Lake Forest Park Lakefront Improvements

SCHEMATIC DESIGN

Project website with virtual site tour can be found online at: lfplakefrontpark.com

FACET

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FacetNW.com

Project No. 2303.0384.00

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Introduction & Purpose

In July 2023, the City of Lake Forest Park retained Facet NW (formerly DCG/Watershed) and its teaming partners—Johnston Architects, Transportation Solutions, Inc.; ASM Cultural Resource Consultants; APS Survey and Mapping; DCW Cost Management; Elcon Electrical Engineering; and, HWA GeoSciences—referred to collectively as "the design team," in the multidisciplinary effort to develop a public lakefront from predesign through concept design, design development, construction documentation and permitting, and construction administration.

The project, known formally as "Lakefront Improvements Design, Engineering, Environmental, and Permitting," encompasses three lakefront parcels in Lake Forest Park, including two former residential properties at 17345 and 17347 Beach Dr NE (parcels 4030100035, 0040) and an existing public preserve called Lyon Creek Waterfront Preserve. The project is intended to improve public waterfront access by providing a place for passive recreation and gathering activities.

This document summarizes the schematic design concept for park improvements. The schematic design concept represents the product of the first phase of a multi-phase effort. Efforts completed in phase one include:

- Site assessment and analysis of existing conditions
- Robust community outreach and engagement process
- Iterative design co-creation process with community members and stakeholders
- Interpretive planning process with community members, stakeholders, and city staff
- Design process and feasibility assessment

Deliverables and documentation produced throughout project phase one can be found on the project website at https://lfplakefrontpark.com/background/#project-documents.

Schematic Design

DESIGN RATIONALE AND NARRATIVE

The city requested a park design that was guided by the community's needs and vision while also addressing key constraints and criteria. Specifically, the design should satisfy grant requirements and obligations and should be feasible from a regulatory standpoint.

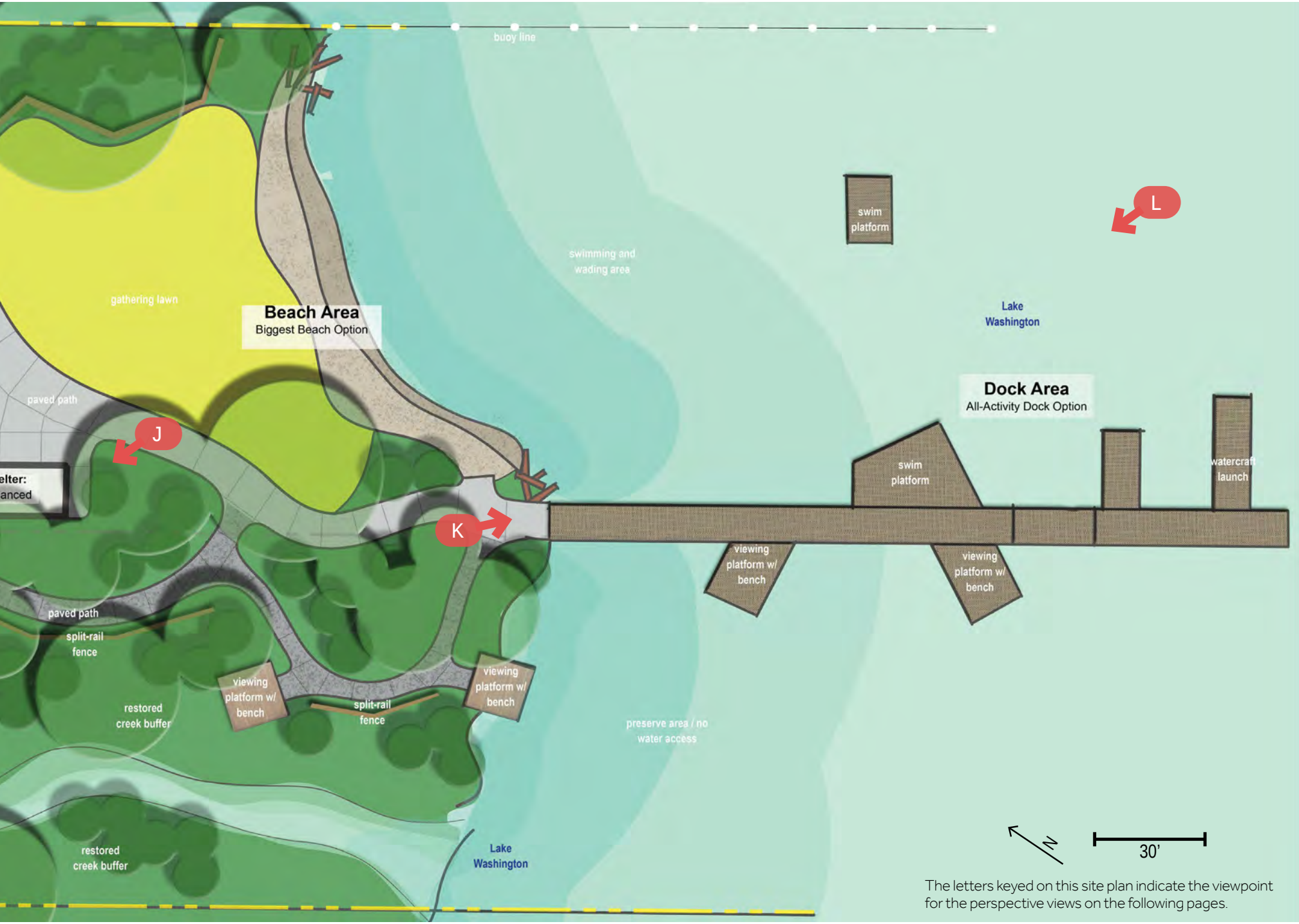
Several themes emerged from the community engagement effort that served as guiding tenants of the design effort:

- Be respective of the natural habitat and features of the site, particularly Lyon Creek.
- As feasible, preserve and enhance existing features, both natural and manmade, that represent the historical narrative of Lake Forest Park.
- Consider the current and future responsibilities of Lake Forest Park, such as to the whole community, neighbors to the site, grant funders, and taxpayers.

The resulting design incorporates both new and preserved existing features. Restoration of the shoreline, onsite wetlands, and terrestrial and riparian habitats is a primary objective. The design aims to reinforce the preserve designation around Lyon Creek by providing more distance between the creek and human activities. Opportunities for visual engagement with the preserve and creek are expanded, while additional layers of protection are added to discourage encroachment into the sensitive inner areas of the preserve.

SITE PLAN


screening vegetation
split-rail fence
staging area
screening vegetation
Parking Area
More Parking Option
split-rail fence
D
E
I
fence with gates
Beach Drive
Play Area
Big House and Deck renovated to community space
plaza
H
Cabin 6: Keep as offices
Garage renovated to restroom
F
paved path
split-rail fence
split-rail fence
G
platform w/ bench
viewing platform w/ bench
Preserve Restoration:
Restore to forested buffer with low understory plants to preserve views
relocated footbridge
B
park sign
C
split-rail fence
renovated viewing deck
Lyon Creek
restored creek buffer
fence w/ gate
A



The letters keyed on this site plan indicate the viewpoint for the perspective views on the following pages.

DESIGN VISION

Visitors to the lakefront park are anticipated to arrive by many modes, including car, transit, walking, biking, and paddling. New automated entry gates define the park boundary along Beach Drive NE. A new sidewalk and improved right-of-way connect the new park entrance to existing transportation facilities at the intersection of SR 522 and Ballinger Way. Potential future improvements, such as intersection configuration, signal timing changes, and the addition of bus rapid transit on SR 522 can further benefit park visitors and neighbors.

The new paved sidewalk transitions into the park's interior network of accessible paths and trails. The primary entrance is pedestrian in scale and is designed to frame views of park amenities and assets and to highlight the integrated nature of the renovated buildings. A central walking path connects the park entrance to the waterfront with a meandering stroll.

The vehicle entrance off Beach Drive NE is designed for efficient loading and unloading to support the park's water-based recreational uses. A staging area located next to the one-way driveway provides an automated air pump station, kayak and bike racks, and other amenities intended to discourage congestion at the main entrance. Standard and accessible parking spaces are provided; and signage designates load/unload and restricted spaces to discourage long-term parking and parking by offsite users.

New sidewalk and improvements to Beach Drive.

Visitors are greeted by renovated façades of the historical structures of the main house and cabin, now key features of the park's identity. A new bathhouse, constructed in the footprint of the old garage building, features four family-style restrooms with integrated skylights for passive lighting.

From the park's central walking path, spur trails allow visitors to step into the waterfront preserve. Seating nooks provide space for quiet reflection, picnicking, and wildlife watching under mature canopy and within sight and sound distance of Lyon Creek. Access to the interior of the preserve and the south shore of the creek is reduced and replaced with increased opportunities for small group and solitary experiences while limiting impacts the creek's sensitive buffer. The

footbridge that crossed Lyon Creek is relocated to provide an elevated walkway across the active floodplain. The footbridge now connects the central path to the existing overlook platform, where visitors can enjoy the viewing portal that reveals the creek below.

On each side of the main house, park visitors are greeted by an inclined boardwalk that invites viewers around the renovated structure onto the gathering deck that provides an elevated perspective and clear view of the water. On the deck, visitors can connect with friends, picnic, read, or lounge quietly under the mature shade canopy while enjoying the view of Lake Washington. The gathering deck is designed to be flexible and spacious to accommodate community programming, such as yoga in the park, scout meetings, and other activities.

Stepping down from the main deck, visitors come to a nature-inspired playground with accessible features, situated between two mature existing trees. The playground is designed to be engaged in-the-round, allowing for families on the deck, the lawn, and the picnic shelter to enjoy the playground in proximity to group activities. An accessible path encircles the shaded playground and provides connections to the entrance, restrooms, picnic shelter, preserve, and beachfront.

A new picnic shelter is located close to the beachfront within the footprint of a derelict former cabin. The shelter provides a covered space for the community to use as it needs. Its open-air design provides 360° views of the lake, the preserve, and natural scenery. Seating in and around the shelter serves small and large groups looking to gather, eat, play, and relax near the water.

