

August 28, 2023

City of Mercer Island  
Community Planning and Development  
9611 Southeast 36th Street  
Mercer Island, Washington 98040

Re: Shoreline Variance Request (for Dock Width) for the Luther Burbank Park Waterfront Improvements Project

To Whom It May Concern:

The City of Mercer Island (City) is proposing the Luther Burbank Park Waterfront Improvements Project (Project) to repair, maintain, and enhance the waterfront program at Luther Burbank Park in the City of Mercer Island, Washington. This letter includes a request for a variance from dock width requirements per Mercer Island City Code (MICC) 19.13.050(H)(4). Separate applications are being provided to cover variance requests for deck grating, pile spacing and diameter, and height from the water surface.

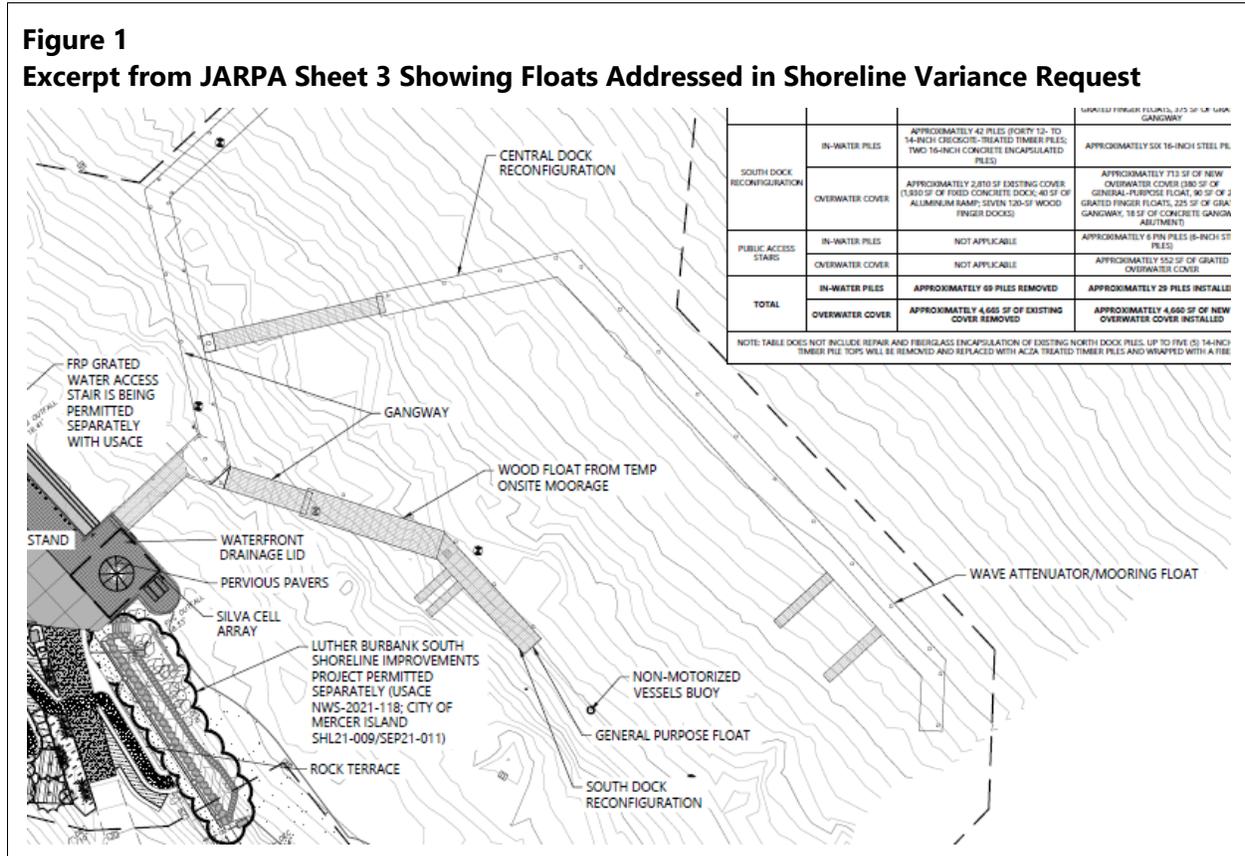
## 1 Project Overview

The Project includes repairing the north dock structure and replacing and reconfiguring the central and south dock structures to accommodate waterfront programming and current and projected watercraft uses at the park. Other waterside improvements include installing a grated overwater public access platform in the nearshore to improve access to the water along the existing plaza area.

