PA0165 Bike Skills Area
MEMO: Impacts to Trees/Vegetation + Long-Term Facility Maintenance

During the Pre-App meeting with the City's Community Planning and Development department on April 11, 2023, City staff requested additional information related to how the proposed facility design mitigates impacts to existing trees and vegetation as well as how bike skills area will be managed post-construction. This memo provides more details about how the design was developed, plans for forest restoration before/after construction, and how the facility features such as jumps will be maintained long-term.

PROJECT BACKGROUND

The Bike Skills Area (BSA), formerly known as the BMX park, was originally built in Upper Luther Burbank Park by neighborhood riders in the 1970s. At the time, the parkland was owned and managed by King County, and use of the facility continued when the City assumed ownership of the park. Over the years, increased use and unauthorized expansion of the BSA caused damage and degradation to the surrounding hillsides and vegetation. The City temporarily closed the facility in 2021 to restore vegetation and contracted with Action Sports Design, LLC, to assess the site and provide redesign recommendations. Due to the complexity of the site (including topography and lack of existing stormwater infrastructure), the City determined redesigning it at Upper Luther Burbank Park could not be safely and sustainably achieved.

From April to July 2022, City staff and the Mercer Island Parks & Recreation Commission (PRC) solicited public input and evaluated other park sites where a new BSA could be located. They identified 24 potential sites and evaluated each against 16 weighted criteria. The Deane's Children's Park site scored high overall, and, on July 19, 2022, Mercer Island City Council appropriated funds to design a new BSA for that site.

DESIGN CONSIDERATIONS: Impacts on Existing Trees & Vegetation

For many years, Deane's Children's Park was home to the City's Adventure Playground. This recreational facility provided an environment for kids to imagine, build, and create their own adventure in a forested area. The Adventure Playground operated between 3-5 days per week in the summer and fall as both a drop-in activity and organized summer camp program, averaging between 30-60 children at a given time. Although the site has many trees, activity at the Adventure Playground significantly denuded the area, leaving highly compacted topsoil and minimal understory.

Prior to beginning design on the new facility, a topographic and tree survey was conducted by Bush, Roed, and Hitchings, Inc. (attached) in September 2022. Additionally, Andrew Prince, the City's Urban Forestry Project Manager, performed a risk assessment of trees in the project area and published an Arborist Report on October 2, 2022 (attached). Regarding tree removal, the report states, "Removing some of the small diameter trees with notable structural defects would mitigate future risk from falling trees or parts of trees, free up light and water resources for remaining trees, and make bike course construction easier. The associated [topographic and tree] survey has several trees marked in red that have the highest level of defects, making them prime candidates for removal."

These assessments informed the design of the new BSA. Bike trails were designed around the existing tree line to limit tree removal, and the project incorporates significant revegetation to improve the understory and restore the forest to a healthy condition. The newly constructed trails will be bare, compacted soil, and ground around the trails will be revegetated or covered with non-erosive materials

such as mulch or wood chips. Areas of bare soil, then, will be substantially reduced from the existing condition, which will also minimize the potential for future erosion problems and silty runoff from the new bike trails.

DESIGN CONSIDERATIONS: Facility Management
As noted in the project background, the former BSA was not professionally built, and users often expanded the course by building unauthorized jumps and other features. This activity caused significant damage to the site's vegetation and hillside as well as posed safety risks for bike riders and other trail users. The design for the new BSA balances the need to maintain a safe facility and protect vegetation with the community's interest in assisting with ongoing maintenance of the facility.

Building and Maintaining the BSA
The new BSA will be constructed by professional, certified bike park builders and includes bike park equipment fabricated from wood and steel. A structural grade clean fill blend of 20% clay/80% sand will be used to build mounds and other elevated, compacted surfaces needed to create features such as jumps and berm turns. The features will be maintained by the City's Parks Operations team (who will be involved with the construction process) using the Bike Park Operations and Maintenance Plan provided by the builder (attached). As-builts will be produced and filed with the City's GIS team. Additionally, after the facility opens, the City may opt to contract with a design expert occasionally to evaluate the condition of the bike park and recommend additional maintenance measures.

Throughout the design process, members of the mountain biking community expressed interest in collaborating with City staff to prepare for and maintain the new BSA. Volunteer events to clear the site for construction are being coordinated with the City's Natural Resources and Parks Operations teams, and the Recreation team will work with the community to develop programs such as training days, summer camps, and other activities to educate the public on facility safety and use. The City may choose to update or replace features in the future (similar to a playground replacement), at which time additional community input will be obtained to inform the replacements. No new jumps, trails, etc., will be built without professional design and City approval.

Erosion Control Measures
A geotechnical report and critical area study was conducted by Geotech Consultants, Inc., for the project site in May 2023 (attached). The report found that construction of the new BSA will not adversely impact the stability of the site or neighboring properties, nor is it at risk of damage due to potential future slope movement from steep slopes near the site. The report recommends focusing temporary and permanent erosion control measures on the small portion of the BSA that will extend through the southwest depression classified as a potential landslide hazard area. During construction, wattles will be placed around this area of the site to prevent erosion until the space can be fully revegetated. The City's Natural Resources and Parks Operations teams will also monitor the site on an ongoing basis to evaluate future erosion risks that result from use of the BSA.