The lawn provides flexible open space along an expansive beach. The preserved lawn is nestled into the park with new and existing vegetation. Native planting along the north park boundary provides screening from adjacent residential uses. Native shoreline plants dot the beach and frame the approach to the dock.

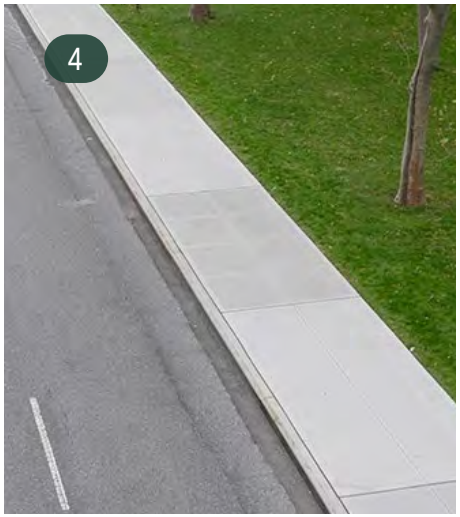
The central path provides an accessible connection to the new multi-function dock. The wide dock accommodates two-way movement, discouraging conflicts between walkers, those portaging a kayak, and swimmers making their way to be integrated swim platform. Seating nooks on the south side of the dock provide seating spaces for wildlife viewing and gazing out over the water. From the seating nooks, visitors can view the mouth of Lyon Creek to see shorebirds, wildlife, and seasonal salmon runs and to enjoy the new and mature overhanging vegetation shading the creek and estuary. An accessible paddle craft launch at the end of the dock provides public water access to Lake Washington. The dock and shoreline represent a new node on the paddling trail that connects numerous destinations around the lake.

Two renovated structures provide critical infrastructure to support park operations and activities, but public access will be controlled. The main house, a visual focal point of the park, will be renovated to provide a fully accessible flexible activity space. In the interior, the second floor is removed to reveal an open floor plan and vaulted ceiling. New windows provide a view of the park and waterfront. Doors along the south wall open to connect the interior with the gathering deck. An accessible, interior bathroom, small kitchen, and secure storage room provide necessary functional spaces to serve an array of programming options that the city and community might pursue.

One renovated cabin will remain near the park entrance and will be reprogrammed to provide a flexible space to serve the city's needs and operations. Potential uses could include additional meeting space or offices for city staff, such as park operations and groundskeeping, community policing, or other departments. The cabin is served by a small kitchenette and an interior restroom.