The Project also includes upgrades to the waterfront plaza and Boiler Building. These include Boiler Building repairs (i.e., new roof, seismic retrofits, and new lighting); Boiler Building restroom annex renovation to improve the restroom facilities and construct a new rooftop viewing deck; concession stand repairs; and waterfront plaza renovations and access upgrades. The Project will improve access to the waterfront by creating new Americans with Disabilities Act (ADA) and universally accessible routes from the plaza to the viewing deck on the existing Boiler Building annex restroom rooftop and to the expanded north beach area, which the Project will improve with fish habitat gravel and riparian plantings. The accessible route will connect to the adjacent future south shoreline trail that will be constructed as part of a separate project. The accessible route will also connect to the existing trail that continues north of the Project area. All proposed waterfront improvements, including the dock structures and gangways, will also meet accessibility requirements. The waterfront plaza renovations and access upgrades will incorporate low-impact development features that will provide stormwater buffering and biofiltration functions similar to a vegetated shoreline. An irrigation intake system will also be installed at the plaza.

A project description, containing a detailed narrative of each of the elements described previously and project drawings, is included as attachments to the Joint Aquatic Resources Permit Application (JARPA; Exhibit 4).

Figure 1 shows the location of the docks subject to the Shoreline Variance request for dock width that is included as part of this application.



## 2 Shoreline Master Program Compliance

The Project is located within the City’s Shoreline Master Program (SMP) jurisdiction, within the Urban Park shoreline environment on Lake Washington. Per the SMP, the Urban Park shoreline environment consists of shoreland areas designated for public access and active and passive public recreation. The purpose of the Project is to optimize public access, recreational uses, and public safety, including reconfiguring the waterfront park to better accommodate small boats and nonmotorized watercraft and to improve universal access to the docks, viewing deck, and beach while avoiding and minimizing potential impacts to sensitive environments and resulting in no net loss of ecological function.

Although public access piers, docks, or boardwalks are allowed uses, the City is requesting a Shoreline Variance from MICC 19.13.050(H)(4) dock width requirements to allow the central and south dock structures to exceed the 6-foot width requirement.

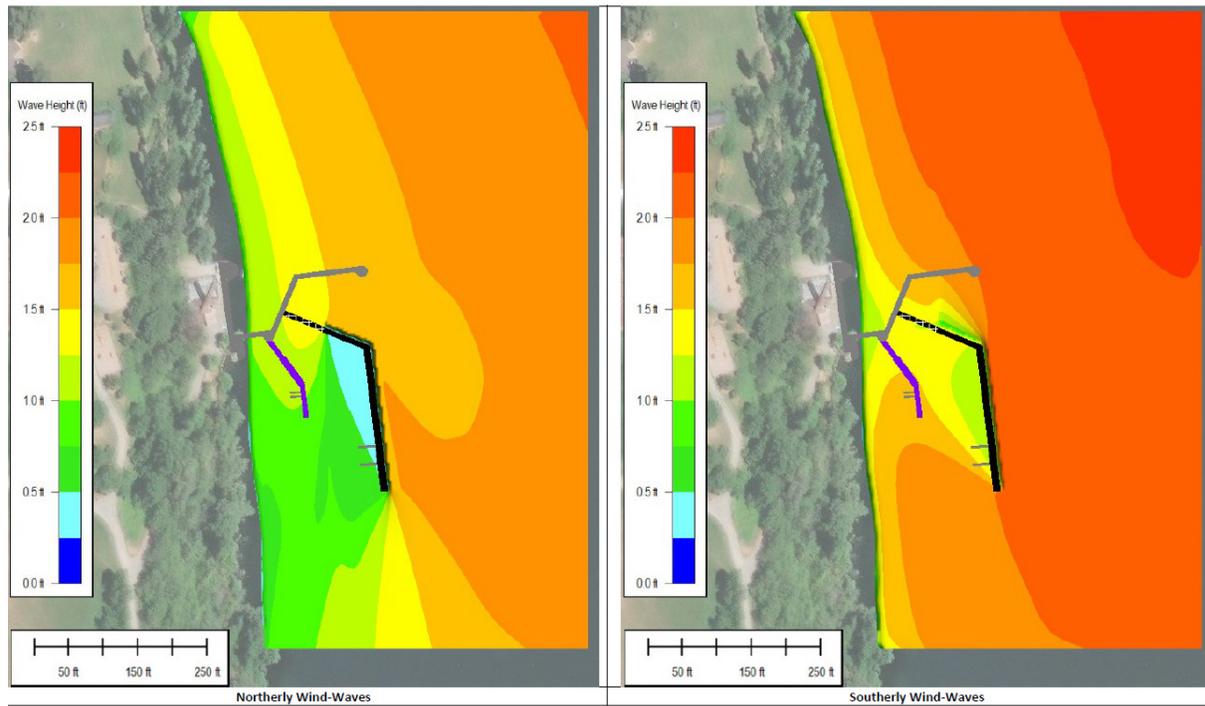
The central dock floating structure will be 10 feet wide, and the south dock floating structure, including the reuse of an existing float, will be 8 to 10 feet wide. Per MICC 19.13.050(H)(4), public docks are limited to a width of 6 feet. From a structural and public safety standpoint, it is infeasible for the 6-foot width requirement at this location to safely support the intended public uses and protect shoreline habitat restoration sites from wind and wake forces, which have been modeled to present an extraordinary circumstance for the site. Therefore, the City is seeking a variance to the 6-foot width criteria for the south and central dock floats for the following reasons:

