

Seattle Daily Journal of Commerce

# LANDSCAPE

## NORTHWEST



June 27, 2024

Native meadow plants infuse West Main's 80,000-square-foot courtyard passage with colors and textures.



PHOTO BY PACIFIC COAST SURVEYS

# NATURAL PASSAGE: WEST MAIN REIMAGINES THE URBAN GARDEN

West Main's integration of architecture and landscape offers a diverse range of experiences, enriching the public realm from the sidewalk to the buildings.



BY PETER  
KRECH & DAVID  
MALDA  
SPECIAL TO THE JOURNAL

In Bellevue, West Main stands as a transformative force, reshaping the skyline and embodying the city's evolution. Comprising three towers and spanning 1,030,000-square-feet, this office and retail development

by Graphite Design Group in collaboration with Compton Design Office (CDO) and GGN for Vulcan Real Estate is drawing the attention of global tech and hospitality giants.

The project's significance lies not just in its physical presence but in its role within the broader context of the evolution of downtown Bellevue. As the city aims for more pedestrian-oriented environments and seeks to break down the superblock rhythm of its center, West Main emerges as a pivotal player. Rooted in a vision that transcends mere urban development, the project reflects Bellevue's ambition to redefine its urban fabric

and create meaningful destinations within the cityscape.

This vision materializes through three core site and messaging ideas. Firstly, by breaking down the superblock into four smaller blocks — three buildings and one garden — West Main fosters a streetscape design that aligns with the street grid and the city's primary continuity while facilitating street-level engagement.

Secondly, the site design pays homage to Bellevue's natural heritage, integrating elements of the historic Meydenbauer Creek path that once flowed along this site. This meandering path, the subtle creek valley topography, and the character of

planting all grew from this seed.

Lastly, the project offers a varied experiential scale, from intimate garden benches to a large plaza in the center of the site, fostering community interaction and connection. Larger planting areas support the garden-like experience, and this framework creates a strong base for the added layer of art.

In the pursuit of engaging the community and embracing the towering cityscape, the design of West Main prioritizes inclusivity and vibrancy. By seamlessly integrating landscape design and art, the project invites everyone to participate in its ener-

gy. It's a testament to the conscious effort to create a space that resonates with the essence of Bellevue—a harmonious blend of urban sophistication and natural allure.

## URBAN GARDEN, REIMAGINED

The natural and human-made elements at West Main combine to form a vibrant urban sanctuary. Expertly crafted by award-winning landscape architecture firm GGN, the garden serves as a strong landscape frame, connecting the three towers. This integration of architecture and landscape offers a diverse range of experiences, enriching the public

realm from the sidewalk to the buildings. Native meadow plants infuse the space with colors and textures, reaffirming Bellevue's ecological character in its downtown core.

The landscape design reinforces the stream-corridor inspiration through the shape of the land, evident in the land shape, path adjustments and the planting palette. The all-native garden features large soil volumes to support the growth of canopy trees, with native understory blends shrubs with meadow species for quicker establishment. Even in its infancy, the garden already attracts pollinators, reintroducing native ecology back to the heart of Bellevue.

Comprising a series of interconnected rooms and paths, the landscape links the city's east-west and north-south through-block connectors, enhancing pedestrian connectivity for a more walkable downtown. These "rooms" offer spaces for retail activities, building entries and gatherings. Terraces nestled within the sloping land break down the overall scale, providing views and relaxation. The largest room, situated on the western end, accommodates daily lunches, retail spillover and small events or performances. Seat steps and the upper terrace level help transition the elevation change across the site between buildings and capture sunlight throughout the day.

Throughout the garden at moments where people would converge or at moments of gathering, we

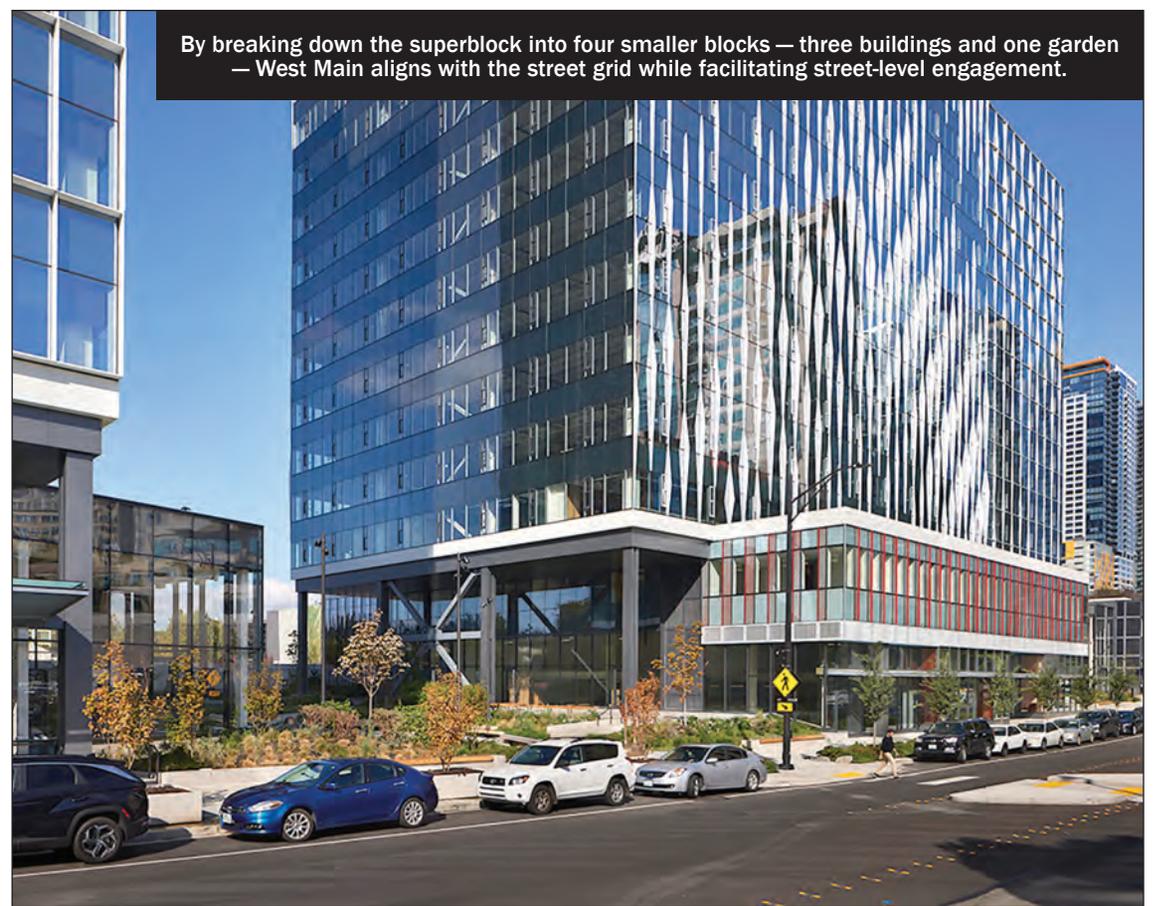
imagined the potential for art that would be both inviting to touch and playful for children to have a central role.

### INTERACTIVE ART

Art is a cornerstone of West Main's public spaces, offering both aesthetic pleasure and stimulating economic activity. Vulcan Real Estate, the project's developer, recognizes the transformative power of art in enhancing urban environments, commissioning local artists to infuse their projects with creativity and vision. For West Main, Vulcan selected emerging talents Julian Watts and Iván Carmona for their distinctive perspectives and ability to capture the spirit of the Pacific Northwest.

Julian Watts crafted a multi-piece installation titled "Groves and Stones" for West Main. Inspired by the Pacific Northwest's natural features such as boulders, mountains and trees, the installation features soft, organic forms that harmonize with the buildings' sharp edges, blending with the angular architecture. Designed to be interactive, the pieces invite touch and use, fostering a playful connection to nature in everyday life.

Iván Carmona's "De Sol a Sol" meaning "from sunrise to sunset," pays tribute to the Jíbaro, contemporary custodians of Puerto Rico's agricultural heritage. These dedicated individuals farm from dawn to dusk, continuing the traditions of their ancestors. The striking sculpture stands



By breaking down the superblock into four smaller blocks — three buildings and one garden — West Main aligns with the street grid while facilitating street-level engagement.

