

Seattle Daily Journal of Commerce

LANDSCAPE

NORTHWEST



June 27, 2024

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.

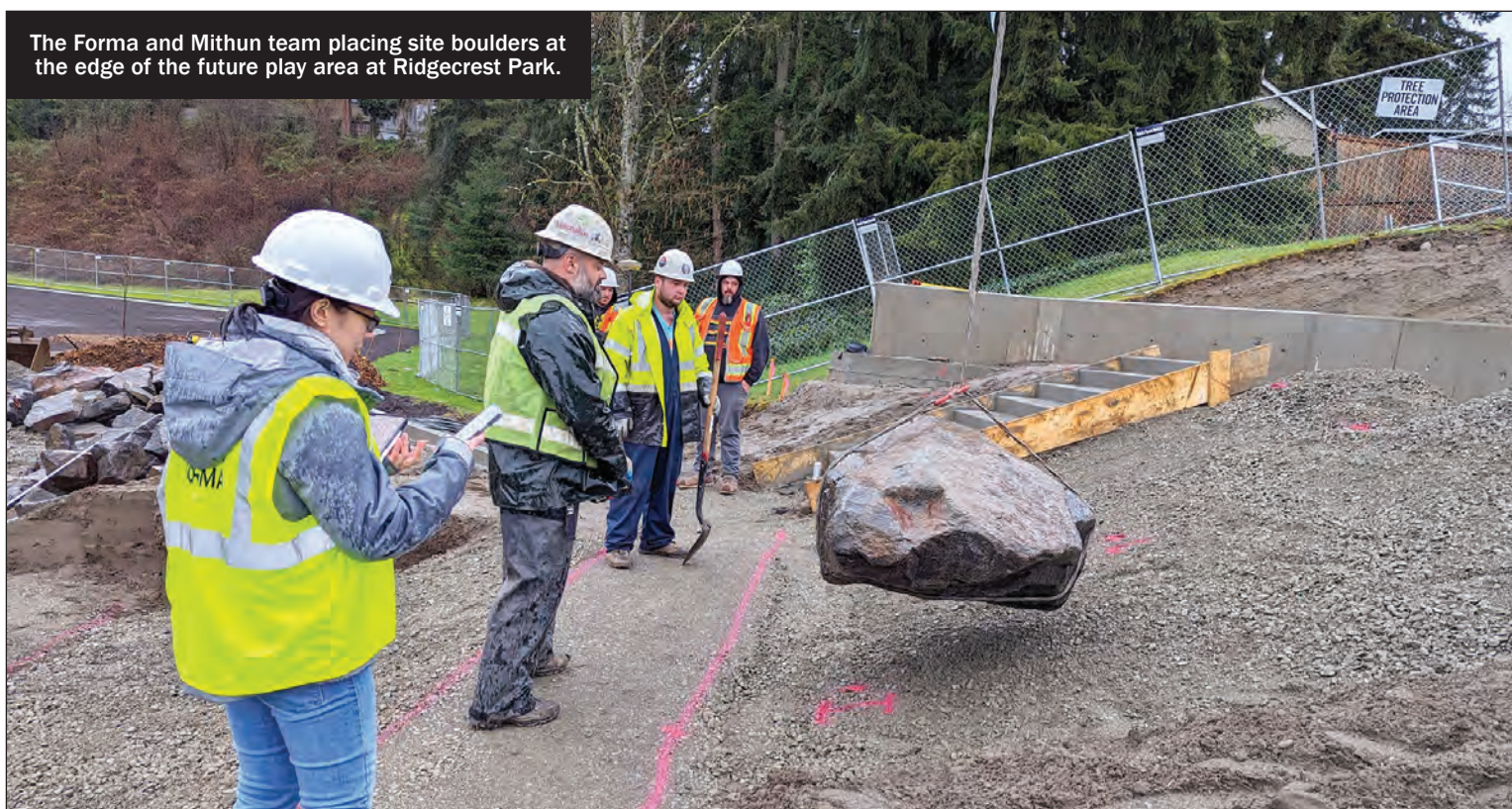
BY DEB GUENTHER
MITHUN

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

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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

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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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