- **Central Dock Wave Attenuator/Mooring Float.** A width of 10 feet is recommended for the central wave attenuator/mooring float to provide adequate attenuation for wave action at the site and to protect against the types of waves generated by the wake-surfing boats that frequently operate offshore near the park. This is an extraordinary condition/circumstance experienced at the site that could impact user health and safety if not addressed.
- **Central Dock Wave Attenuator/Mooring Float.** The attenuation for wave and wake action at the site is also needed to reduce energy for protection of habitat restoration areas along the shoreline, as demonstrated in Figures 2 and 3. These figures include a graphic depiction of modeling results for both wave and boat wake modeling completed for the proposed design that demonstrate a reduction of energy at the nearshore. This is an extraordinary condition/circumstance experienced at the site.
- **South Dock Floats.** A minimum width of 8 feet is required to provide sufficient access for first responders to reach firefighting standpipes and operate firefighting equipment on the central dock. The wider dock area is also required to provide ADA-compliant access. If a Shoreline Variance is not granted, it would present an unnecessary hardship at the site that could impact user health and safety if not addressed.
- **South Dock Floats.** The south dock floating structure will include 8-foot-wide and 10-foot-wide floats to accommodate launching a variety of small craft, including one- and two-person sailboats (these boat types are typically up to 6 feet wide). The 10-foot-wide float is an existing float that is in good condition and will remain as part of the existing structure and be reused for the Project. To allow someone on the dock to pass a sailboat on a hand trailer, a minimum width of 2 feet is required in addition to the 6 feet of typical width per sailboat, for a total minimum clearance of 8 feet. The south dock floating structure will also be used for educational purposes, and a 6-foot-wide structure will not provide sufficient stability when students are gathered on one side during educational instruction. For example, an 8-foot-wide float has 50% more stability than a 6-foot-wide float, which should be sufficient to maintain adequate reserve freeboard under this condition. A wider south dock floating

structure will also be more stable against wave energy that is not attenuated by the central wave attenuator/mooring float. If a Shoreline Variance is not granted, it would present an unnecessary hardship at the site that could impact user health and safety if not addressed.

Figures 2 and 3 include graphic depictions of modeling results for both wave and boat wake modeling completed for the proposed design that demonstrate a reduction of energy at the nearshore and the waterward dock facilities from installation of the proposed wave attenuation float.