PHOTO BY BENJAMIN BENSCHNEIDER

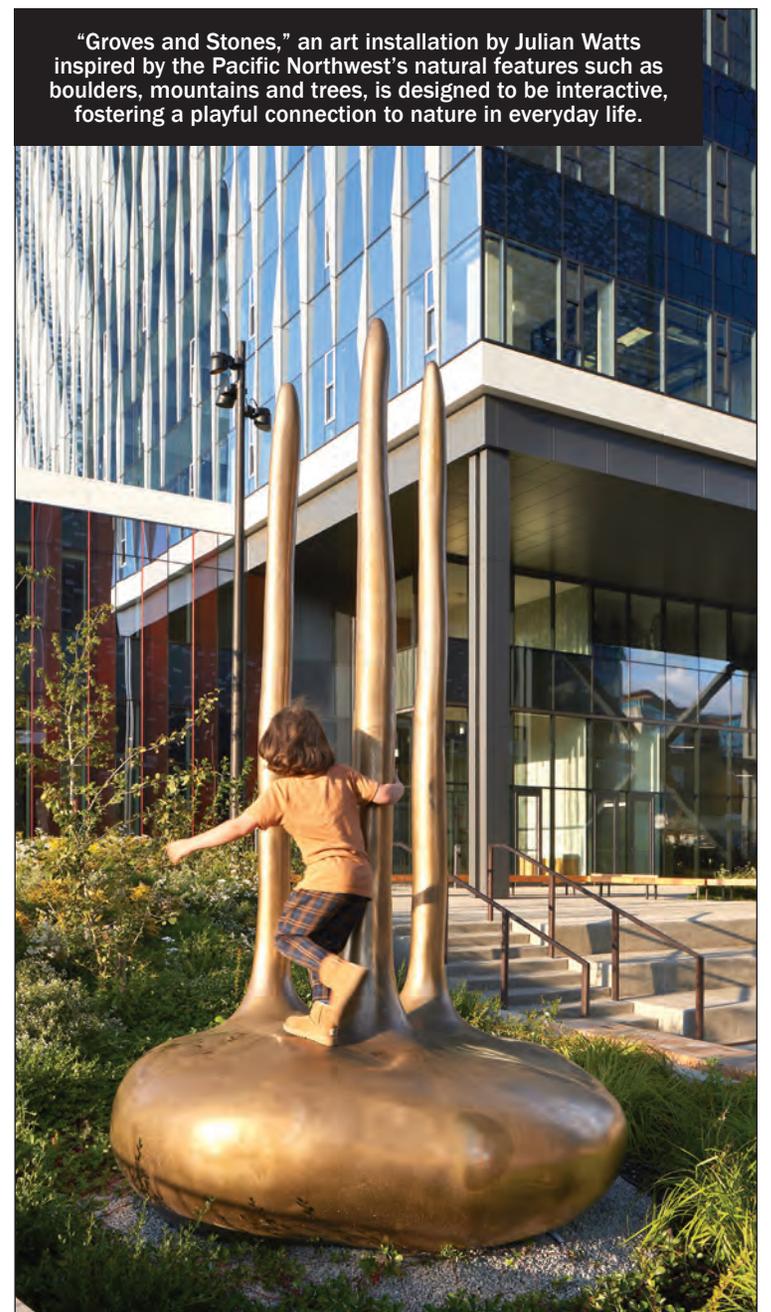
as a welcoming emblem, greeting visitors as they enter the building.

### FLOWING FACADE

It was discovered early on that the project site was once traversed by a seasonal stream-bed — Meydenbauer Creek — which flowed toward Lake Washington. This inspired the integration of the concept of "flow" into both the site and tower designs. A subtle, flowing pattern was incorporated across all outward-facing facades, creating a rhythmic movement from tower to tower. At the podium levels, a similar flow pattern was applied directly onto the glass, using parametric modeling and digital printing technology to create a continuous design across the individual glass panels on each street-facing façade.

By blending landscape, art and architecture, West Main creates a vibrant space for all to enjoy, reflecting Bellevue's urban sophistication and natural charm.

A founding principal of Seattle-based Graphite Design Group, Peter Krech works on a variety of project types, including commercial office, retail, mixed-use and high-rise projects in the United States and Asia. David Malda is a key design leader at GGN who shares his knowledge in numerous lectures, studio reviews and student engagements throughout the year.



"Groves and Stones," an art installation by Julian Watts inspired by the Pacific Northwest's natural features such as boulders, mountains and trees, is designed to be interactive, fostering a playful connection to nature in everyday life.

PHOTO BY BENJAMIN BENSCHNEIDER

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## ON THE COVER

The design-build team of Mithun and Forma Construction, together with representatives from the city of Shoreline, are thoughtfully incorporating park improvements within existing parks. Hamlin Park additions include a splash pad, new playground, walking paths and accessibility improvements.

IMAGE BY PLOMP FOR MITHUN

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# DESIGN THROUGH RESTRAINT: THE PHILOSOPHY OF A NATURAL PARK

From adding humble pathways that encourage exploration to removing obstacles to discovery, nature park design should create opportunities for nature to evolve on its own and be discoverable by observant visitors.

**A**s a landscape architect, I work on a variety of projects that involve paving patterns, finding trees that behave well in urban conditions, designing walls and addressing stormwater runoff. Designing a nature park is different. The attraction is working with what's already there, not creating something new. Your end users are not only people, but also winged and four-footed creatures. The plant palette you consider is limited. The less you build, the better.

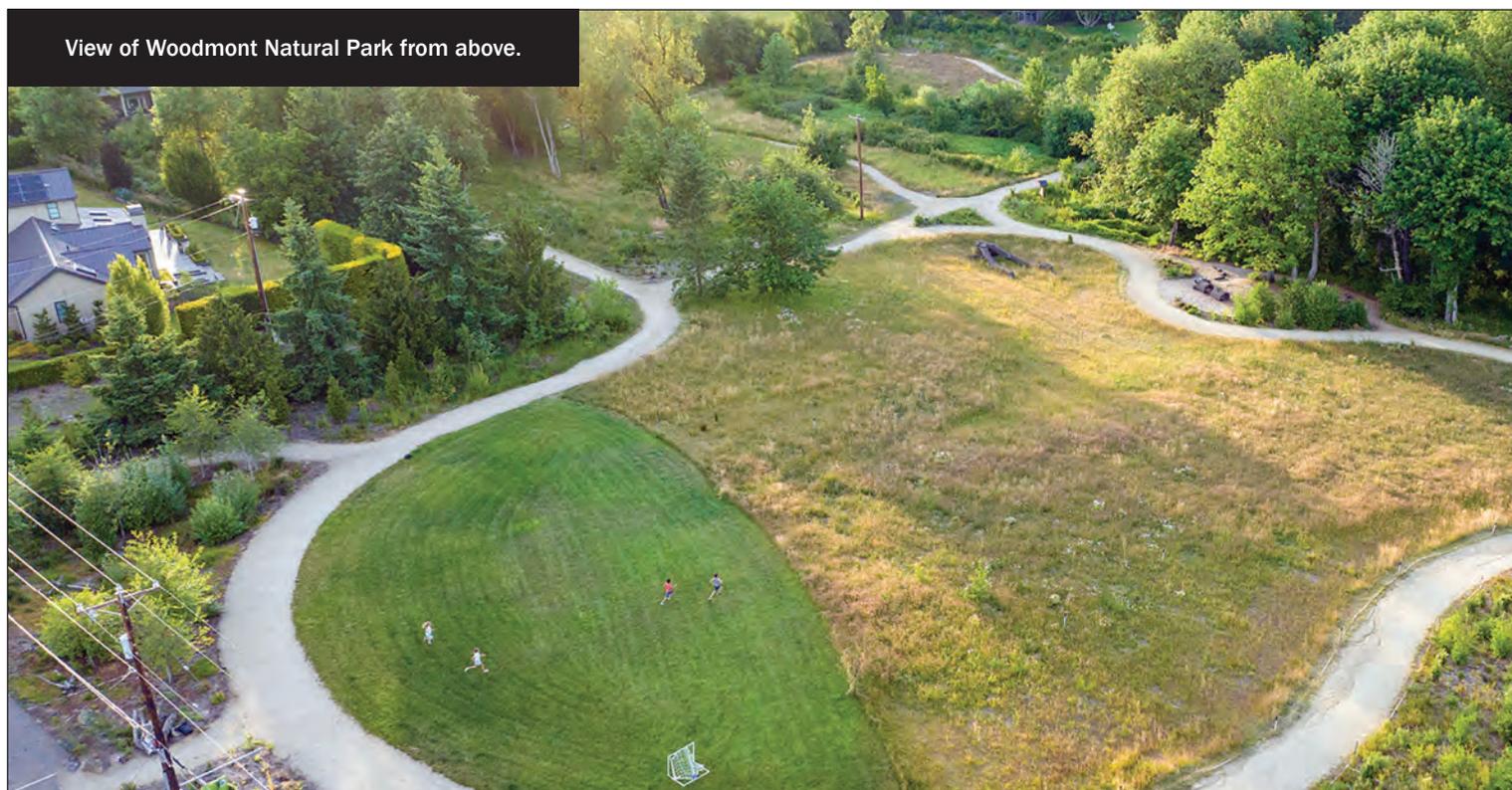


BY STEVEN TUTTLE  
MACKENZIE

When we designed Woodmont Natural Park of Lake Oswego, Oregon, we were confronted with the need to think a little differently about design. In many cases, there's a tendency to design with a strong hand and force the land to fit your project or pro-forma, but in the case of a nature park the focus is on clearing the brush and letting nature sing. Adding limited, carefully curated site features allows nature to show off. And the virtue of restraint becomes central, along with the acceptance that the park will evolve over time. We learned that each of these design ideas can unfold into a complex strategy of its own.

Woodmont Natural Park garnered the Award of Excellence from the Oregon Chapter of the American Society of Landscape Architects. I think the park's success lies in the opportunity it offers the community to commune and connect with nature, and in its ability to simultaneously support an ecosystem while also drawing nourishment from it.

If you're considering a design intervention at a nature park, chances are there is already a redeeming quality to that piece of land. A stream, a forest, a wetland — something that makes it special. Protecting and enhancing that natural element, character or fea-



View of Woodmont Natural Park from above.



A nest, designed by the team and made of woven branches, encourages park visitors to explore the forest and their imaginations.

ture, and allowing the community to engage with it is the primary goal. Sometimes this is best done by removing barriers and obstacles that may crowd, harm or eclipse that special element. In the case of Woodmont, hundreds of invasive trees

were removed to open up a meadow and reveal a stunning native forest. This is design by subtraction. By removing non-native plants or other physical obstacles, the site is opened up to restoration and appreciation.

But it's also about addi-

tion. The addition of people, pathways, viewpoints, plants, resting areas and so on. Sometimes there is an opportunity to supplement the natural ecosystem with native and transitional plants to improve the long-term health of the park. There may

be a need to add seating, which can be achieved with thoughtfully selected boulders instead of benches from a vendor.

