



Arboretum Waterfront Trail Project

16-1869 D Arboretum Waterfront Trail Improvements

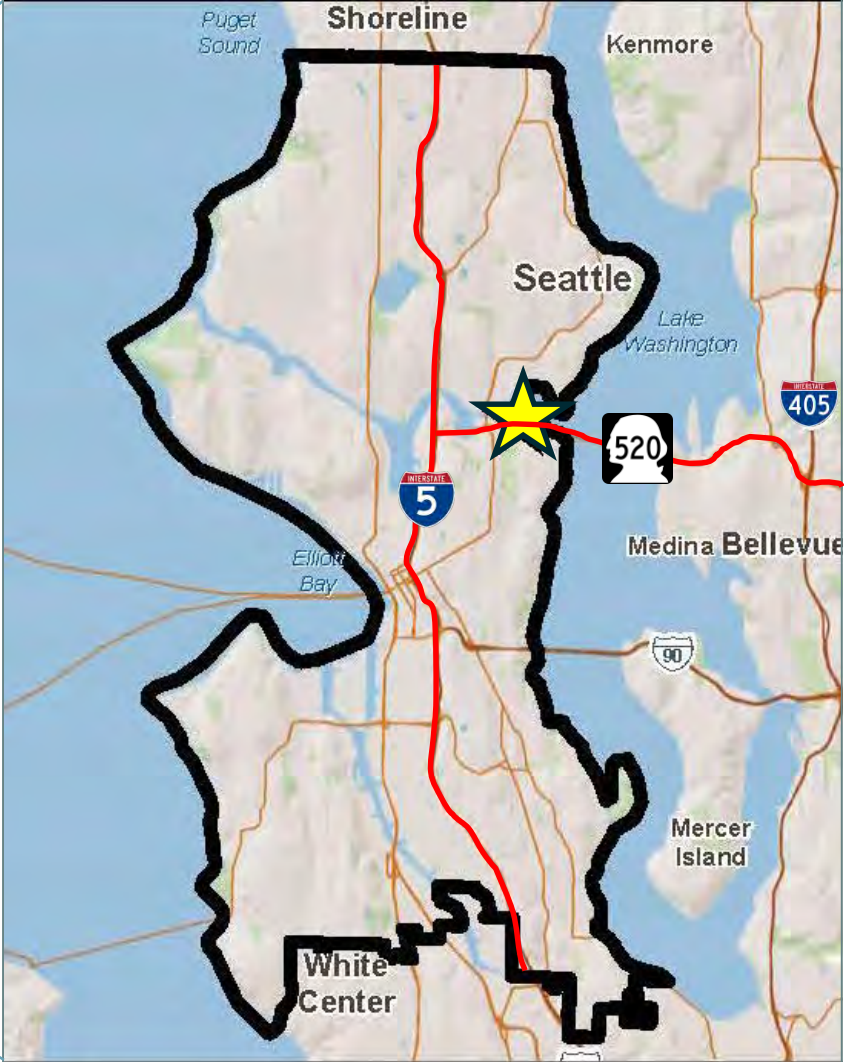
Seattle Parks and Recreation Department



REQUESTING \$475K IN WWRP TRAILS FUNDING

August 10, 2016





16-1869 D Regional Location Map



 Project Location  City of Seattle

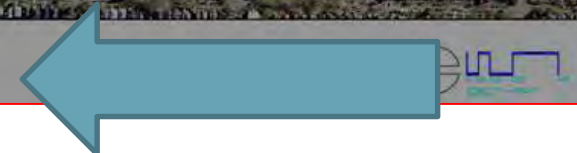
0 Feet 20,000 40,000





1: NEED: INVENTORY OF EXISTING TRAILS

The Arboretum





Constructed in 1972 Rebuilt in 1985



1: NEED INVENTORY OF EXISTING TRAILS AND SUPPORT SYSTEMS

1/2 MILE TRAIL THROUGH THE WETLAND

Arboretum Waterfront Trail

You are entering the largest wetland left in Seattle.

This is a unique 1/2 mile long trail that takes you through floating walkways and through a variety of wetland marsh environments.

Estimated walking time, each way:

- West Entry to Foster Point: 20 minutes
- Arboretum Visitor Center to West Entry: 30 minutes

Trail-Guide Brochures that describe the natural features found along this self-guided trail are available at the Washington Park Arboretum Visitor Center, the Museum of History and Industry or from the Seattle Parks Department. The numbered posts along the trail are keyed to information in the trail-guide.

MARSH WALKS

Bark-surfaced trails through the various wetland environments plunge you into a tangle of ferns and birch, or bring you through grass and cattail marshes. Look for sandhill cranes, redwing blackbirds, and other birds.

BOATING WALKS

Floating walkways link Marsh Island and Foster Island, and also bring you out along the north shore of the Foster Island marsh. You will see the marsh shorelines, water lilies (in summer), and several species of waterfowl.

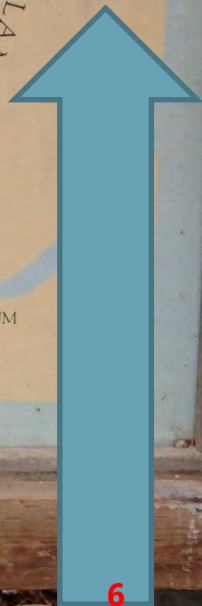
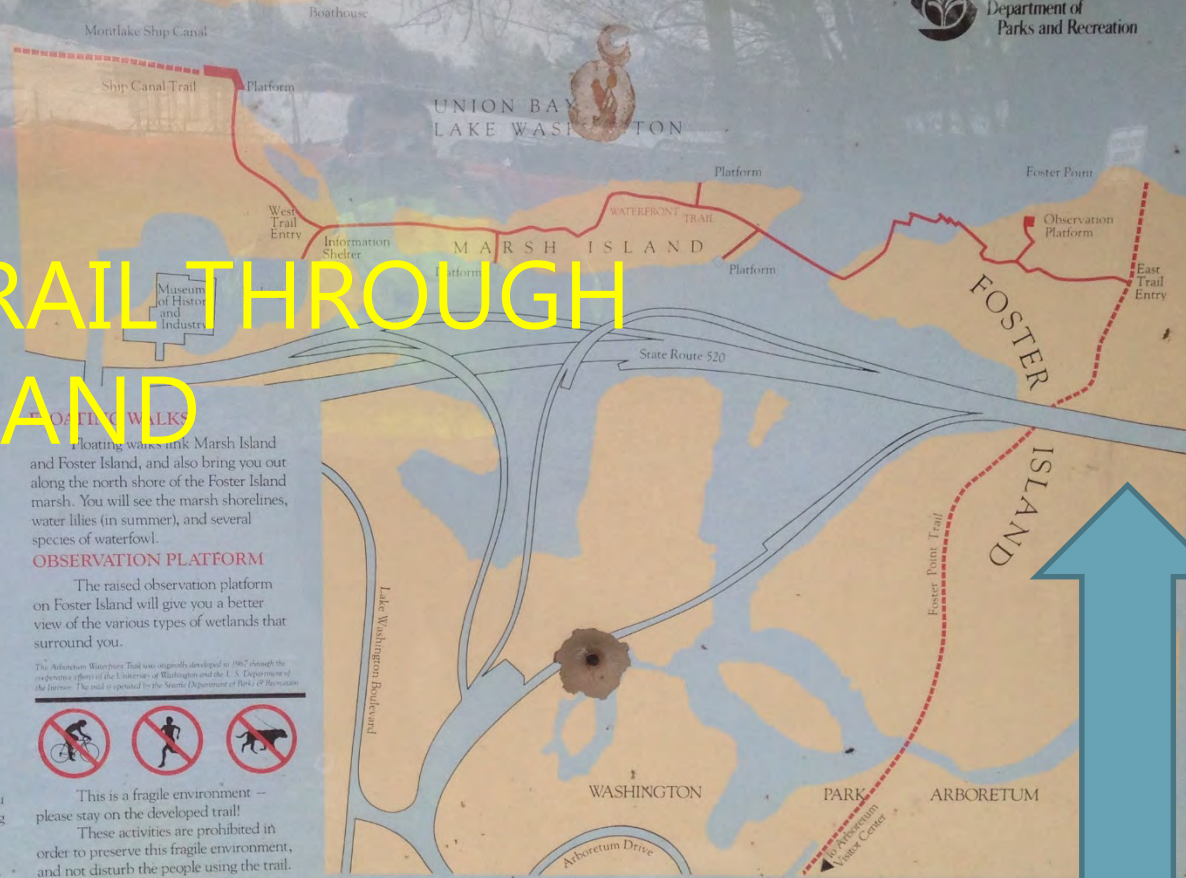
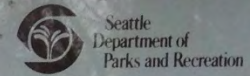
OBSERVATION PLATFORM

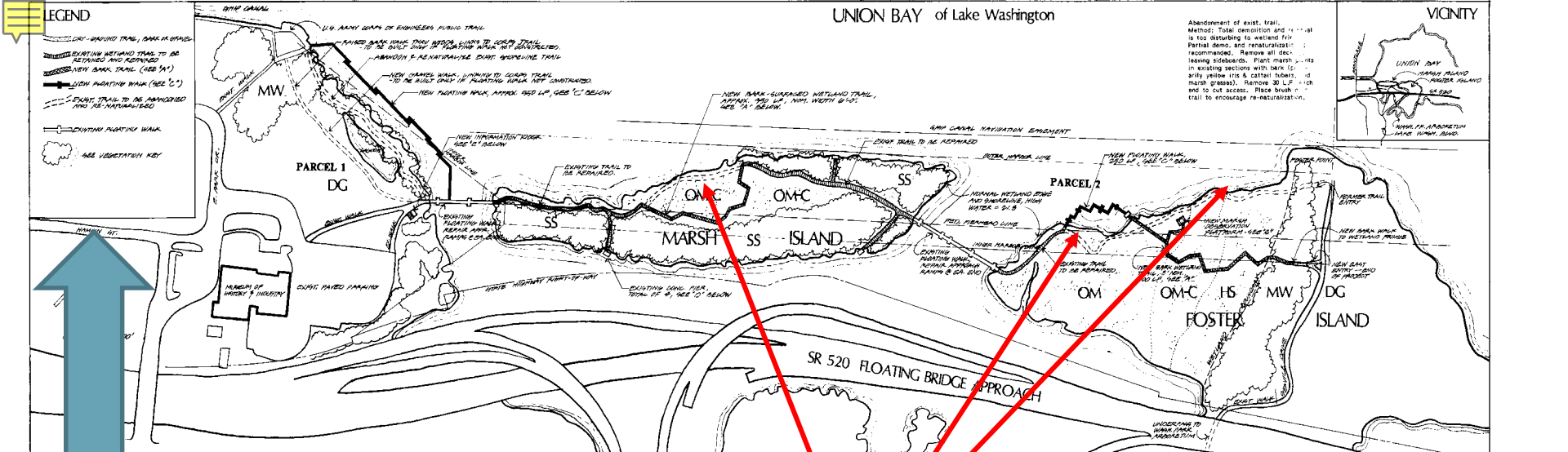
The raised observation platform on Foster Island will give you a better view of the various types of wetlands that surround you.

The Arboretum Waterfront Trail was originally developed in 1977 through the cooperation of staff at the University of Washington and the U.S. Department of the Interior. The trail is operated by the Seattle Department of Parks & Recreation.

