Compensatory Mitigation Plan

Sims Way Stormwater Facility

[USACE Reference Number]

Port of Port Townsend
Jefferson County, Washington

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Prepared for:

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Executive Summary

The Port of Port Townsend proposes maintenance activities to repair the damaged, substandard Sims Way stormwater drainage and outfall by reconstructing the facility. These improvements will restore drainage patterns and provide basic treatment for stormwater generated by Sims Way and over 100 acres of City development. The project area is approximately 14 acres. Construction is anticipated to begin in June 2025 and conclude in October 2025, lasting approximately 5 months.

The project will result in unavoidable wetland impacts, including the permanent loss of 0.10 acres of Category III depressional emergent wetland and 0.01 acres of Category II coastal lagoon. Construction access will result in 0.04 acres of temporary wetland impacts. Buffer impacts include 0.26 acres of permanent impacts and 0.19 acres of temporary impacts related to construction access.

The Project will restore the 0.23 acres of temporary impacts related to construction access by revegetating the disturbed areas. The 0.26 acres of permanent Wetland A buffer impacts will be offset by protecting and restoring mowed areas of the northwest section of the Wetland A buffer.

Permanent wetland impacts will be mitigated (Table 1) through the construction of a 1-acre mitigation site comprised of a 0.22-acre wetland compensatory area protected by an 80-foot native vegetated perimeter buffer according to the USACE, EPA, and Ecology interagency guidance in *Wetland Mitigation in Washington State*. The compensatory mitigation site will be constructed in an ecologically higher-value location adjacent to the Category II Coastal Lagoon on Port property to ensure no net loss of wetland functions or values.

Table 1. Summary of Impacted Wetlands and Proposed Compensatory Mitigation

Wetland	Rating Category	HGM Class	Cowardin Class	Wetland Size	Permanent Impacts[1]	Mitigation Ratio[2]	Mitigation Area[3]
A	II-Coastal Lagoon	Depressional	Emergent	3.63	0.01	3:1	0.02
C	III	Depressional	Emergent	0.10	0.10	2:1	0.20
			Total	4.63	0.10	2.1:1	0.22

[1] Total impacts are 0.10 acres. The column appears to total 0.11 acres due to rounding errors.
[2] Mitigation ratios were proposed based on the Category of wetland impacted. The ratio in the total column represents the average ratio of mitigation for the total permanent wetland impacts.
[3] Mitigation area for Wetland A impacts appears to be 0.03 acres due to rounding errors. Proposed mitigation based on the area affected is calculated at 0.02 acres.
Please see Appendix D for the impact and mitigation quantities.

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Responsible Parties

Applicant: Port of Port Townsend

Consultant: Widener & Associates

Mitigation Plan Prepared by: Widener & Associates

Construction Plan Prepared by: Reid Middleton

Party Responsible for Long-Term Maintenance and Contingency Plans: Port of Port Townsend

Proposed Development Project

Project Description

The Port of Port Townsend proposes maintenance activities to repair the damaged, substandard, and Sims Way stormwater drainage and outfall by reconstructing the facility. These improvements will restore drainage patterns and provide basic treatment for stormwater generated by Sims Way and over 100 acres of City development. Stormwater generated by the Boat Haven Boatyard will continue to be regulated under the Boatyard General Permit (BYGP), a National Pollutant Discharge Elimination System (NPDES), and State Waste Discharge permit issued by Ecology (BYGP WAG031006); no industrial stormwater will be discharged by this project.

The main project elements include the replacement of the existing damaged, substandard 15-inch pipe outfall with a new 24-inch pipe outfall, repositioning of existing riprap to provide energy dissipation for the new outfall, new manholes and 24-inch storm drains to connect the existing 18-inch culvert by Sims Way with the replaced outfall, a 230-foot wet biofiltration swale to provide basic treatment meeting Ecology standards for Sims Way and City stormwater, and a 15-foot wide access road for stormwater facility maintenance. The project area is approximately 14 acres. Construction is anticipated to begin in June 2025 and conclude in October 2025, lasting approximately 5 months.

