Criteria Compliance Narrative

Pump Station 20 Replacement Project

Project No. 25-08

Prepared by: Christopher Marks, P.E.

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BACKGROUND

Sewer Pump Station 20 (PS 20) is located near the southern tip of the island at 8790 85th Ave SE. The station, first constructed in 1966, is now almost 60 years old, and has reached the end of its useful design life. The existing wet well abuts Lake Washington, has corroded noticeably, and has exposed rebar in several places. In addition, the pumps and valves are in poor condition and the motor control panels are old with obsolete parts. Of the seventeen sewer pump stations on the Island, a 2024 assessment identified PS 20 as the most in need of replacement.

PROJECT INFORMATION

The City of Mercer Island, Washington intends to advertise for bid the Pump Station 20 Replacement project. The primary scope of work includes reconstruction and replacement of the existing sewer pump station, including but not limited to, removal and replacement of all pumps, piping, mechanical, and associated electrical and control equipment, and modernization to a submersible station. Work also includes installation of access stairs, asphalt pavement, storm drainage, pervious pavers, landscaping, and park amenities in an approximate 1250 sf area of the existing street end park. Installation of temporary sewer bypass will be required to divert sewer flows around the station during reconstruction.

CRITERIA COMPLIANCE

This proposal is unable to comply with the code requirement that limits hardscape to 10% within the 0–25-foot setback from the OHWM. In addition, this proposal is unable to meet MICC 19.13.050 (Table C), which restricts structures within the 25-foot OHWM setback to a maximum of 30 inches above existing or finished grade, whichever is lower.

- **Hardscape**: (See “Hardscape Lot Calculations” exhibit.) Both the existing and proposed underground sewer utility structures are capped with concrete lids. The existing lid, a portion of the new station lid, and part of the concrete access path collectively increase hardscape coverage to 38.75% within the 0–25-foot OHWM setback, exceeding the 10% limit. However, within the 25–50-foot setback, the project remains compliant, with hardscape totaling 14.89%, well below the 30% maximum.

- **Structures:** (See “Surface Improvements Profile” exhibit.) Five required electrical equipment panels, ranging in height from 4 to 6 feet, will be installed on the slab of the existing pump station. In addition, the new pump station structure will extend above existing grade between 4.71 feet and 6.94 feet within the 25-foot OHWM setback, exceeding the 30-inch maximum allowed.

This proposal seeks variance from the 10% hardscape requirement and 30-inch height requirement within the 25-foot setback from the OHWM.

WAC 173-27-170 establishes the criteria that must be met for a variance permit to be granted. The relevant code sections and city responses are provided below:

(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.

The current sewer pump station has reached the end of its service life and will be replaced with an industry-standard equivalent that complies with current regulations. The station's existing footprint will be maintained, with only a portion of the reconstructed facility extending landward. The proposed improvements will not encroach toward the OHWL, nor will the exterior of the existing station adjacent to the water be reconstructed. The proposed vault structure will slightly increase wastewater storage capacity, but the station's service level, sewage pumping capacity, pipe and pump sizes, and the number of households served will remain unchanged.

Avoiding redevelopment of the site is neither feasible nor advisable, as action is required to ensure continued wastewater collection and pumping capacity, and to prevent the risk of sanitary sewer overflows (SSOs).

Relocating the station outside the shoreline designation, specifically beyond the 25-foot setback, would require extensive rerouting of gravity-fed connector pipelines, significantly affecting existing public sewer services and potentially impacting additional shoreline areas. The current proposal minimizes shoreline impacts to the extent necessary to maintain this critical utility infrastructure. Impacts will be further reduced through mitigation sequencing in accordance with MICC 19.07.1000, as described in the project narrative dated July 22, 2025.

The proposal aligns with RCW 90.58.020 by prioritizing statewide interests and protecting shoreline resources and ecology. The proposed variance maintains critical infrastructure while ensuring the public interest suffers no substantial detrimental effect.

(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:

a. 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;

The location of the existing lakeline pipe, lift station, hydraulic grade manholes, and gravity sewer pipes limit the reasonable options for placing the new station structure in another location that may be in compliance with the referenced code sections. Also:

a. Per 19.13.040(Table B), utilities are permitted both in the urban residential environment and the urban park environment.

b. **The utility is placed in accordance with 19.13.050.**K.i. and ii. which directs that:

"utilities shall be placed underground and in common rights-of-way wherever economically and technically practical" and;

"shoreline public access shall be encouraged on publicly owned utility rights-of-way, when such access will not unduly interfere with utility operations or endanger public health and safety."