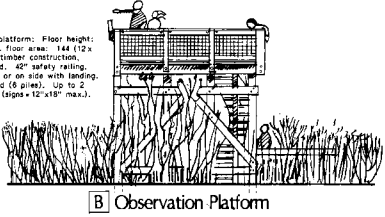


This is a fragile environment — please stay on the developed trail!
These activities are prohibited in order to preserve this fragile environment, and not disturb the people using the trail.

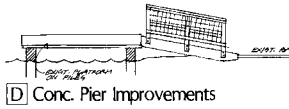




Observation platform: Floor height: 10'-0", 3"x3" floor area: 144 (12x12). Heavy timber construction, pine, treated. 42" safety railing. Stairs: 80% of an rise with landing. Pine supported (5 plies), up to 2 interior, signs (signs = 12"x18" max.).



Concrete Pier Improvements: T-2 of 4 existing pile-supported pier improvements: add new "gangway" ramps (see sideboards, railing, metal-grate walking surface).



ARBORETUM TRAIL SITE DESCRIPTION

PARCEL 2

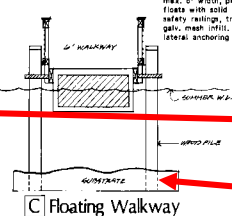
Beginning at the meander corner between Sections 16 and 21 in Township 23 North, Range 4 East, N.W. 1/4 of Section 16, T23N, R4E, W1/4, S4, NW1/4, beginning at the meander corner between Sections 16 and 21 in Township 23 North, Range 4 East, N.W. 1/4 of Section 16, T23N, R4E, W1/4, S4, NW1/4, beginning at the meander corner between Sections 16 and 21 in Township 23 North, Range 4 East, N.W. 1/4 of Section 16, T23N, R4E, W1/4, S4, NW1/4.

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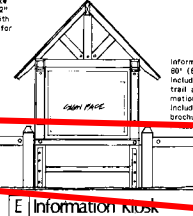
**REPLACED EARLIER
SOFT SURFACE TRAIL
WOOD CHIP TRAIL
FLOATING
WALKWAYS**

A) Bark-surfaced Trail

Bark-surfaced walkway: Width: 6' on Foster Island, 8' on Marsh Island, with periodic widenings for sitting. Treated 2" construction on cross-boards an "soft" ground-stabilization fabric, 200 L.P. on Marsh Island, 150 L.P. on Foster Island. Bank: 1'-18" depth (from 2' concrete) wood sideboards, total estimated bank 200 cu. yd. Bank used as "handrail" under tree design as similar to the existing bank trail built c.1887-1872.



Floating walkway: Total length 800 L.F. max. 6' width, pre-cast concrete floats with solid foam core. 42" safety railings, treated wood with galv. mesh infill. Guide-piling for lateral anchoring (20' o.c.).



Information kiosk: Roof 8'x10' to 10'x10'. Signboard 4'x6' or 6'x8' - includes "you are here" map showing trail and links to Arboretum, information on environment, illustrations. Includes box for future informational brochures. Heavy timber construction.

Applicant:
City of Seattle
Department of Parks & Recreation
130 Dexter Avenue N.
Seattle, WA 98109
622-2984

Property address:
N.A. Trail developed and formally transferred to the Museum of History and Industry from the Museum of History and Industry, Foster Island.

SEATTLE DEPARTMENT OF PARKS & RECREATION

arboretum wetland trail reconstruction

Carey/Caldwell Partnership - Land Planning and Design Services
Box 2, Box 219 - Vashon, Washington - 98070 (206) 463-2196

02477 466



Figure 2
Existing Conditions
Arboretum Waterfront Trail Improvements Project
Seattle Parks and Recreation

1: NEED: INVENTORY OF EXISTING TRAIL SYSTEMS



beautiful

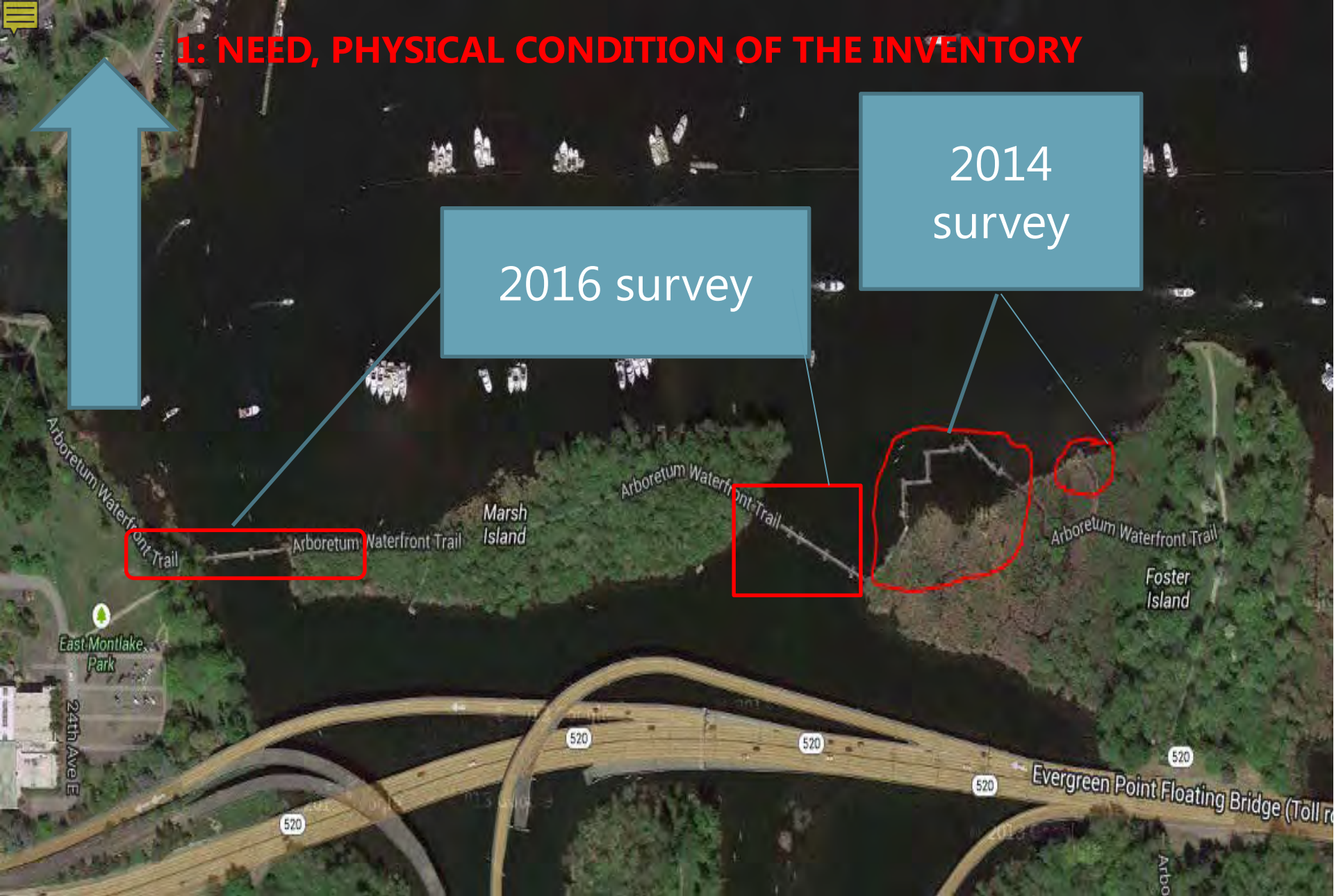


1: INVENTORY OF EXISTING TRAILS AND SUPPORT SYSTEMS



unique

1: NEED, PHYSICAL CONDITION OF THE INVENTORY



1: NEED, PHYSICAL CONDITION OF THE INVENTORY

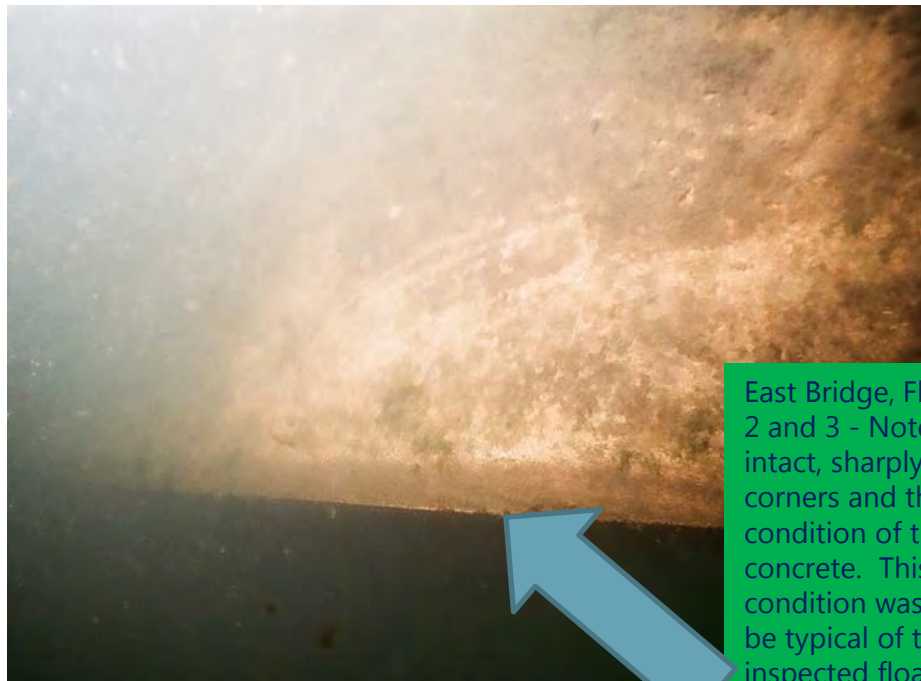


PHOTO No. 2: Dock D, Looking Northwest - Note the Floating Walkway and Dock D in the background. Also note the misalignment of the approach structure and the shoreward erosion.



PHOTO No. 7: Walkway, Float Anchor Piles No. 16 and 16 Batter - Note the float anchor hoop is not aligned with the piles and has been cut off. Also note the pontoons are floating unevenly due to the weight of the interconnecting ramp.

Work is based on evaluation of existing assets 2014-2016



East Bridge, Floats No. 2 and 3 - Note the intact, sharply defined corners and the good condition of the concrete. This was condition was found to be typical of the inspected floats.

