Urban Milwaukee’s Gateway to the Great Lakes

LAKESHORE STATE PARK enhances the beauty and energy of Milwaukee’s lakefront. It is the newest state park in Wisconsin and the only state park located in an urban setting. This inviting 22-acre park offers diverse amenities to visitors and residents, including a 1.7-mile trail connecting to the Hank Aaron State Trail and Milwaukee County Oak Leaf Trail, a watercraft beach area with access for canoes, paddle-boats and kayaks, plus fishing areas and 20 slips for boats up to 60 feet in length. A signature, award-winning pedestrian bridge connects the north ends of the park.

THE FRIENDS OF LAKESHORE STATE PARK is a 501(c)(3) organization dedicated to promoting and supporting Lakeshore State Park for the entire community to enjoy.
PROJECT OVERVIEW

FULFILLING THE PARK LEGACY

Since Lakeshore State Park officially opened in June 2007, it has become a destination for almost 250,000 visitors a year who enjoy the open prairie spaces and panoramic views of the skies, Lake Michigan, and Milwaukee’s urban development. An oasis in an urban setting, Lakeshore State Park offers boaters, tourists, and local residents the chance to experience nature in the heart of Wisconsin’s largest city.

As the Park comes of age and the prairie matures, the views from Lakeshore have become some of the iconic images of the city. Each year, more events - benefit runs and walks, festivals, and social events - look to the Park as their venue of choice.

AN EDUCATION PLATFORM

Less well known, but even more significant, Lakeshore has grown into a local center for Great Lakes and freshwater education. Providing easy access to Lake Michigan, Lakeshore State Park now conducts over 100 education programs each year in collaboration with Milwaukee schools, regional colleges and universities, and local community centers.

A NEW VISITOR AND EDUCATION CENTER

A Visitor and Education Center would enable the park to meet its potential by providing a lakefront attraction, by meeting transient boater needs, and offering a venue for ongoing educational and social activities. The Friends of Lakeshore State Park seek to develop a facility that achieves the highest standards of environmental stewardship by meeting the Living Building Challenge.

LAKESHORE STATE PARK EDUCATION PARTNERS

- Milwaukee Public Schools (MPS) Outdoor Education site
- Maryland Montessori School
- Milwaukee Environmental Sciences School
- German Immersion School
- French Immersion School
- Rufus King High School
- Hawley Environmental School
- Milwaukee School of Engineering
- Milwaukee Institute of Art and Design
- University of Wisconsin - Milwaukee
- University of Wisconsin - School of Freshwater Sciences
- University of Wisconsin - Madison
- Neighborhood House Community Center
- Hope House Homeless Shelter
- U.S. Forest Service
- Schlitz Audubon Nature Center
- Urban Ecology Center
- Riveredge Nature Center
- NEWaukee
- Betty Brinn Children’s Museum
- Whitefish Bay Recreation Department
- Treasure of OZ (Ozaukee County Natural Areas)
- Variety (disabled children organization)
- Fishing Has No Boundaries (disabled adult and children fishing organization)
- Milwaukee Riverkeeper
- Keep Greater Milwaukee Beautiful
- Alliance for the Great Lakes
- Milwaukee Kayak Company
- Clearwater Outdoor
A key element of the design team’s approach is a process called Pattern Writing. The goal of writing patterns is to gain a deeper understanding of how a building and its environment can be configured to support both human activity and natural processes in a harmonious way.

Writing patterns helps the design team identify the deeper social, spiritual, and emotional values inherent in a place. This process offers solutions for making a place more alive, more functional, and more inviting to both staff and visitors.

During early planning, the design team worked closely with the Friends of Lakeshore State Park to develop a uniquely crafted Pattern Language to guide future design and construction of site and facility improvements. These efforts are focused on identifying ways the building and site can better support the Park’s mission.

These patterns follow a hierarchy of scale, ranging from larger regional issues to individual building spaces.

1 / Island as Metaphor

**ISSUE**
Officially dedicated on October 9, 1991, as Harbor Island, the landform that comprises Lakeshore State Park is actually not an island. Rather, it is a peninsula connected to mainland at its southern tip, with three sides surrounded by water. It can be instructive, however, to continue to think of Lakeshore State Park as an island. (In their own ways, every state park in Wisconsin State Park system is like an island.) On an island, resources comprise Lakeshore State Park as an island. (In their own ways, every state park in Wisconsin State Park system is like an island.) On an island, resources must be carefully managed to ensure stability and functioning of complex ecosystems. Bringing outside resources to an island typically exacts a premium. Self-sufficiency is a virtue.