**Figure 2**  
**Plan View of Resulting 100-Year Significant Northerly and Southerly Wind-Wave Heights**



**Figure 3**  
**Plan View of Resulting Boat Wake Heights Relative to Northly and Southerly Boat Wakes**

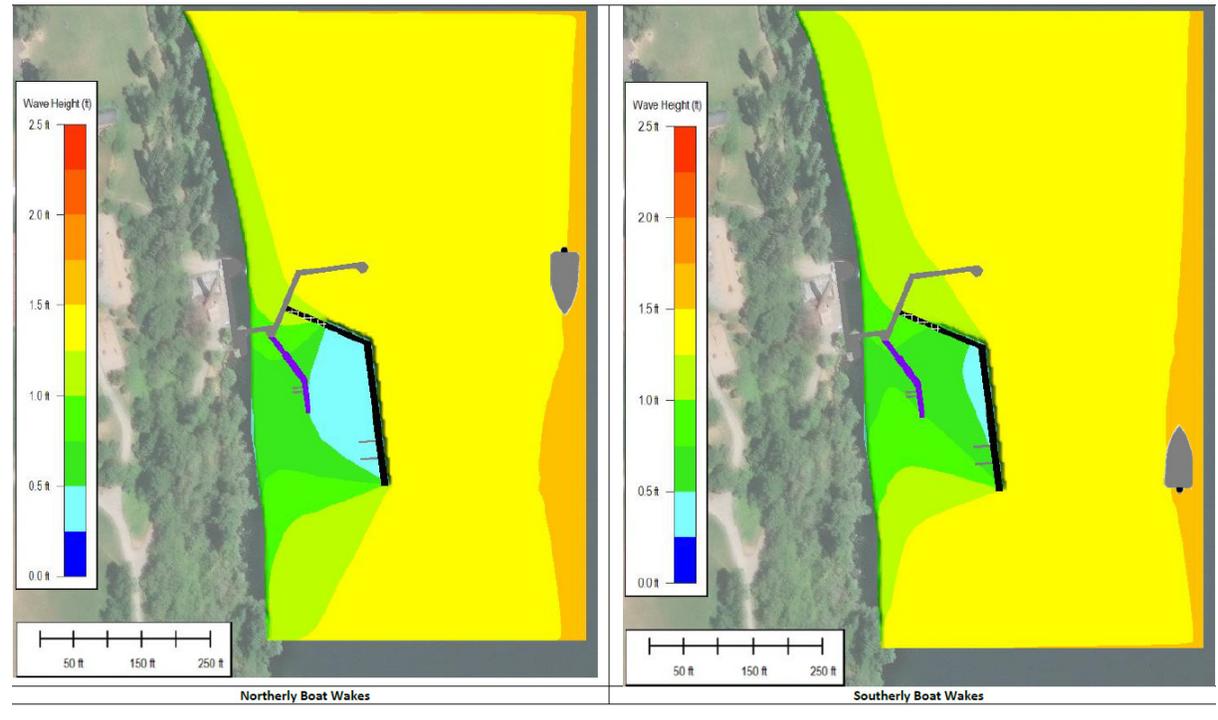
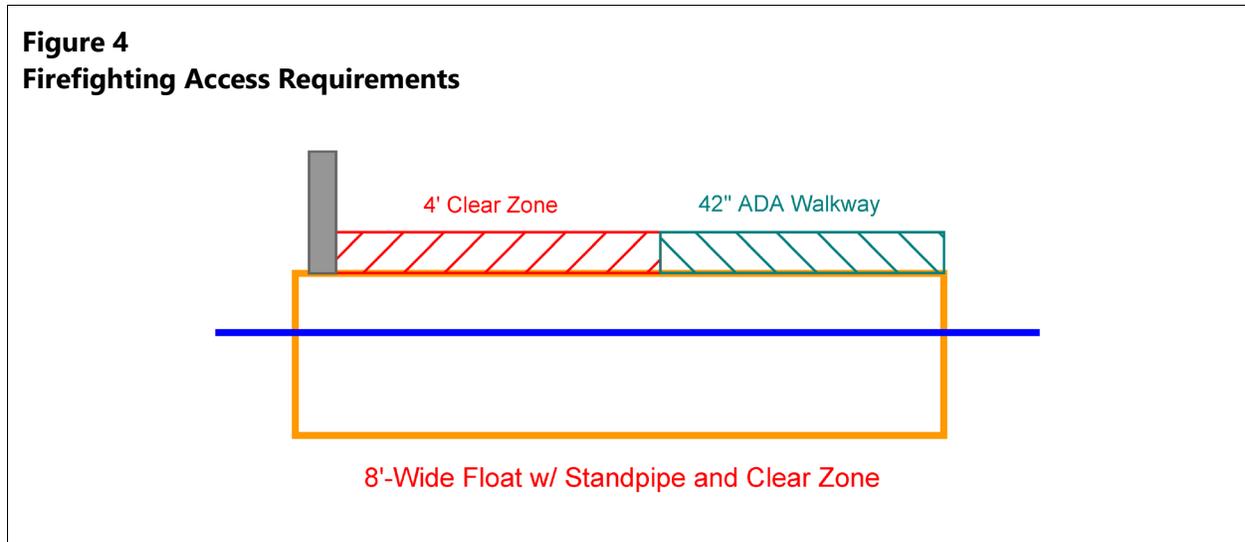


Table 2 shows the general relationship between width and wave attenuation, defined as the percentage of the incoming wave energy that remains after the wave passes the attenuator. In this example, only 28% of the initial energy remains available to impact structures, vessels, or people on the protected side of a 10-foot-wide structure, whereas 42% of the initial energy would be transmitted through a 6-foot-wide structure.