1: NEED PHYSICAL CONDITION OF THE INVENTORY



1: NEED, PHYSICAL CONDITION



1: NEED, PHYSICAL CONDITION





NEED: PHYSICAL CONDITION OF THE INVENTORY



NEED: PHYSICAL CONDITION OF THE INVENTORY



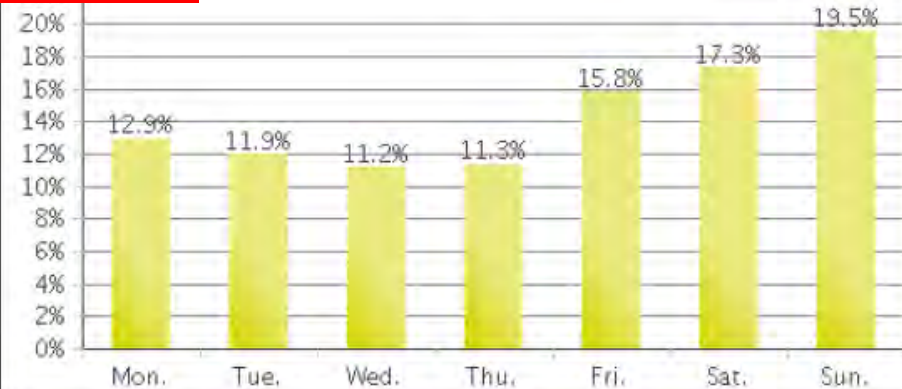
NEED: PHYSICAL CONDITION OF THE INVENTORY

1: USE

Daily Data



Weekly Profile



Hourly Profile during Weekdays



Hourly Profile during the Weekend



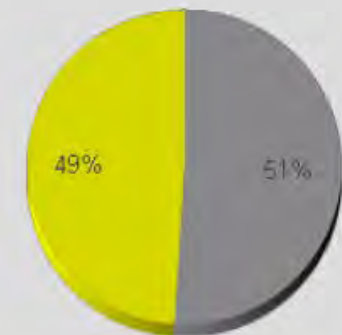


1: USE

Key Figures

- Total Traffic for the Period Analyzed: 24,252
- Daily Average : 808
- Busiest Day of the Week : Sunday
- Busiest Days of the Period Analyzed:
 1. Sunday 06 July 2014 (1,470)
 2. Friday 04 July 2014 (1,267)
 3. Sunday 27 July 2014 (1,213)
- Distribution by Direction:

- South (off Foster Is... : 49%
- North (onto Foster I... : 51%





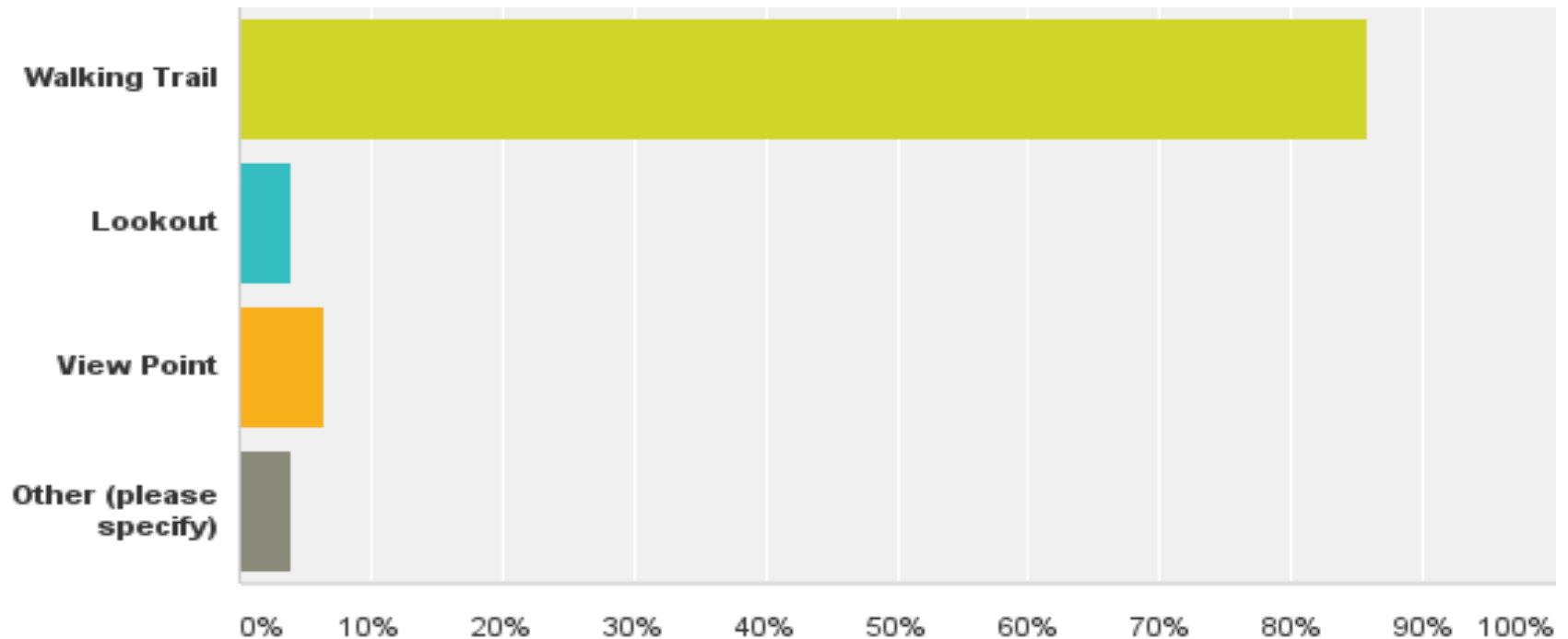
1: MEETING THE NEED

THIS PROJECT MAINTAINS HISTORIC USE AND INCREASES ACCESS



1:NEED, USE OF EXISTING TRAILS

Q5: What area of the park do you use the most?

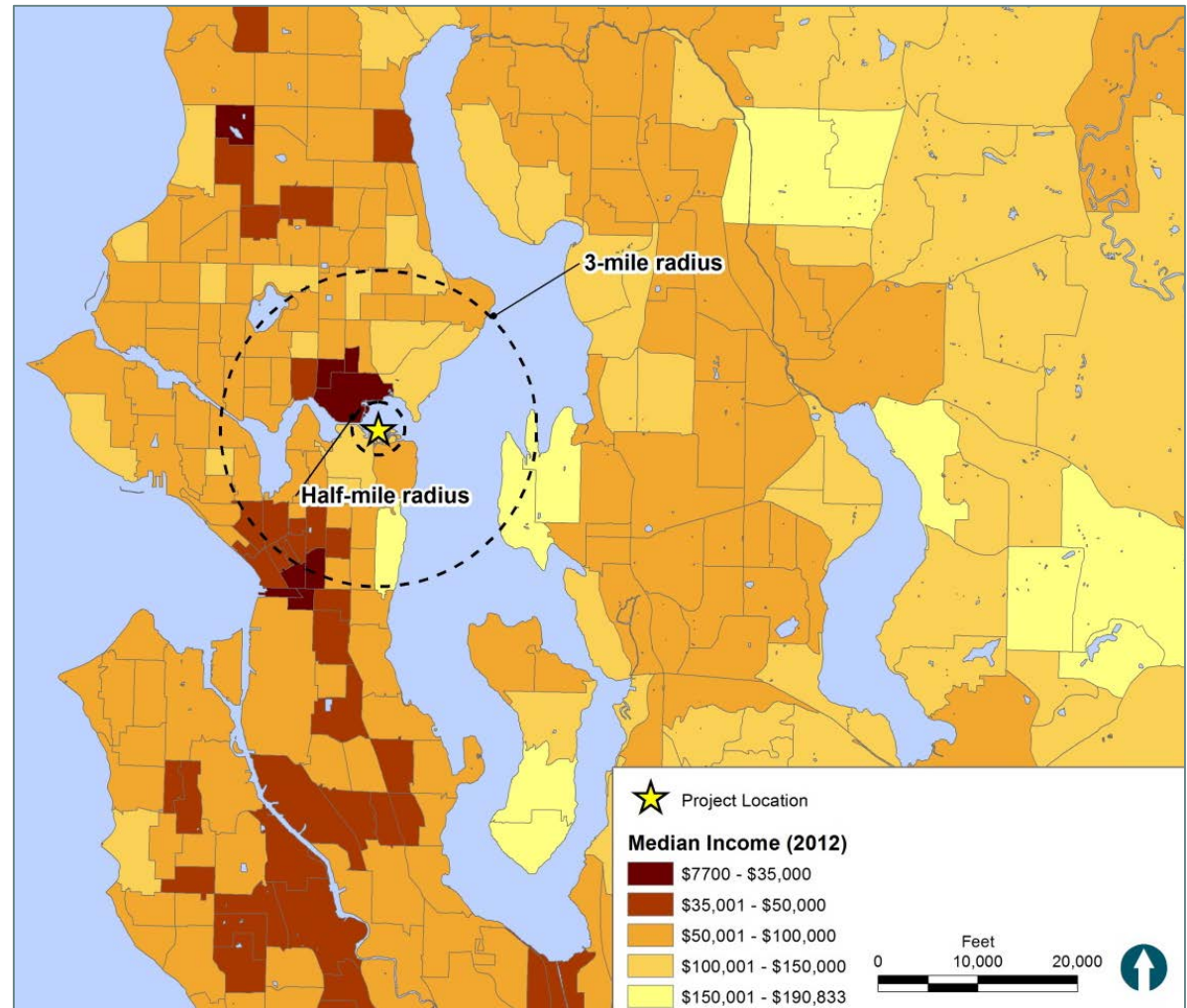


1: Meeting a current and future need for access

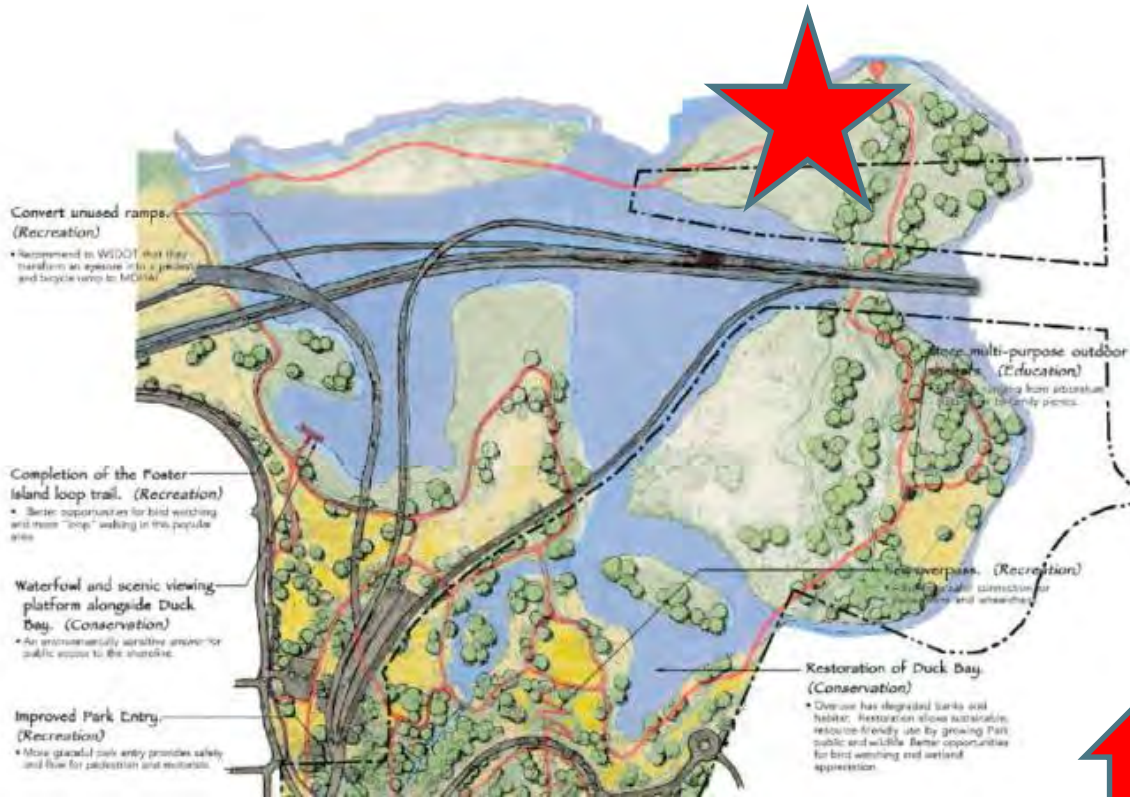
- Best opportunity in Seattle to introduce people to its largest wetland complex
- View elements within the trail system that support educational use
- Arboretum and Parks host numerous environmental education programs



Project provides wetland access, recreational and educational opportunities to low-income neighborhoods that are typically unserved or underserved



1:VISION :Trail Renovation Project addresses use and access priorities within the 2001 Arboretum Master Plan



1:VISION: COMMUNITY PRIORITY IN DESIGN OF NEW 520

SR 520 Bridge Replacement and HOV Project Seattle Parks Workshops

On the west side of the project corridor, SR 520 passes through or near to an area with some of our region's most significant natural resources and public open spaces, including Lake Washington's Portage and Union Bays, Washington Park Arboretum, historic Lake Washington Boulevard, the Waterfront Trail, and Lake Washington's most extensive system of wetlands. In the spring of 2005, members of the project team met with a stakeholder group that included representatives of the University of Washington, the Washington Park Arboretum, and the City of Seattle's Departments of Transportation and Parks and Recreation.

