

HGA

SITES CASE STUDY  
DAVIDSON PARK



## DAVIDSON PARK

HARLEY-DAVIDSON MOTOR COMPANY  
MILWAUKEE, WISCONSIN

### PROJECT DETAILS

Size: 4 Acres

Type: Urban Park

Budget: \$20M

Former Use: Surface Parking

### PROJECT SUMMARY

#### A COMMUNITY PARK WITH DYNAMIC GREEN INFRASTRUCTURE

Davidson Park transforms a 4-acre parking lot just south of Harley-Davidson Company's 3700 W. Juneau Avenue building into a soulful green space that can be used by everyone who lives in and visits Milwaukee's Near West Side (NWS). From the start, the ambition for Davidson Park has been to create an inclusive place that everyone who lives or visits NWS can call their own – whether they use the park as a space to relax, to enjoy the local art and culture scene or attend an event.

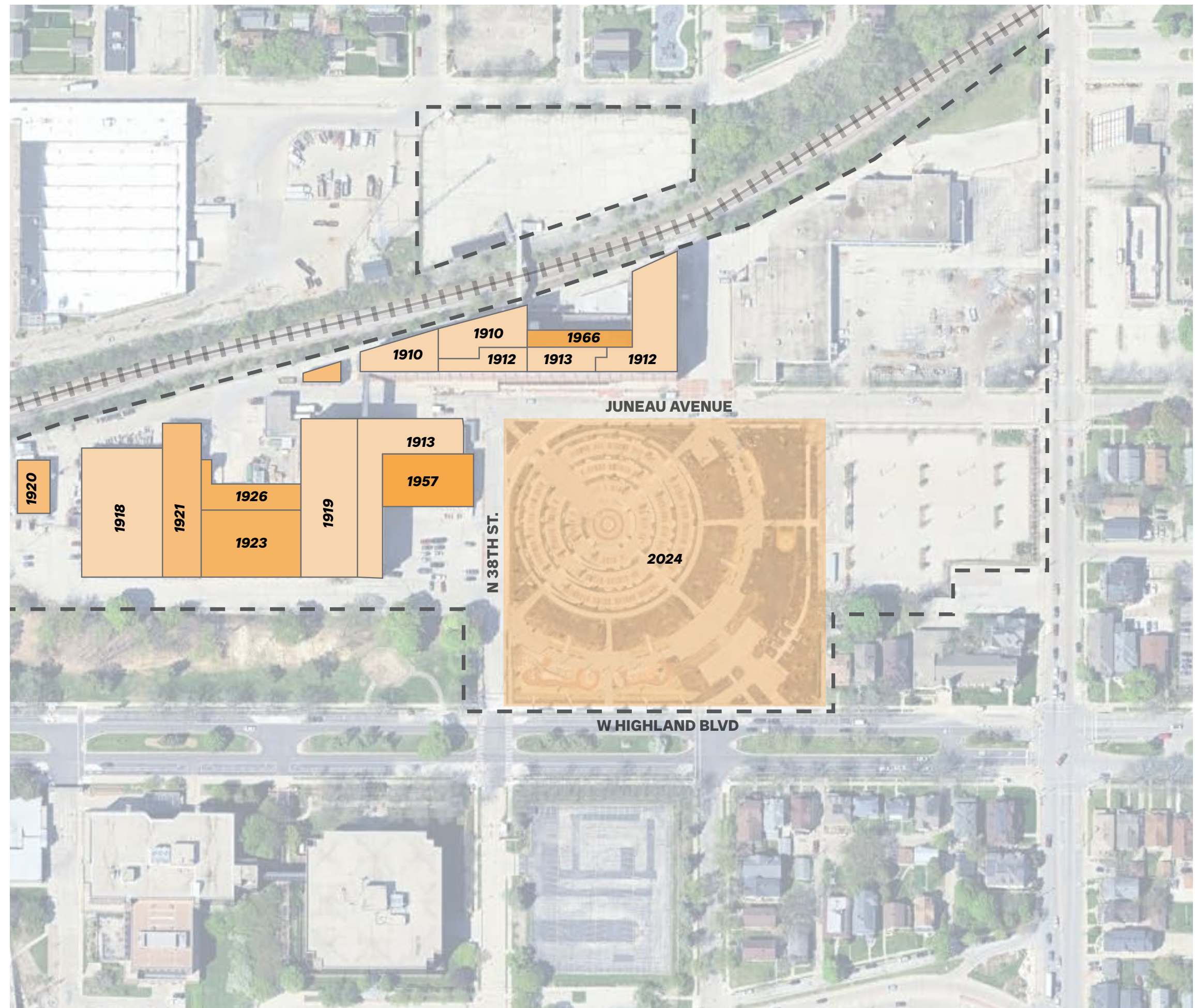
At the heart of the new park is "The Hub", a sunken multi-use events space, 83 meters (approximately 260 feet) wide with tiered seating, set among lush plants and trees. Framed by the historic Harley-Davidson headquarters on one side embraced by layers of diverse gathering, market, reflection, and play spaces on the other. "The Hub" serves as a dynamic focal point for community activity. The design promotes the idea of togetherness for the community, riders and employees alike.