**Table 2**  
**Effect of Floating Structure Width on Wave Attenuation**

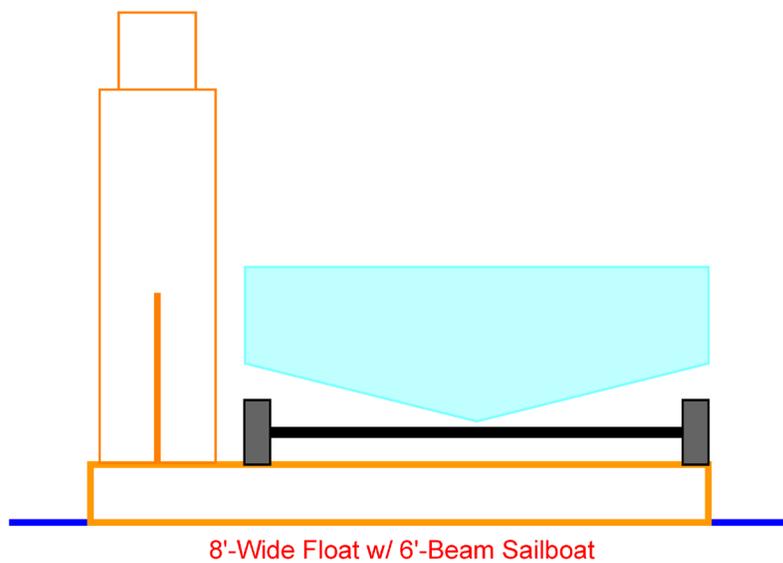
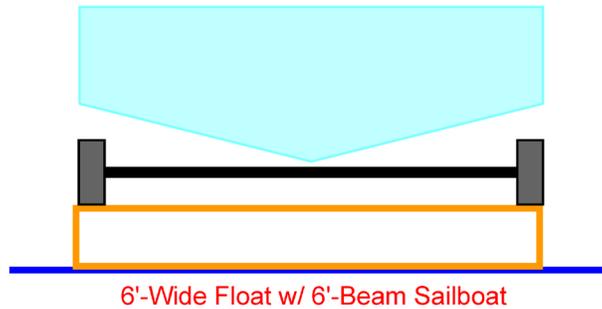
Floating Structure Width (feet)	Floating Structure Draft (feet)	Peak Wave Period (seconds)	Depth (feet)	Transmission (percent)
6	4	3	15	42
8	3	3	15	33
10	3	3	15	28

Figure 4 illustrates the Mercer Island Fire Department requirement for access to dry standpipes at mooring facilities. Per the International Fire Code Chapter 36 for marinas, the clear zone must be 4 feet by 10 feet, exclusive of any walkway. Assuming that the standpipe can be located within 6 inches of the side of the float, the minimum allowable width is 8 feet.



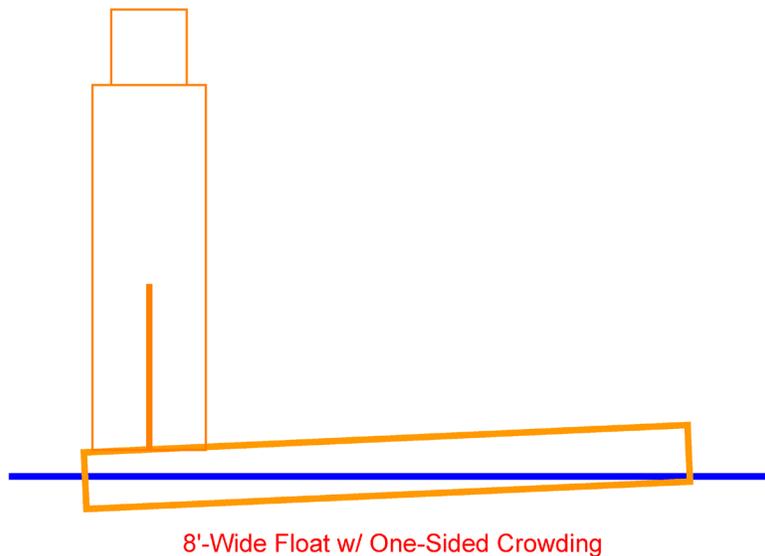
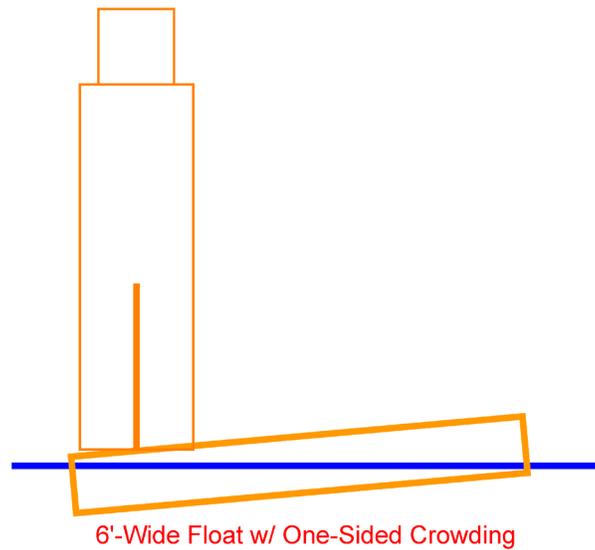
The inner float will be used primarily for the launch and recovery of small sailboats and other non-powered watercraft. A common class of sailboat for youth training programs is the RS Quest, which has a beam of 6 feet. For a dock user transporting an RS Quest along the dock for launching, a minimum width of 8 feet is needed to allow them to pass someone walking in the opposite direction, as illustrated in Figure 5.