The Project will restore the 0.23 acres of temporary impacts related to construction access by revegetating the disturbed areas. The 0.26 acres of permanent Wetland A buffer impacts resulting from the construction of the maintenance access road will be offset by protecting and restoring mowed areas of the northwest section of the Wetland A buffer. Compensatory mitigation will be provided for the 4,552 SF (0.10 acres) of unavoidable permanent wetland impacts resulting from the reconstruction of the stormwater facilities. Wetland mitigation will consist of the construction of a compensatory mitigation site adjacent to the higher-value coastal lagoon on Port property according to the USACE, EPA, and Ecology interagency guidance in *Wetland Mitigation in Washington State* (Ecology, et al., 2006, 2021) to ensure no net loss of ecological functions and values result from the project.

Project Location

Boat Haven is located at 2740 Jefferson Street, Port Townsend, Jefferson County, Washington. It lies within Section 1 of Township 30N, Range 1W at (48.107394, -122.778068) (Figure 1). The proposed projects are within Water Resource Inventory Area (WRIA) 17 Quilcene-Snow watershed in the Marrowstone Island – Frontal Port Townsend (HUC12 171100190803) sub-watershed. Wetland A and Wetland C catchments (Figure 2) were determined through USGS StreamStats (USGS, 2025; Appendix A).

Figure 1. Vicinity Map

Figure 2. Watershed and Wetland Catchments

Baseline Description of Development Site

Land Use

The development site is within the M-II(A) Boat Haven Marine Related Uses district, as designated in Port Townsend Municipal Code 17.22.010(B)(3) and the Comprehensive Plan (Appendix B). A small portion of the Port-owned parcel to be developed, ID 948301003, is included in the adjacent R-II(SF) residential zoning district on the bluff; however, this area is located at the base of the bluff approximately 90 feet below the residential area and has been developed with roads and a maintenance shop to support the Boatyard since at least 2000. The Boat Haven has been developed in an urban context for decades and is adjacent to a state highway (Sims Way/State Route 20). The project site currently contains an existing stormwater facility and maintenance shop. The proposed development is consistent with the established use of the site; no land use changes will result from the project.

Wetlands

Widener & Associates biologists conducted investigations and delineations of the wetlands identified in the federal, county, and city databases to determine the presence and location of their boundaries. Within the development site are two wetlands, Wetland A, 3.63 acres, and Wetland C, 0.10 acres, totaling 3.73 acres (Figure 3). Both Wetland A and Wetland C are subject to 150-foot local regulatory buffers per Port Townsend Municipal Code 19.05.110(G)(2)(a). However, buffer waivers are allowed where an existing legally established roadway or other legally established structure or paved area effectively eliminates the function and values intended to be provided by the buffer per PTMC 19.05.110(G)(7)(b). Therefore, wetland buffers have been reduced by the presence of existing development (Figure 4).

Wetland A is a 3.63-acre emergent depressional wetland meeting the requirements for a Category II Coastal Lagoon rating based on functions and special characteristics (Widener & Associates, 2024a).

Wetland B was not present upon investigation. As the presence of this wetland was photo-interpreted using color infrared imagery from 1980, it was determined to be erroneously mapped by the NWI and subsequently adopted by the Jefferson County and City of Port Townsend databases (Widener & Associates, 2024b).

This area will be regulated under the Clean Water Act as a waterbody. The effects of the project on Port Townsend Bay were evaluated by the Programmatic Biological Evaluation and Habitat Assessment, which determined that the proposed project will result in no net loss of functions and values (Widener & Associates, 2025a,b).

Wetland C includes Wetland C1, 0.70 acres, and Wetland C2, 0.30 acres, comprising 4,232 SF (0.10 acres) of Category III emergent depressional wetlands (Widener & Associates, 2025c).

Figure 3. Delineated Wetland Boundaries

Figure 4. Wetland Buffers as Reduced by the Presence of Substantial Development

Port Townsend Bay

The proposed project will be constructed upland of Port Townsend Bay, a marine surface waterbody that is considered part of Admiralty Inlet. Port Townsend Bay, west of a line between Point Hudson and Kala Point, is designated as "excellent" for aquatic life use (WAC 173-201A-612). Due to historic shoreline modifications by the railroad, now Larry Scott Trail, and disposal of dredge spoils in the development site during the construction of the recreational Boat Haven basin in the 1960s, no hydrologic connection remains between the development site and Port Townsend Bay.