## SITE CONTEXT

### BOUND BY CITY STREETS

The existing site encompasses 3.945 acres and consists of a parking lot that previously served the Harley-Davidson Motor Company campus and a vacated city street: N. 37th Street. Historically, the site was a residential neighborhood with homes that lined the streets. The existing site is surrounded to the north and west by vacated City streets (W Juneau Ave to the north and N 38th St to the west). It is bounded on the south by W Highland Blvd and to the east by an existing parking lot. With frontage on W Highland Blvd, the site has high visibility from the public right of way.

There were no existing site features to be salvaged or protected which provided a relative "blank slate" to transform the site, however, a host of intersecting utility infrastructure including sewer, water, electrical, gas, and communication required design integration. Notably, site water drained to the existing combined sewer mains in N. 38th Street and W. Juneau Ave. before connecting to the broader municipal combined sewer infrastructure.



## CHALLENGES & SOLUTIONS

### ADDRESSING A UNIQUE AND CHALLENGING SITE WITH HOLISTIC INTEGRATED DESIGN

Davidson Park is a unique park with equally unique challenges.

Such challenges included an aging city sewer system that was being overburdened with site stormwater runoff, a flexible program that demanded intense grade change while maintaining equitable access, and the need for resilient planting systems on a site that had minimal former green space. In order to approach these often complex challenges, the Davidson Park design team capitalized on a holistic design process that leveraged the broad expertise of an integrated design and engineering team resulting in a process that allowed the project to fully integrate the desires of the client and community on a constrained urban site.

## CHALLENGE

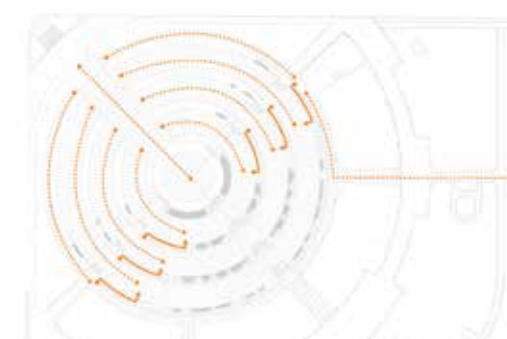
### STORMWATER & COMBINED SEWER

Prior to the park, the site had no stormwater best management practices or controls for peak flow and water quality. As a result, the almost entirely paved acreage contributed to regular downstream flooding of the combined sewer service area during heavy rain events posing community health and safety concerns.

## SOLUTION

### LAYERED GREEN INFRASTRUCTURE

The project went significantly above and beyond jurisdictional permitting requirements by reducing the sites contribution of runoff to the City's aging combined sewer system through a variety of green stormwater infrastructure approaches across the site including bioswales, permeable pavers, and underground stormwater storage. Notably, large volumes of Swedish structural planting soil are coupled with permeable pavers to support shade trees within paved program areas.



## CHALLENGE

### ACCESS FOR ALL

As a community oriented park in an underserved area of Milwaukee, equitable access was a key issue at the heart of Davidson Park. The goal of the design team was to balance the need to navigate 20' of grade change in a constrained site and to provide meaningful opportunities for community engagement.

## SOLUTION

### STAKEHOLDER ENGAGEMENT

The design team coordinated with community leaders, advocacy groups, and schools in Milwaukee to provide a park that centered accessibility and community engagement. This included collaboration with Independence First to provide accessible means of circulation that not only met the needs of individuals with limited mobility, but provided an experience that was not othering or secondary. Similarly, there was intense collaboration with the Forest County Potawatomi Tribe in order to integrate a meaningful space meant to provide opportunities for education and cultural practice.

## CHALLENGE

### INTRODUCING ECOLOGIES

As the former site was strictly used for parking, one of the key challenges was introducing ecological systems and biodiversity into a highly urban site that had minimal green space prior.

