecture, planning, landscape, and urban design. Weisz is a fellow of the American Institute of Architects, and has taught design and planning studios at Yale University, New York University, Cornell University, and the City University of New York.

Note: Source materials for this essay include Barbara Neumann, et al., 2014; the New York City Mayor's Office, 2013; and *Blue Dunes: Climate Change by Design*, editors Jesse M. Keenan and Claire Weisz, 2017; *Greater Rockaway Community & Shoreline Enhancement Plan*, WXY and RISE, 2021.

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Architectural Record.....	CVR3
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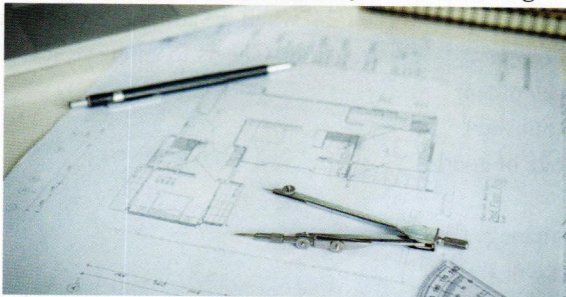
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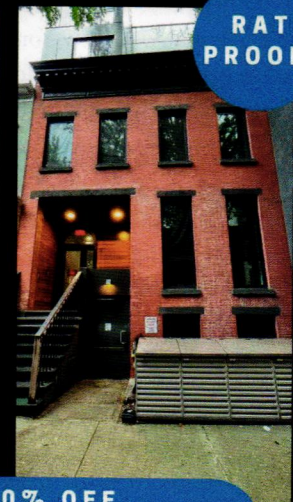
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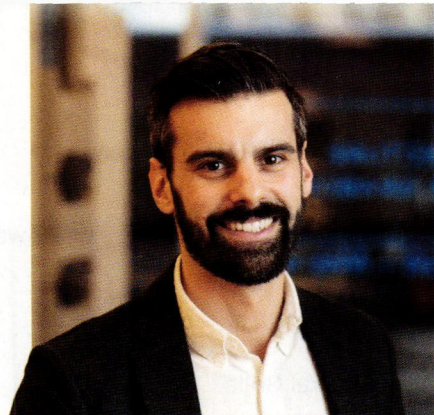
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New Year, New Action

BY **JESSE LAZAR**, ASSOC. AIA, EXECUTIVE DIRECTOR,
AIANY/CENTER FOR ARCHITECTURE



As we welcome 2024, many in our communities are justifiably anxious about attention turning once again toward disturbing national politics during an important election year. There's no denying that will happen, but issues that are critical to architects and the people whose lives we seek to improve are active on the local level, regardless of national elections. We are heading into the year with some crucial and exciting goals, and are eager to work with government officials and policymakers to see our priorities get across the finish line both at City Hall and in Albany.

We are heading into the year with some crucial and exciting goals.

In 2023, the AIA New York Chapter tackled an incredible 28 advocacy issues, including procurement reform, office conversions, and congestion pricing, and we celebrated legislative successes with the passage of the All-Electric Buildings Act at the state level and the Permanent Outdoor Dining Program (Dining Out NYC) and the Fair Housing Framework at the city level. We also applauded the creation of a new role in City Hall, chief public realm officer, now held by Ya-Ting Liu.

New York City is currently facing overlapping crises as never before, with affordable housing being out of reach for many New Yorkers, climate

change accelerating and causing more frequent extreme weather events, and an often uncoordinated use of valuable public space. AIANY has outlined a 2024 agenda, available on our website, that is a comprehensive approach to addressing some of New York's most critical challenges. The Chapter's advocacy efforts will be centered on achieving five main policy goals:

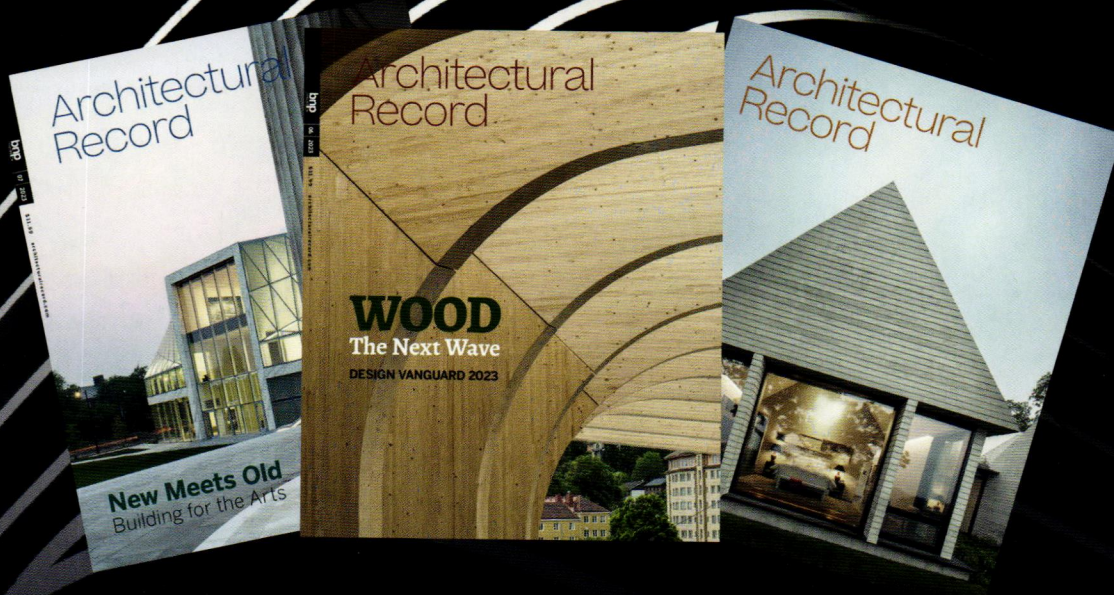
1. Increasing affordable housing supply by allowing alternative solutions (office-to-residential conversions and accessory dwelling units) and zoning changes;
2. Effectively implementing the electrification laws passed in recent years at the state and city levels (Local Law 97, All-Electric Buildings Act, and Climate Leadership and Community Protection Act);
3. Securing funding for the city's vital infrastructure projects (Penn Station Redevelopment and Second Avenue Subway) and maintaining a state of good repairs;
4. Rethinking how we manage the public realm and precious public space (specifically, outdoor dining, containerization, and public bathrooms); and
5. Improving procurement practices and accessibility for minority/women-owned business enterprises and small firms.