2 / A ‘Constructed’ Natural Place

**ISSUE**
Ecologically speaking, Lakeshore State Park is unique. Built using rock from Milwaukee’s most important water quality infrastructure project - the MMSD Deep Tunnel - the park is one of very few ‘islands’ created entirely by human hand. Even fewer have been promoted as a model of sustainability. There are no pre-settlement ecological conditions to disrupt or enhance. How can a constructed environment co-exist, and even give back, to the ecosystems that surround it?

**SOLUTION**

3 / A Family of Cultural Lighthouses

**ISSUE**
Two iconic white Modernist structures - the Calatrava addition to the Milwaukee Art Museum and Discovery World - occupy prominent positions along the Milwaukee lakefront, and in the public imagination. When completed, the new Visitor and Education Center at Lakeshore State Park must take its place among this family of cultural lighthouses. The precedent set creates an expectation for design aesthetic and quality, yet the Park offers the opportunity to create something that is more than just a diminutive version of its larger neighbors. The new Center must make its own cultural contribution.

**SOLUTION**
Focus design efforts on the individual nature of experience. Lakeshore State Park should remain the place where “one is in touch with the lake”. This is what visitors will hold in memory. The new Visitor and Education Center must be an exceptional neighbor. It must have its own identity, yet recognize the context in which it exists. There is a shared experience of the built environment along the lakefront. Create a building of elegant simplicity.

4 / Deep Interlock

**ISSUE**
Lakeshore State Park is interconnected to a much larger and extraordinary freshwater landscape. On the Park, one can see long distances without buildings or foreground disruptions. Thus, the Park becomes a “refuge from too much urbanity”. Frequent visitors understand that any new structure must complement this sense of refuge.

**SOLUTION**
In shaping the new building, let it grow quietly out of the land, like a lone oak tree in the savanna. Make the building memorable without undue attention. Interlock human activity with the land, and with water and sky.

5 / The Edge of Nowhere

**ISSUE**
I have placed a line between My friend and me today. The line of love was hard to do To keep my love at bay. BRADLEY LESTER, "THE LOVE BARRIER"

**SOLUTION**
I have placed a line between My friend and me today. The line of love was hard to do To keep my love at bay. BRADLEY LESTER, "THE LOVE BARRIER"

6 / Prow and Stern

**ISSUE**
Lakeshore State Park offers two contrasting experiences. The forward, or north, half of the park is encompassed by a low bluff topped with native prairie. Toward the southern half, the landscape changes to mowed grasses and expansive open areas groomed for large event gatherings. These two ends of the park have their own distinct personality and function. What is the role of a new building and plaza in navigating between these two areas?

**SOLUTION**
Recognize that visitors seek a physical and emotional experience of the edge. Edges are alluring. Think holistically about how the building, adjacent outdoor spaces, and pathways can strengthen and connect more directly, especially to the east. The lake edge must offer more than a distant vista.

The new plaza must offer a more intimate space supporting a finer scale of social interaction. A gradient of social spaces on the island will allow both areas to flourish.
7 / No Back Side

**ISSUE**
Lakeshore State Park is a 360 degree experience. To the eastern horizon, Lake Michigan stretches beneath an endless sky. To the north and west, quiet harbor lagoons merge into a dynamic urban skyline. On the southern flank, the Maier Festival Park grounds beckon with music, food, festivals and special events. A Visitor and Education Center should embrace all of these experiences.

**SOLUTION**
Ensure that the building and site respond to every direction. Thoughtfully create visual and intuitive pedestrian connections to all points of activity within the park.

8 / Boater’s Convenience

**ISSUE**
Transient Great Lakes boaters renting an overnight slip need support facilities close at hand. Park support staff must also remain close to monitor the boat slip area and to provide boater service as needed. Basic restroom and shower services must be available all hours of the day. The quality of facilities must be sufficient to entice boaters to stop, rather than bypass Milwaukee entirely on their travels.

**SOLUTION**
The selected building site must be in proximity to the boat slip area. Provide boaters with 24-hour key code access to restrooms and shower services. This area must be comfortable, durable and easily maintained to remain appealing after extended use.

9 / Easy to Use

**ISSUE**
Some green buildings are technologically complex, placing higher demands on the owner/occupant to operate the building, often leaving the building underutilized. In some cases advanced technology disconnects the users from active participation in managing their environment.