View from Lake Washington

PARK ENTRY FROM BEACH DRIVE



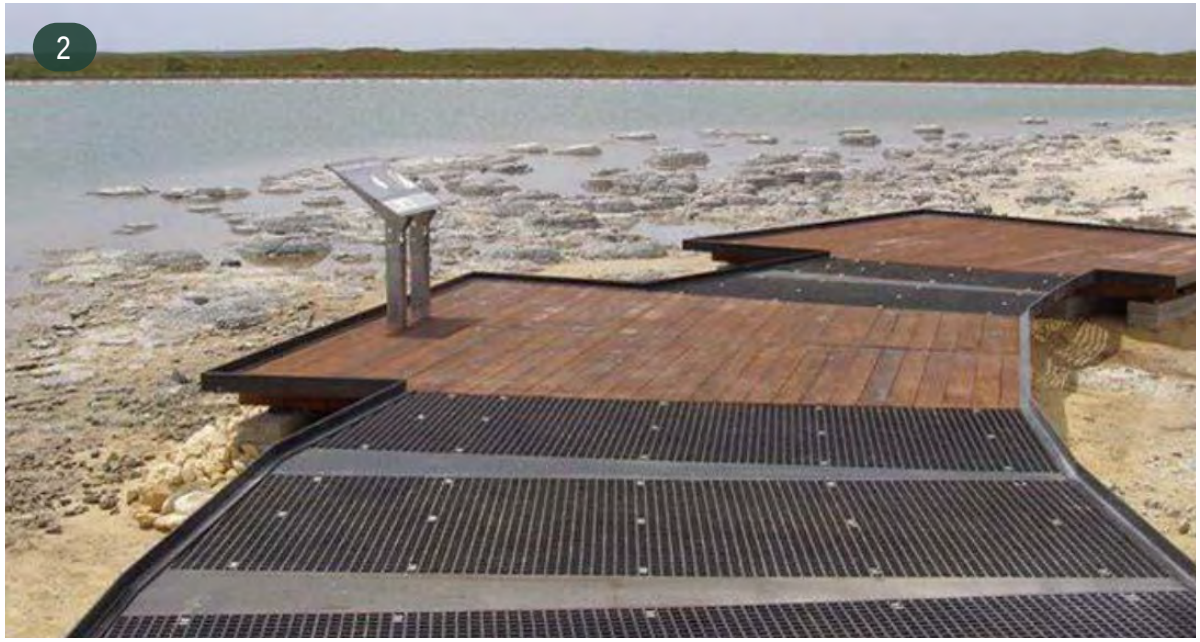
1 Park entry sign

2 Frontage fence and gate

3 Public art

4 Curb and gutter on Beach Dr

PEDESTRIAN ENTRANCE



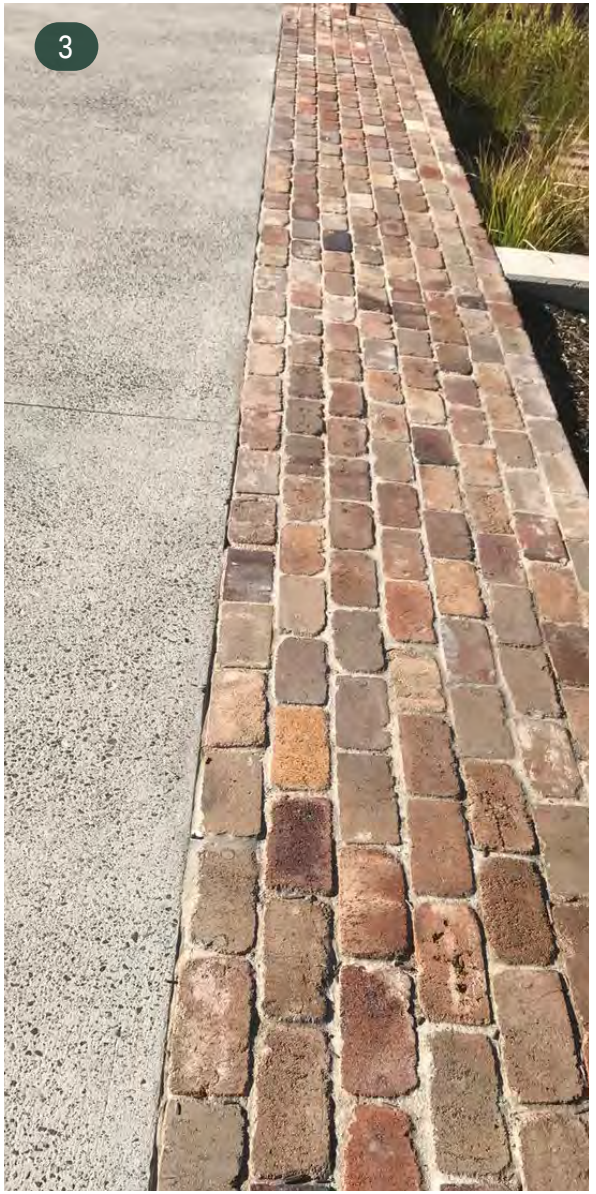
1 Park entry walkway

2 Lyon Creek overlook platform

3 Public art

4 Split rail fence

STAGING AREA



1 Curb ramp

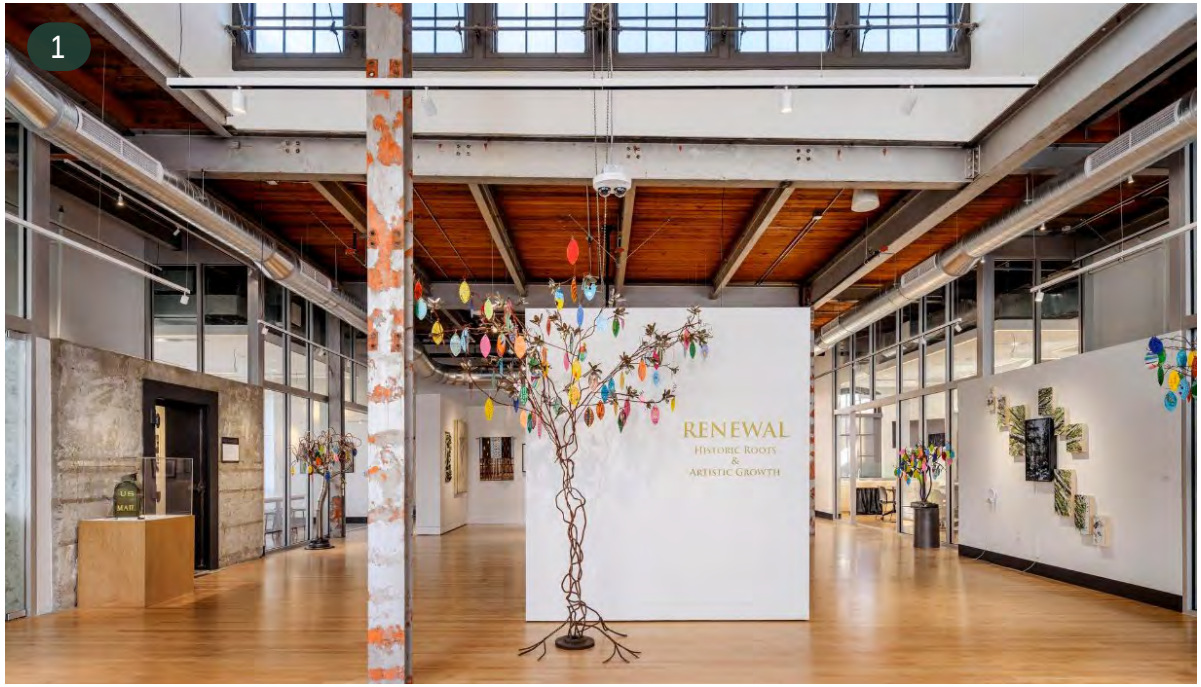
2 Seat wall

3 Paving with reclaimed brick edge

4 Bike racks

5 Kayak rack and pump station

ENTRY PLAZA



1 Big House

2 Bathhouse

3 Seat Wall

4 Curb ramp

5 Ramp to front entrance

BATHOUSE AND PATH TO LYON CREEK

1 Bathhouse

2 Seat wall

3 Ramp to gathering deck

4 Path to preserve

5 Split rail fence

LYON CREEK VIEWING PLATFORM

1 Viewing platform

2 Railing

3 Lyon Creek viewing area

4 Lyon Creek

GATHERING DECK AND PLAY AREA

1 Play structure

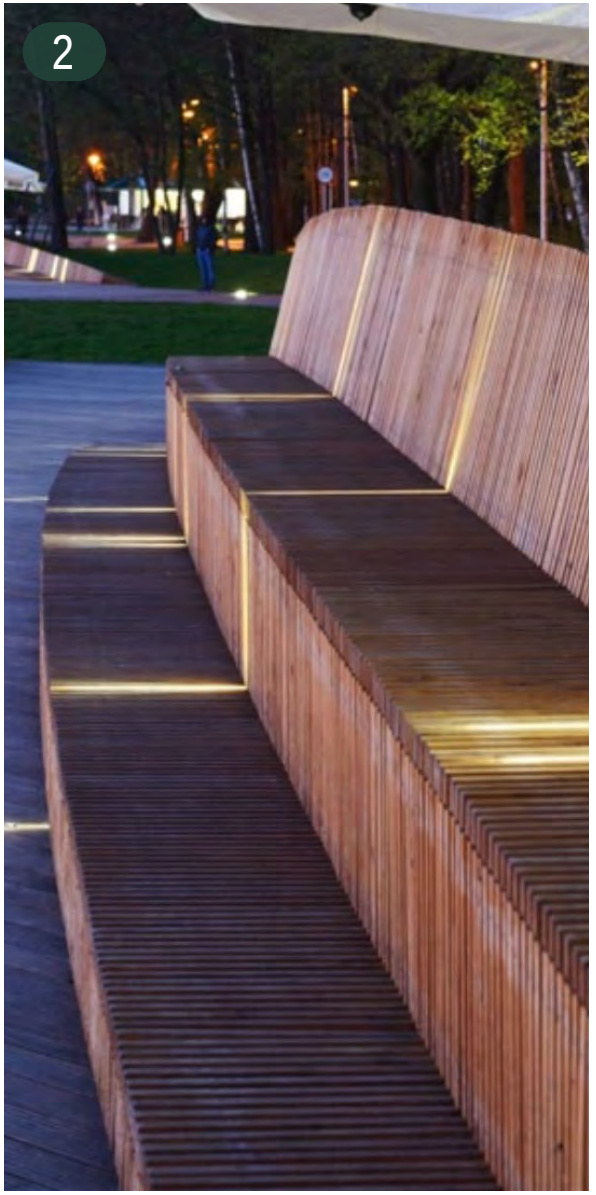
2 Standing log play elements

3 Log Stepper

4 Custom deck railing

5 Gathering deck

GATHERING DECK

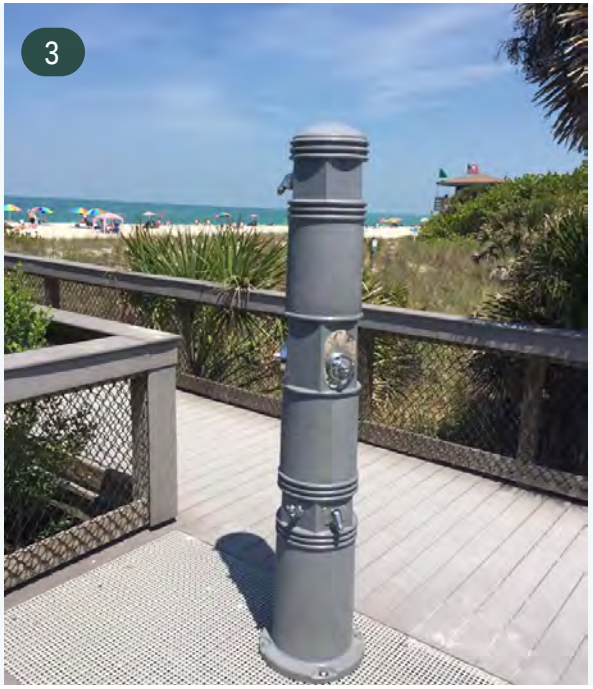


1 Reclaimed brick accent

2 Gathering deck

3 Custom deck railing

PICNIC SHELTER



1 Picnic shelter

2 Commercial porch swing

3 Outdoor shower

MULTIUSE DOCK

1 Viewing area with seating

2 Dock

3 Watercraft and accessible launch

4 Swim platform

DOCK, WADING AREA, BEACH, AND LAWN

1 Multiuse dock

2 Swim platform

3 Lyon Creek viewing platform

4 Watercraft launch area

5 Beach

6 Multipurpose lawn

7 Picnic shelter

8 Play area

Visitor Experience and Considerations

ACCESSIBILITY

In the engagement process, city representatives and community members spoke in favor of increased accessibility, advocating for accessible options that aligned with the scope and scale of the project.

Site accessibility was discussed in two dimensions: access to the landscape and natural areas, and access to structures. In the schematic design, landscape accessibility is provided with consideration of the natural context and experience. Paths, trails, and thresholds are designed to be traversable by a range of users and abilities. Surfacing and amenities around the park entrance, central use areas, and dock are intended to be ADA-compliant, while trails and amenities in the preserve are allowed to be more natural. Generally, trails will be firm, stable, and slip resistant; however, some materials, such as crushed rock, may change with wear and weather. The play area and other site amenities are designed to be accessible to a wide range of ages and abilities, offering fully accessible sections as well as areas intended to engage children in different ways. The vision for park structures is to provide flexible spaces that can accommodate a range of programming as city and community needs are expected to change over time. For this reason, accessibility was viewed as essential to the value of function of park structures. In the structure assessment, due to cost and accessibility concerns, it was determined that the second floor of the main house structure could not be reasonably maintained, and that, by removing the second floor, a more open space could accommodate a wider range of programming and a higher degree of accessibility.

SAFETY

Crime Prevention Through Environmental Design (CPTED) is a framework for promoting safety of designed spaces through key design principles. The first generation of CPTED, established in 1972, examined a site's physical form and characteristics; the second generation of CPTED, established in 1997, expanded to encompass social dimensions. The second generation CPTED principles state that safe environments are created by strengthening social interactions in a community. Together, the eight principles composing the CPTED framework are: territoriality, natural surveillance, maintenance ("image and milieu"), access control, social cohesion, community culture, connectivity, and threshold capacity. The following section gives a brief definition and application of CPTED principles for the project site.

Table 1. CPTED Principles and Considerations

CPTED Principle	Site Specific Considerations
Territoriality	Territoriality is the idea that the community will protect what they feel is their territory as well as respect the territory of others. The principle of territoriality in design can be implemented by physical changes, such as to mark boundaries or signal a space is regularly monitored, or by engaging the community to encourage ownership and stewardship. The schematic design proposed clear signage at the park entry and clear delineation of boundaries. The robust community engagement effort and co-creation processes that preceded the schematic design reinforce the principle of territoriality by fostering a sense of ownership among community members and groups. Participation and empowerment in decision-making about the park's vision, program, and design helps the community envision the park as its own.
Natural surveillance	Natural surveillance is the idea that criminal activity or vandalism are deterred if the culprits can be seen. This principle is enacted by placing physical features, activities, and people in a way that maximizes visibility. The schematic design uses the site's natural aspect to frame views into and through the park. Amenity areas are located to maximize sightlines from the entrance, trails and paths, and other amenity spaces. Planting areas are configured to support long sightlines into and through the park. Circulation encourages eyes-on-the-park by meandering strategically to provide visual activation of park corners and amenity spaces.
Maintenance ("image and milieu")	The principle of maintenance relates to both territoriality and natural surveillance in that if an area is not maintained, and vegetation becomes overgrown, it is seen as a lack of care and tolerance for deterioration. The schematic design considers ongoing maintenance needs, frequency, and access, and is designed to facilitate a desired maintenance program. The design team will continue to engage with city maintenance staff for guidance on maintenance program and preferences.
Access control	The premise of access control is that criminal activity is discouraged when the entries and exits to an area are limited and highly visible. Access control is asserted through boundary fencing, signage, and physical features. The schematic design proposes boundary fencing on three of four edges to delineate the park's limits and limit access after-hours. At the main entrance, the park boundary is reinforced by Beach Drive NE. Proposed frontage fencing will feature automatic gates that operate to enforce park hours. The south edge of the park comprises the shoreline of Lake Washington. Since fencing is not feasible on the waterfront boundary, access control will be implemented through clear signage that is visible from the water.

Social cohesion	The principle of social cohesion is that if a local community is close-knit and united it can contribute to the safety of an area through implementing programs like neighborhood watch or other strategies to target specific problems. The robust engagement and a co-creation design processes implemented in the early design phases promote social cohesion by demonstrating alignment of community ideas and values while focusing on park-specific considerations and questions. Where feasible, through the design process and continuing after park opening, other opportunities can be implemented to foster social cohesion. This may include engaging the community in design exercises and decision-making, facilitating volunteer events, or establishing a park-focused social group, such as a "Friends of the Park" or similar community support organization.
Community culture	The principle of community culture is like social cohesion but focuses on long-term tending and reinforcement of community bonds. The idea is that a strong community culture will use the area more frequently, and that common use reinforces all other principles. The schematic design supports community culture by providing safe flexible spaces that inspire and invite a range of activities and events. Proposed facilities, both indoor and outdoor, are designed to be inclusive, accessible, and welcoming to serve a broad range of users and be suitable to a variety of community-based programming.
Connectivity	The principle of connectivity addresses the potential adverse effects of promoting social cohesion and community culture if an internal focus goes so far that it becomes exclusionary. The idea is to promote connectivity to surrounding neighborhoods both physically and socially. The schematic design leverages existing physical connections that are proximal to the park boundaries. New infrastructure on Beach Dr SE will provide a connection to transit, biking, and walking facilities. The new dock and waterfront amenities provide paddling access that connects the park to other neighborhoods and destinations on the lake.
Threshold capacity	Threshold capacity is the idea that a certain diversity of land uses is necessary in a community to promote positive social interactions and discourage undesirable activity. The proposed project benefits the threshold capacity of Lake Forest Park and its park system by changing the predominate site use from private single-family residential to passive public greenspace. Although the proposed design limits the areas where the public can access (due to the establishment of natural vegetation preservation areas), overall public benefit of the park property is increased. The proposed design adds to the diversity of land uses and recreational opportunities present within Lake Forest Park, and it addresses a longstanding need for community access to the lake within city limits.