The addition of simple or even understated features should also defer to nature. Pathways should lead you

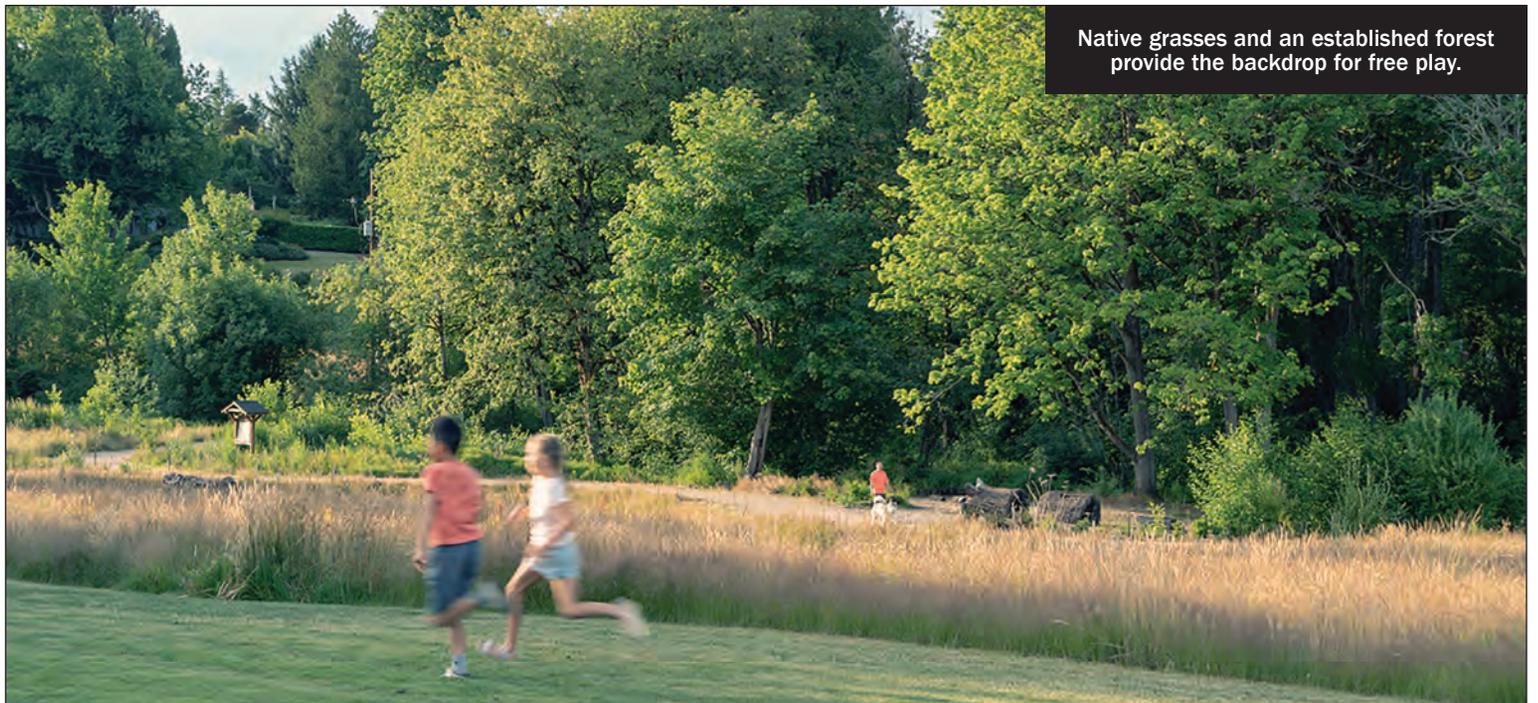
PHOTOS COURTESY OF MACKENZIE

on a journey that engages you with the best that the park has to offer, whether that's brushing up against a large tree or holding your anticipation for the reveal of a large vista.

In many ways, the humble pathway is the key to a nature park's success. It takes us where we're supposed to go, shows us what we need to see and avoids what should be left untouched. Under foot, pathway material should be true to place, secure to the step and improve access for everyone. Adding a well-choreographed pathway that anticipates views and natural features will determine how people emotionally connect with the park.

The true magic of designing a nature park, however, comes down to restraint. Less is more. In the course of design, ideas abound, and there are many well-intentioned moves landscape architects could make. But the one move we must make is to show restraint. Fewer materials, less disturbance, more subtlety, more nature.

When Mackenzie designed Woodmont Park, we refrained from concrete, asphalt and benches and intentionally opted for decomposed granite paths, boulders for resting and logs for exploring.



Native grasses and an established forest provide the backdrop for free play.

We created opportunities for nature to occur and evolve on its own, and to be discoverable by observant visitors. In lieu of creating larger spaces for visitors, we made them smaller. The pathways are just enough to get people to connect with a forest, a wetland, a grove and a meadow. We provided a light touch on intervention to evoke beauty, and in the process dramatically limited our resource

consumption through preservation and upcycling existing site materials.

When visitors come to a nature park, they come to experience an ecosystem in action. It's not about a playground or athletics, it's about mental health and a reconnection to nature. Season to season, a nature park will express itself differently. Year to year it will evolve, unfold and shift. Wind, rain

and sun will sustain but also degrade the park. Some of the elements we design will eventually erode and wear out – and that's exactly how it should be. Nature is the star of the show and that's what people come to experience.

Time will be the judge of a nature park's design. Will all the plants, animals and people be harmoniously enjoying the park decades from opening day? Will the

park of the future reflect its past? If limited interventions are imposed and thereby felt, and if nature is put on display and the park is designed to age gracefully, then chances are good that the verdict will be in your favor.

*Steven Tuttle leads Mackenzie's landscape architecture practice and has nearly 20 years of professional experience in the northwest.*

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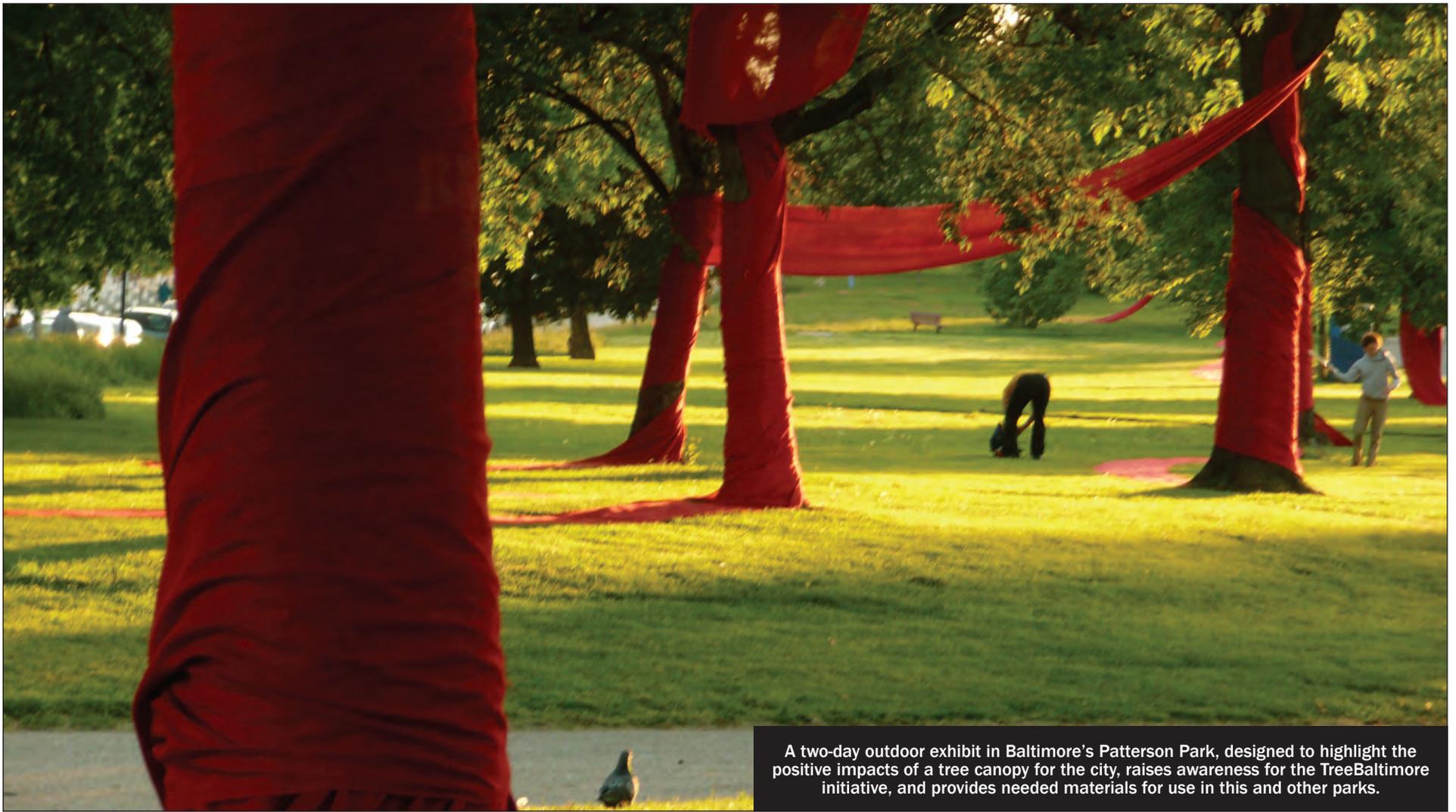


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A two-day outdoor exhibit in Baltimore's Patterson Park, designed to highlight the positive impacts of a tree canopy for the city, raises awareness for the TreeBaltimore initiative, and provides needed materials for use in this and other parks.

PHOTO COURTESY OF GENSLER

# OUTSIDE, UNBOUND: THE CASE FOR PLAY AND FREEDOM-FOCUSED LANDSCAPE DESIGN

Parks provide essential infrastructure that must be protected, varied and open to all.

So, here's the thing about play dates - everyone wants one on their calendar whether they're toddlers, teens or trying to figure out when their age meant mysterious knee pain. Play is essential. The



BY JESCELLE MAJOR GENSLER

why of play is spiritual, scientific, and with the right framing, even poetic. In a uniquely mammalian context, play is integral to our learning and intelligence processes as humans. Not only does our evolution rely on play but it is one of the modalities through which we are taught to observe, feel, experiment and take risks. Which leads me to the thought, where do we access play and who

gets to?