Cultural Resources

There are no known landmarks, features, or surface indications of Native American use or occupation on the site. The Port has designed the project to avoid impacting the native soil layer identified by the tribes as likely containing cultural material of concern to them and carefully monitor activities during site preparation and construction under the advice of a qualified archaeologist. If undisturbed soils or landforms are encountered during construction, an archaeologist will be contacted immediately. The construction project will be subject to monitoring and an inadvertent discovery plan as directed by the Corps 106 process as the lead agency.

Assessment of Impacts at the Development Site

The unavoidable permanent wetland impacts include the loss of 0.10 acres of Category III depressional emergent wetland and 0.01 acres of Category II coastal lagoon. Temporary impacts include 0.04 acres of Wetland A and 0.19 acres of Wetland A buffer for construction access. The Wetland A buffer will also experience 0.26 acres of permanent impacts (Table 1). The permanently impacted Wetland C provides a high function for water quality improvement and a moderate to high function for habitat, as determined by a Widener & Associates qualified wetland professional using best professional judgment and the 2004 revised wetland ratings systems for western Washington. The lost functions related to water quality improvement include the removal of sediment, nutrients, and pollutants, and lost habitat functions include groundwater recharge, support for food webs, and habitat for invertebrates and aquatic birds. Wetland A permanent impacts are within the existing stormwater infrastructure footprint; therefore, will not result in the loss of functions. However, mitigation will be provided for this area to ensure that at least an equivalency of functions and values is provided to offset the losses of the overall project.

Table 2. Summary of Impacted Wetlands and Buffers

Wetland	Rating Category	HGM Class	Cowardin Class	Total Size (acres)	Permanent Impacts (acres)		Temporary Impacts (acres)	
					Wetland	Buffer	Wetland	Buffer
A	II-Coastal Lagoon	Depressional	Emergent	3.63	0.01	0.26	0.04	0.19
C1	III	Depressional	Emergent	0.07	0.07	N/A[1]	0	0
C2	III	Depressional	Emergent	0.03	0.03	N/A[1]	0	0
				Total Impacts[2]	0.10	0.26	0.04	0.19

[1] No impacts are assessed for the loss of the Wetland C buffer as it will be re-established around the wetland compensatory area.
[2] Total impacts are 0.10 acres. The column appears to total 0.11 acres due to rounding errors. Please see Appendix D for the impact and mitigation quantities.

Mitigation Approach

Sequencing

The Project applied mitigation sequencing during the design process to avoid and minimize wetland impacts. As the proposed development repairs an existing facility located within and including wetlands, avoidance was not possible. As a result, the project was designed to limit disturbance to the minimum area necessary to accomplish the project objectives, and unavoidable permanent impacts are restricted to the poorer-quality Wetland C or the existing infrastructure footprint. All temporary impacts to wetlands and their buffers will be fully restored. Permanent buffer impacts will be offset by protecting a currently mowed portion of the buffer. The permanent unavoidable wetland impacts will be mitigated by establishing a compensatory wetland mitigation site in an ecologically higher-value location on Port property.

The Project will also implement best management practices (BMPs), including Temporary Erosion and Sediment Control (TESC), Stormwater Pollution Prevention Plan (SWPPP), and Spill Prevention, Control, and Countermeasures (SPCC) plan elements to avoid and minimize the possibility of adverse effects. Soils and vegetation outside of the area of impact will be protected in place; no stockpiling of materials or equipment will be allowed in sensitive areas. No fertilizers, herbicides, or pesticides will be applied. Hydrologic function and drainage patterns will be restored, and stormwater facilities providing basic treatment will be installed. A Hydraulic Assessment has been performed to ensure that no-rise in the Base Flood Elevation (BFE) will occur from the project activities.

Project Specific Goals

The overall goal of the mitigation project is to offset the lost area and functions of the impacted wetlands. This will be accomplished through the following site-specific goals:

1. Compensate for the lost 0.10 acres of Wetland A and Wetland C.
2. Replace at least the lost functions of the impacted wetlands.
3. Offset the 0.26-acre loss of Wetland A buffer.
4. Restore 0.23 acres of temporary impacts resulting from construction access.