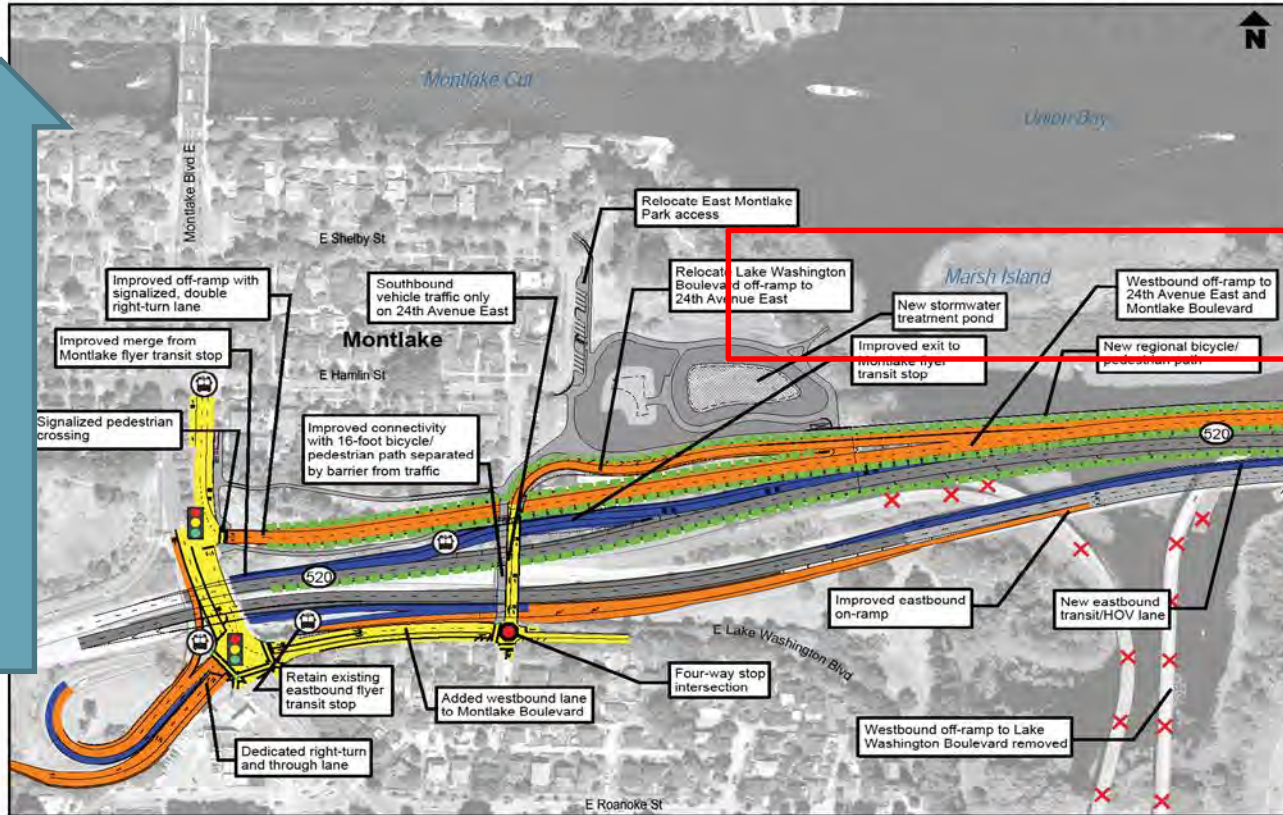
During the course of two workshops this group discussed ways to minimize effects of the project to natural areas and open spaces, enhance these resources where possible, and incorporate existing planning for these resources into the project design. The workshops represent a collaborative effort to develop design concepts for East Montlake Park, the northern segment of Lake Washington Boulevard, the Arboretum, Foster Island, and WSDOT lands adjacent to the Arboretum that integrate the goals of Seattle Parks, the Arboretum, and the SR 520 Bridge Replacement Project. The discussions held at these workshops, and the ideas generated will be revisited as the design of the preferred alternative progresses, and WSDOT team landscape architects will further develop and refine selected concepts. The activity deliverable includes a series of drawings that may be integrated into the EIS.



4-Lane Bike/Pedestrian Path 6-Lane Bike Pedestrian Path Existing Trail/Bicycle Path Parks
Bicycle/Pedestrian Path Bicycle/Pedestrian Path Trail/Bicycle Path
Path Under Roadway Path Under Roadway Path Under Roadway

Existing and Proposed Trails in McCurdy Park, East Montlake Park, and Washington Park Arboretum

Key features of the West Approach Bridge North Project



Noise reduction strategies

West Approach Bridge North noise-reduction strategies include the following:

- 4-foot concrete traffic barriers (taller than standard barrier)
- Encapsulated bridge joints
- Quieter concrete pavement on the new bridge

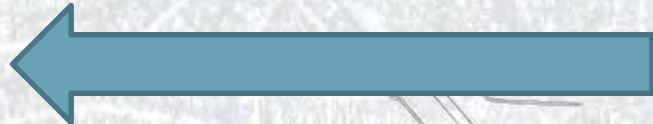
LEGEND

- SR 520 highway
- On- and off-ramps
- Local arterials
- Transit/HOV ramps
- Removal of on- and off-ramps
- 4-way stop
- Traffic signal
- Bus stop
- 4-foot concrete traffic barriers

March 2016

1:VISION: CLEARLY ARTICULATED TRAIL NETWORK AND SYSTEM

1: VISION: MITIGATION AND MASTER PLAN WORK COORDINATED

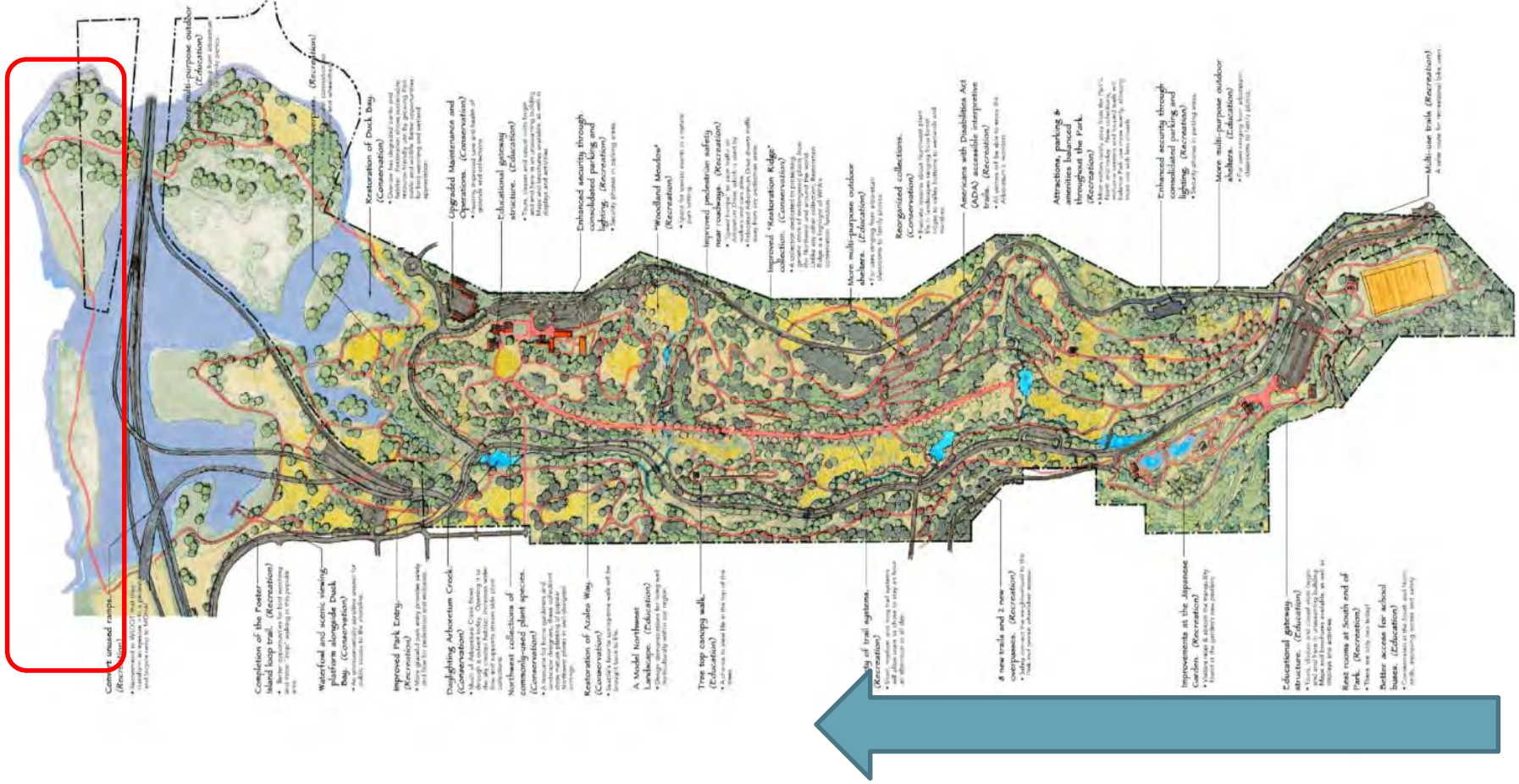


New loop trail

Future north entry

Key	Other Projects:
a Multi-Use Trail Project <ul style="list-style-type: none">Arboretum CreekAzalea Way Pond	Implementation of Interpretive and Wayfinding Plan
b North Entry Project	Noise reduction measures
c Foster Island tribal/cultural improvements	Support for traffic calming implementation
d Art, aesthetic and landscape enhancement of Foster Island Crossing	Support for traffic management evaluation