## SOLUTION

### RESILIENT PLANTINGS

The design team applied a varied approach to planting on the site, integrating different planting and soil zones that reflected a diversity of native planting typologies of the Milwaukee region. With this, special attention was made to selecting plants that could both establish quickly to prevent erosion and that could also withstand harsh urban conditions. Over 100 species of plants were selected to provide a more resilient planting community. Plant and seed selections were also made keeping habitat value in mind in order to encourage a range of wildlife to encourage pollination and seed dispersal.

## SUSTAINABLE FEATURES

The project rallied around the opportunity to sustainably revitalize Milwaukee's urban landscape. While sustainable landscape moves are integrated throughout, including 120 native plant species and locally sourced low impact materials, it is the parks dynamic green infrastructure system of bioswales, permeable pavers, and underground stormwater storage that have far reaching impacts, highlighted by the following features

### NEW TREES

#### 203 NEW TREES ADDED TO SITE

A range of trees were deployed across site to provide shade and structure, including 19 different native species. Trees were selected to provide a range of scale and density, allowing some species to provide immediate shade in the central hub while other street tree species were selected for longterm street shading.

### NATIVE PLANTINGS

#### NATIVE PLANTINGS USED THROUGHOUT

The project included 120 native plant species planted in a variety of manners including seeding, plugs and containers. For example, native prairie seeding was combined with native plugs and container to promote quicker establishment.

### PERVIOUS SURFACES

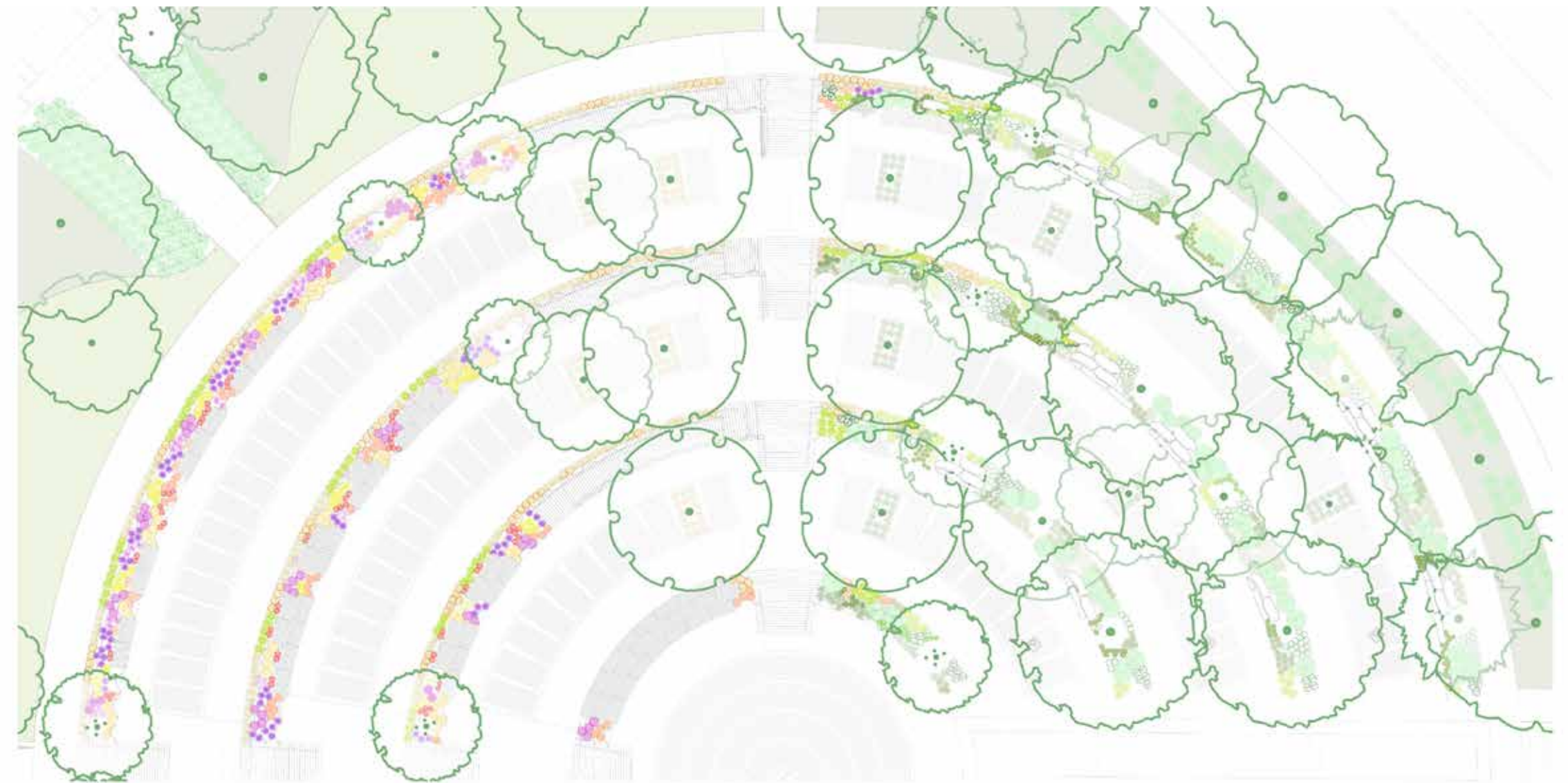
#### MORE THAN 50% OF SITE IS PERVIOUS SURFACES