Is freedom a place? And which map is it pinned on?

If we were to take an inventory, how many places would we identify as spaces of fun? Further, how many would fall into the low or no-cost realm? Blame it on professional or even proximity bias, but parks and play are infrastructure. Our nation's, even our city's parks, green and open spaces, both wild and pedestrian, must be prescribed and protected if we are going to open access, keep it varied, and welcome everyone.

For designers then, tapping into and decoding what the public is asking for will help us in navigating and creating the spaces that support desires and any economic station one might find themselves in. Place-keeping is as much physical as it is phenomenological and experiential.

Matt Urbanski, in his TEDx talk, reminds us of the crisis of overprotection, and the cure, as he proposes, is rooted in discovering the missing experiences within a society. The reinsertion of risk to help us move towards socialization, creativity and self-determination is our best tool. Play is the right dose of risk. Any good park or playground would learn then through risk, just like nature gathers information through trial, error and feedback, so can we as a community.

Parks at their more strategically infused magnitude have invigorated cities and

at wildland scale have served as the backdrop to our outdoor memories and conservation desires. For as much

**'Parks and open spaces are essential for healthy, vibrant, and resilient cities. Green open spaces provide mental and physical respite for people and protection for wildlife. Together, parks and green open spaces foster community gathering, healthy play and neighborhood identity.'**

- Debra Webb, Sr. Global Partner Marketing Manager, Amazon Web Service

fun and respite as they bring parks, the umbrella term, have had numerous resurgences and rebrandings. I have to ask though, why does

anything as meaningful and essential as the horizontal space in which we learn or expand our lives demand so much advocacy to insert, maintain and protect itself? Maybe the way out of this repeating cycle is through design and through experiences and through feedback, we can accept that the case for play has already been made many times over. If freedom and innovation are cornerstones

for any community, play is at the core of that. We can be free through play.

Gensler Research Institute recently garnered insights

**‘For me, parks and open space are our escape into urban forms of nature. To experience the sublime beauty afforded to us by living in Seattle. My experience has been bopping around from park to park on my bike, smelling the BBQs, the fresh air, and watching the sunset at Golden Gardens.’**

- Rikerrious Geter,  
Associate, SCAPE

A community impact project installation with the Austin Foundation of Architecture consisting of colored squares placed in four city parks to help Austinites socially distance while enjoying the outdoors.



PHOTO BY RYAN CONWAY

from its 2023 Consumer Experience study (report release slated for later in 2024). The work surfaces that amongst other things like the quality-of-service, choice, agency, and fun are a critical part in how we are making our decisions today. As many of us have seen broadly, and within ourselves, decision-making looks a bit different these days as we rebound from the pandemic’s isolation, limitations in options and economic shifts. Today, we can be reluctant and hesitant when deciding how we spend our dollars in these recovery times. A few things help motivate us to separate from our resources and are also reflected in how we measure satisfaction including alignment with companies and missions, or repeat experiences rooted in fun or play. The idea of choice and agency is nothing new in an industrious context like America, but it isn’t enough

to see those values in work and hustle, we need to see them prevalent in how we play as well.

I heard it mentioned once that “God can do so much more with surrender than you can with control.” For the less or differently religious or spiritual, similar parallels can be drawn to nature and what we can achieve when we surrender to the lessons of the environment without fear.

Fear has discolored some of our other moments of surrender but staying in this place of overprotection cannot be any better. We see leaps in childhood development, we see a restoration and healing in the bodies and rhythms of

many in nature, through play and through experience. The amenities we wanted before don’t hold the same value as moving experiences, and various local or regional opportunities do. We have proven we are even willing to travel or pilgrimage to the right nature-based experience think about the eclipse, northern lights, salmon season, or first winter sport runs. The designer, the city builder, or the ruralist can find common ground in freedom, in play. It is time to create more equitable design experiences that are equally as meaningful for all — inside and outside.

Freedom is a place and place-held. A future where

we lose count in the mass of pins on the map is possible, and nature-based experiences will be accessible to all if we take a bit of risk.

Jescelle Major is a strategist, change management

specialist and researcher at Gensler, as well as an assistant teaching professor in Landscape Architecture, Urban and Environmental Design at Arizona State University.

**‘Parks and open space mean providing access. Access ranging from physical access- to nature, health, recreational, and educational programs as well as social access to community and the potential to develop deep relationships. It provides opportunities for access that may not otherwise be available to many. I’ve experienced this firsthand through large birthday gatherings and pick-up games at Jefferson Park in Beacon Hill and walking around the perimeter loop, through old growth forest, or cooling off in the lake at Seward Park.’**

- Aaron Hursey,  
Planner, Gensler



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# MAKING LANDSCAPES MEMORABLE

Cultivating a close connection between the natural and curated planted environment and park architecture is as essential as blurring the boundaries between them.

**E**HDD has been working in close collaboration with communities, public agencies and our design partners on notable landscape projects across the Northwest for the past 20 years. As the design lead for these projects, I set out with one clear goal when working with clients and communities on their beloved



BY CHRISTOPHER PATANO  
EHDD

EHDD has been working in close collaboration with communities, public agencies and our design partners on notable landscape projects across the Northwest for the past 20 years. As the design lead for these projects, I set out with one clear goal when working with clients and communities on their beloved

park projects: to create a memorable landscape. We have found that simple, iconic forms, constructed of locally sourced materials, resonate with our special Pacific Northwest environments, especially in park settings. Memorable landscapes result from a close connection between the natural and curated planted environment of a park and the park architecture; we constantly strive to blur those boundaries to create a cohesive experience.

A particular specialty of EHDD is working on waterfront parks in the Northwest. These complex sites involve layers of environmental regulation and restoration, as well as the rehabilitation of the most memorable public spaces linking our cities to Puget Sound. From Percival Landing in Olympia to Juanita Beach Park in Kirkland, EHDD's waterfront park teams have been fortunate to collaborate with local communities to create these memorable landscapes.

We have two distinct points of departure in our design process. First, we are committed to utilizing locally sourced materials in our parks projects. This strategy greatly reduces the carbon footprint of the project. When sourced from sustainable forests, locally sourced wood materials not only avoid carbon emissions from cross-continental shipping, but also have a climate positive impact by storing carbon in the wood.

Economically, this practice supports local jobs and trade economies. Even in places where these trades are struggling, the choice to use local

The Bathhouse at Juanita Beach is clad in locally sourced cedar with a natural finish that weathers over time.



PHOTO BY ED SOZINHO

trades whenever possible will boost those economies over time.

It also makes sense from the owner's point of view: While costs may be comparable to other building materials, prefabricated wood solutions like cross laminated timber (CLT) can save money by shortening construction time. Utilizing Pacific Northwest wood products supports our local and regional economies while at the same time integrating the structures with our environment.

The Bathhouse at Juanita Beach is clad in locally sourced cedar with a natural finish which weathers over time. The picnic shelters are constructed of CLT panels (think of large, solid wood panels, layered to form large structural elements that can span twelve to sixteen feet between supports) which are also locally sourced.

Our parks projects have also featured prefabrication strategies that greatly reduce the duration of construction, allowing the parks projects to open during the peak summer season. We have utilized prefabricated CLT panels at the recently completed Lake Sammamish State Park and at Juanita Beach Park. The

use of these prefabricated, locally sourced wood elements is also a demonstration for the general public to see how these new building technologies can be utilized to create healthy, environmentally integrated structures in our communities. In my practice, I've found that locally sourced wood brings a unique warmth and character to buildings, grounding them in their specific landscapes. Whether it's a building in the rolling hills of Goldendale or along the vibrant shores of Seattle, local materials anchor a structure in its setting, creating a special sense of space.

Second, when designing park projects, EHDD curates the visitor experience by integrating and coordinating the landscape architecture, architecture and the interpretive design content. By bringing the full design team together at the beginning of the project to work with the client and the community, we can intertwine landscape concepts with architectural concepts and strengthen those relationships with the interpretive story. This results in richer, layered environments and a more authentic visitor experience.

We are constantly working

Prefabrication strategies — such as the prefabricated CLT panels used on picnic shelters at Lake Sammamish State Park's day-use area renovation — can greatly reduce the duration of construction, allowing park projects to open during the peak summer season.



PHOTO BY ED SOZINHO



At Goldendale Observatory State Park, pathways around the observatory building serve as landscape journeys providing views of Mt. Hood, the Columbia River Valley and the surrounding mountains.

PHOTO BY MEGHAN MONTGOMERY

at blurring the boundaries between the built environment and the natural environment. At Goldendale Observatory State Park, it was important for the operational needs of the park to provide a self-guided visitor experience in tandem with

the staffed park programming. Working with Walker Macy, the landscape architect, and C&G, the interpretive designer, EHDD developed pathways around the observatory building that visitors can explore upon arrival and between park

programs. These landscape journeys provide views of Mt. Hood, the Columbia River Valley and the surrounding mountains. Interpretive content along the pathways describes the surrounding environment and introduces themes that are presented in

more detail inside the observatory.

By integrating the design team, featuring locally sourced materials, and implementing prefabricated construction techniques, we can achieve a sense of wonder and that “ah-ha” moment that

enhances our favorite Pacific Northwest environments.

*Christopher Patano leads EHDD's Pacific Northwest practice in Seattle, focusing on waterfront redevelopment, parks and interpretive centers.*



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# LANDSCAPE ARCHITECTURE TEAMS TAKING THE LEAD: EXPLORING THE BEST USES OF WATER ON A PROJECT FROM THE INSIDE OUT

Landscape architects must take on the role of advocate for harvesting rainwater onsite early in the design process.

Advocating for progressive water strategies, inside and outside a building, must be a focus for every landscape architect. Rain is ever present in Seattle, and we are lucky to draw from pristine, reliable rivers. To that end, despite having the highest water bills



BY RACHAEL MEYER  
WEBER THOMPSON

amongst major cities in the U.S. (as much as \$275/month for a typical household), the cost isn't enough to spur change, and most Seattleites take our clean, seemingly abundant water for granted.