2: This is a special link within an existing network of pedestrian trails



2: LINKAGE BETWEEN TRAILS



The only pedestrian access north of 520



3. LINKAGE BETWEEN COMMUNITIES

PEDESTRIAN LINK
BETWEEN EXISTING
HEAVILY USED REGIONAL
TRAIL SYSTEMS

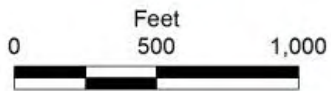
BURKE GILMAN

520 PATH

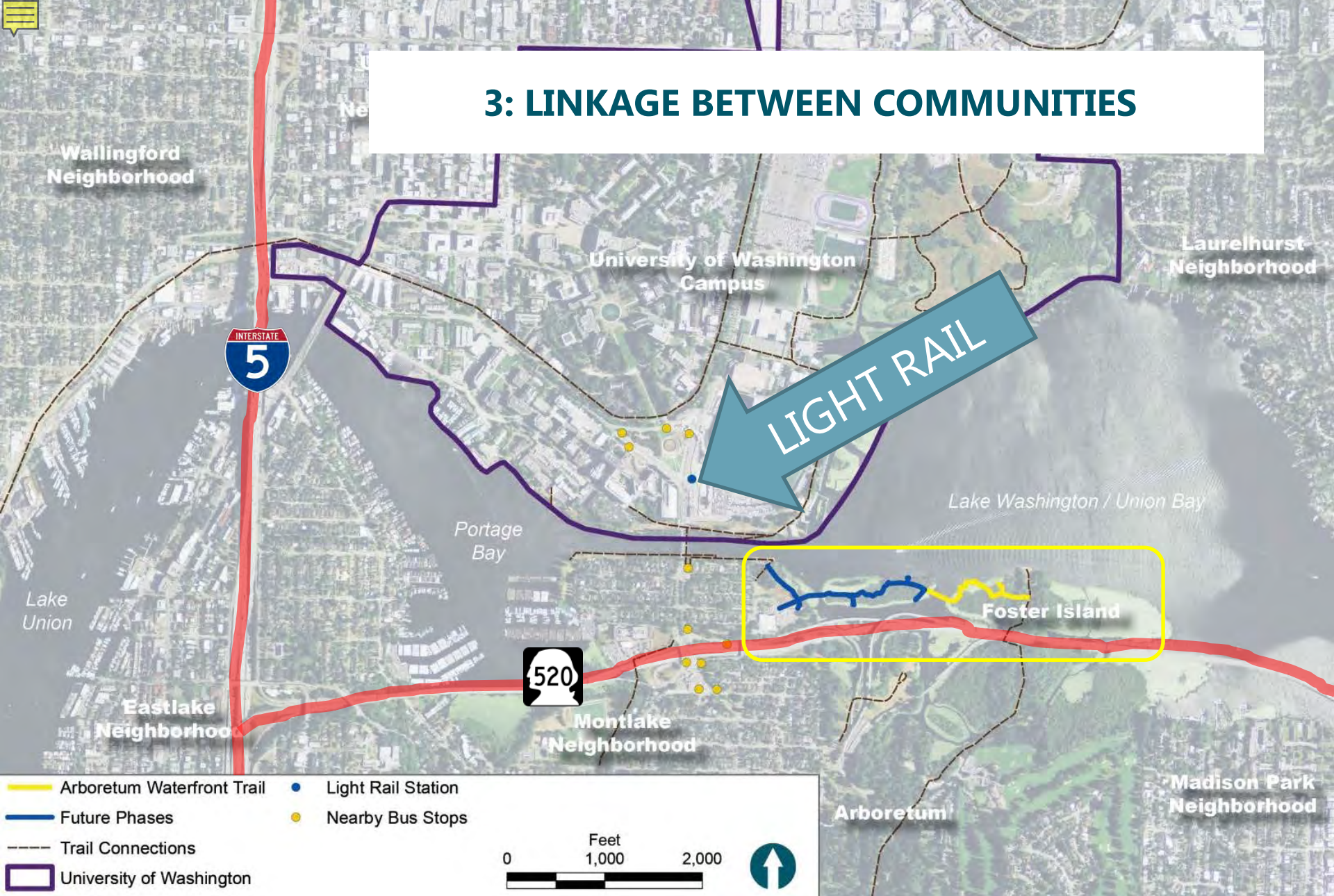
LOOP

32

- Arboretum Waterfront Trail
- Future Phases
- Trail Connections
- NWI Wetlands



3: LINKAGE BETWEEN COMMUNITIES



5: Design to meet the needs of users



5: DESIGN CONSISTENT WITH USERS NEED FOR ACCESS

Includes both land and water access elements

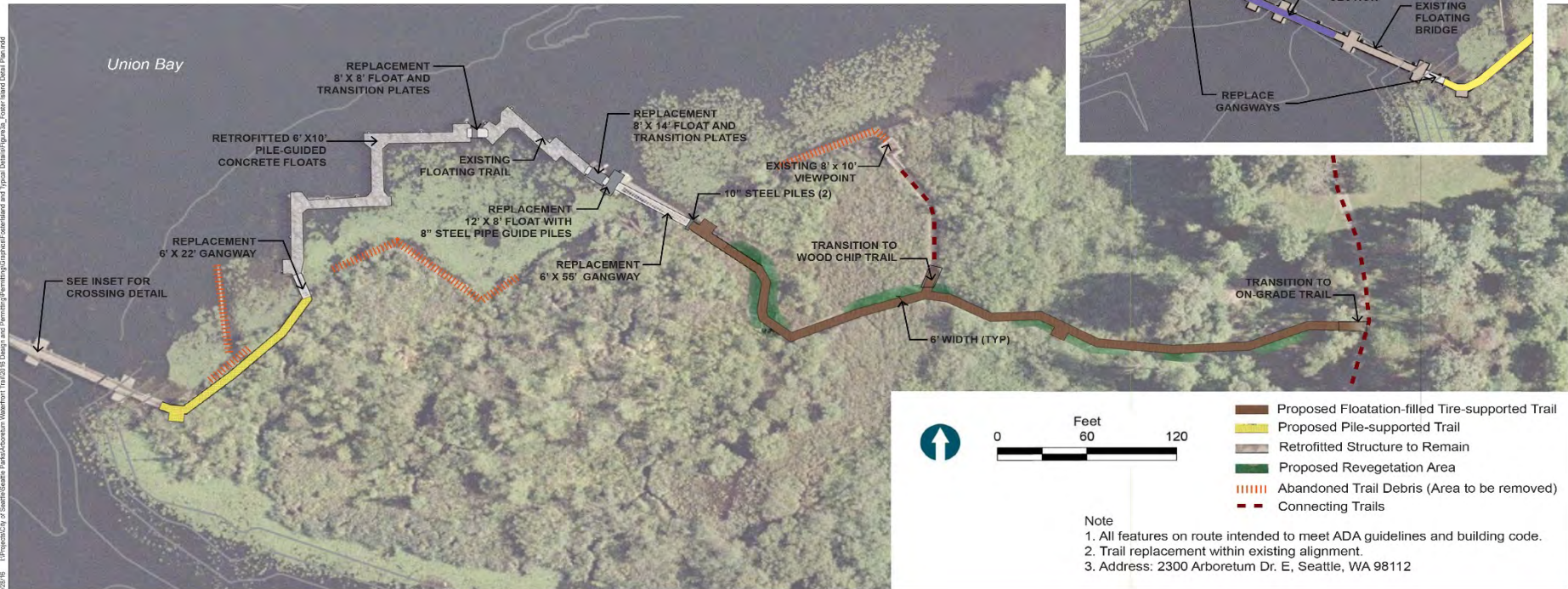


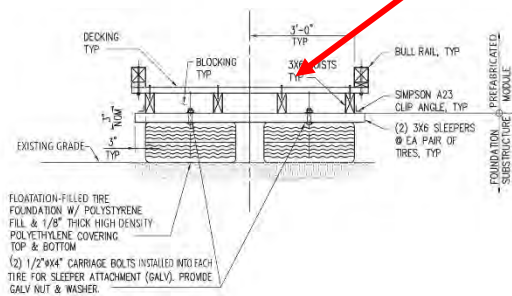
Figure 3a
Site Plan - Foster Island
Arboretum Waterfront Trail Improvements Project
Seattle Parks and Recreation



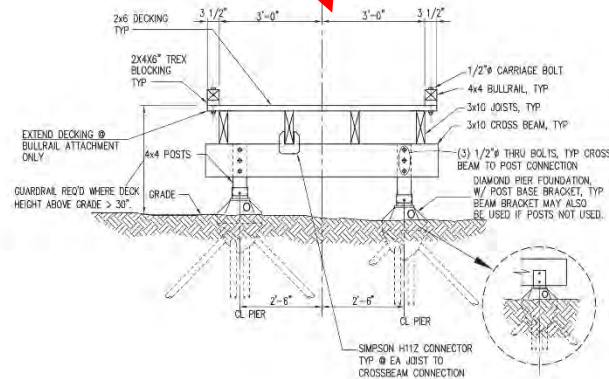
5: DESIGN MAINTAINS ACCESS AND REDUCES USER CONFLICTS

Adequate surfacing, width and spatial relationships

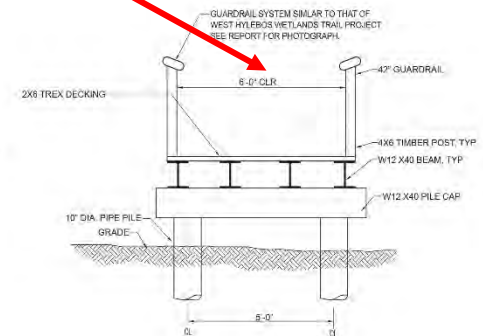
1 Typical Floatation-filled Tire-supported Trail
Detail not to scale



2 Typical Diamond Pier-supported Trail
Detail not to scale



3 Typical Pile-supported Trail
Detail not to scale



- Elevated trail segments minimize disturbance to wetland areas
- Simplified design allows for accurate cost estimating



5: DESIGN IS APPROPRIATE FOR THE SETTING

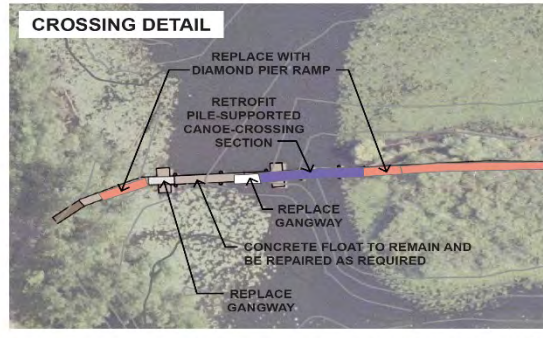


Figure 3b
 Site Plan - Marsh Island
 Arboretum Waterfront Trail Improvements Project
 Seattle Parks and Recreation