The team removed 1.9-acres of paved impervious surface from the Menomonee River and Lake Michigan watersheds. The design includes pervious services across 50% of the site.

### WATER STORAGE

#### 225,000 GALLONS OF PEAK WATER STORAGE

The design captures more than 225,000 gallons of stormwater onsite, cutting peak flow into the aging combined sewer system by over 80% for the 60th - 95th percentile rain events and reducing hazardous neighborhood flooding.



- |                  |               |           |            |                  |                      |          |             |              |
|------------------|---------------|-----------|------------|------------------|----------------------|----------|-------------|--------------|
| ASPEN            | PRAIRIE SMOKE | BIRCH     | RUDBECKIA  | PRAIRIE DROPSEED | COLUMBINE            | OAK      | HONEYLOCUST |              |
| LITTLE BLUESTEM  | PRAIRIE SAGE  | ACHILLEA  | ALLIUM     | ASTILBE          | FERNS                | MAPLE    | DOGWOOD     | CRABAPPLE    |
| GOLDEN ALEXANDER | LUPINE        | COREOPSIS | CONEFLOWER | ELM              | SEDGES               | HEUCHERA | HACKBERRY   | SERVICEBERRY |
|                  |               |           |            |                  | FALSE SOLOMON'S SEAL | LINDEN   |             |              |

PRAIRIE

FOREST

### BIOSWALES

#### APPROXIMATELY 6,000 SF OF BIOSWALES

Bioswales are a visible and engaging stormwater design features to educate and inspire the public while improving water quality in the region.

### SITE LIGHTING

#### SITE LIGHTING DESIGNED TO MINIMIZE LIGHT POLLUTION

A key goal of Davidson Park was to provide a safe space for nighttime events in the Neighborhood. With a variety of lighting, the park has since hosted various events at different scales, ranging from performances, night markets, festivals and community movie nights.

### SITE BORDERS

#### PLANT SCREENING ALONG SITE BORDERS

A mixture of seeding and curated plantings were selected for the park, paying special attention to climate adaptive and drought tolerant plants. Selected plants reflect a diversity of regional natives with high ecological value.



## BENEFITS

### ENVIRONMENTAL

The design integrates a dynamic system of green infrastructure including native bioswales, permeable pavers and cisterns to capture 750,000 gallons of stormwater—significantly contributing to regional infrastructure and environment by lessening the burden on an aging combined sewer system and reducing urban runoff into Lake Michigan.

### SOCIAL

Davidson Park has been an extraordinary collaboration between the studio and local partners, schools, artists and the Forest County Potawatomi community, to transform an uninspiring concrete parking lot into a new public park and events amphitheatre for Milwaukee. It's a place where people can come together with friends and family to enjoy some of the wildness of Wisconsin's incredible nature, listen to the state's best music, or experience the energy of a motorcycle rally.

### ECONOMIC

Davidson Park addresses community goals to revitalize and sustain thriving business and residential corridors with several components: **Main Street** is the main pedestrian thoroughfare through the Park, envisioned for use for events such as farmers' markets, craft fairs & food trucks; **1903 Tavern** brings together two iconic Near West Side anchor institutions to offer Davidson Park visitors a relaxed, open-air environment to socialize while enjoying a cold beverage; **Union Plaza** has flexible space for temporary markets, food trucks, and events