But water isn't a never-ending resource, and the environmental benefits for creating more resilient and restorative urban infrastructure are clear. Landscape architects are perfectly positioned to maximize the impact our projects have on our region's water usage. We need to use that power!

When designing landscapes for the urban environment, as the scale of a building increases, the financial justification for lowering water usage becomes more apparent. Exploring and evaluating ways to harvest rainwater onsite is necessary for every building type.

Early in the design process, Landscape architects should assess the viability of capturing and re-using stormwater or greywater to determine the highest and best use of water on any given site. That starts with the question: What is this water fit to do?

## POTABLE VS. NON-POTABLE

Reducing demand for resources is often the first and most essential step when designing deep green buildings. However, when thinking about water resources, designers must also begin assuming that municipally cleaned potable water is only routed to uses that need it (aka drinking, sinks, laundry, etc.). For all non-potable uses, such as toilet flushing and irrigation, teams should be designing separate water

reclamation systems.

As often happens in commercial real estate, mechanical engineers, who would ultimately design a water reclamation system, are not fully engaged until well into the building design process. Landscape architects must take on the role of advocate for early project water goals.

## OPTIMAL CISTERN SIZING

Using rainwater for irrigation is intuitive – rain falls, and the landscape comes alive each spring. However, when the goal is to reduce demand for municipal water, using rainwater for irrigation is often not the highest and best use for this resource. In a typical urban, mixed-use project, often ten times the volume of water is needed to flush toilets than is needed for irrigation. In addition, given Seattle's extended dry season each summer, it is necessary for irrigation water to be collected and stored many months before it is to be used.

Allocating space for rainwater capture is always going to be a challenge, which is why it is important to optimize the volume of water captured by targeting a year-round use that continually empties the cistern and allows for more rain to be collected. That best use in the Pacific Northwest is for flushing toilets.

## SYSTEM DESIGN

Water reclamation systems for toilet flushing closely resemble the design of commercial irrigation systems. Once a location for the cistern is identified, the remaining equipment is often collocated with the irrigation equipment. Ultimately the debris/sediment filters as well as smaller micron filters are identical between the two uses. A UV filter is commonly added to ensure viral and bacterial growth is suppressed. We have had projects that shared this equipment for both systems, but it is more common to have some redundancy.

An automatic loop that regularly filters the water stored in the cistern will also reduce the chances that anything grows in the tank.

It is also imperative to

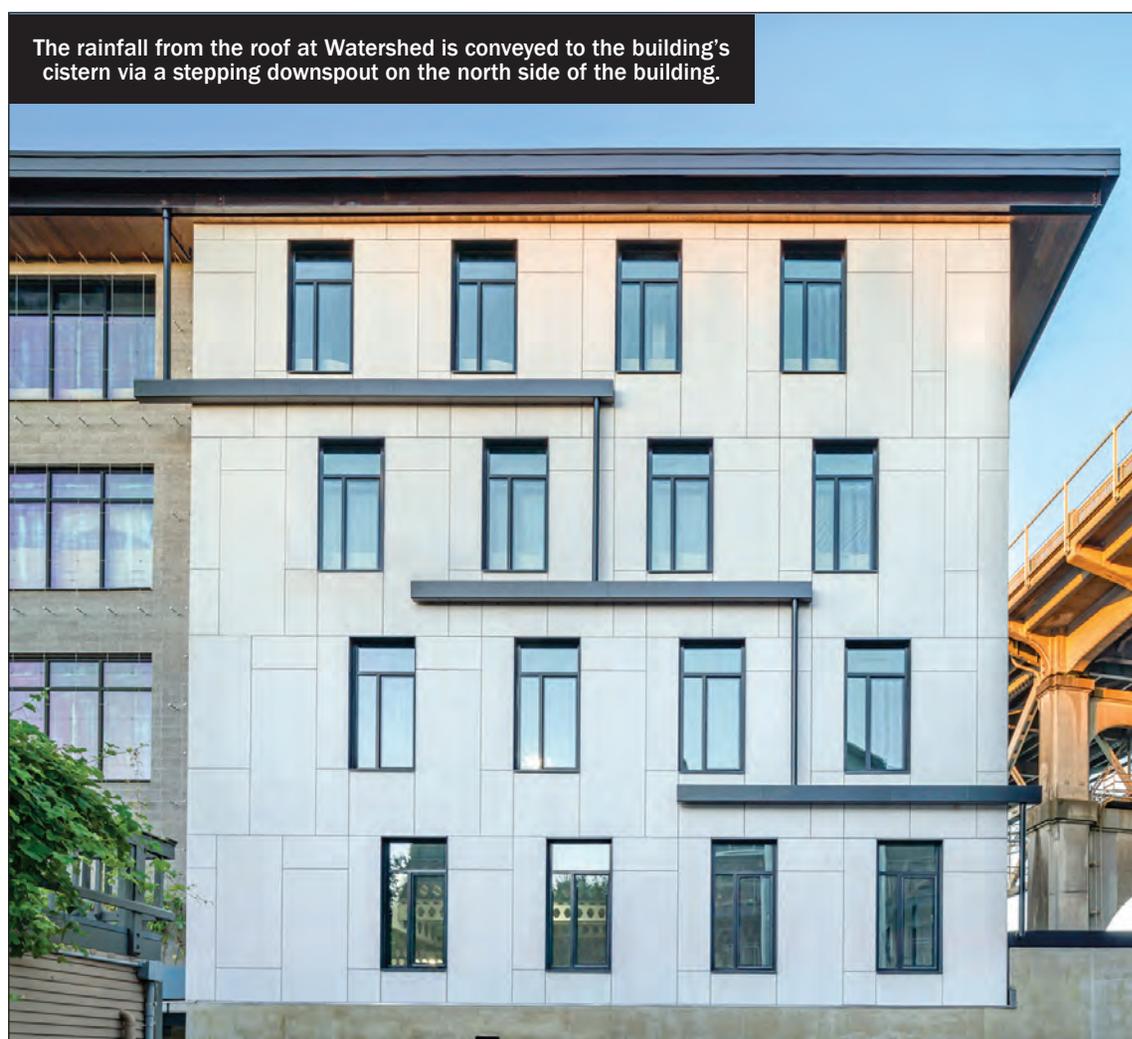


PHOTO BY BUILT WORKS PHOTOGRAPHY | MEGHAN MONTGOMERY

include a domestic water back-up for periods of drought, but that the point of input is downstream of the storage tank. Do not fill up the cistern if the water level dips below a certain level – this will prevent the next storm from being collected, and the system will lose efficiency.

Projects have elected to forgo the domestic back-up connection altogether, saving the cost of the municipal connection. Deep green certifications stipulate that an owner is allowed to fill a cistern at the beginning of a performance period to account for regional variation in rainfall. As climate change impacts the size and frequency of storms, a municipal back-up could create a more resilient system. For critical building functions, the back-up is essential.

## DOING BETTER

Onsite stormwater mitigation (slowing and cleaning of

stormwater) is now required by many jurisdictions, and as such, developers that have been active over the last eight years to understand the cost and space needed for green infrastructure. For many urban developments, this has increased landscape construction budgets by 30-50%. Most water reclamation systems will not provide stormwater detention because a cistern is not designed to release captured water slowly. Surely toilet flushing would mimic the slow release that a detention tank provides, but jurisdictions are not convinced to allow these systems to be combined.

Likewise, it should be best practice to route roof water through planters to provide the function of an irrigation system, but this has only emerged in the design of bioretention planters. Researchers have shown that sending stormwater through soil removes toxins that have been shown to be responsible for the decline

of salmon populations, however even in areas where water quality measures are not required, shouldn't we still be implementing this strategy everywhere?

As the line blurs between the definitions of stormwater and greywater and the reality that the toxins killing salmon are found settling on all surfaces, not just where cars and roads leave behind tire dust, we must accept that we can do better to protect water as a resource. And that by innovating, optimizing, and combining all water systems inside and outside of a building, we will begin to see significant improvements in the environment around us. If we all work towards this goal, we will be even more surrounded by demonstrations of the value of integrating nature with the built environment.

*Rachael Meyer is director of sustainability and landscape architecture principal at Weber Thompson.*

# PARKS AND OPEN SPACES: KEY PLAYERS IN CLIMATE CHANGE MITIGATION

Leveraging urban parks, green spaces, streetscapes and plazas to sequester carbon and actively combat climate change.