**Figure 5**  
**Float Width with Small Boat Access**



A wider float width is also necessary because when an instructor is giving an in-water demonstration, class participants will likely crowd to one side of the float. Because a 6-foot float has less hydrostatic stability, a smaller load would submerge the edge of a 6-foot float than would be required to submerge the edge of an 8-foot-wide float. Figure 6 shows an example of this scenario.

**Figure 6**  
**Float Width Crowding**



Even with wider dock widths used for the central and inner floats, the Project is expected to result in no net loss in ecological functions because the Project will result in an overall net decrease in overwater cover and will apply grating to replaced decking to the extent feasible. Additionally, the floats have been intentionally located in deeper water to reduce obstructions and overwater cover in the nearshore habitat area, which is used by migrating juvenile salmonids.

### **3 Shoreline Variance Requirements Consistency**

The City of Mercer Island SMP does not have specific variance criteria. However, per MICC 19.13.020(C)(2), whenever an applicant seeks a variance, the applicant shall provide the City with a plan that demonstrates that the project will not create a net loss in ecological function to the shorelands. The Critical Areas Report for the Project, included with this letter, provides a demonstration of no net loss of ecological function to the shoreline environment from the Project.

The Washington State Department of Ecology (Ecology) promulgates the Shoreline Management Act at a state level and reviews Shoreline Variances once they are approved by the local jurisdiction. To support City and Ecology review, the table in Attachment 1 describes the Project's consistency with Shoreline Variance criteria in the Washington Administrative Code (WAC) 173-27-170.

### **4 Conclusion**

A Shoreline Variance is being requested due to extraordinary circumstances that present a hardship at the site, including wave and wake conditions that can be addressed through the design of the Project. Other extraordinary circumstances at the site are related to consistently increasing use of Luther Burbank Park and the need to provide safe access and improve accessibility for those with mobility limitations that visit the park. It is expected that the new Sound Transit light rail line, which will include a stop near the park, will increase park visitors and the need for appropriate public access improvements and safety upgrades related to this variance request. A dock width exceeding 6 feet proposed as part of the central and inner floats will comply with Shoreline Variance criteria as described in the previous sections and in Attachment 1.

The Project will adequately offset temporary construction impacts and avoid or minimize long-term impacts consistent with MICC 19.13.020(C) and critical areas mitigation sequencing requirements per MICC 19.07.100. The Project minimizes impacts to the nearshore environment through the use of grated surfacing to the maximum extent feasible. Although the Project proposes solid surface decking for the wave attenuator/mooring float in the deeper water (a variance from grating requirements is covered under separate application), impacts to salmonids are diminished for deeper water cover because the habitat is less suitable for predators and light and dark shadows are diminished in deeper water. Overall, it is anticipated that the Project will result in no net loss of shoreline ecological function, as demonstrated in the Critical Areas Report provided with this application.

Through implementation of avoidance and minimization measures, it is expected that the Project will comply with MICC 19.13.040 for allowed activities, including public parks and open space, and restoration of ecological functions, including shoreline habitat and natural systems enhancement. Therefore, we believe that the Project as proposed meets the intent of the SMP and complies with Shoreline Variance criteria per WAC 173-27-170.

Thank you in advance for your attention to this project. Please feel free to contact me by phone at (206) 903-3374 or by email at [jjensen@anchorqea.com](mailto:jjensen@anchorqea.com) with any questions.

Sincerely,

A handwritten signature in black ink that reads "Josh Jensen". The signature is written in a cursive style with a large, sweeping flourish at the end.