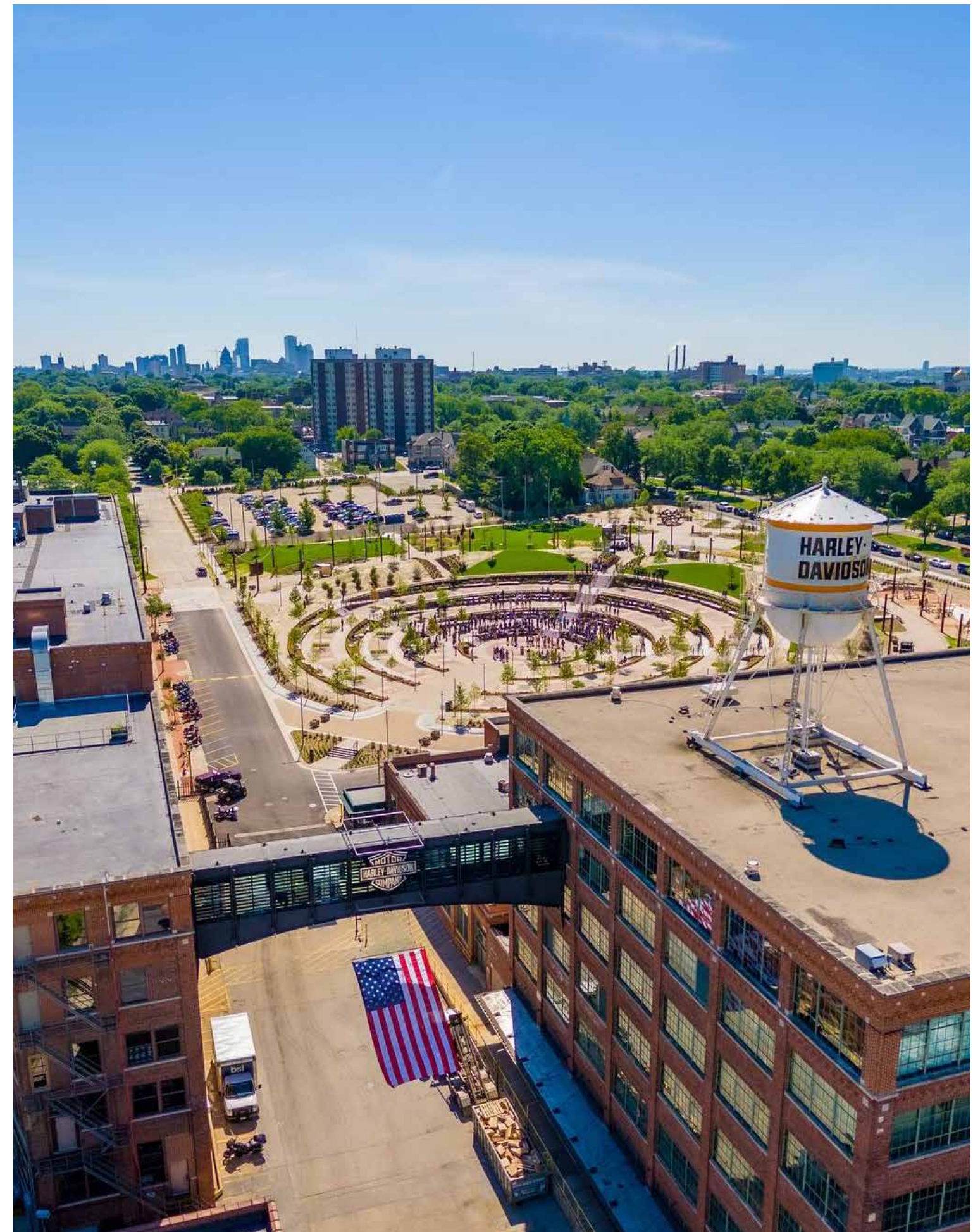
## COST COMPARISON

### SUSTAINABLE VS CONVENTIONAL STRATEGIES

The design and cost estimating teams understood that sustainability was a high priority for this project. With this philosophy, the team looked at sustainable solutions from a holistic perspective, with the knowledge that some sustainable strategies were more expensive than conventional solutions while others were more affordable than traditional ideas.