These are lofty goals that aim to move the needle on massive challenges, but we know from experience that public officials, government workers, and the public at large will benefit from the expertise of our professional community. Working through AIANY, our members can lobby government groups, donate to candidates, provide valuable feedback on bills and initiatives, and help agencies do their work in a way that better serves both architects and the public. The Chapter organizes this collective action all year, every year, whether elections are looming or not. We hope you'll consider getting involved in our efforts. A good way to start is by joining a committee or checking out aiany.org/advocacy.

To echo the theme set by AIA National President Kim Dowdell, AIA, we believe we can do "More in '24" when we aim high and work together. Cheers to a new year! ■

Read the full text of the **AIANY 2024 Legislative Agenda** at aiany.org/advocacy/aiany-2024-legislative-agenda/

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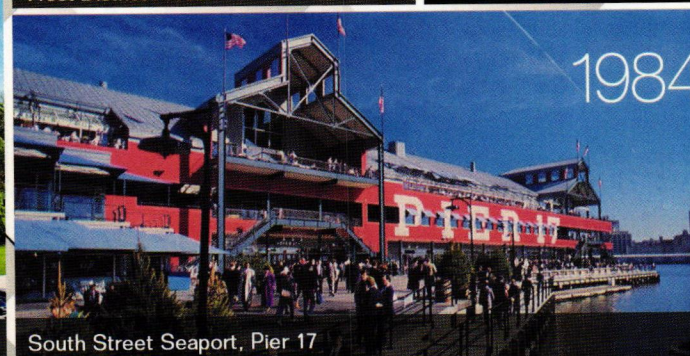
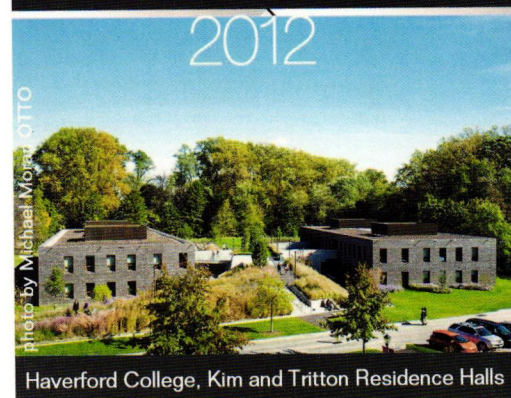
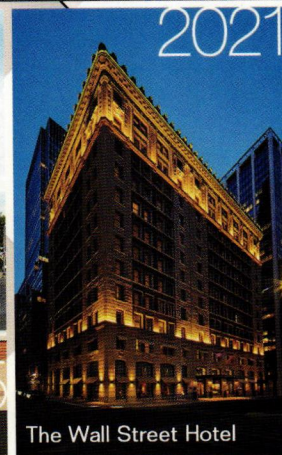
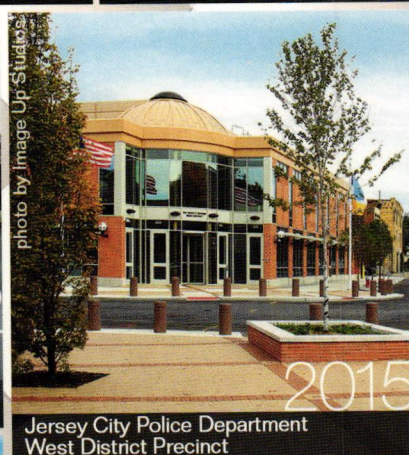
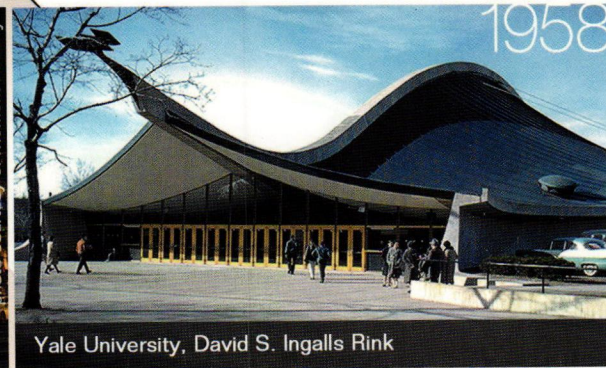


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