Mitigation Strategy

The mitigation strategy involves restoration and reestablishment actions to achieve the project-specific mitigation goals. Restoration actions will offset temporary impacts and permanent buffer impacts. They include replacing disturbed wetland soils, revegetating with native species, and installing and protecting native vegetation in the currently mowed portion of the Wetland A buffer. Reestablishment actions comprise grade changes, native plant installation, invasive plant removal, and site protection to mitigate permanent impacts on Wetland A and Wetland C. The reestablishment actions will result in constructing a 1-acre mitigation site comprised of a 0.22-acre wetland compensatory area protected by an 80-foot native vegetated perimeter buffer to ensure no net loss of wetland functions or values.

Proposed Mitigation Site

The project proposes to construct the compensatory mitigation site in an ecologically higher-value location adjacent to the Category II Coastal Lagoon, a maximum of 550 feet to the southwest of the impacted wetlands on Port property. This location was selected from a watershed perspective to ensure

that wetland impacts are mitigated where they occur. Its proximity to a high-value Category II wetland will provide additional benefits to the compensation site related to improved habitat connectivity and increased passive site protection. The historic wetland presence and current physical characteristics make wetland reestablishment at the site attainable, and its proximity to Port infrastructure makes long-term maintenance feasible, resulting in the site being the most ecologically sensible choice for compensatory wetland mitigation.

Environmental Baseline of Mitigation Site

The proposed mitigation site is within the Port's existing Boat Haven properties and subject to the same land use and zoning designations. No change in land use or zoning will result from the construction of the mitigation site. The proposed mitigation site is also adjacent to Port Townsend Bay. However, the site is located on the landward side of the Larry Scott Trail and is not hydrologically connected to the marine waterbody. The other applicable baseline conditions of the site are described in the following sections.

Landscape Position

The site is level at an approximate elevation of 9.8 feet NAVD 88. The mitigation site design includes grade change activities to create a depressional landform with a final design elevation in continuity with the groundwater table to ensure an appropriate water regime.

Vegetation

Vegetation in the compensation site area is currently comprised of grass lawn maintained through mechanical mowing by the Port.

Water Regime

The proposed mitigation site hydrology is from precipitation and groundwater. The water table is typically approximately 3.5 feet below ground surface in the location of the compensation site during the growing season. The mitigation site design includes grade change activities to create a depressional landform with a final design elevation of 6 feet NAVD 88, in continuity with the groundwater table, to ensure an appropriate wetland water regime.

Soils

While the National Resources Conservation Service (NRCS) Web Soil Survey (WSS) does not indicate the presence of hydric soils at the compensation site, it also does not show the presence of hydric indicators anywhere within the project area, which contains multiple wetlands (NRCS, 2019; Appendix C). During the on-site wetland investigation and delineations, soils from multiple test pits exhibited hydric indicators. The soils on-site include both hydric soils and a high organic matter content, making them highly suitable for wetland plants.

Habitat

No suitable habitat is present in the location of the proposed mitigation site as it is maintained through mechanical means, subjecting it to frequent disturbance.

Functions

The proposed mitigation site currently holds low function ratings for water quality improvement, hydrologic function, and habitat, as it is comprised of a maintained grass lawn.

Mitigation Site Plan

Mitigation Site Design

The project goals have guided the mitigation site design to ensure it will compensate for the lost 0.10 acres of Wetland A and Wetland C, replace at least the lost functions of the impacted wetlands, offset the 0.26-acre loss of Wetland A buffer, and restore the 0.23 acres of temporary impacts to Wetland A and its buffer. This will be achieved by restoring the temporary impacts at a 1:1 ratio, restoring the permanent buffer impacts at a 1:1 ratio, and reestablishing wetlands at a 3:1 ratio for Category II impacts and a 2:1 ratio for Category III impacts. The proposed types and amounts of mitigation to be provided by the project are summarized below (Table 2, Appendix D).

Table 3. Summary of Proposed Mitigation Types and Ratios

Wetland	Rating	Total Size (acres)	Permanent Impacts (acres)		Temporary Impacts (acres)		Mitigation Type	Ratio	Mitigation Area (acres)
			Wetland[1]	Buffer	Wetland	Buffer			
A	II-Coastal Lagoon	3.63		0.26	0.04	0.19	Restoration	1:1	0.50
			0.01				Re-establishment	3:1	0.02
C1	III	0.07	0.07	-	0	0	Re-establishment	2:1	0.14
C2	III	0.03	0.03	-	0	0	Re-establishment	2:1	0.06

[1] No impacts are assessed for the loss of the Wetland C buffer as it will be re-established around the wetland compensatory area.
[2] Total impacts are 0.10 acres. The column appears to total 0.11 acres due to rounding errors.
[3] Mitigation area for Wetland A impacts appears to be 0.03 acres due to rounding errors. Proposed mitigation based on the area affected is calculated at 0.02 acres.
Please see Appendix D for the impact and mitigation quantities.