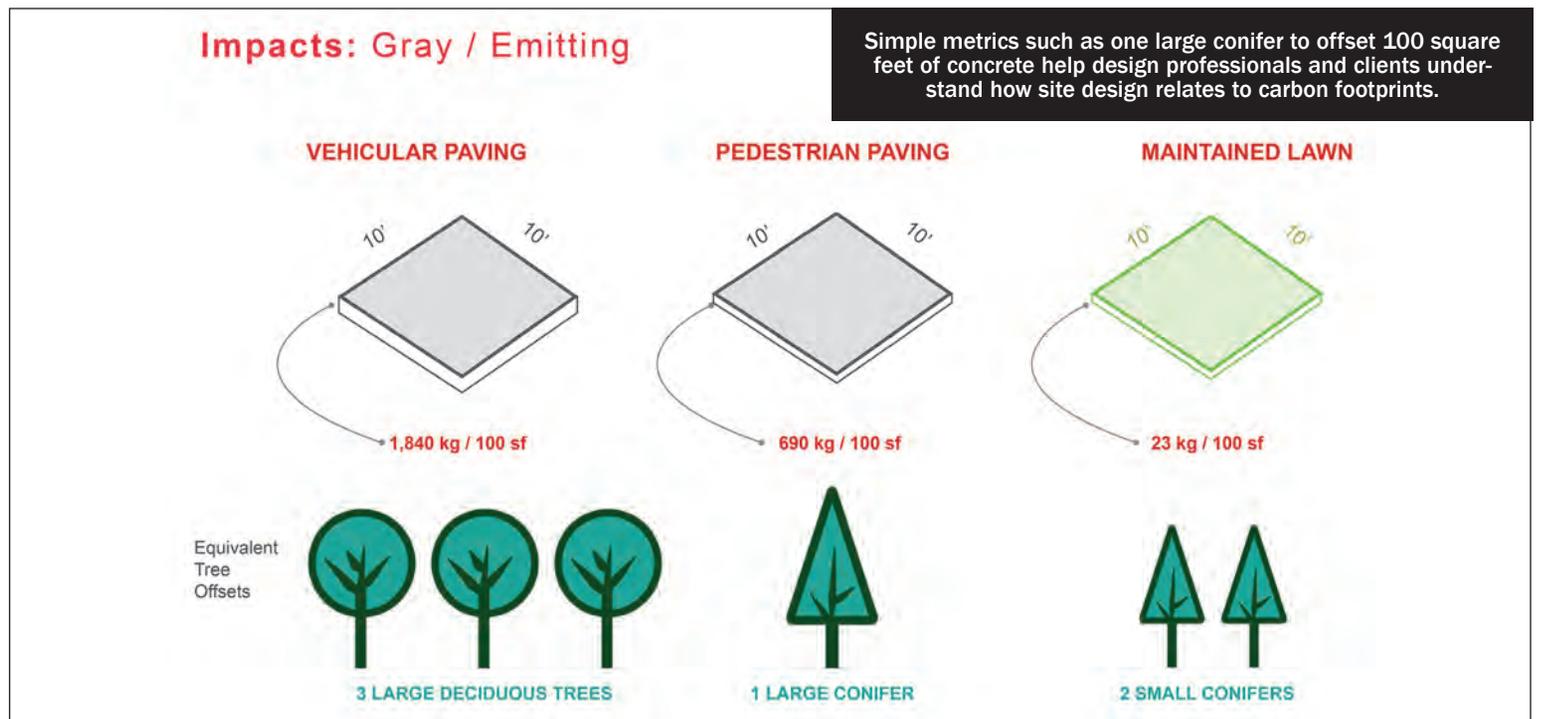
BY JASON HENRY & KELLY RENCH  
BERGER PARTNERSHIP

In 2019, Pamela Conrad of CMG Landscape Architecture introduced Pathfinder, a web-based tool designed to assist landscape architects, architects and engineers in enhancing their projects' performance toward achieving carbon neutrality. This initiative stemmed from the Climate Positive Design Challenge, which urges projects like parks, gardens, campuses and hospitality venues to become carbon positive within five years of design and construction, with plazas and streetscapes aiming for climate positivity by 2030. Currently, many of these projects emit more carbon than they sequester. However, if the challenge is met, green open spaces could potentially sequester a gigaton of carbon emitted in cities by 2050, significantly mitigating the climate crisis.

Pathfinder serves as an effective design tool, enabling the evaluation of various site design options and emphasizing the critical role of landscapes in carbon sequestration. For projects with buildings, Pathfinder facilitates the demonstration of landscapes' substantial contribution to overarching decarbonization goals.

Trees and plants are known for sequestering and storing carbon in their wood, with the added benefit of increasing carbon sequestration as they mature. Urban parks and streetscapes, already valued for their recreational and social attributes, play a crucial role in not only sequestering carbon but also mitigating climate change.

Pathfinder goes beyond calculating the sequestration potential of landscapes. It also identifies opportunities to fine-tune landscape design



GRAPHIC COURTESY OF BERGER PARTNERSHIP

by adjusting materials such as pavers, concrete and lawn areas, all of which influence the speed at which carbon neutrality can be achieved. Objective comparisons of design options through the lens of carbon impact underscore the importance of preserving vegetated open spaces and planting trees.

However, not all green spaces are equal in their carbon sequestration capacity. Evaluating trees for their environmental services is essential, with larger trees, particularly conifers in the Pacific Northwest, sequestering more carbon. Green infrastructure is sometimes overlooked as a carbon sequestration tool, but designed elements like rain gardens provide particularly high carbon sequestration potential. And wetlands, though they don't offer the same occupiable space as some other land types, are not only crucial ecosystems, but can also sequester carbon at rates almost as high as mature forests. Turf lawns, on the other hand, emit carbon due to maintenance practices. Replacing traditional lawn areas with no-mow options or shrubs, along with using electric maintenance equipment,

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# DELVING INTO WATERFRONT PARK'S PLANTINGS

Seattle's newest public garden space is broken into approximately two-block districts with established narrative themes based on use and location.

Over 124,000 plants will grow along Seattle's new waterfront, representing over 500 varieties of native and ornamental plants. Nearly 800 trees will provide shade and habitat in addition to the project's shrubs,



BY RICHARD HARTLAGE  
LAND MORPHOLOGY

vines, perennials, grasses, ferns and bulbs. In the years since design commenced on the 20-acre, mile and a half long project, we have been frequently asked, "How are these plants organized and how will they be maintained?" The planting design addresses two foundational aspects: the narrative theme of the location and the functional need of the location.

The plant selection strategy brings it all together in the final vision that can now be experienced by pedestrians, bicyclists, scooterists, and drivers, all along the waterfront. Each segment of the waterfront is broken into approximately two-block zones/districts with established narrative themes based on use and location.

## PIONEER SQUARE DISTRICT

The Pioneer Square planting palette includes street trees that reflect the requirements of the Pioneer Square Historic District, and promenade plantings that include near-shore habitat species to evoke the character of the Puget Sound lowlands. Trees, shrubs and understory plantings represent native species commonly found in the forested areas near Puget Sound shorelines and are similar to plantings of the adjacent Washington Department of Transportation (WSDOT) South Access project to the south, providing an easy character transition.

## PIONEER SQUARE BEACH DISTRICT

The Pioneer Square Beach planting palette includes street trees that reflect the Pioneer Square Historic District, and beach plantings (by others) that include near-shore habitat species to evoke the character of the

Puget Sound Beach. Trees, shrubs and understory plantings along the promenade represent native species commonly found in Puget Sound Shorelines and are similar to plantings of the habitat beach.

## THE TRANSIT HUB

The transit hub planting includes street and promenade trees selected for their formal canopy structure, balanced upper branching habit, and ability to withstand urban conditions with vehicular and pedestrian traffic. Understory planting serves as a buffer between the roadway, bicycle facilities and promenade, while maintaining sightlines and clear visibility for buses, drop-off areas and commuters.

## CENTRAL WATERFRONT DISTRICT

The central public space planting areas evoke Puget Sound shorelines where sand, gravel and rocks meet shoreline grasses, with sculptural shrubs and trees in the near-shore background. Native-inspired conifers selected for interesting character, scale, and sculptural interest are used throughout the informal planted terraces. Shrubs and understory plantings represent native species commonly found on Puget Sound shorelines and beaches. Street trees selected for their straight, upright form and fall color link the historic piers' plantings with the central public space plantings.

## PIER 66 / WATERFRONT PARK

Expected heavy visitation in the central core requires highly ornamental and multi-seasonal plantings including a bosque of shade trees.

## OVERLOOK WALK

Overlook walk includes the roof of the new Seattle Aquarium addition and is intended to replicate the ecosystems of the region, from the Cascade Mountains to Puget Sound. These are native plants except for the conifers, where weight restrictions prohibited the use of Douglas Firs and Western Hemlocks. Instead, we specified smaller growing conifers.

Plantings along the bike path in Pioneer Square include London planes to match the predominant species in Pioneer Square.



PHOTO BY LAND MORPHOLOGY

## THE BELLTOWN DISTRICT

The Belltown bluff planting is inspired by Puget Sound bluff natural vegetation. Deciduous tree species are used along the bluff slopes, while conifers grow along the top of the bluff where the ground is more level. Shrub species include ones typically found in the Pacific Northwest bluff understory. Street trees in Belltown have been selected for their straight, upright form, fall color and ability to survive in tough urban conditions and grow well in the narrow corridor

going up Dzidzilich/Elliott Way.

## DISEASE AND RESILIENCE

A complex set of functional needs or themes have been addressed as well. Large-scale street trees provide shade and heat island remediation along the major roads. A variety of trees were selected for durability, disease resistance, and impacts from climate change. In each zone, the design team and city of Seattle selected two to four species to avoid monocultures and avert the pos-

sibility of a disease impacting tree canopy. Diseases, for example Dutch Elm Disease, tend to impact specific tree families, so selecting from different families minimizes the risk of collapse of the entire tree canopy should an unforeseen issue or new disease arise in the future.

## STORMWATER

Bio-filtration planters are utilized throughout the project to treat runoff from roadways. These require plants adapted to drying and flooding events.

# PROJECT TEAM:

**Client:**  
Seattle Department of Transportation and Waterfront Seattle

**Construction management:**  
Jacobs

**Landscape architects:**  
Field Operations (lead), Land Morphology (joined team in 2017)

**Irrigation design:**  
Dragonfly Consultants

**Landscape contractor:**  
Yorozu Gardening

**Contractor:**  
Merlino

In front of the historic piers is a mix of Asian plants, representing the influx of immigrants from that continent.



RENDERING BY FIELD OPERATIONS

## MAINTENANCE

Planters in the median and along the east side of Alaskan Way are less complex in both variety and maintenance requirements and will be maintained by Seattle Department of Transportation (SDOT). Areas to the west of Alaskan Way are maintained by a trained gardening crew managed by the staff of the Seattle Center.