Josh Jensen  
Senior Managing Environmental Planner  
Anchor QEA, LLC

cc: Paul West, City of Mercer Island

### **Attachment**

Attachment 1 Analysis of Compliance with Shoreline Variance Requirements (WAC 173-27-170)

## Attachment 1

### Analysis of Compliance with Shoreline

### Variance Requirements (WAC 173-27-170)

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## Consistency with WAC 173-27-170, Review Criteria for Variance Permits

Code Reference	Development Standard Compliance
<p>1) Variance permits should be granted in circumstances where denial of the permit would result in a thwarting of the policy enumerated in RCW 90.58.020. In all instances the applicant must demonstrate that extraordinary circumstances shall be shown and the public interest shall suffer no substantial detrimental effect.</p>	<p>The City is seeking a variance from the following criteria in the SMP per MICC 19.13.050(H) for public access docks or boardwalks.</p> <p>A variance for <b>dimensional standards for dock width</b> is being requested to allow the public dock to be replaced in an updated orientation, with floats that are wide enough to bring the docks up to current standards and provide sufficient protection from wave and wake conditions at the site for safe use. The wave and wake conditions at the site present extraordinary circumstances that can be addressed through the design of the Project. This includes expanding dock width beyond the MICC 19.13.050(H)(4) 6-foot width requirements for public moorage facilities.</p> <p>The City is specifically requesting a variance from the dimensional standards to allow the proposed central dock to be up to 10 feet wide in order to provide adequate wave and wake attenuation for safe operation of the inner float as well as sufficient width for access by first responders. The City is also requesting to allow the proposed inner dock float structures to be 8 and 10 feet wide to protect users from wave and wake conditions experienced at the site, allow for safe launching of watercraft, better accommodate groups of students that will be using the float, and provide for a more stable structure that will be safer for continued public use.</p> <p>Other extraordinary circumstances at the site are related to consistently increasing use of Luther Burbank Park and the need to provide safe access and improve accessibility for those with mobility limitations who visit the park. It is expected that the new Sound Transit light rail line, which will include a stop near the park, will increase park visitors and the need for appropriate public access improvements and safety upgrades related to this variance request.</p> <p>The dock structure and platform are located within a shoreline environment that was previously used as a steam plant and is heavily modified from natural conditions, including shoreline fill and overwater development and structures. Consistent with RCW 90.58.020, the Project is compliant with statewide standards for shoreline protection. The City is committed to incorporating environmental enhancements and avoidance and minimization measures into the Project to demonstrate no net loss of ecological functions. Measures include reducing net overwater coverage, installing functional grating to the extent practicable, and shoreline landscaping and riparian plantings.</p>

Code Reference	Development Standard Compliance
	<p>Additionally, the floats have been intentionally located in deeper water to reduce obstructions and overwater cover in the nearshore habitat area. BMPs will be implemented during construction to reduce potential impacts to the shoreline environment.</p> <p>Overall, the Project will improve public access and safety at the dock and plaza area and enhance the user experience. The Project is consistent with the approved master plan for Luther Burbank Park and is supported by the City's parks, recreation, and open space plan adopted in 2022.<sup>1</sup> The Project is not anticipated to result in any detriment to the public interest.</p>
<p>2) Variance permits for development and/or uses that will be located landward of the ordinary high water mark (OHWM), as defined in RCW 90.58.030 (2)(c), and/or landward of any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:</p> <ol style="list-style-type: none"> <li>1. That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes, or significantly interferes with, reasonable use of the property;</li> <li>2. That the hardship described in (a) of this subsection is specifically related to the property, and is the result of unique conditions such as irregular lot shape, size, or natural features and the application of the master program, and not, for example, from deed restrictions or the applicant's own actions;</li> <li>3. That the design of the project is compatible with other authorized uses within the area and with uses planned for the area under the comprehensive plan and shoreline master program and will not cause adverse impacts to the shoreline environment;</li> <li>4. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;</li> <li>5. That the variance requested is the minimum necessary to afford relief; and</li> <li>6. That the public interest will suffer no substantial detrimental effect.</li> </ol>	<p>Not applicable. A Shoreline Variance is not being requested for upland development or uses.</p> <p>For compliance with WAC 173-27-170(3), in-water activities must demonstrate compliance with WAC 173-27-170(2)(b-f). These activities are consistent with these standards described as follows:</p> <ol style="list-style-type: none"> <li>b) The hardship on the applicant for meeting the standards of this SMP is specifically related to the property and unique conditions. For the dock structure variance request, wider decking is proposed to protect shoreline restoration ecological functions as well as the structure and its users against higher wave and wake action experienced at the site, which present extraordinary circumstances that can be addressed through the design of the Project. The wider structures will also support safe programming for users.</li> <li>c) The Project includes replacing an existing dock and providing waterfront improvements that are compatible with existing authorized uses and programs at the park. This is consistent with the comprehensive plan and SMP and will result in no net loss in ecological function at the site.</li> <li>d) The existing dock structure to be replaced is designed specifically to protect against wave and wake conditions at the site that have the potential to impact user safety if not addressed through structural methods. The dock structure will also protect shoreline habitat restoration along the south shoreline area. The variance will provide needed safety at a public dock in a unique waterfront environment and is not expected to constitute a grant of special privilege not enjoyed by the other properties</li> </ol>

<sup>1</sup> City of Mercer Island, 2022. *City of Mercer Island Parks, Recreation and Open Space Plan*. March 2022. Available at: <https://www.mercerisland.gov/parksrec/page/pros-plan-2022>.