Description of Design

The 0.23 acres of temporary Wetland A and buffer impacts will be restored by replacing removed soils in the disturbed area and then revegetating with native species within the first growing season after construction is complete.

The 0.26 acres of permanent Wetland A buffer impacts will be restored by protecting the currently mowed, unprotected northwest portion of the buffer and installing native trees and shrubs.

To compensate for the 0.10 acres of unavoidable permanent Wetland A and Wetland C impacts, the Port proposes to reestablish 0.22 acres of wetlands, as determined by the proposed 3:1 and 2:1 mitigation ratios. An 80-foot native vegetated perimeter buffer will be provided for site protection. This will result in the creation of a 1-acre mitigation site. The compensatory mitigation site will be constructed in an ecologically higher-value location adjacent to the Category II Coastal Lagoon, approximately 550 feet southwest of the impacted Wetland C on Port property, to ensure no net loss of wetland functions or values (Figure 5). The reestablished wetlands will be subject to a local regulatory buffer to compensate for the lost Wetland C buffer.

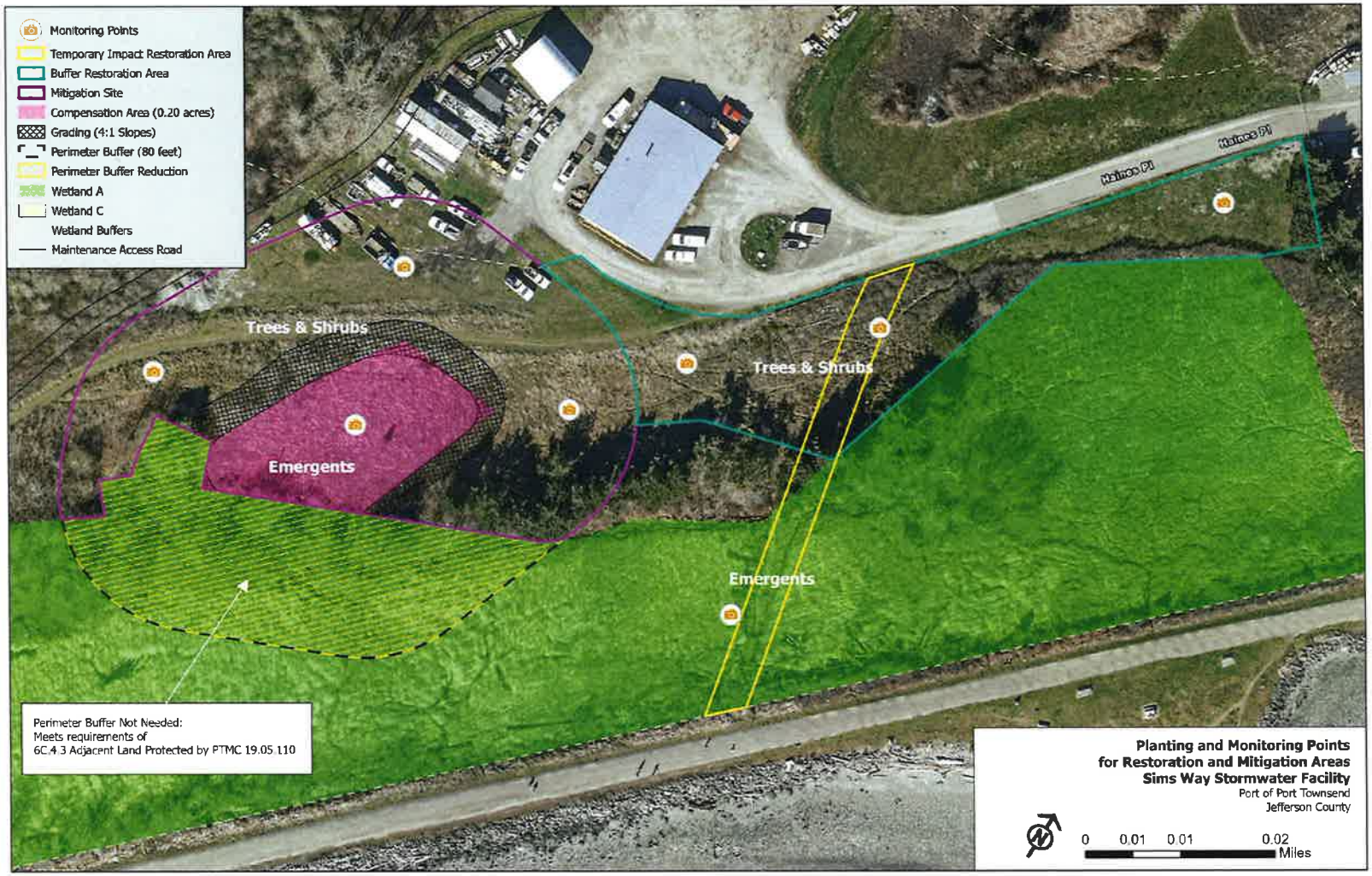
Grading Plan

A depressional landform will be created adjacent to Wetland A, the Category II Coastal Lagoon, to ensure continuity with the water table, encourage plant recruitment, improve habitat connectivity, and

afford the mitigation site additional protection. A central 0.22-acre flat-bottom area will be created at approximately elevation 6 feet NAVD 88 for wetland reestablishment. Approximately 25 feet of 4:1 slopes will extend from the 0.22-acre wetland area to the existing surface elevation of 9.8 feet NAVD 88, creating the depressional landform (Figure 6). No grading will occur in the adjacent Wetland A.

Figure 5. Wetland and buffer impacts and proposed restoration and mitigation areas.

Figure 6. Restoration and Mitigation Areas showing Grading Activities, Planting Types, and Monitoring Points



Water Regime