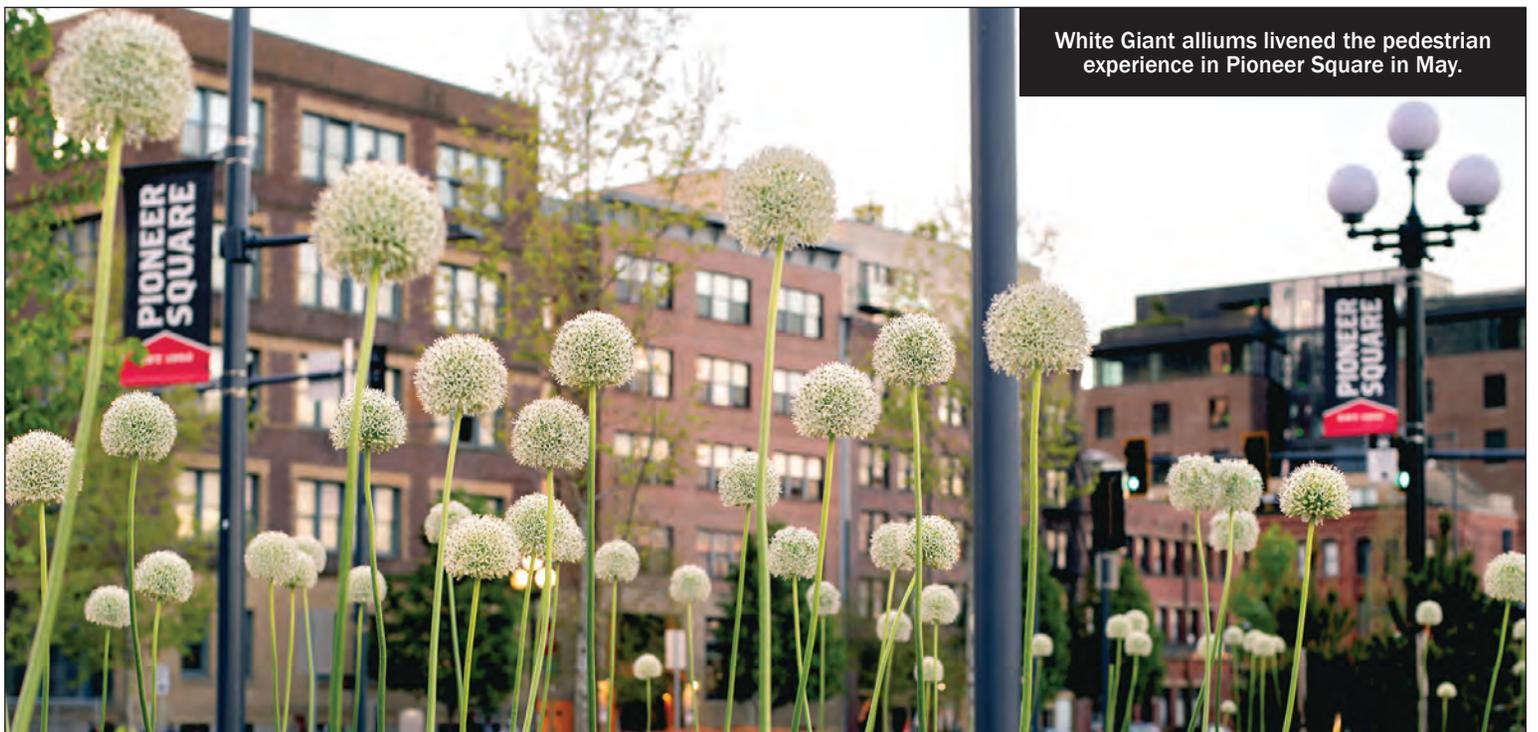
We expect procurement and installation to finish in 2025. To ensure success, the following were considered carefully:

## PLANT SPACING

Plant spacing is intended to cover the bare soil to suppress weeds, conserve water, and discourage people from walking in the beds. There will be areas in which desire lines, or the quickest distance between two points, cannot be overcome, but in general, in our experience dense planting does deter this behavior.

## PROCUREMENT

Due to the variety and quantities of plants required for the project we wrote specifications that would ensure quality planting material and no last-minute substitutions.



White Giant alliums livened the pedestrian experience in Pioneer Square in May.

PHOTO BY LAND MORPHOLOGY

The team made every effort during the design process to use plants available in the marketplace, though it was known that about 20% would need to be custom grown for the project.

Plants, like all products, come and go in production. Specifications required the landscape contractor to submit viable sources a year in advance of installation. Every tree was tagged

for procurement at various suppliers across the region. All other plants were photo documented six months in advance, and again when procured and awaiting installation. The process allowed no substitutions.

Tracking plants in this manner allowed the design team to make appropriate substitutions in advance for the few crop failures, rather than make last-minute substitu-

tions with poor alternatives.

## SOILS AND IRRIGATION

A permanent irrigation system provides irrigation for the entire project with state-of-the-art controls that will be managed by the Seattle Center.

Initially, after research and consultation with James Urban, the project team planned to use 100% mineral

soils on the project. In the end, we could not find a supplier that could deliver soil with the optimal particle size of soil aggregates. Ultimately, we used WSDOT soils specifications and completed regular testing to ensure fertility, particle size compliance, and compaction. City of Seattle bio-filtration soil mix

# ADVANCING PARK DESIGN WITH PROGRESSIVE DESIGN-BUILD PROJECT DELIVERY

Design-build delivery offers many opportunities to deliver parks projects on budget, on schedule and with design excellence by restructuring the design and construction process.

In 2022, Shoreline voters approved a parks bond, funding, among other things, improvements to eight local parks using the progressive design-build delivery model. The team of Forma Construction and Mithun, along with KPFF engineering, were selected for integrated park design and construction. Design-build gave the city a better pathway for delivering the park improvements in a timely way.

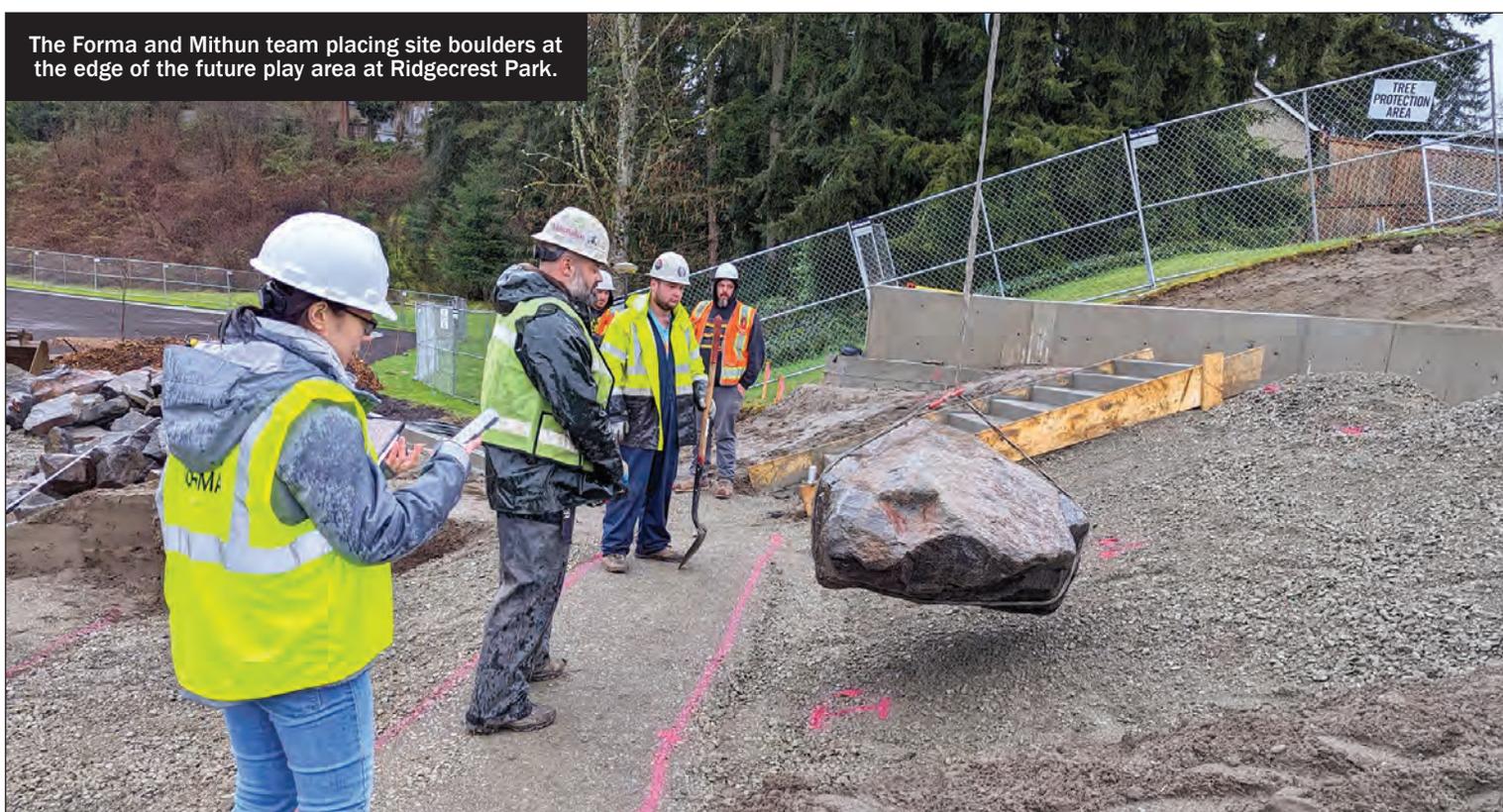
BY DEB GUENTHER  
MITHUN

In addition to cost and schedule advantages, design quality was an important priority for the city. Shoreline residents value parks highly and there was considerable interest in ensuring that the parks continued to reflect the distinct characteristics of each neighborhood. With a well-coordinated process, design-build project delivery can provide a strong foundation for achieving all of these goals. Here are some lessons we learned about retaining design quality during this design-build process:

## IDENTIFY CLIENT DESIGN GOALS EARLY AND REVISIT OFTEN

To deliver a consistent message from the design and contractor team about building design quality, we normalized conversations with all team members about design priorities. “We carved out time with everybody to discuss design goals at the very beginning,” said Kasia Keeley, Mithun’s project manager for the park design team. “It was necessary to have something to point to as we went through the process. At the pace of project delivery, we could check in together while construction was underway and additional requests were being made.”