STAKEHOLDER IMPACT

A robust community outreach and engagement effort was conducted during the first phase of the project, featuring in-person and virtual outreach. To the extent feasible, efforts were made to meet the community on their own terms. The design team created a project-specific website where community members could learn about the project, view project documents, participate in surveys, and sign up for direct updates. The design team also created an engagement toolkit, including post cards, newsletter and social media ads, posters, fact sheets, and activities, that city staff and representatives could use for engagement at community events and with local organizations, such as the local parent/teacher association (PTA). A suggested schedule of outreach activities and messaging was provided to city staff and representatives as part of the project's stakeholder engagement plan. The following figures demonstrate the estimated reach of the outreach and engagement effort conducted from July 2023 to May 2024:

- More than 2,700 unique visitors to the project website (https://lfplakefrontpark.com/)
- Nearly 180 direct sign-ups to the project listserv
- Two postcard mailings to each unique address in the city limits, totaling roughly 9,500 postcards
- Two in-person community workshops with estimated attendance over 100 individuals per event
- Three project surveys yielding a total of 684 responses
- Tabling at numerous community events, including concerts, markets, parades, and other events
- Promotion in monthly eNews community newsletter
- Numerous social media posts from city-sponsored accounts

In addition to at-large engagement, direct engagement was conducted to key stakeholders who could be impacted by the project, specifically, neighbors living on Beach Drive NE and representatives of the Lake Forest Park Civic Club. Regular project updates were also provided to representatives of Tribal Nations with established rights, history, and connections to the project site.

Information shared by community members provided critical guidance that informed the park design. The design program, desired uses and facilities, and desired goals and outcomes are rooted in the

Parking Lot in the Rain

community feedback. The design process—referred to as community co-creation—was conducted iteratively, building on each layer of community engagement and feedback. The co-creation process is intended to create a place that reflects the community's unique needs, values, and priorities, while generating a high degree of ownership in the project both before and after implementation.

Effectiveness of the outreach process was demonstrated by high participation in engagement activities, however, it is possible that certain demographics were not sufficiently engaged. For example, where demographics were collected, results showed high response rates by homeowners, high-earning households (with annual incomes over $100,000), older adults (aged 50 and above), and individuals who self-identify as non-Hispanic whites. Compared to the 2020 U.S. Census data profile for Lake Forest Park, these response rates suggest that several demographics were underrepresented in the outreach process, including renters, low- and moderate-income households (with annual incomes below $100,000), younger adults (age 19-30) and youth (under the age of 18), and individuals who self-identify as non-white.

As the project continues beyond schematic design, taking steps to proactively engage groups underrepresented in the early stages of design could help to build community ownership and increase project support. Actions that should be considered in the next phase of design include:

- Continue direct mailings to all addresses within the city
- Frame engagement messages to invite participation and empower individuals to share their ideas and feedback
- Consider direct outreach to underrepresented groups, such as to youth groups or schools

Picnic Shelter in the Rain

Beach and Lawn in the Rain

PRELIMINARY ENGINEERING SUMMARY

Multilayered engineering will be required to transition the space from its current state into the public park envisioned in the schematic design. To the extent feasible and allowed, utility infrastructure will be reused, retrofitted, or upgraded to serve the new site use; however, it is anticipated that full replacement of utility connections may be required. Coordination with utility providers will occur early in the next stage of design.

Structural engineering of the new and adapted site structures will be required as the design advances. Due to the site's location on Lake Washington and the likelihood of former lakebed sediment underlying the upland areas, additional structural reinforcement may be necessary. Specifically, piling foundations may be required to provide adequate structural support.

Subsurface geotechnical investigations that will be conducted early in the next design stage will inform structural engineering needs and considerations. Based on the schematic design, five geotechnical boring are anticipated to provide sufficient subsurface data to allow for structural design of the dock, view platforms, and building foundations, and to allow for civil engineering design of pavements, drainage, and stormwater systems.

Shoreline construction of the dock and swimming platform requires specialized engineering by a marine/coastal engineer. The marine engineer will also contribute to plans for demolition of the existing docks and specifications for waterfront fixtures, such as the accessible kayak launch.

SUSTAINABILITY STRATEGIES

Sustainability strategies employed in the proposed design are intended to reduce the resource consumption associated with the development and to reduce the operational cost of maintaining the park after project completion. Additional sustainability strategies that are proposed include:

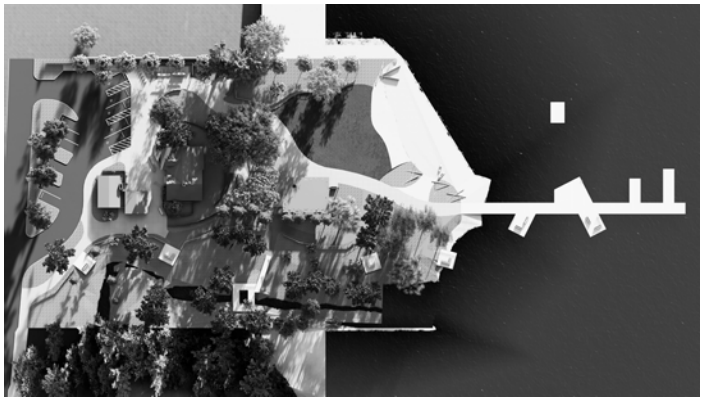
- **Water conservation strategies.** Use of native plants and drought-tolerant species in newly landscaped and refurbished landscape areas will help to reduce water consumption. Further, a permanent water-sensing irrigation system with smart controller will help to ensure efficient water use for landscape irrigation. Rainwater from the main house will be collected in a cistern for potential reuse.
- **Energy conservation strategies.** Solar panels are proposed on the roof of the main house as a source of clean site-generated energy. Passive lighting strategies, such as with windows and skylights, are proposed for the bathhouse, main house, and cabin.
- **Material salvage and reuse.** Materials from existing structures, such as brick, wood paneling, and other architectural elements, will be salvaged for reuse either on-site within the design or for reuse elsewhere. Existing site vegetation will be relocated within the park to the greatest extent feasible to maintain larger plant material on-site. Trees that are removed will be kept on-site as mulch, habitat snags, and nurse logs within the beach, preserve, or planting areas.

The schematic design proposes a predominantly pedestrian-focused development. Parking at the park is proposed to be operationally limited, such as time limited or restricted to load and unload. Controlled parking along with the park's location off the Burke-Gilman Trail and on the future bus-rapid-transit line encourages local visitors to arrive by walking, biking, and transit.

SHADE STUDY

March 21, 2023 / **8:00 a.m.**

June 21, 2023 / **8:00 a.m.**



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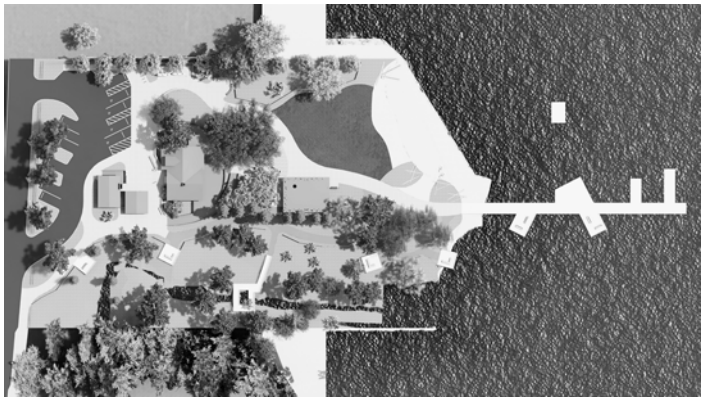

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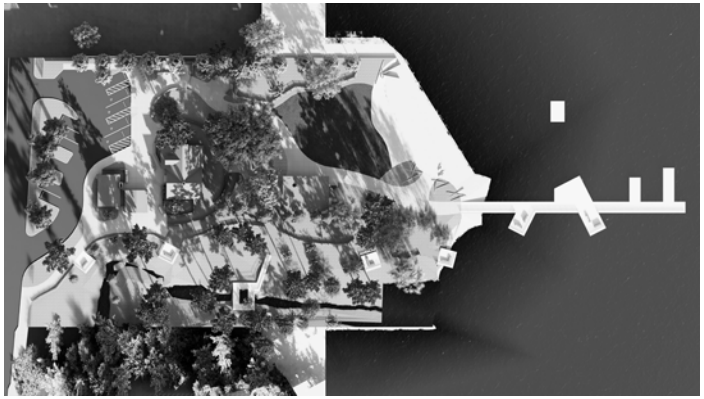