Our team evaluated these design elements through a cost estimating lens: Paving, Plantings, Furnishings, Wood Paving, Wood Benching, and Retaining Walls

SUSTAINABLE STRATEGY	CONVENTIONAL STRATEGY	COMPARATIVE COSTS		
		QTY	UNIT \$	COST
Pervious pavers (incl excav & agg fill)		9,480 SF	\$32.50	\$308,100
	Impervious concrete paving (patterned, colored)	9,480 SF	\$17.50	\$165,900
			<b>TOTAL +/-</b>	<b>\$142,200</b>
Native seed planting areas (no irrig)		6,630 SY	\$2.50	\$16,575
	Sod and irrigation	6,630 SY	\$12	\$79,560
			<b>TOTAL +/-</b>	<b>(\$62,985)</b>
Green stormwater infrastructure - Bioswales and below grade water storage (pervious pavers & chambers) providing onsite capacity well above required minimums before discharge to combined sewer		1 unit	\$735,000	\$735,000
	Traditional stormwater infrastructure - Retention/detention/infiltration basins (above or below grade) providing onsite capacity at required minimums before discharge to combined sewer.	1 unit	\$365,000	\$365,000
			<b>TOTAL +/-</b>	<b>\$370,000</b>
Custom, locally made site furnishings	Manufactured products (shipped from distance)			
Black locust timber paving & benching material (locally sourced)		9,275 SF	\$20	\$185,500
	Tropical hardwood timber paving & benching material	9,275 SF	\$25	\$231,875
			<b>TOTAL +/-</b>	<b>(\$46,375)</b>
Steel sheet pile retaining walls (permanent sheet pile)		3,128 LF	\$875	\$2,737,000
	Cast in place concrete retaining walls (incl excav)	3,128 LF	\$1,120	\$3,503,360
			<b>TOTAL +/-</b>	<b>(\$766,360)</b>





## LESSONS LEARNED

### RESPONDING TO COMMUNITY NEEDS

Making the project particularly meaningful is that it responds directly to the needs and desires of the local community.

In 2021, the Near West Side Partners, a non-profit organization working to make the Near West Side of Milwaukee a great place to live, work, play and stay, hosted a summit that engaged community stakeholders to discuss opportunities to accelerate neighborhood revitalization and community health. The result - a strong desire for more green space promoting health, gathering, and the arts. Milwaukee's Near West Side (NWS) neighborhood has been home to Harley-Davidson since 1903. Inspired by the summit, Harley-Davidson transferred 4 acres of underutilized parking lot to the Harley-Davidson Foundation (HDF) to create Davidson Park. In less than a year, the park is consistently active and has hosted dozens of community events, proving its value as a flexible and vibrant cultural gathering space.

### WELCOMING THE NEIGHBORHOOD

While the project transformed the site into a completely free and accessible public park, there are still challenges ensuring that people feel comfortable and welcome.

This is understandable as for over 20 years the site was a fenced off private parking lot separated from neighborhood use. During design, the team foresaw this challenge and focused on providing access points on all sides of the park and embracing Highland Avenue with larger plaza spaces. Even so, since opening, observations and conversations signal that it will take ongoing effort to position the park as a public community asset including proactively programming with events and uses representative of the diversity of the community.