An example where the clarity of these design priorities emerged was in the Kruckeberg Botanical Garden boardwalk which winds between trees and snags down a steep hill to provide



The Forma and Mithun team placing site boulders at the edge of the future play area at Ridgecrest Park.

PHOTO BY FORMA CONSTRUCTION



Two of the parks in the Shoreline Parks Improvement bundle include splash pads like this one envisioned for Hamlin Park

IMAGE BY PLOMP FOR MITHUN

accessibility and a treetop experience for visitors. Forma flagged during the construction that snags were leaning into the path of the boardwalk.

“They could have cut the snag down, but they knew the snags were part of the visitor experience, so they initiated

conversations with the structural to figure out how to cut the boardwalk around it. It resulted in something really special, lovely and unique, but could very much have gone the other way. Now it is even cooler than what was in the drawings.”

## CHOOSE YOUR PARTNERS CAREFULLY

The contractor, the design team and the client – everyone – needs to buy into the design build process which includes a distinctly different decision-making pace

around issues of risk and value to the client and their user groups. A high level of trust and certainty between partners is when design-build works best.

“We are building the plane while we are flying it,” Keeley said. “Some of your decisions get locked in early and

need to be worked around as future decisions are made. Forma has been a great partner in this project because they are thinking proactively about design with us and communicating when they see gaps.”

Dorothy Faris, Mithun’s partner-in-charge on the project says, “Forma brought a willingness to try new and different technologies. The diamond pier structural system on the Kruckeberg Botanical Garden boardwalk was new to all of us. The technology limited disturbance of the steep slopes. Forma was even working around a bird nest which was a foot off where they were constructing the boardwalk. The crew was invested in the success of these birds fledging!”

Shoreline Parks also structured themselves to be responsive to the design-build process by hiring Parametrix as the project manager for the city. And they make it clear that design character responsive to each location was a priority that should not be lost in the design-build search for speed, efficiency and volume purchasing and process.

## BUILD IN TIME FOR BIG BRAINSTORMS THROUGHOUT

The design team holds space/time for big brainstorming within every phase of the process. All team members were encouraged to throw out wild ideas early in the process and build off of those in developing concept approaches for each of the eight parks. As the designs evolved, the team continued to develop high quality design detailing through drawings and on-site mockups, adapting to preserve quality and functionality while staying on budget.

Knowing the skills of the contracting team doing the work supports the ability to brainstorm with confidence and sometimes even align ideas with the skills of the contracting team. The pace of design drawings leaves some outcomes to be developed in the field in a collaboration between the contractor and the design team. Far from the adversarial structure that a typical design-bid-build project can create, progressive design-build requires collaboration.

Site costs are often more variable than building costs due to specific place conditions, utilities, topography, scale and scope. This flux in the budget means good communication between

the design team and the contractor can support moving forward with multiple options until contingencies or additional funding are pinned down further along in the project.

## PROJECT BUNDLING SUPPORTS DESIGN QUALITY

It quickly became apparent to all the partners in the project that eight parks in the initial “bundle” of Shoreline parks were too many to do simultaneously. The parks were re-bundled into three projects of two to three parks each on different permit and construction tracks. Learning from the permitting process what details will be acceptable means the team can “anticipate issues more quickly and push details further to relate to the conditions of each park. Standardization in details and specifications can be replicated and applied to other parks leaving more time to be creative in the play design experience,” Faris said. By pinning down aspects of the design that are familiar, such as play equipment and concrete detailing across all eight parks, it opens time to take on the more complex aspects such as splash pads.

## BUILD ON COMMUNITY PRIORITIES

“Often, folding community engagement into a design-build timeline is at odds with each other,” said Mithun’s Keeley. “Design build is there to go fast, so community priorities need to be understood before the design-build process starts and so it can provide a foundation for the design process.”

The city of Shoreline had conducted community outreach to establish the parks bond and the outreach during the design-build included tabling at events, sharing updates at public board meetings and online community surveys. Integration with the bi-annual city-wide Parks, Recreation and Open Space Planning was a strategy to limit community outreach fatigue. Completion of the park improvements within two years of the bond passing is a tremendous way to respect the wishes of the city residents when it comes to their prioritization of parks.

## USE A RAPID TIMEFRAME TO TEST AND RESEARCH

One of the design successes driven by the design-build

context was revisiting and redesigning the program to reduce stormwater requirements. In the process of addressing soil conditions, it became apparent at one park that stormwater vaults couldn’t be buried due to a high water table. The team rapidly redesigned to accommodate a new configuration of the vault, partially out of ground, and regraded to maintain program and meet the storm requirements.

As more public agencies turn toward design-build, it has potential to provide a fertile context for research. For example, Faris hopes that future design-build projects capitalize on opportunities to plan ahead by contracting early with nurseries to grow plants and economically test climate-adapted plants. This could mean growing plants from seeds from different regions or supporting plant migration.

Since the design-build process means everything doesn’t get developed in the same timeframe, there are opportunities to be ahead but often these opportunities need a champion to drive the benefits of contract growing. Christian Runge, a Mithun landscape architect advising on the project, notes that nurseries that do contract growing prefer working with contractors, and because design-build includes contractors earlier in the process the timeframes work better.

## FUTURE POSSIBILITIES

John Gray, Forma’s project manager notes, “Progressive design-build is a process of iterative design – what works, what meets the budget, how can we adapt to make things work? We bounce ideas off one another real time, allowing design to be vetted before presenting to the client – giving them the best utilization of the public’s dollars.”

This iterative and adaptive progressive design-build process is increasingly being used and becoming even more applicable as green infrastructure and nature-based design grows in response to climate change. It’s a chance for everyone to practice together being more nimble to rapidly adapt by using design itself as a tool.

*Deb Guenther is a landscape architect and a partner at Mithun, where she focuses on high-performance landscape design and process innovations to help shape healthy, welcoming and resilient communities.*

## KEY PLAYERS

CONTINUED FROM PAGE 11

significantly enhances sequestration performance.

In plazas, where hardscape is often necessary, integrating shrubs and large trees can expedite reaching carbon positivity by five to 10 years, depending on plaza size, materials and maintenance practices. Utilizing alternatives like decomposed granite instead of pavers or concrete slabs further aids in carbon sequestration.

Berger Partnership has been utilizing the Pathfinder tool since its beta version and has applied it to over ten projects to date. Notably, it played a pivotal role in the Everett Housing Authority Park District project, an innovative affordable housing endeavor that incorporates park space to foster a new community in the existing Delta neighborhood.

Through collaborative efforts with clients and design team members, Pathfinder’s carbon calculations demonstrated the positive impact of preserving substantial open space in achieving carbon neutrality. By exploring multiple design options with Pathfinder, the team reduced the timeline for carbon neutrality from 91 years to 16 years, primarily by opting for denser housing layouts, allowing more room for trees, shrubs, and green space.

Parks, open spaces, and streetscapes offer numerous benefits, including improved mental health, physical activity, shade provision, and habitat creation. Recognizing them as measurable climate solutions can inspire us to enhance or rewild our urban spaces. With widespread adoption by the AEC industry and government bodies, we can collectively address the climate impacts of carbon emissions. Pathfinder, available at <https://app.climatepositivedesign.com>, stands as a valuable resource in this endeavor.

*Jason Henry is a principal at Berger Partnership and leads the firm’s Pathfinder and Salmon Safe design efforts. Kelly Rench is a principal and director of marketing with a passion for the environment and sharing knowledge at Berger Partnership.*

## PLANTINGS

CONTINUED FROM PAGE 13

was used in the bio-filtration planters. Overlook Walk utilizes a custom roof mix.

## INSTALLATION

When plants had to be held due to a few project delays, quality was not sacrificed, which is often the case in this scenario. Plants can become rootbound and overgrown when held too long. Growers were accommodating and adjusted to schedule changes.

All plants were approved upon arrival at the site and placement was supervised. In many cases complex matrices or plant layouts could include one to seven varieties. Test areas were staged, approved, and the pattern was replicated throughout a given bed. The contractor made almost no changes to the initial plant layout, and plants were installed quickly upon arrival at the site.

## MAINTENANCE

Waterfront Seattle’s gardeners, led by the Seattle Center team, have been in place since late last summer. The maintenance team has begun to assume responsibility as the design team

approves substantial completion on a bed-by-bed basis.

The dynamic nature of the plantings in the Seattle Waterfront’s urban garden will require changes in the future as gardens grow and evolve over time. A variety of changing conditions will necessitate this evolution, increasing shade due to large scale street trees, changing weather patterns, possible disease susceptibility due to climate stress and other unforeseen events.

The Seattle Waterfront project is a legacy project that will improve water quality, remediate urban heat island effects, increase biodiversity in the urban core, create a dynamic urban landscape for visitors and residents of the city, and alter Seattle in unforeseen ways both economically and in quality of life.

*Richard Hartlage is the founding principal and CEO of Land Morphology. His designs have been featured in The New York Times and Architectural Record and he has contributed to six books on horticulture and design, including Bold Visions for the Garden and The Authentic Garden.*



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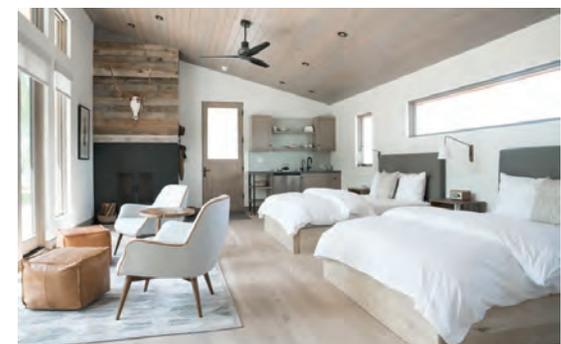


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