Limited number of durable components required to construct





5: Design based on a proven modular concept



six feet clear

5: DESIGN Supporting and expanding ADA access

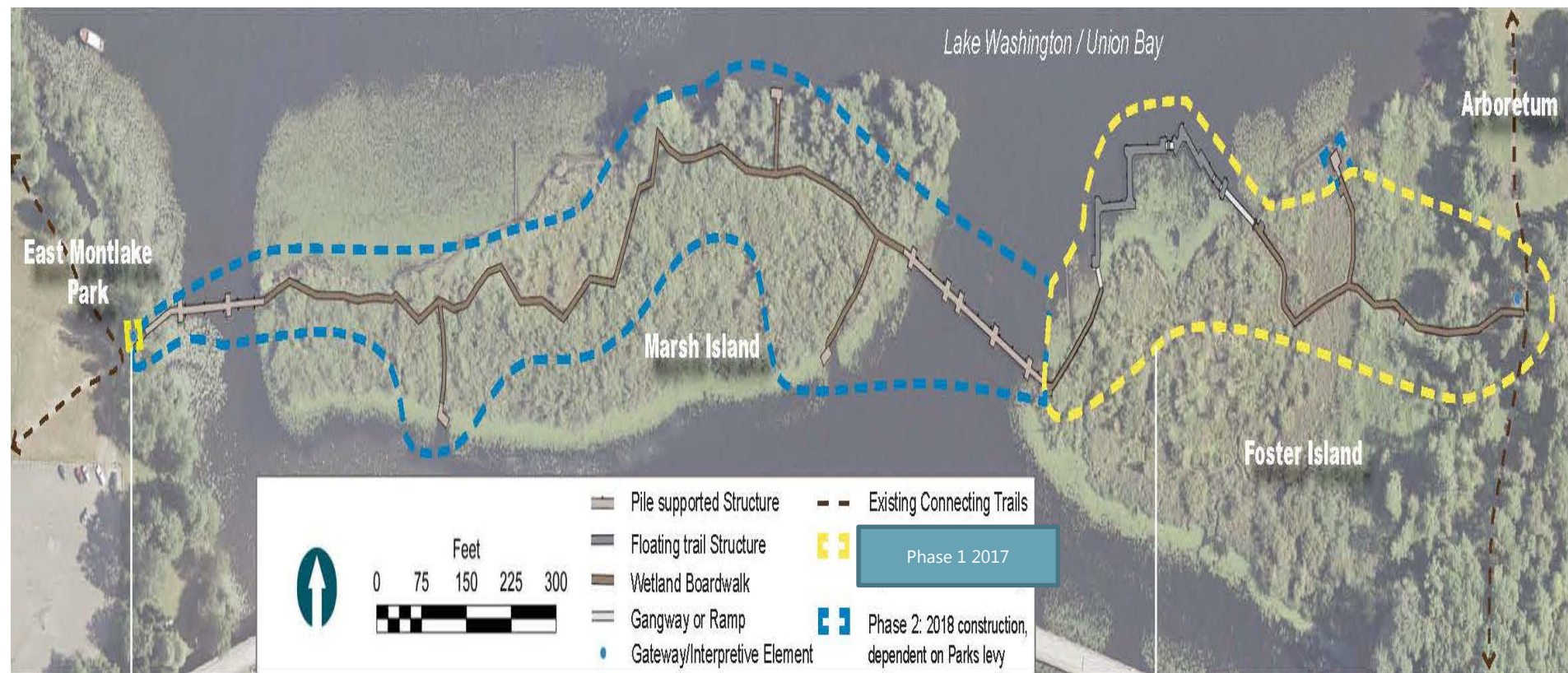
- The current visitor numbers to the site are quite high, especially given the poor conditions of the trail. New and upgraded trail features would provide greater accessibility to this popular public space.



West Hylebos wetland project

5 : Design focuses on restoring capacity to the overall trail system

- Leverages maximum life cycle out of the asset.
- Aquatic lands lease renewed in 2014 for another 30 year term.
 - Permit the entire trail project in 2016-17.
 - Phase 1 construction in 2017 .
- Phase 2 construction in 2018, dependent on funding.



- 5 : Project Design for enhanced access,
- Emphasizing retrofit and re use

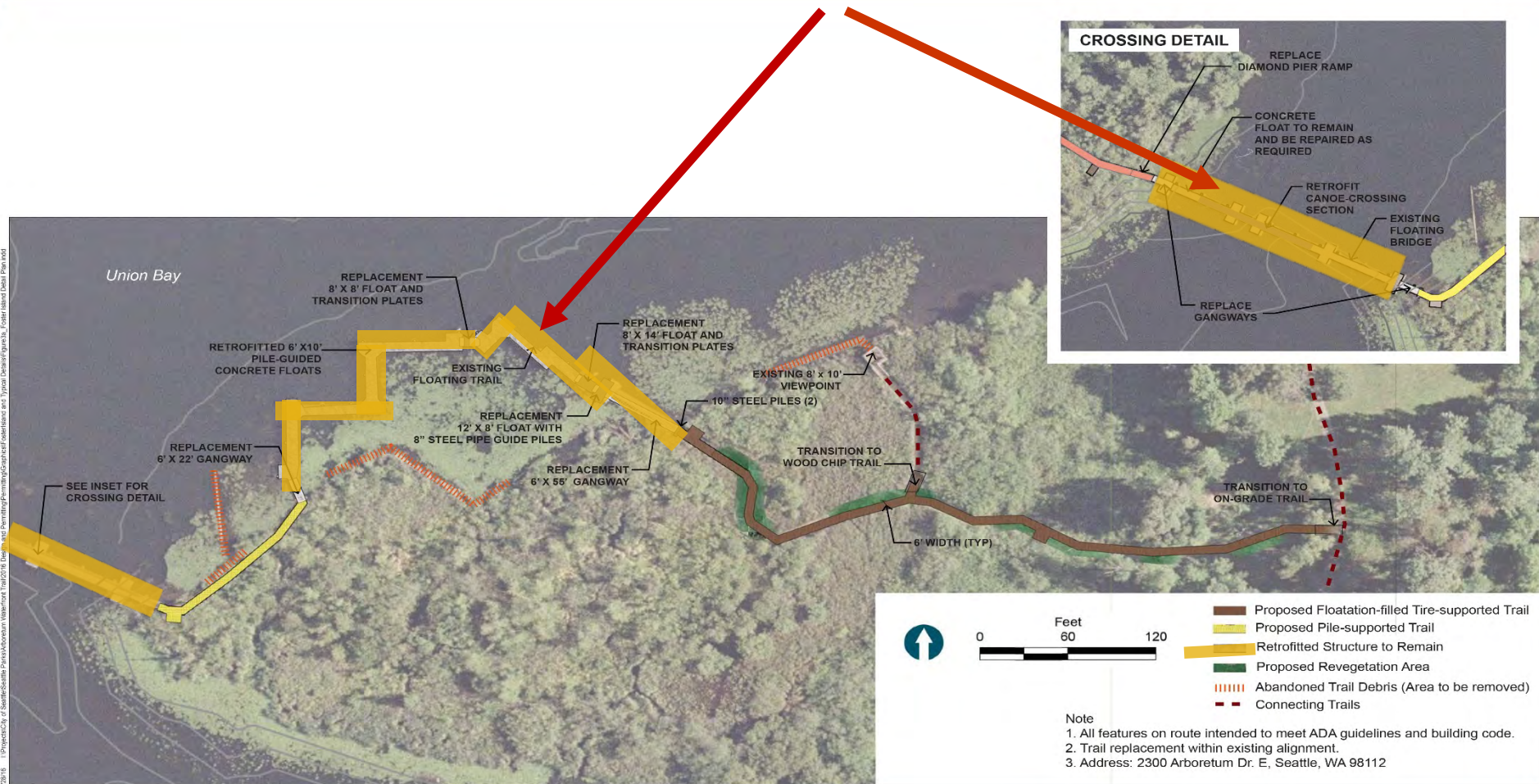


Figure 3a
Site Plan - Foster Island
Arboretum Waterfront Trail Improvements Project
Seattle Parks and Recreation

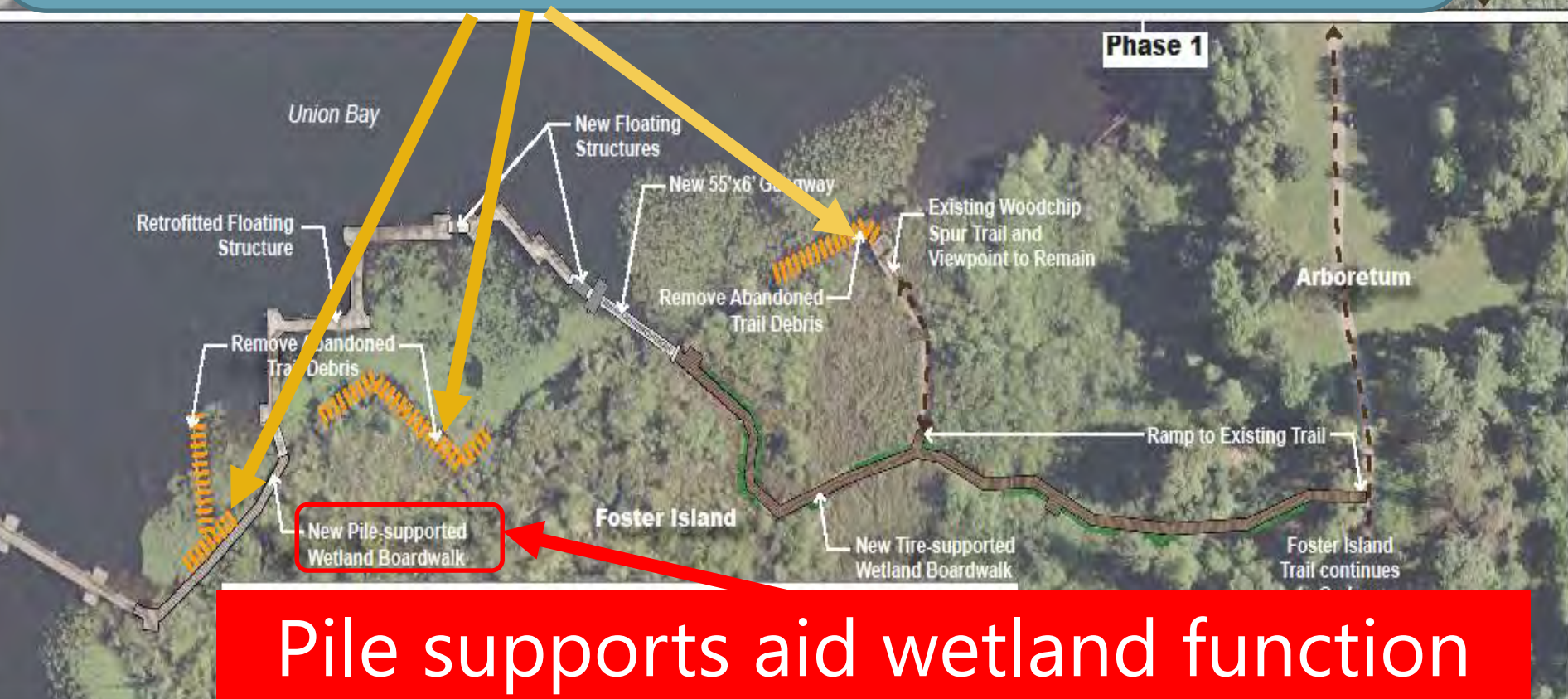
6: Sustainability and Environmental Stewardship

- Eliminate filling wetland
- Re use the existing trail corridor
- Elevating the trail reduce the impact.
- Rehabilitated over water structures



6. Sustainability and environmental stewardship

Removal of abandoned trail sections from the wetland
Infill planting of disturbed areas