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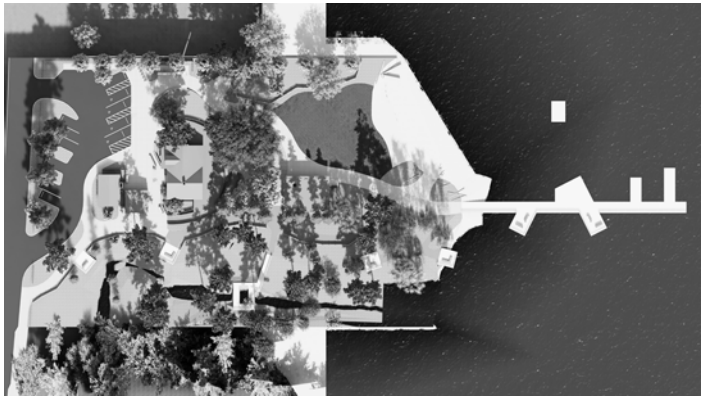
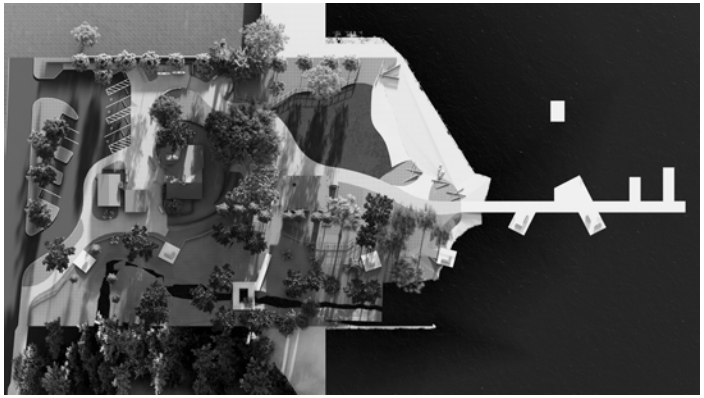
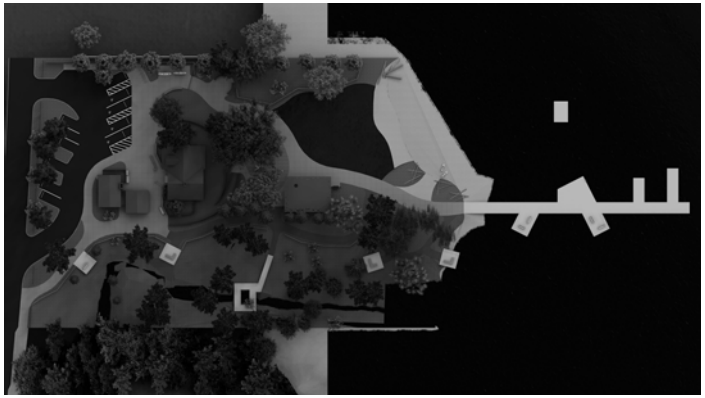


June 21, 2023 / **4:00 p.m.**

Seasonal shade variations enhance visitor comfort, offering respite from the sun and creating inviting spaces. Working with these patterns reduces energy consumption, combats urban heat island, and preserves existing trees.



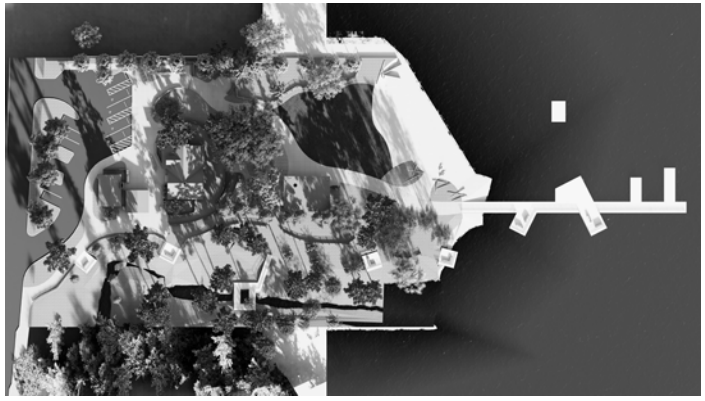
September 21, 2023 / **8:00 a.m.**



December 21, 2023 / **8:00 a.m.**

September 21, 2023 / **12:00 p.m.**

December 21, 2023 / **12:00 p.m.**



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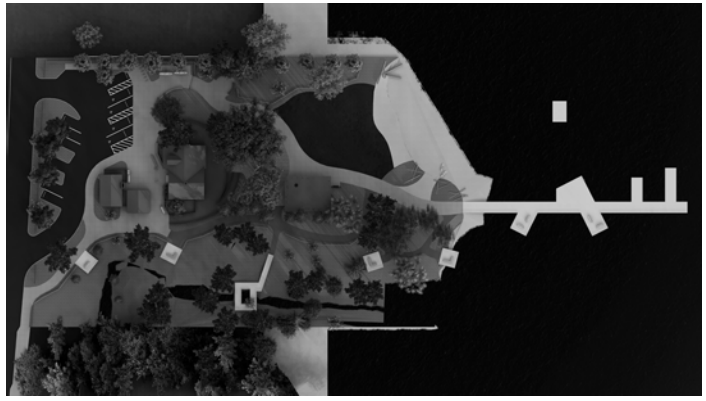

December 21, 2023 / **4:00 p.m.**

SIGNAGE AND WAYFINDING

A curated program of signage and wayfinding will enhance the experience for park visitors. Directional signage, reinforced by visual cues, can point out connections to amenities and destinations while informing about travel conditions and distance. Interpretive signage can connect contemporary features and experiences to relevant themes and stories, such as local and regional history or environmental systems and concepts. Operational signage will be important for ensuring the safe and predictable operation of the park and its many features and amenities.

Specific signing themes will include:

- **Pedestrian** signage, including signs, markers, placards, and visual cues that inform, direct, and educate park visitors and are designed and installed at pedestrian scale
- **Vehicular signage**, including standard and custom signs, pavement markings, and vehicular control devices, designed to be visible and conspicuous for drivers
- **Interpretive signage**, such as waysides, exhibits, or creative elements that engage visitors beyond the apparent features of the site. Interpretive signage can be additive, such as standalone panels, or it can be integrated into the site experience, such as integrated into site design and construction. Interpretive signage should be multi-format and should inspire deeper thinking or action. For example, an interpretive scavenger hunt integrated throughout the park encourages movement, play, and education.

In the engagement process, city representatives and community members discussed the importance of connection to and recognition of the Indigenous and pre-colonial history of the site, including original place names and original inhabitants' stories. Early consultation with Tribal Nations and Tribal representatives is critical to ensure that discussion or inclusion of Indigenous names and stories is appropriate and respectful. Ideas for incorporating Indigenous history and original names into the contemporary park landscape could include:

- Dual language signage featuring Lushootseed, such as telling the site's history or educating about plants and animals
- Celebrating and elevating original Indigenous names of existing features and entities, such as Lyon Creek and Lake Washington
- Naming of new park features, such as buildings, trails, or other elements
- Incorporating works by Indigenous artists

PUBLIC ART INTEGRATION

The schematic design concept provides numerous opportunities for public art integration. Site-specific integrated artworks, such as mural, mosaic, inscription, or other custom ornamentation could be incorporated into fences, railings, walls, pavements, and/or site furnishings. The design provides opportunities for both indoor and outdoor artwork that could be permanent or rotating. Outdoor artwork should be located for appropriate visibility and fabricated to be resilient to weather and installation in a public space. Wood, metal, or concrete artworks would be well suited for this application. Indoor artworks, such as paintings, photography, or sculpture, could be featured in interior spaces of the renovated main house and cabin.

Implementation Summary

COST ESTIMATE

A detailed cost estimate was produced by an outside cost estimation consultant based on schematic design concepts, diagrams, and narratives. From this information, the estimator developed a detailed estimate of construction costs that were then escalated to using industry standard averages for construction markup, inflation, and owner costs. Owner costs include essential services and fees that are necessary for project design and implementation, including:

- **Jurisdictional cost and permits.** This includes fees paid to permitting consultants who develop and submit permits and permit fees paid to regulatory agencies
- **Architecture and engineering (A&E) fees.** A&E fees are costs paid for project design and engineering, such as for architecture, landscape architecture, and civil, structural, and MEP (mechanical/ engineering/plumbing) engineering. A&E fees also include project dependent design needs such as interior design, acoustics, lighting design, graphics/wayfinding, food service design, security systems design, etc.
- **Other consultants.** This includes other services that may be essential for the project but are not included under A&E fees, such as traffic engineering, sustainability consultants (such as LEED), environmental consultants (such as arborist or wetland consultants), geotechnical engineering, water quality consultants, etc.
- **Special inspections and commissioning.** This includes specialized services before, during, and after construction, such as cultural resource inspecting and monitoring and hazardous materials inspections and monitoring.

A breakdown of owner cost percentages is provided in the "Basis of Design" section of the cost estimate report. The full schematic-level cost estimate, or "anticipated project cost," for specific improvements is noted in the table below. The complete detailed cost estimate report is provided in the appendix.

Table 2. Summary Schematic Cost Estimate

Proposed Site Improvement	Est. Construction Cost (with Construction Markup + Escalation)	Anticipated Total Project Cost (with Owner Costs)
Site Preparation	$1,198,660	$1,728,468
Site Improvements		
• Right-of-Way Improvements	$142,131	$204,953
• Parking & Entry Area	$359,812	$518,849
• Preserve Area	$1,018,432	$1,468,579
• Staging & Play Areas	$508,560	$733,344
• Beach Areas	$198,432	$286,139
• Dock	$1,849,670	$2,667,224
• Swimming Platform	$138,291	$199,416
• Gathering Deck	$380,362	$548,482
• Landscape	$118,770	$171,266
Structure Improvements		
• Main House Renovations	$833,295	$1,201,611
• New Bathhouse	$511,355	$737,374
• Cabin Renovations	$464,435	$669,715
• New Picnic Shelter	$450,955	$650,277
Site Mechanical Utilities	$924,463	$1,333,076
Site Electrical Utilities	$273,329	$394,140
Anticipated Subtotal Project Cost	**$9,370,952**	**$13,512,913**
Add Service: Additional structural reinforcement (e.g., piling foundations), if required	$813,479	$1,173,037
Potential Total Project Cost with Add Service	**$10,184,431**	**$14,685,950**

ENVIRONMENTAL IMPACT

Because of the extent of regulatory encumbrance affecting the project site, impacts within regulated areas and buffers are unavoidable. The local critical areas process requires sequencing to first avoid and minimize environmental impacts, before allowing for mitigation. The project will be required to demonstrate no net loss of shoreline and critical area ecological functions, and the goal of the project will be to achieve a net gain of ecological function, such as through enhancement and restoration activities.

Specific impacts that are proposed by the schematic design include: new and replaced pavements, select tree removal, ground disturbance, and new construction. Enhancement and restoration measures that are proposed by the schematic design include: structure removal, soil restoration, invasive plant removal, native planting, tree planting, dock consolidation, and wetland, shoreline, and buffer restoration.