**SOLUTION**
Give preference to highly-efficient, yet simple and intuitive systems for operating the building. Use technology as an interface to receive feedback about energy and water use.

10 / Varied Microclimates

**ISSUE**
Lakeshore State Park embraces the elements. Summer sun and chilling lake breezes offer diverse experiences throughout the year. The reaction of visitors to these conditions can vary. Some prefer basking under the sun’s heat; others seek refreshing coolness. Nearly all seek some measure of protection against the extremes.

**SOLUTION**
Vary the microclimates within gathering areas to give visitors a range of options. Offer protection from prevailing winds, shelter from the sun, and opportunities to sit under open sky. Typically a sun-dappled courtyard will provide much of the variety needed. Orient the building and create modest berms to shelter the plaza from northwest winds.

11 / The Helm

**ISSUE**
The park staff will assist boaters, maintain security, answer phones, watch the docks, conduct desk work, and be the smiling face to all who enter the building. They will find their attention pulled in many directions.

**SOLUTION**
Like the helm of a ship, create a vantage point where staff can oversee major activities of the park. Provide direct line-of-sight from the office to the boat docks, to the outdoor plaza and pedestrian paths, as well as to the building entrance and to interior gathering areas.

Create an Administrative Hearth where work can be done and creature comforts are provided. Ring the space with work stations. In the center, provide a table that can be an impromptu work surface, meeting space, and lunch table.

12 / Connected to the Sky

**ISSUE**
Many buildings lack adequate daylighting and visual connections to the outdoors. Inadequate daylighting requires increased energy use through electrical lighting. Occupants or visitors without visual connections to outdoors are deprived the opportunity to experience the changing moods of sky and weather.

**SOLUTION**
Connect to the sky and the expansive views through thoughtfully considered daylighting techniques. Use effective solar shading strategies to maximize solar gain in cooler months.

13 / Feeling the Wind

**ISSUE**
Most buildings are designed to seal out all that surrounds it. Lake breezes are integral to the park experience. The abundance of wind can also be a valuable asset when cooling a building.

**SOLUTION**
Use operable windows wherever feasible. This will bring the experience of the lake indoors. Operable windows should be used to naturally cool the building before mechanical power is engaged.

14 / Telling The Water Story

**ISSUE**
Where does water come from? Where does it go? In contemporary society, our understanding of water is often limited to turning on the faucet. We all are dependent on Earth’s natural systems, and increasingly, on a complex water supply and treatment infrastructure largely hidden from view.

**SOLUTION**
Where practical, expose and help interpret both the overall water cycle impacting the park, as well as the building’s water support system. Give visual access to rainwater collection and wastewater treatment. Provide interactive feedback about daily, monthly, and annual water usage.

15 / Flexible Meeting Space

**ISSUE**
The new Visitor and Education Center must be a working building that meets the needs of varied audiences. Small groups of 5-10 people will require meeting space, as will larger groups of up to 40 people. Recognize that a large empty room will often feel uncomfortable when used by only a small gathering.

**SOLUTION**
Vary the size of available meeting space by scaling it up or down using movable partitions that can be out of sight when not in use.
### Indoor Spaces

<table>
<thead>
<tr>
<th>ROOM NAME</th>
<th>AREA (SF)</th>
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<tbody>
<tr>
<td>West Vestibule</td>
<td>87</td>
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<tr>
<td>Atrium</td>
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<tr>
<td>Meeting Room (incl. cabinetry)</td>
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<tr>
<td>Director’s Office (incl. cabinetry)</td>
<td>154</td>
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<tr>
<td>The Helm (incl. cabinetry)</td>
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<tr>
<td>Storage w/Mop Sink</td>
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<tr>
<td>Men’s Restroom</td>
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<tr>
<td>Women’s Restroom</td>
<td>93</td>
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<tr>
<td>Boater’s Restroom w/Shower</td>
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<tr>
<td>East Vestibule</td>
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### Outdoor Spaces

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<td>Small Plaza</td>
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<tr>
<td>Stone Terraces and Walkways</td>
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<td><strong>Outdoor Space Total</strong></td>
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### Notes
- The overall building footprint is in compliance with the 2500 square foot deed restriction.
- The building will accommodate meeting space for approximately 40 people.
- The building has been designed to accommodate a staff of 2-3 people.
- The outdoor plaza area will accommodate approximately 300 people.
Overall site view of proposed Visitor and Education Center. The Center will be located at the north end of the Park, near the existing pedestrian bridge and boat slips. The proposed site utilizes existing topography to minimize the construction footprint and best integrate into the landscape. The site preserves a significant portion of existing prairie while providing new space for an engineered wetland.
COURTYARD PLAN