The utility is placed both underground and where economically and technically practical, and it includes an ADA compliant surface and sidewalk that encourages public access within the publicly owned rights-of-way. Failure to construct the new station where proposed limits the City's ability to maintain a safe and functional sewer utility.

b. 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;

The existing sewer basin that the existing and proposed sewer pump station service, consists of gravity fed sewer pipes. Relocation of lakeline and incoming sewer pipes is not feasible due to the topography of the area and the need for gravity flow (i.e., the sewer pump station must be lower in elevation than all incoming pipes). The proposed station location is the only feasible location to ensure proper function. Shifting the project further landward would require extensive redesign and a much larger excavation and construction footprint, leading to greater shoreline impacts and substantially higher costs.

c. 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;

The utility is compatible with existing and planned land uses. The project will rehabilitate and replace the existing sewer facilities to prevent potential environmental impacts from infrastructure failure, while upgrading them to meet current code requirements. Sewer pump station 20 has been identified as the station most in need of repair and/or replacement based on a January 2024 report conducted by RH2 Engineering. The station receives the second highest flow on the Island, pumping approximately .301 million gallons per day (MGD). Both the poor condition of the concrete inside the existing wet well and its location directly adjacent to Lake Washington put the station high risk for sanitary sewer overflow. The new station, and construction of the new station, will not cause adverse impacts to the shoreline environment.

This project uses funds that were approved as part of the 2025-2026 CIP Capital Budget (Project 90.30.0025).

The proposal aligns with the Capital Facilities Element and City's Shoreline Master Program Policies which make up chapters, 6 and 7, respectively, of the City's Comprehensive Plan Supplement 1, dated March 27, 2023:

CAPITAL FACILITIES ELEMENT
Section III - LEVEL OF SERVICE & FORECAST OF FUTURE NEEDS
Table 2. Level of Service Standard for Sanitary Sewer System = 0 Sewer Overflows

CITY'S SHORELINE MASTER PROGRAM POLICIES

Section III. - GENERAL GOALS AND POLICIES

PUBLIC ACCESS

(2) Public access to and along the water's edge should be available in publicly owned shoreline areas.

(5) Where publicly owned shoreline areas are available for public pedestrian pathways, these should be developed as close to the water's edge as reasonable.

(6) Views of the shoreline and water from shoreline and upland areas should be preserved and enhanced. Enhancement of views should not be construed to mean excessive removal of vegetation.

(7) Rights-of-way on the shoreline should be made available for public access where appropriate.

(8) Access onto shoreline public street ends should be enhanced.

CONSERVATION AND WATER QUALITY

(6) Protect, conserve and establish vegetation along the shoreline edge, especially native vegetation.

Section V. - SPECIFIC SHORELINE USES AND ACTIVITIES

UTILITIES

(1) Utility facilities should be designed and located to assure no net loss of shoreline ecological functions, preserve the natural landscape, and minimize conflicts with present and planned land and shoreline uses while meeting the needs of future populations.

(2) Utilities should be located in existing rights-of-way and corridors whenever possible.

d. That the variance will not constitute a grant of special privilege not enjoyed by the other properties in the area;

The City of Mercer Island is the only agency providing public sewer service in the area. Granting this exemption will not constitute a grant of special privilege.

e. That the variance requested is the minimum necessary to afford relief; and

The proposed pump station represents the minimum improvements needed to replace the existing facility, originally built in the 1960s and now at the end of its useful life. The new pump station lid will add approximately 150 square feet of impervious surface within the critical area. The proposed above-grade electrical panels (five total) are the minimum necessary to safely operate and maintain the station.

f. That the public interest will suffer no substantial detrimental effect.

The public interest will not be adversely affected. This proposal rebuilds critical sewer infrastructure and visually and enhances the existing street end park. The finished surface of the new pump station will be constructed at the same elevation as the existing street, improving public access and opening views toward Lake Washington. The five electrical equipment panels will be installed on the lower portion of the existing pump station lid,

screened from view at the street end or bench area, and placed so they do not obstruct or impair access to the shoreline.

(3) Variance permits for development and/or uses that will be located waterward of the ordinary high water mark (OHWM)….