Guiding tenants of the project that will continue to inform the design as it moves forward include:

- Preserving mature trees and healthy native vegetation
- Providing an enhanced creek corridor, including reducing human intrusion into the inner creek buffer and relocating the dock away from the creek's mouth
- Planting native trees
- Using strategies, such as fencing, circulation, and dense planting, to control access and intrusion into sensitive areas

PERMIT PATHWAY

Implementation of the proposed design will require permitting at the local, state, and federal levels. In addition to the typical local permits that a development project requires, such as building and right-of-way permits, local permitting will be required for work occurring within and close to regulated critical areas, such as Lyon Creek and the three wetlands located wholly or partially within the park boundary. Compliance with the State Environmental Policy Act (SEPA) will also be required. In addition, certain permits, such as for new or replaced utility connections, may be coordinated through utility providers.

In-water work, including dock removal and new dock construction, requires coordination with both state and federal agencies; Washington Department of Fish and Wildlife (WDFW), Washington Department of Ecology (Ecology), and the U.S. Army Corps of Engineers (USACE). The potential use of federal funding for park completion will trigger review under the National Environmental Policy Act (NEPA).

A summary of anticipated permitting is provided to the right.

Table 3. Permit Summary

Regulatory Agency	Expected Permit
Local / City of Lake Forest Park	• Zoning Conditional Land Use Permit (CUP) • Shoreline CUP • Public Agency and Utility Exemption (PAUE) • SEPA • Tree Permit • Critical Areas Work Permit • Building/Grading Permit
State	• Ecology - Section 401 Water Quality Certification • WDFW – Hydraulic Project Approval (HPA)
Federal	• US Army Corps of Engineers - Section 404 Permit • NEPA

PHASING PLAN

Many considerations, such as permitting schedules and delays, seasonal fluctuation in construction bidding and pricing, regulatory work windows, and funding availability, can influence construction timelines. A phased approach to project construction can help to keep the project moving forward while contending with expected factors and unexpected circumstances. Although phasing may be necessary, in some cases, phasing can increase the overall project cost, since work may be scheduled out farther (allowing for higher price escalation) or duplication of effort may be required (such as contractor mobilization).

While a project can be phased in numerous configurations, the following table lays out one potential scenario for phasing project construction based on the current understanding of factors affecting the project.

Table 4. Schematic-level Phasing Plan

Phase	Task	Est. Start	Est. End	Est. Construction Cost
1[1]	Hazardous materials abatement	8/1/2024[2]	11/30/2024	$165,000
	Selective structure deconstruction and salvage			
	Site security, fencing installation			
2[3]	Demolition of eastern dock	7/1/2025[4]	2/29/2025	$192,131
	Right-of-way improvements[5]			
3	Site preparation and demolition	3/1/2025	11/30/2025	$7,744,339
	Site utilities			
	Parking and entry area improvements			
	Site development (amenities)			
	Site improvements (structures and structure renovations)			
	Landscape			
4[6]	Demolition of western dock	12/1/2026	2/29/2026	$2,082,961
	New swimming buoy line			
	New swim platform			
	New dock construction			
	Phasing Summary	**8/1/2024**	**2/29/2026**	**$10,184,431**

[1] Phase coincides with funding available for initial demolition work
[2] Date represents expiration of current grant funding to support structure demolition
[3] Phase aligns with anticipated issuance of water-related work permits and captures in-water work windows in July 2025 and winter 2025/2026
[4] Date coincides with anticipated availability of RCO funding, if awarded
[5] Timing of right-of-way work to coincide with adjacent project (sewer lift station improvements)
[6] Phase captures in-water work window for winter 2026/2027

MAINTENANCE AND OPERATIONS OUTLOOK AND RECOMMENDATIONS

The operation of the new park will represent an increase in the operations and maintenance obligations of the city. A table of expected maintenance tasks is provided below with an estimate of task duration and frequency in order to generate a manhour estimate of what the new park will require. Based on the table below, it is anticipated that the new park may require an additional 1,944.50 labor hours or roughly 0.93 FTE (full time equivalent) staffing.

Table 5. Schematic-level Maintenance Summary

Expected Maintenance Activity	Est. Duration	Est. Frequency per Year	Est. Annual Manhours
Daily gate opening and closing, presumes timed automatic gates	0	0	0
Daily bathhouse opening and closing, presumes timed automatic door locks	0	0	0
Daily safety patrol, presumes visual patrol from city vehicle	0.5	365	182.5
Seasonal vegetation maintenance (i.e., visual inspection, weeding, pruning, raking, disposal)	24	4	96
Weekly turf mowing	1	18	18
Seasonal pavement maintenance (i.e., sweeping, pressure washing)	8	4	32
Weekly refuse services and cleaning, includes bathhouse, interior restrooms, empty trash receptacles, sitewide litter pickup	16	52	832
Annual building maintenance (i.e., window washing, carpet cleaning)	16	1	16
Monthly rental space administration	4	12	48
Seasonal site monitor or lifeguard, assumes peak season only	40	18	720
Total Annual Manhour Estimate			**1,944.5 (0.93 FTE)**

APPENDICES

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Lake Forest Park
Lakefront Improvement Project

Lake Forest Park
Lakefront Improvement Project

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Lake Forest Park
Lakefront Improvement Project

Contents

Lake Forest Park
Lakefront Improvement Project

Overall Summary

	SF	$/SF	TOTAL
Site Preparation	91,195	13.14	1,198,660
Site Improvements			
ROW	4,050	35.09	142,131
Parking & Entry Area	12,745	28.23	359,812
Preserve Area	35,325	28.83	1,018,432
Staging & Play Area	14,455	35.18	508,560
Beach Area	12,900	15.38	198,432
Dock	3,420	540.84	1,849,670
Deck	4,265	89.18	380,362
Big House	1,525	546.42	833,295
Cabin 6 Office	555	836.82	464,435
Bathroom	400	1,278.39	511,355
Picnic Shelter	600	751.59	450,955
Landscape	955	124.37	118,770
Site Mechanical Utilities	91,195	10.14	924,463
Site Electrical Utilities	91,195	3.00	273,329
TOTAL RECOMMENDED CONSTRUCTION COST BUDGET			9,232,662
TOTAL RECOMMENDED BUDGET - INCL OWNER'S COST/WSST			13,313,499

***see Basis of Report section for breakdown**

ALTERNATES	
Alternate 1: Swin Platform w/ Floating Option	138,291
Alternate 2: Subsurface Improvements	813,479

Lake Forest Park
Lakefront Improvement Project

Scope of Work

Project Scope Description

The project comprises cost planning for the Phase 1: Lake Forest Park Lakefront Improvements located in Lake Forest, WA. A new lakefront park will be developed through site improvements and adaptive reuse of existing structures. Park amenities will include new parking area, paved plaza and paths, viewing platforms, gathering deck, play area, picnic shelter, bathhouse, community flex space, and small city office. A new dock will be constructed for public water access and recreation.

Project Design

The cost herein are based on the following documents:

- LFPLakefront_Preferred_CostEstNarrative_REV3-reduced

Procurement

It is anticipated that the project will be delivered by traditional low bid procurement. It is expected that there will be 4 to 5 qualified General Contractors to maintain competitive pricing.

Lake Forest Park
Lakefront Improvement Project

Basis of Estimate

Assumptions and Clarifications

This estimate is based on the following assumptions and clarifications:

1. Hazardous materials abatement is included.
2. The majority of work will be performed during typical daytime hours.
3. Prevailing wages apply.
4. Includes fees and Owner's contingency.
5. Sales Tax is assumed to be included in Owner's Project Cost Estimate.

Owner's soft cost recommendation is as follows:

Jurisdictional cost and permits (7%)
A&E fees (13%)
Other consultants (5%)
Administrative costs (2%)
Special inspections and commissioning (2%)
Owner's contingency (5%)
Sales Tax (10.2%)

General Markups Total - 44.2%

In preparing the cost models, multiple sources were used. The source information includes a perspective on current codes, technology, energy conservation, specific site elements, local general and sub construction markets and labor agreements, material costs and availability and labor efficiencies.

Lake Forest Park
Lakefront Improvement Project

Site Development Summary

			%	$/SF	TOTAL
			Gross Area:	91,195 SF	
01	Site Preparation		8%	8.08	736,749
02	Site Improvements				
	Roadwork		1%		87,360
	Parking Lot		2%		221,156
	Preserve Area		7%		625,973
	Staging & Play Area		3%		312,583
	Beach Area		1%		121,965
	Dock		12%		1,136,889
	Deck		3%		233,787
	Big House		6%		512,180
	Cabin 6 Office		3%		285,463
	Bathroom		3%		314,301
	Picnic Shelter		3%		277,177
	Landscape		1%		73,001
03	Site Mechanical Utilities		6%	6.23	568,216
04	Site Electrical Utilities		2%	1.84	168,000
SITE CONSTRUCTION			61%	62.23	5,674,801
05	Contingency	20.00%	12%	12.45	1,134,960
SITE CONSTRUCTION INCL. CONTINGENCY			74%	74.67	6,809,761
06	General Conditions	7.50%	6%	5.60	510,732
07	General Requirements	7.00%	6%	5.62	512,435
08	Overhead & Profit	5.50%	5%	4.72	430,811
09	Bonds & Insurance	2.50%	2%	2.27	206,593
010	Permits & Fees - by Owner				*NIC*
PLANNED SITE CONSTRUCTION COST			92%	92.88	8,470,332
011	Escalation to Start Date (Q2 2026)	9.00%	8%	8.36	762,330
RECOMMENDED BUDGET			100%	101.24	9,232,662