Code Reference	Development Standard Compliance
	<p>in the area.</p> <p>e) The requested variance is the minimum necessary to afford relief.</p> <p>f) The variance is being requested to protect the shoreline restoration ecological function and public dock users from wave and wake conditions in a unique waterfront environment, and it is expected that the public will benefit from the proposed waterfront improvements.</p>
<p>3) Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM), as defined in RCW 90.58.030 (2)(c), or within any wetland as defined in RCW 90.58.030 (2)(h), may be authorized provided the applicant can demonstrate all of the following:</p> <p>a) That the strict application of the bulk, dimensional or performance standards set forth in the applicable master program precludes all reasonable use of the property;</p> <p>b) That the proposal is consistent with the criteria established under subsection (2)(b) through (f) of this section; and</p> <p>c) That the public rights of navigation and use of the shorelines will not be adversely affected.</p>	<p>A variance for dimensional and performance standards for development located waterward of the OHWM is being requested for several Project elements, as described earlier in response to WAC 173-27-170(1) and (2). The strict application of the bulk dimensional standards set forth in the City's SMP interferes with the reasonable use of the property by requiring dock dimensions that limit the City's ability to replace the existing structure in a manner that accommodates the unique waterfront environment, including challenging wave and wake conditions, and adequately protects the safety of public users while improving access to the shoreline.</p> <p>For example, standard SMP conditions limit a wave attenuation float to 6 feet wide. The width limit would significantly reduce the float's intended functions by limiting its ability to protect facilities and the shoreline restoration area against wind and wake conditions experienced at the site; limiting the width available for small sailboat trailers to be able to access the float; increasing the potential for tipping users off of the float during high wake or wave events; and providing insufficient wave attenuation for adequate protection of the small finger floats intended to provide public access to stand-up paddle boards, kayaks, and small sailboats.</p> <p>The proposed dock repairs to improve public access and use of the shoreline are included in the 2006 <i>Luther Burbank Park Master Plan</i>, which is cited in the most recent comprehensive plan. The <i>Luther Burbank Park Master Plan</i> was used to guide the design process, which provides a vision of a waterfront activity center that is centered around small boats. The dock structure and platform are located within a shoreline environment that was previously used as a steam plant and is heavily modified from natural conditions, including shoreline fill and overwater development and structures.</p> <p>Consistent with RCW 90.58.020, the Project is compliant with statewide standards for shoreline protection. The City is committed to incorporating environmental enhancements and avoidance and minimization measures into the Project to demonstrate no net loss of ecological functions. Measures</p>

Code Reference	Development Standard Compliance
	<p>include reducing net overwater coverage, installing functional grating to the extent practicable, and shoreline landscaping and riparian plantings. Additionally, the floats have been intentionally located in deeper water to reduce obstructions and overwater cover in the nearshore habitat area. BMPs will be implemented during construction to reduce potential impacts and result in no net loss of shoreline ecological functions, as described in the Critical Areas Report and Biological Evaluation included with the JARPA (Exhibit 4).</p> <p>The variance is being requested by the City to provide safe access and operation to users who frequent the Luther Burbank Park dock and to protect shoreline habitat restoration areas. The variance is for a public facility and is not being requested to grant special privilege that could not be enjoyed by other properties in the area, and it would allow the minimum necessary to afford relief. Overall, the Project will improve public access and safety at the Luther Burbank Park dock and waterfront plaza. The Project is supported by the City and park users and is not anticipated to result in any detriment to public interest.</p>
<p>4) In the granting of all variance permits, consideration shall be given to the cumulative impact of additional requests for like actions in the area. For example if variances were granted to other developments and/or uses in the area where similar circumstances exist the total of the variances shall also remain consistent with the policies of RCW 90.58.020 and shall not cause substantial adverse effects to the shoreline environment.</p>	<p>The City is not aware of other variances that have been issued in the area for similar circumstances.</p>
<p>5) Variances from the use regulations of the master program are prohibited.</p>	<p>Not applicable. A variance from the use regulations of the SMP is not being requested for the Project.</p>

Notes:

BMP: best management practice

City: City of Mercer Island

JARPA: Joint Aquatic Resources Permit Application

MICC: Mercer Island City Code

OHWM: ordinary high water mark

Project: Luther Burbank Park Waterfront Improvements Project

RCW: Revised Code of Washington

SMP: Shoreline Master Program

WAC: Washington Administrative Code