Pile supports aid wetland function

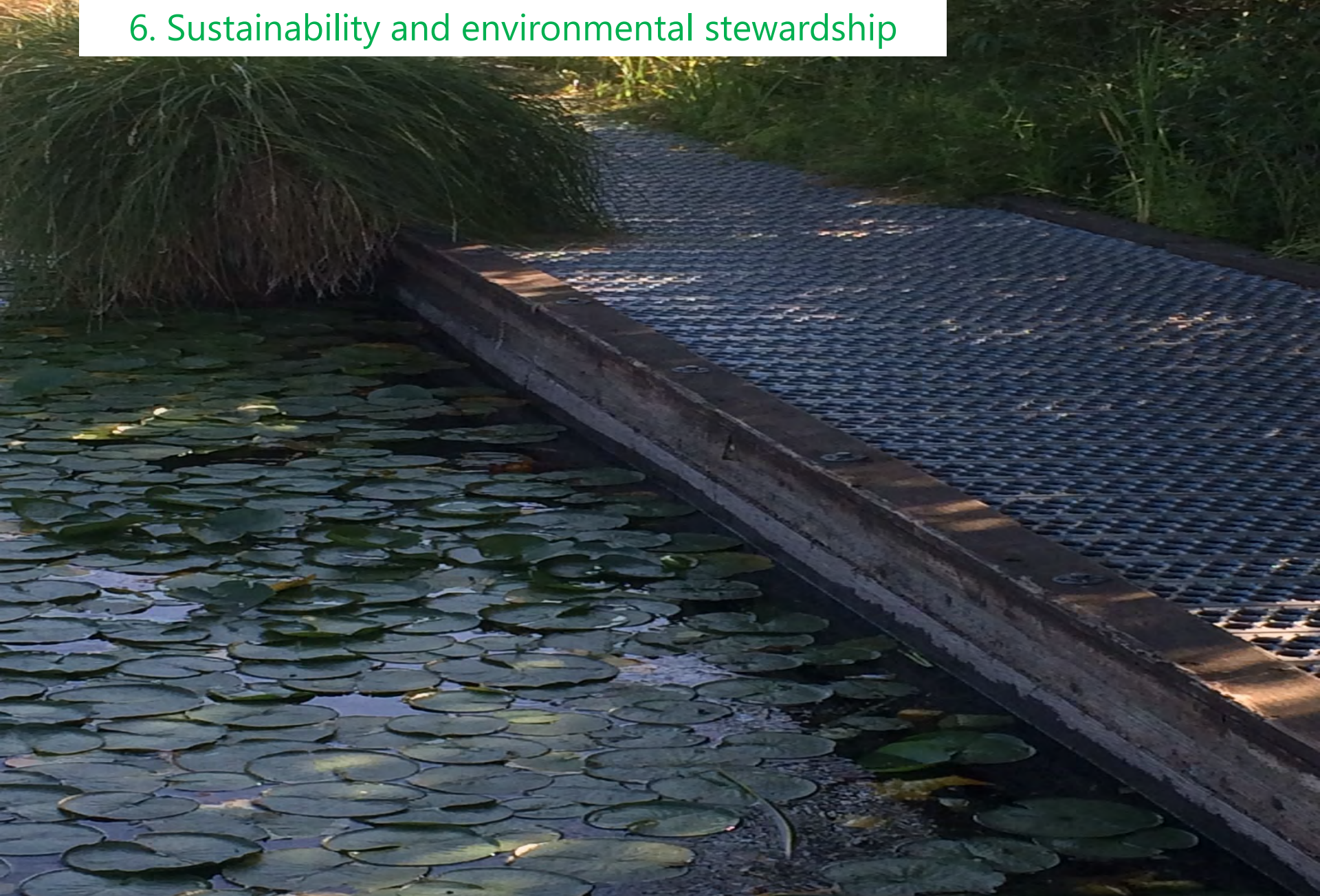
6. Sustainability and environmental stewardship



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6. Sustainability and environmental stewardship





6: Enhanced access supports on site environmental learning programs by Parks University of Washington and others

- Thousands of visitors via programmed functions each year, thousands of recreational users each year ALL PEDESTRIAN ACCESS



*Photo credits:
Arboretum Foundation*

7:WATER ACCESS AND VIEWS



8: SCENIC VALUES



9: ELEVATING THE STRUCTURE SEPARATES PEOPLE FROM HABITAT.

- The design will drastically reduce HABITAT IMPACTS by eliminating fill materials to sustain a trail, and upgrading trail with more durable materials WITH A LONG SERVICE LIFE



SAVE THIS TRAIL!


SEATTLE PARKS AND RECREATION NEEDS YOUR HELP

Seattle Parks and Recreation is working to secure grants to enhance and preserve the Arboretum Waterfront Trail and waterfront access. We plan to share information about the trail users with grantors so they can better understand who you are, how you use the trail and why you love it!

10: SCORP PRIORITIES

- URBANIZATION RELIEF
- ENHANCED ACCESS
- PROVIDES OPPORTUNITY
- PROMOTES STEWARDSHIP

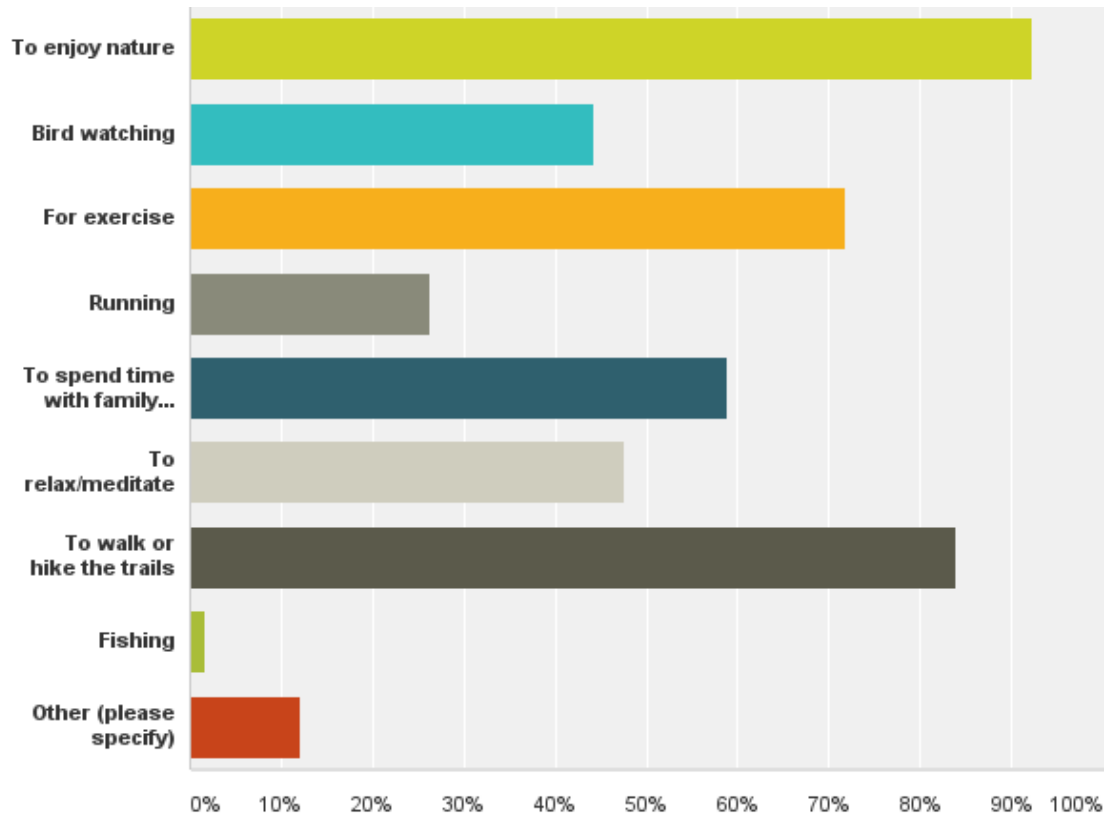


WHY ARE YOU HERE? Take our one-minute survey: 
www.surveymonkey.com/r/ArboretumWaterfrontTrail
or e-mail garrett.farrell@seattle.gov



11 : PROJECT SUPPORT, OUTREACH

Q4: Why do you visit the Arboretum Waterfront Trail? (check all that apply)



4	Repair the waterfront trail	5/8/2016 3:52 PM
5	Unflooded trail	5/6/2016 7:56 PM
6	not flooded	5/6/2016 1:20 PM
7	Bird watching oportunities	5/4/2016 11:22 AM
8	If the trails weren't under water or muddy	5/3/2016 9:41 PM
9	Not flooded	5/2/2016 10:52 AM
10	Nice days like today!	5/2/2016 10:49 AM
11	It gets very waterlogged. I was just there on May 1st and had to walk the trail barefoot, due to the deep mud and water over floating trail. At one point I actually sunk up to my knee where the trail was flooded. In the future it would be nice to have a more reliable (raised) trail so I don't get covered in muck. Thank you. I	5/2/2016 12:22 AM
12	Strict enforcement of no-dog rules.	5/1/2016 8:06 PM
13	Less muddy path - parts get pretty submerged at times	5/1/2016 10:43 AM
14	less mucky trails during springtime	4/30/2016 1:22 PM
15	More plant/bird informational signs	4/28/2016 12:22 PM
16	The 520 construction being completed. Drier Foster and Marsh Islands for footing.	4/26/2016 1:30 PM
17	not sure	4/24/2016 10:10 PM
18	Nothing	4/24/2016 2:35 PM
19	Nature guide	4/24/2016 9:58 AM
20	good bird habitat and low human (and pet) disturbance	4/23/2016 8:49 PM
21	If SR-520 had noise reducing / quieter pavement.	4/23/2016 6:13 PM
22	Tables/lounging areas	4/23/2016 4:03 PM
23	more parking	4/23/2016 5:34 AM
24	Nothing	4/22/2016 6:29 PM
25	less mud on the trails in the spring.	4/22/2016 8:55 AM
26	Would like the waterfront boardwalk and the trail fixed so that they are not ankle deep in water/mud-love love livethe waterfront trail, especially the boardwalk-the views are to die for!	4/22/2016 6:50 AM



11: Community support for the project

PUBLIC INVOLVEMENT in The 2001 Arboretum Master Plan & SR 520

VOTER APPROVED 2008 Pro Parks Levy

VOTER APPROVED Metropolitan Park District creation

Extensive public support and feedback (FIX OUR TRAIL!!!), year round daily use, responding to public need, enhanced access for the future and reduced impacts make this a great fit for the Trail program dollars.