## MAINTENANCE & MONITORING

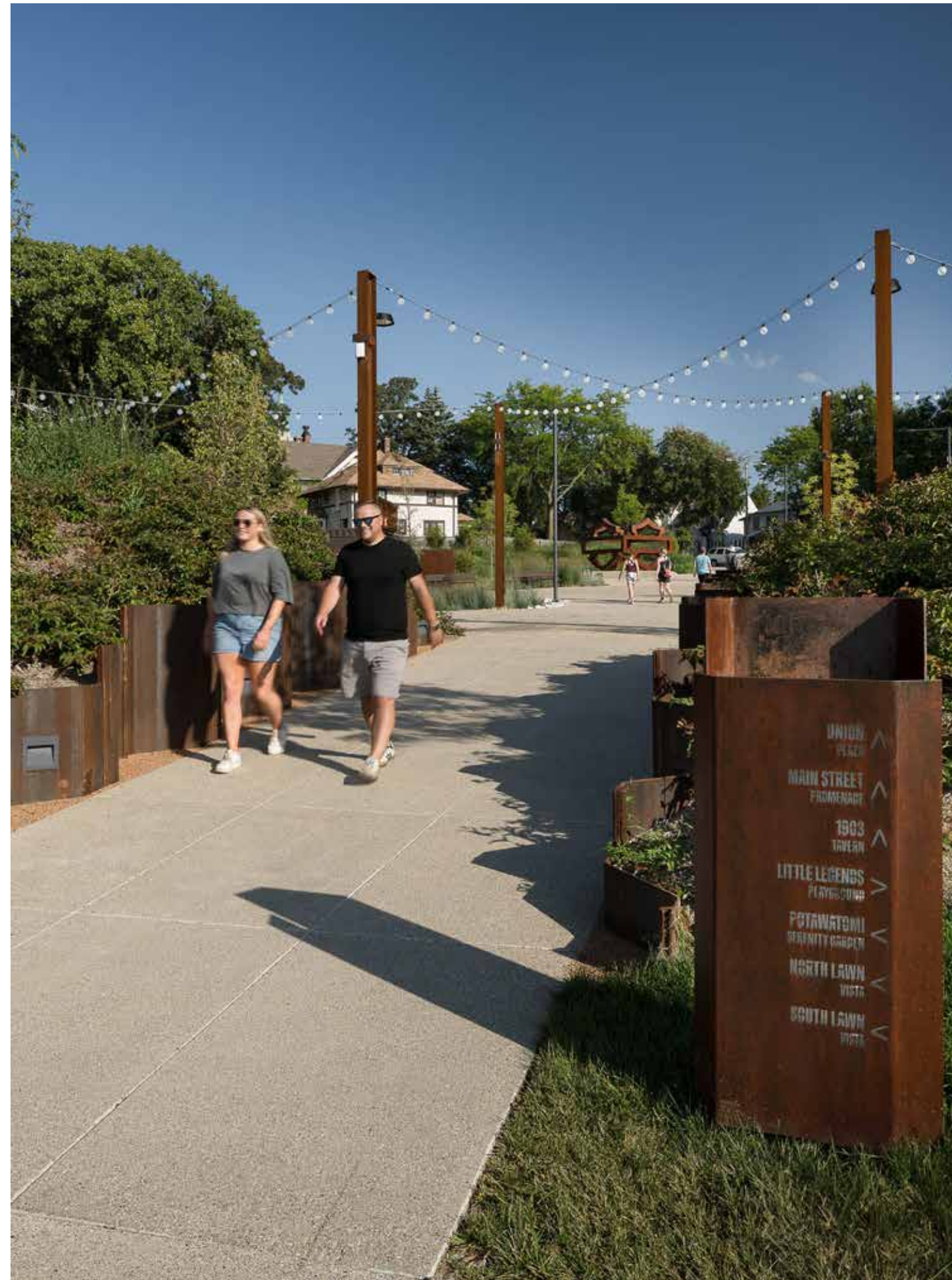
### PROMOTING LONG-TERM SUSTAINABILITY

The discussions for the site maintenance plan started during the design process and was one of the factors that was considered with each material selection. These were collaborative discussions that included the owner and the design team and then continued and expanded to include the contractor team during material procurement and as questions came up during construction. As the end of construction was wrapping up the owner team selected a point person to be facilities manager and carry the project forward in collaboration with vendors to support the maintenance. In some instances, like with the stormwater management, partnerships from the design will extend to maintenance. MMSD (Milwaukee Metropolitan Sewer District) provided a grant that support storm water management infrastructure and their partner CIS is contracted to support the maintenance of these systems creating continuity from design to maintenance. The site maintenance plan document (O&M 8.1) captures and summarizes the discussions had along the way

## CONCEPT

### LOW-MAINTENANCE MATERIALS

As a public park the project focused on durable low-maintenance materials. Natural clay brick pavers were selected over precast concrete options for superior strength and durability in addition to their historic character. Additionally, the black locust timber is an adaptable low-maintenance material as it can be left untreated (stained or oiled) and still perform as it is naturally rot-resistant with a life expectancy of up to 50 years.