Lake Forest Park
Lakefront Improvement Project

Site Development

	Quantity	Unit	Rate	Total
NET SITE AREAS	91,195	SF		
Roadwork	4,050	SF		
Road - asphalt	*2,250*	*SF*		
Sidewalk - concrete	*1,800*	*SF*		
Parking Lot	12,745	SF		
Parking lot - asphalt	*6,880*	*SF*		
Sidewalk - concrete	*1,235*	*SF*		
Landscape	*4,630*	*SF*		
Preserve Area	35,325	SF		
Path - concrete	*4,115*	*SF*		
Overlook platform	*900*	*SF*		
Bridge - salvage/reinstall	*225*	*SF*		
Overlook - existing to remain	*500*	*SF*		
Landscape	*29,585*	*SF*		
Staging and Play Area	14,455	SF		
Staging area	*690*	*SF*		
Path - concrete	*5,750*	*SF*		
Play area - EWF	*2,950*	*SF*		
Landscape	*5,065*	*SF*		
Beach Area	12,900	SF		
Path - concrete	*945*	*SF*		
Landscape				
Beach - enhance	*1,940*	*SF*		
Lawn - restore	*6,440*	*SF*		
Planting - native	*3,575*	*SF*		
Docks	3,420	SF		
Dock platform	*3,420*	*SF*		
Deck	4,265	SF		
Path - concrete	*895*	*SF*		
Deck - accoya platform	*1,567*	*SF*		
Deck - ramp	*657*	*SF*		
Deck - stairs	*50*	*SF*		
Deck - seat stairs	*135*	*SF*		
Landscape	*961*	*SF*		
Big House, Bathroom, Cabin 6 Office & Picnic Shelter	4,035	SF		
Big House	*1,525*	*SF*		
Cabin 6 Office	*555*	*SF*		
Bathroom	*400*	*SF*		
Picnic Shelter	*600*	*SF*		
Landscape	*955*	*SF*		

Lake Forest Park
Lakefront Improvement Project

Site Development

	Quantity	Unit	Rate	Total
G10 Site Preparation	**91,195**	**SF**	**8.08**	**736,749**
G1010 Site Clearing	**91,195**	**SF**	**1.47**	**133,700**
SPCC plan	1	EA	2,500.00	2,500
Construction entrance	1	EA	5,000.00	5,000
Construction fence	150	LF	12.00	1,800
Wheel wash	8	MO	950.00	7,600
Daily and final cleanup incudes street cleaning	8	MO	1,200.00	9,600
Utility protection	8	MO	900.00	7,200
Utility connection	1	LS	50,000.00	50,000
Tree protection	1	LS	30,000.00	30,000
Survey - construction	1	LS	20,000.00	20,000
G1020 Site Demolition and Relocations	**91,195**	**SF**	**5.22**	**475,724**
Clear and grub	27,200	SF	0.35	9,520
Erosion control	91,195	SF	0.25	22,799
Demo - utilities, abandon	1	LS	15,000.00	15,000
Demo - timber dock	2,050	SF	25.00	51,250
Demo - shoreline armoring	1	LS	5,000.00	5,000
Demo - fence	600	LF	7.00	4,200
Demo - railing	63	LF	22.85	1,440
Demo - building, 1-5, 9 incl. salvage of materials (early works)	4,389	SF	28.50	125,087
Demo - building, 1-5, 9 foundation only	4,389	SF	6.87	30,152
Demo - building, picnic shelter	605	SF	10.00	6,050
Demo - building, restroom	890	SF	20.00	17,800
Big House Demolition	1,600	SF		
Area of protection	1,600	SF	5.00	8,000
Demo - second floor, complete (vault ceiling to roof)	1,600	SF	30.00	48,000
Demo - stairs	1	FLT	2,500.00	2,500
Demo - front porch	57	SF	20.00	1,140
Demo - interior partition	1,632	SF	4.50	7,344
Demo - floor finish, partial	816	SF	2.85	2,326
Demo - RCP finish, partial	816	SF	3.15	2,570
Demo - casework, lowers incl. counter	13	LF	30.00	390
Demo - door, single	8	EA	300.00	2,400
Demo - door, sliding	1	EA	250.00	250
Demo - door, double	2	EA	500.00	1,000
Demo - exterior glazing	144	SF	25.00	3,600
Demo - exterior cladding	900	SF	5.00	4,500
Demo - roof	1,632	SF	6.00	9,792

Lake Forest Park
Lakefront Improvement Project

Site Development

	Quantity	Unit	Rate	Total
Cabin 6 Demolition	555	SF		
Area of protection	555	SF	5.00	2,775
Shoring	1	LS	15,000.00	15,000
Demo - interior partition	540	SF	4.50	2,430
Demo - floor finish	555	SF	2.85	1,582
Demo - RCP finish	555	SF	3.15	1,748
Demo - casework, lowers incl. counter	7	LF	30.00	210
Demo - door, single	3	EA	300.00	900
Demo - exterior wall	456	SF	15.00	6,840
Demo - exterior glazing	60	SF	25.00	1,500
Demo - exterior cladding	550	SF	5.00	2,750
Demo - roof	555	SF	6.00	3,330
Salvage/reinstall - boardwalk	130	SF	35.00	4,550
Demo - misc. site structure, allow	1	LS	50,000.00	50,000
G1030 Site Earthwork	**91,195**	**SF**	**1.28**	**116,550**
Site cut - 6" avg.	1,465	CY	20.00	29,296
Stockpile	1,172	CY	12.00	14,062
Haul and dispose	293	CY	25.00	7,324
Rough grading	35,500	SF	0.30	10,650
Fine grading and compaction	48,415	SF	0.50	24,208
Base aggregates - 6" depth	477	CY	65.00	31,010
G1040 Hazardous Waste Remediation	**91,195**	**SF**	**0.12**	**10,775**
Cabin demo - abatement, allow	2,155	SF	5.00	10,775
G20 Site Improvements	**91,195**	**SF**		
Roadwork	**4,050**	**SF**	**21.57**	**87,360**
Road - asphalt	2,250	SF	16.50	37,125
Sidewalk - concrete	1,800	SF	12.00	21,600
Curb and gutter	500	LF	35.00	17,500
Striping - crosswalk	30	LF	24.50	735
Street signage	1	LS	5,000.00	5,000
Traffic control	3	MO	1,800.00	5,400
Parking Lot	**12,745**	**SF**	**17.35**	**221,156**
Parking lot - asphalt	7,312	SF	4.50	32,904
Monument - entry	1	EA	8,000.00	8,000
ADA sign	5	EA	950.00	4,750
ADA ramp	3	EA	1,850.00	5,550
Curbs	598	LF	30.00	17,940

Lake Forest Park
Lakefront Improvement Project

Site Development

	Quantity	Unit	Rate	Total
Wheel stop - not required				*NIC*
Landscape	3,675	SF	2.25	8,269
Topsoil - 6" depth	68	CY	45.00	3,063
Mulch - 2" depth	23	CY	40.00	926
Native plants - 1 gal., 24" O.C.	919	EA	11.50	10,566
Irrigation	3,675	SF	2.00	7,350
Irrigation - controls	1	EA	3,500.00	3,500
Fence - metal post w/ wood panels & vines	204	LF	110.00	22,440
Fence - metal fence 6'	241	LF	150.00	36,150
Vehicular gate w/ automatic/timed locks	2	EA	28,500.00	57,000
Pedestrian gate	1	EA	2,750.00	2,750
Preserve Area	**35,325**	**SF**	**17.72**	**625,973**
Path - concrete incl. decorative brick inlay	4,115	SF	25.00	102,875
Overlook platform	900	SF	180.00	162,000
Sign - interpretive	3	EA	6,500.00	19,500
Bridge - salvage/reinstall	1	LS	7,500.00	7,500
Bridge - abutments	1	LS	5,000.00	5,000
Trail - demo and restore	1,925	SF	5.50	10,588
Landscape	29,585	SF		
Topsoil - 6" depth	548	CY	45.00	24,654
Mulch - 2" depth	186	CY	40.00	7,451
Invasive plant removal	29,585	SF	0.75	22,189
Native plants - 1 gal., 24" O.C.	7,396	EA	11.50	85,057
Irrigation	29,585	SF	2.00	59,170
Irrigation - controls	1	EA	3,500.00	3,500
Overlook platform - structure to remain, protect	500	SF	5.00	2,500
Decking - replace	500	SF	40.00	20,000
Railing - replace	175	LF	230.00	40,250
Boulder - salvage	6	EA	300.00	1,800
Bench - salvage	3	EA	500.00	1,500
Fence - widelife friendly	283	LF	55.00	15,565
Dock railing	155	LF	225.00	34,875
Staging & Play Area	**14,455**	**SF**	**21.62**	**312,583**
Staging area	690	SF		
Concrete pad	690	SF	30.00	20,700
Pump station	1	EA	2,800.00	2,800
Kayak rack	1	EA	4,000.00	4,000
Bike rack	4	EA	650.00	2,600
Path - concrete, vehicular	5,750	SF	16.50	94,875
Play area	2,000	SF		

Lake Forest Park
Lakefront Improvement Project

Site Development

	Quantity	Unit	Rate	Total
Engineered wood fiber	2,000	SF	2.85	5,700
Curb - concrete	208	LF	30.00	6,240
Play equipment - natural	1	LS	100,000.00	100,000
Landscape	5,065	SF		
Topsoil - 6" depth	94	CY	45.00	4,221
Mulch - 2" depth	32	CY	40.00	1,276
Native plants - 1 gal., 24" O.C.	1,266	EA	11.50	14,562
Irrigation	5,065	SF	2.00	10,130
Irrigation - controls	1	EA	3,500.00	3,500
Site furnishings				
Bench	4	EA	2,000.00	8,000
Picnic table	56	LF	55.00	3,080
Seat wall	103	LF	300.00	30,900
Beach Area	**12,900**	**SF**	**9.45**	**121,965**
Path - concrete	945	SF	11.50	10,868
Landscape	11,955	SF		
Beach - enhance	1,940	SF	5.00	9,700
Logs - import	13	EA	750.00	9,375
Boulder - import	25	EA	350.00	8,750
Swim buoy line	1	LS	14,600.00	14,600
Lawn - restore	6,440	SF	0.55	3,542
Planting - native	3,575	SF	2.25	8,044
Topsoil - 12" depth	132	CY	45.00	5,958
Mulch - 2" depth	23	CY	40.00	900
Native plants - 1 gal., 24" O.C.	894	EA	11.50	10,278
Irrigation	10,015	SF	2.00	20,030
Irrigation - controls	1	EA	3,500.00	3,500
Outdoor shower	1	EA	8,500.00	8,500
Fencing - wildlife friendly	144	LF	55.00	7,920
Dock	**3,420**	**SF**	**332.42**	**1,136,889**
Dock	3,800	SF	260.00	988,000
Head wall	6	CY	2,500.00	13,889
Railing	280	LF	225.00	63,000
Piers	60	EA	1,200.00	72,000