12: COST EFFICIENCY

- RENOVATION within the existing footprint
- We could not PERMIT or BUILD this today

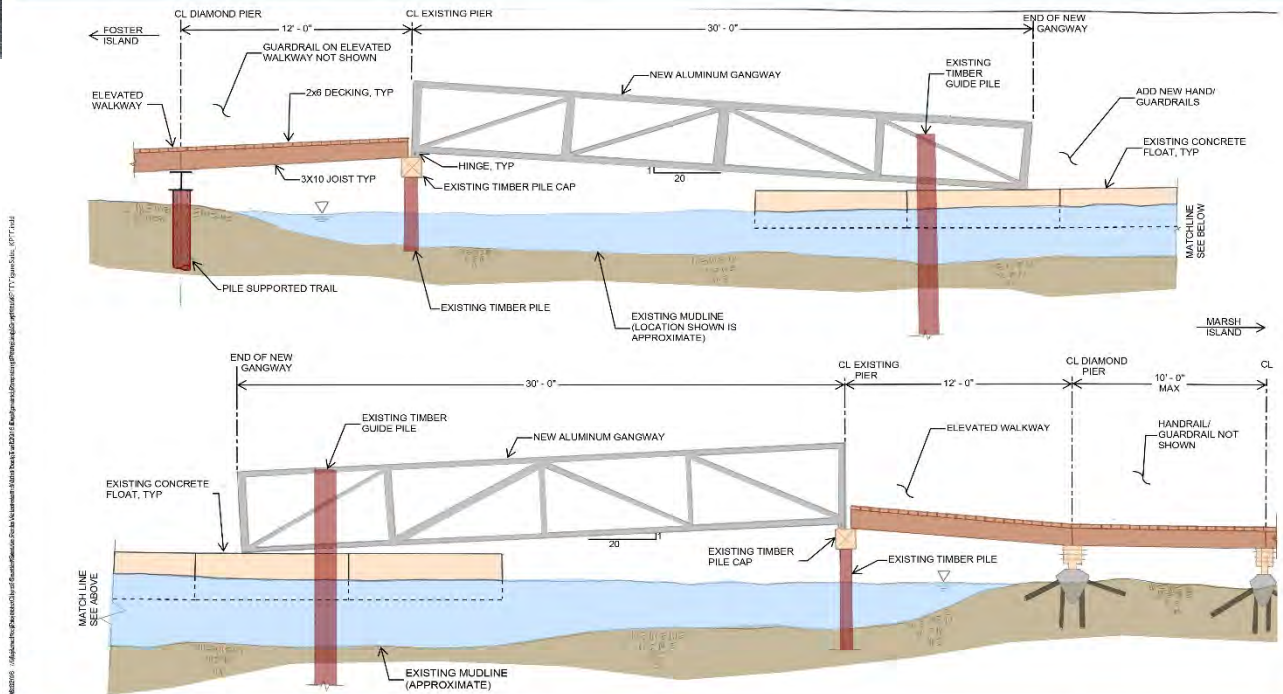
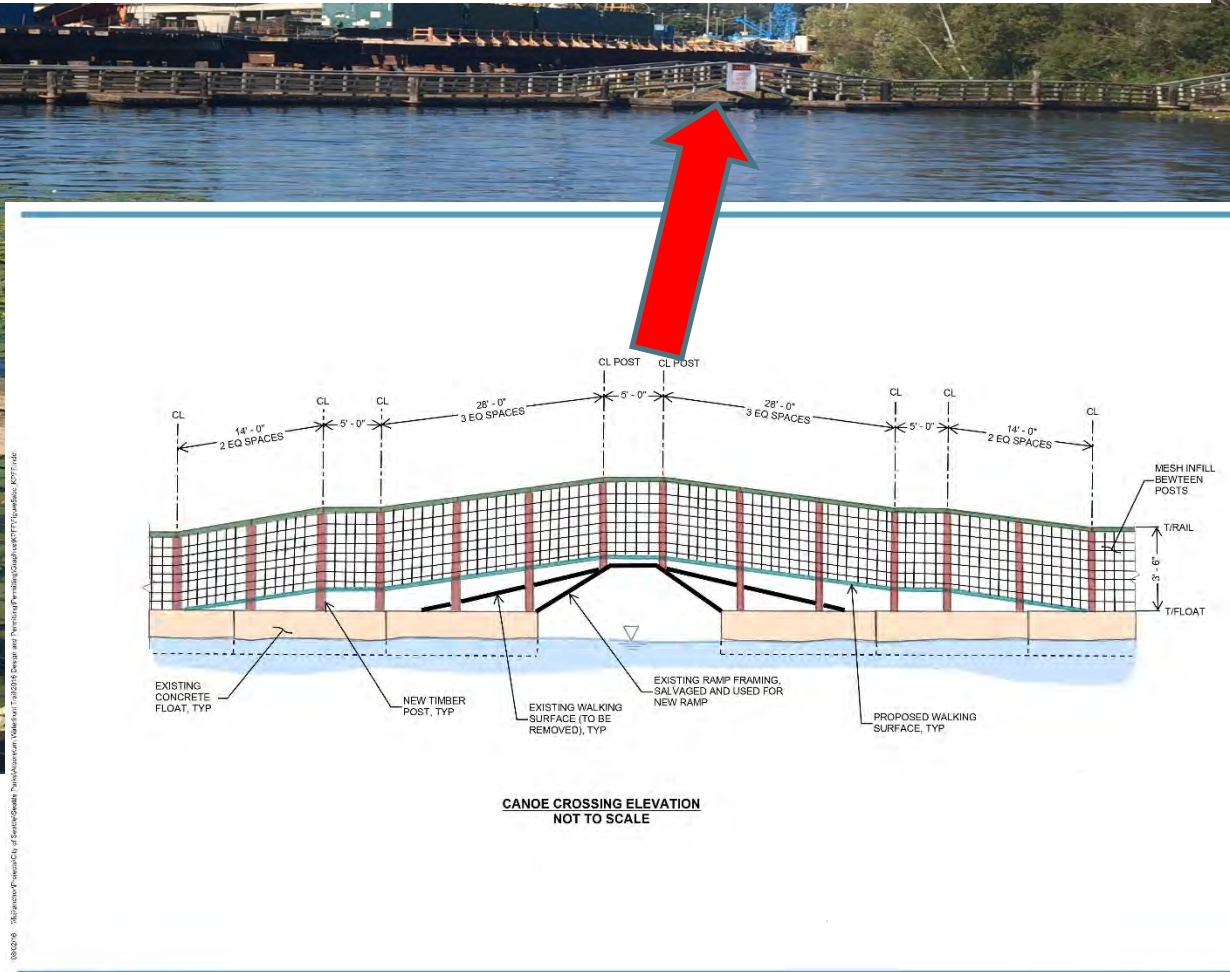


Figure 5a
Elevation: Foster Island to Marsh Island
Arboretum Waterfront Trail Improvements Project
Seattle Parks and Recreation

- Re use of floats and other “sunk costs “ is a good use of public funds
- Design approach leverages the existing asset

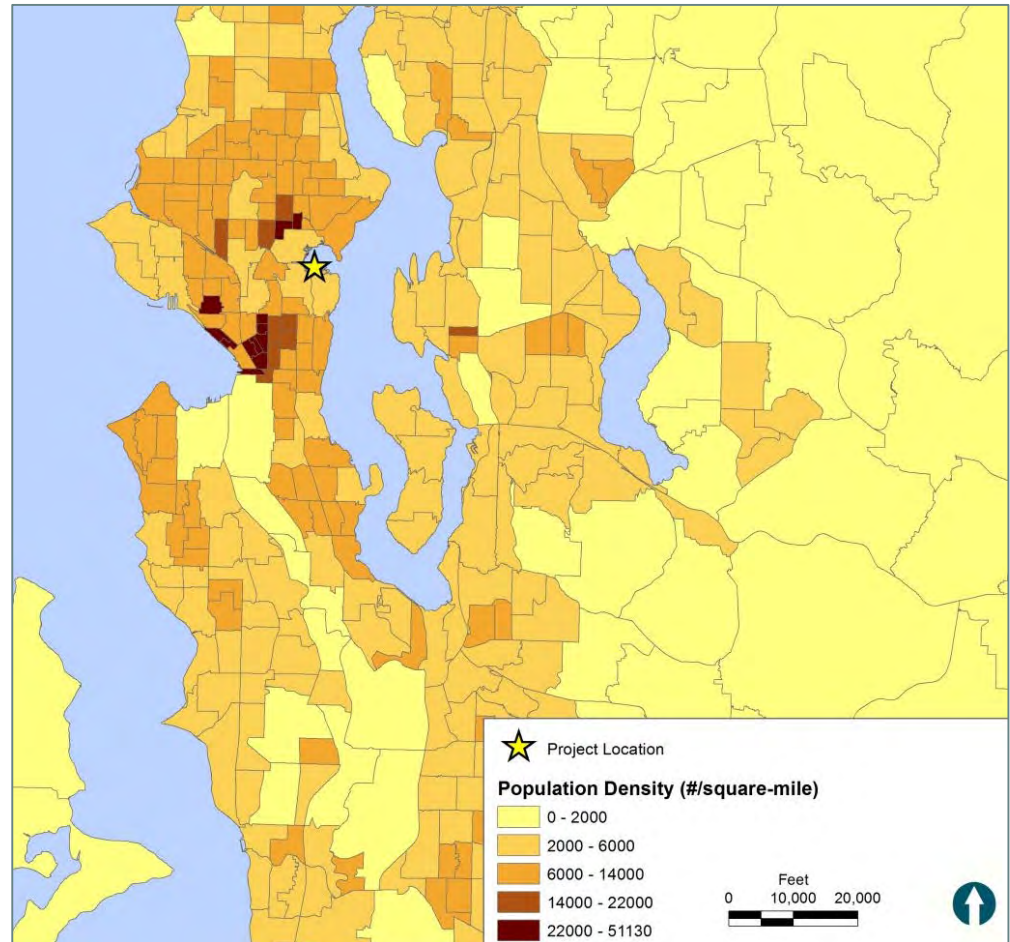


- Asset is in good condition after 30+ years
- Critical juncture to rebuild now or risk loss of asset and access



13/14: Project location and urban density related to the growth management act

- The project is located near the center of the City of Seattle, with a population of 630,000
- The Seattle metropolitan region contains 3.5 million people, more than half of Washington State's population



"Thank you for your advocacy on behalf of those of us who use this trail. And for those who would like to, but because of its condition, cannot."

"Dear Mr. Farrell, I am retired. The waterfront trail is a precious part of my day-to-day life. I walk from Marsh Island, across Foster Island, and back home through the arboretum three or more times a week--if the trail isn't flooded. Please do what you can to make the trail accessible again."

" my family and I have walked the trail between the now-gone MOHAI and Arboretum for 30 years. We are a birding family, and the habitat along that trail is superb for riparian birds. It's also a great lookout for the waterbirds on Lake Washington. It is where we saw our first Pied-billed Grebe and thought it was a very odd-looking duck! Now that I am almost 70, I need better surfaces to walk on than I used to. Soggy chips, underwater trails, and uneven surfaces often stop me before I even get started. I would love to take my grandchild along the same trail where I used to take her dad when he was small, but for much of the year, this is impossible for me. ***More than ever, we residents of urban areas need *easy* access to nature within the city. We need it for our own peace and quiet and restful restoration of the soul, but our children and grandchildren need it even more, to connect themselves to the planet, to ground themselves in a place, to love nature so they will preserve it. "***

"My husband and I have lived in Montlake for 20+ years. We used to run the trail when younger and in recent year walk it but are often hesitant to travel to the trail (on foot) because we never know if its passable or not, whether its too muddy or not. Funding to improve this trail is so very needed. It needs to be a reliable trail. It's a beautiful region to foot travel. Just needs to be safe and reliable. Of course there have been numerous times over the years when we have had to turn back as the trail was unpassable."

The strong community support through all of these processes show the site is a treasured public space for generations of users.



Conclusion and Questions