## CONCEPT

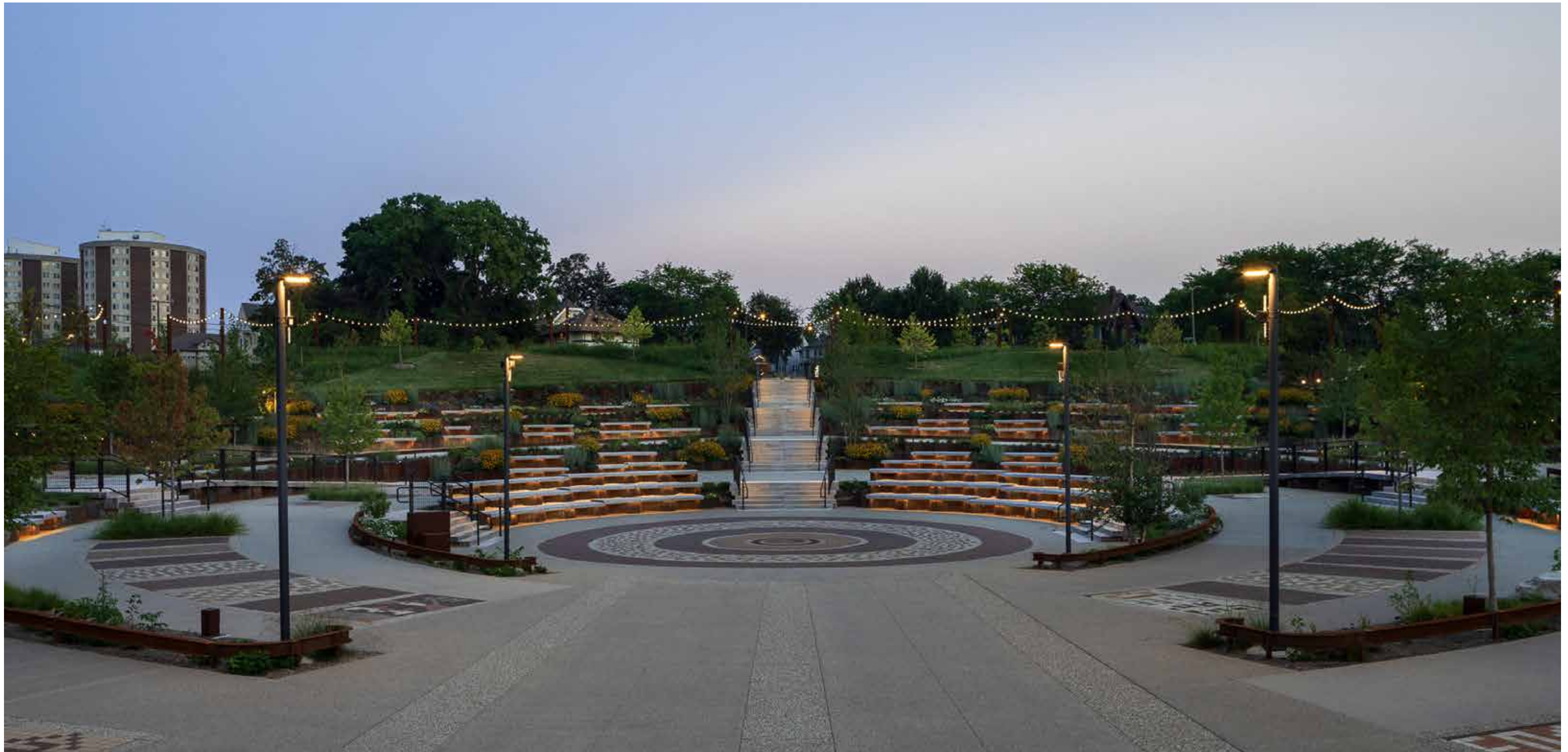
### GRANT SUPPORT

Early on, the project saw its progressive stormwater management goals as an opportunity to leverage funding sources focused on Green Stormwater Infrastructure (GSI) and committed to working with the Milwaukee Metropolitan Sewerage Districts (MMSD) Fresh Coast Protection Partnership (FCPP). By capturing 225,000 gallons of stormwater through it, the project received nearly \$500k in grant funding. Beyond solely financial support, this partnership proved collaborative, with each side (design team and FCPP) providing input on opportunities for the project to support desired outcomes of the program.

## CONCEPT

### VENDOR COLLABORATION

The design vision for “The Hub”, the signature feature of the park, is a sunken theater-in-the-round with historic industrial character. Several aesthetics were explored for the terraced walls with weathering steel sheet pile being the preferred direction. Due to the precise geometry of the concentric and radial layout the design team conceptually detailed the walls as cast in place concrete with a sheet pile façade and engaged a local earthwork contractor for pricing and feedback. Through this process the contractor shared the ability to achieve the desired aesthetic and precision with driven piles, therefore eliminating the need for structural concrete - a sustainable outcome - and saving significant cost.



## PROJECT TEAM

Joyce Koker: Owner Representative | Harley-Davidson

Donald Olszewski: Role | Owner Facilities Manager | Harley-Davidson

Andrew Radomski: Design Project Manager | HGA

Eliot Postma: Lead Designer | Heatherwick Studio

Trygve Hansen: Landscape Architect | HGA

Leah Knapp: Civil Engineer | HGA

Cathy Hall: Lighting Designer | HGA

Zach Just: Electrical Designer | HGA

Sarah Jorczak: Structural Engineer | HGA

Rob Norris: Contractor | Greenfire

Dan Hartsig: Contractor SITES Credit Support | Wastecap

Maggie Pipek: SITES Project Administrator | HGA