- New Building
- New Stone Terrace
- Covered Terrace Area
- Existing Path
- Native Prairie
- Grass Seating Area
- Stone Bench
- 300-Person Plaza
- Double-sided Fireplace
- Small Plaza
- Photovoltaic Panel Plaza Shelter
Mud Set Stone Floor
Plywood Subfloor on LVL or Glulam Floor Joists with insulation

Wood Cap Continuous on Wood Framed Wall with Full Cellulose Insulation
Wall Hung Wood Bench to Follow Front of Building

Membrane Roofing
(2) Layers Staggered 1/2” APA Rated Plywood Sheathing on Composite Wood Trusses at 8’-0” oc, with Cross Framing and Cellulose Insulation

Plywood Sheathing
1’x6’ Wood Ceiling

Custom Metal Gutter, Follow Curve of Building

Double Window System:
Exterior: Laminated Glazing Mounted to Structural Columns with ‘Spider’ Type Connectors
Interior: Alpen 925 System

Cut Stone Window Sill Continuous

Locally Harvested Stone Wall System Insulated

Concrete Slab on Grade with 4” Rigid Insulation and Vapor Barrier

4” Rigid Foundation Insulation over Water Proofing and Drainage Board

Locally Harvested Stone Foundation

Concrete Spread Footings and Pads
The Living Building Challenge is an international sustainable building certification program created by the International Living Future Institute. It is a philosophy, advocacy tool and certification program that promotes the most advanced measurement of sustainability in the built environment. It can be applied to development at all scales, from buildings – both new construction and renovation - to infrastructure, landscapes and neighborhoods, and is more rigorous than green certification programs such as LEED.

The first Living Buildings were certified in October 2010, and currently only six buildings worldwide have achieved certification.

One of the most ambitious aspects of the Lakeshore State Park Visitor and Education Center will be achieving the goals of the Living Building Challenge. Once fully occupied, a Certified building must be energy and water self-sufficient for at least 12 continuous months, as well as meet other rigorous standards.

The Challenge is comprised of seven performance categories called Petals: Place, Water, Energy, Health and Happiness, Materials, Equity and Beauty. Petals are subdivided into a total of 20 imperatives, each of which focuses on a specific sphere of influence.

Selected strategies to be used for the Lakeshore State Park Visitor and Education Center include the following:

**Petal 1: Place**
- Encourages a pedestrian and transit friendly lifestyle
- Supports Urban Agriculture, such as a Perennial Prairie Garden
- Supports ongoing regeneration of native landscape

**Petal 2: Water**
- Net positive water use
- On-site rainwater harvesting and storage
- Engineered wetlands purify water without chemicals

**Petal 3: Energy**
- Net positive energy use
- Integrated photovoltaic array sized to provide all building energy
- Geothermal heating/cooling, highly insulated building shell and other design strategies

**Petal 4: Health and Happiness**
- Natural daylight and ventilation for building occupants
- Low VOC (Volatile Organic Compounds) used in construction
- Building connected to environment

**Petal 5: Materials**
- Rigorous investigation and use of ‘Red List’ approved materials
- Analysis of embodied carbon footprint in all construction activities
- Use of locally and regionally sourced materials

**Petal 6: Equity**
- Provide Universal Access to nature and place
- Human-scaled building and landscape
- Participation in JUST Label organization

**Petal 7: Beauty**
- Timeless building design consistent with neighboring structures
- Enhanced connection to lakefront
- Educational opportunities and interpretation
# Preliminary Cost Opinion

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<th>Estimated Cost</th>
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* Fixtures, Furnishings, and Equipment

Preliminary estimate of potential construction cost provided by Hunzinger Construction Company of Milwaukee. This budget estimate was prepared in January 2015.

The total estimated construction budget was projected to reflect anticipated construction costs in Spring 2017 (assuming annual inflation of 1-3%).
PHOTO CREDITS

pp. 2-3
Wildlife photos by Bruce R. Schultz
Wayne Reckard, The Kubala Washatko Architects, Inc.
Aerial photo by Smith Group JJR
Bridge photo by Nathan Paulus

p. 6
All other photos
Lakeshore State Park Staff

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