Not applicable. This proposal is NOT located waterward of the OHWM.

(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.

The City of Mercer Island is the only agency providing public sewer service in the area so there are no other like actions in the area that would create cumulative impacts.

(5) Variances from the use regulations of the master program are prohibited.

Per 19.13.040(Table B), utilities are permitted both in the urban residential environment and the urban park environment. Per 19.13.050.K.i. the utility is permitted to be placed underground and in public rights of way wherever economically and technically practicle.

DEVELOPMENT APPLICATION SHEET
Provided with SHL 25-024

TITLE REPORT
Request waiver for Title Report. The entirety of work activities will be performed within the City of Mercer Island right of way. A copy of the existing encroachment permit has been provided with SHL25-024

AFFIDAVIT OF OWNERSHIP
N/A City owned right of way

AFFIDAVIT OF AGENT AUTHORITY
N/A City owned right of way

DEVELOPMENT PLAN SET
Provided with permit SHL25-024

JARPA FORM
See SHL25-024 Request for Information Response dated 9.5.2025

CRITICAL AREA STUDY
See project narrative dated 7.22.2025 provided with SHL25-024

NO NET LOSS REPORT
Per 19.13.020(2)

No net loss plan. Whenever an applicant seeks a variance or conditional use permit or an applicable development standard explicitly requires a determination of no net loss of ecological function, the applicant shall provide the city with a plan that demonstrates the proposed project will not create a net loss in ecological function to the shorelands. The plan shall accomplish no net loss of ecological function by avoiding adverse ecological impacts that are not reasonably necessary to complete the project, minimizing adverse ecological impacts that are reasonably necessary to complete the project, and mitigating or offsetting any adverse impacts to ecological functions or ecosystem-wide processes caused by the project. The code official may require the plan to include reports from qualified professionals with expertise in ecological function. The plan's compliance with the no net loss requirement may be considered through the SEPA process.

i. .Off-site mitigation permitted. While on-site mitigation is preferred, off-site mitigation may be permitted at the discretion of the code official.

ii. Demonstration of no net loss supported by a qualified professional. The code official may require any applicant to provide reports by qualified professionals that demonstrate to the code official's satisfaction that the applicant's proposed plan avoids a net loss in ecological function.

No Net Loss Report

No Net Loss is defined as "a balancing of unavoidable shoreline ecological function losses with replacement for those losses so that further reduction to shoreline ecological functions of ecosystem-wide processes may be prevented.

Per the Hardscape Lot Calculations Exhibit submitted with this application, the site is legally nonconforming, with 321.36 square feet (21.4%) of hardscape coverage located within the 25-foot shoreline setback. The proposed improvements would add 288.91 square feet of hardscape (107.56 square feet for the station and 152.29 square feet for the pedestrian sidewalk/access path), increasing coverage by 17.32% to a new total of 38.75% within the 25-foot setback.

The area proposed for conversion (288.91 square feet) is currently composed of grass and unvegetated ground, with the exception of a single heavenly bamboo plant (see site photos dated December 10,

2024).

Heavenly bamboo is a non-native species, produces berries toxic to birds, and is considered invasive in parts of North America. Because the affected area lacks native vegetation or wildlife habitat, the project will not result in a net loss of ecological function.

Nonetheless, on-site mitigation will occur through site restoration following utility work. Within the 0–25-foot shoreline setback, 605.50 square feet of new native tree, shrub, and groundcover plantings will be installed. In the 25–50-foot setback, an additional 174.5 square feet of native vegetation will be added, and 690 square feet of existing asphalt will be replaced with decorative pervious pavers.

These plantings will enhance shoreline habitat functions beyond existing baseline conditions by providing shade, overhanging cover for fish, structural diversity for birds and wildlife, and gradually contributing organic material and nutrients over time. For proper functioning, species diversity will be maintained. Refer to the proposed landscaping plan for details.

All new plantings will be covered by a 100% survival guarantee under the contractor's warranty. Any trees, shrubs, or groundcovers that fail within the first year will be replaced to ensure performance standards are met.

Overall, proposed mitigation measures will result in no net loss of shoreline ecological functions.

SEPA CHECKLIST
Provided with permit SEP25-012

SEWER LAKELINE AFFIDAVIT
N/A No work waterward of the OHWM to be performed. City is applicant

CONCURRENT REVIEW FORM
Provided