Lake Forest Park
Lakefront Improvement Project

Site Development

	Quantity	Unit	Rate	Total
Deck	**91,195**	**SF**	**2.56**	**233,787**
Path - concrete	895	SF	25.00	22,375
Grand deck				
Deck - accoya platform	1,567	SF	40.00	62,680
Deck - ramp	657	SF	45.00	29,565
Deck - railing	250	LF	220.00	55,000
Deck - stairs	50	SF	50.00	2,500
Deck - seat stairs	135	SF	85.00	11,475
Deck - structure, incl. reclaimed brick wall	200	LF	150.00	30,000
Deck - seating, allow	50	LF	175.00	8,750
Landscape	961	SF		
Topsoil - 12" depth	36	CY	45.00	1,602
Mulch - 2" depth	9	CY	40.00	356
Native plants - 1 gal., 24" O.C.	240	EA	11.50	2,763
Trees	2	EA	650.00	1,300
Irrigation	961	SF	2.00	1,922
Irrigation - controls	1	EA	3,500.00	3,500
Big House	**1,525**	**SF**	**335.86**	**512,180**
Big House	1,525	SF		
Foundations - modifications	1,525	SF	5.00	7,625
Superstructure - modifications to existing	1,525	SF	15.00	22,875
Exterior enclosure - Accoya	920	SF	52.75	48,530
Exterior glazing - allow	500	SF	85.00	42,500
Exterior door - single	1	EA	3,500.00	3,500
Roof	1,670	SF	36.50	60,955
Roof - dormer	96	SF	48.50	4,656
Roof - solar panel structural support	370	SF	8.75	3,238
Interior construction	1,525	SF		
Interior of exterior, patch and repair	2,490	SF	4.50	11,205
Partition	960	SF	28.50	27,360
Door - sliding	1	EA	5,000.00	5,000
Door - single	1	EA	3,500.00	3,500
Door - closet	1	EA	900.00	900
Interior finishes	1,525	SF		
Wall - paint	4,266	SF	2.50	10,665
Wall - decorative, allow	1	LS	15,000.00	15,000
Floor - patch and repair	1,525	SF	5.50	8,388
Ceiling - patch and repair	1,525	SF	4.75	7,244
Plumbing - modifications to existing	1,525	SF	15.00	22,875
Water closest	1	EA		*Incl. above*
Lavatory	1	EA		*Incl. above*

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Site Development

	Quantity	Unit	Rate	Total
Kitchen sink	1	EA		*Incl. above*
Mechanical - modifications to existing	1,525	SF	25.00	38,125
Electrical - modifications to existing	960	SF	30.00	28,800
Generator backup	1	LS	40,000.00	40,000
Photovoltaic - allow	25	kW	3,800.00	95,190
Equipment/Furnishings	1,525	SF		
Casework - lower	9	LF	450.00	4,050
Cabin 6 Office	**555**	**SF**	**514.35**	**285,463**
Cabin 6 Office	555	SF		
Foundations - modifications	555	SF	15.00	8,325
Superstructure - modifications to existing	555	SF	30.00	16,650
Exterior enclosure - Accoya	1,212	SF	52.75	63,933
Exterior glazing - allow	364	SF	85.00	30,906
Exterior door - single salvage/reinstall	1	EA	1,400.00	1,400
Roof - structure	665	SF	20.00	13,300
Roof	665	SF	36.50	24,273
Interior construction	555	SF		
Interior of exterior, patch and repair	1,212	SF	4.50	5,454
Partition	192	SF	28.50	5,472
Door - single	1	EA	3,500.00	3,500
Interior finishes	555	SF		
Wall - paint	1,567	SF	2.50	3,918
Floor - carpet	555	SF	8.50	4,718
Ceiling - gwb	555	SF	12.00	6,660
Plumbing - modifications to existing	555	SF	15.00	8,325
Water closest	1	EA		*Incl. above*
Lavatory	1	EA		*Incl. above*
Kitchen sink	1	EA		*Incl. above*
Mechanical - modifications to existing	555	SF	25.00	13,875
Electrical - modifications to existing	555	SF	30.00	16,650
Generator backup	1	LS	40,000.00	40,000
Equipment/Furnishings	555	SF		
Casework - lower	9	LF	450.00	3,825
Exterior ramp	109	SF	55.00	5,995
Guard rail	37	SF	155.00	5,735
Building screen	10	LF	80.00	800
Screen gate	1	EA	1,750.00	1,750

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Site Development

	Quantity	Unit	Rate	Total
Bathroom	**400**	**SF**	**785.75**	**314,301**
Bathroom	400	SF		
Foundations - slab incl. insulation and drainage	400	SF	35.00	14,000
Superstructure	400	SF	75.00	30,000
Exterior enclosure - Accoya	960	SF	52.75	50,640
Exterior door - single	1	EA	3,500.00	3,500
Exterior door - single incl. automatic/timed locks	4	EA	8,500.00	34,000
Roofing - structure	410	SF	20.00	8,200
Roofing	410	SF	36.50	14,965
Skylights	50	SF	140.00	7,000
Interior construction	400	SF		
Interior of exterior, furring	960	SF	9.00	8,640
Partition	370	SF	28.50	10,545
Interior finishes	400	SF		
Wall - paint	1,645	SF	2.50	4,111
Floor - resilient	400	SF	8.50	3,400
Ceiling - GWB	400	SF	12.00	4,800
Plumbing	400	SF	60.00	24,000
Water closest	4	EA		*Incl. above*
Lavatory	4	EA		*Incl. above*
Mechanical	400	SF	62.50	25,000
Electrical	400	SF	70.00	28,000
Generator backup	1	LS	40,000.00	40,000
Equipment/Furnishings	400	SF		
Casework - vanity	10	LF	350.00	3,500
Picnic Shelter	**600**	**SF**	**461.96**	**277,177**
Picnic Shelter	600	SF		
Foundations - slab	600	SF	20.00	12,000
Superstructure - steel column, 6" round	2.31	TN	11,500.00	26,557
Exterior enclosure - CLT wall	312	SF	60.00	18,720
Roof - CLT structure	1,290	SF	35.00	45,150
Roof - incl. custom cut outs	1,290	SF	65.00	83,850
Plumbing & Mechanical	600	SF	25.00	15,000
Kitchen sink				*Incl. above*
Outdoor shower				*Incl. above*
Electrical	600	SF	42.00	25,200
Equipment/Furnishings	600	SF		
Casework - vanity	12	LF	600.00	7,200
Built-in bench / rain water feature	1	LS	10,500.00	10,500
Porch swing	1	LS	33,000.00	33,000

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Site Development

	Quantity	Unit	Rate	Total
Site Development	**955**	**SF**	**76.44**	**73,001**
Site furnishings				
Trash cans	2	EA	1,800.00	3,600
Picnic tables	6	EA	5,000.00	30,000
Seat wall	105	LF	300.00	31,500
Landscape	955	SF		
Topsoil - 12" depth	35	CY	45.00	1,592
Mulch - 2" depth	9	CY	40.00	354
Native plants - 1 gal., 24" O.C.	239	EA	11.50	2,746
Trees	2	EA	650.00	1,300
Irrigation	955	SF	2.00	1,910
G30 Site Mechanical Utilities	**91,195**	**SF**	**6.23**	**568,216**
G3010 Water Supply	**91,195**	**SF**	**2.25**	**205,150**
Connection to existing	1	EA	5,000.00	5,000
6" pipe, incl. trenching and backfill	285	LF	200.00	57,000
2" pipe, incl. trenching and backfill	962	LF	75.00	72,150
Vaults and equipment	1	LS	50,000.00	50,000
Fire hydrant	1	EA	9,500.00	9,500
Hose bib	7	EA	900.00	6,300
Drinking fountain	1	EA	5,200.00	5,200
G3020 Sanitary Sewer	**91,195**	**SF**	**2.10**	**191,650**
Connection to existing	5	EA	5,000.00	25,000
SS - 6" pipe, incl. trenching and backfill	606	LF	275.00	166,650
G3030 Storm Sewer	**91,195**	**SF**	**1.88**	**171,416**
Connection to existing	1	EA	5,000.00	5,000
Stormwater devices and controls				
Treatment vault	18,327	GAL	2.25	41,236
Drainage cistern	1	EA	16,000.00	16,000
Stormwater swale	1,157	SF	40.00	46,280
Stormwater pipe - allow	389	LF	100.00	38,900
Outfall	3	EA	8,000.00	24,000

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Site Development

	Quantity	Unit	Rate	Total
G40 Site Electrical Utilities	**91,195**	**SF**	**1.84**	**168,000**
G4010 Electrical Distribution	**91,195**	**SF**	**1.10**	**100,000**
Power distribution - allow	1	EA	100,000.00	100,000
G4020 Site Lighting	**91,195**	**SF**		**68,000**
Pedestrian fixture	10	EA	6,800.00	68,000

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Alternates

	Quantity	Unit	Rate	Total
Alternate 1: Swin Platform w/ Floating Option				
Swim platform, fixed w/ floating option	1	LS	85,000.00	85,000
Alternate Cost Before Markups				**85,000**
Contingency	20.00%			17,000
General Conditions	7.50%			7,650
General Requirements	7.00%			7,676
Overhead & Profit	5.50%			6,453
Bonds & Insurance	2.50%			3,094
Permits & Fees - by Owner	0.00%			
Escalation to Start Date (Q2 2026)	9.00%			11,419
				138,291
Alternate 2: Subsurface Improvements				
Earthwork - subsurface improvements, allow	1	LS	500,000.00	500,000
Alternate Cost Before Markups				**500,000**
Contingency	20.00%			100,000
General Conditions	7.50%			45,000
General Requirements	7.00%			45,150
Overhead & Profit	5.50%			37,958
Bonds & Insurance	2.50%			18,203
Permits & Fees - by Owner	0.00%			
Escalation to Start Date (Q2 2026)	9.00%			67,168
				813,479