The water regime for the compensation site consists of precipitation and groundwater. Grading will ensure that the bottom elevation of the wetland mitigation site is within 12 inches of the groundwater table to ensure adequate wetland hydrology.

Soils

The wetland compensation area will be graded into a depressional landform to a base elevation of 5 feet NAVD 88, then backfilled with 1 foot of imported, certified, weed-free topsoil from a commercial source to achieve a final design elevation of 6 feet NAVD 88. This will ensure that the growing medium is in continuity with the water table. Soils removed during construction exhibiting hydric properties may be salvaged at the direction of the project engineer for reuse at the mitigation site to support the growth and regeneration of wetland-adapted vegetation.

Planting Plan

The wetland compensation area will be planted with bare roots of emergents, including mountain rush (*Juncus balticus*), hard-stem bulrush (*Schoenoplectus acutus*), Douglas aster (*Symphyotrichum subspicatum*), and small camas (*Camassia quamash*). Buffer areas will be planted with 1-gallon containers of trees and shrubs, including Sitka willow (*Salix sitchensis*), quaking aspen (*Populus tremuloides*), shore pine (*Pinus contorta var. contorta*), Nootka rose (*Rosa nutkana*), osoberry (*Oemleria cerasiformis*), and kinnikinnick (*Arctostaphylos uva-ursi*) (Table 3).

Table 4. Proposed Plant Species

Scientific Name	Common Name	Indicator Status	Planting Density	Proportion in Strata (%)	Plant Size
Trees					
Salix sitchensis	Sitka willow	FACW	12-foot on-center	40	1 gallon
Populus tremuloides	Quaking aspen	FACU	12-foot on-center	30	1 gallon
Pinus contorta var. contorta	Shore pine	FAC	12-foot on-center	30	1 gallon
Shrubs					
Rosa nutkana	Nootka rose	FAC	4-foot on-center	50	1 gallon
Oemleria cerasiformis	Osoberry	FACU	4-foot on-center	30	1 gallon
Arctostaphylos uva-ursi	Kinnikinnick	FACU	4-foot on-center	20	1 gallon
Emergents					
Juncus balticus	Mountain rush	FACW	2-foot on-center	30	Bareroot/Plug
Schoenoplectus acutus	Hard-stem bulrush	OBL	2-foot on-center	20	Bareroot/Plug
Symphyotrichum subspicatum	Douglas aster	FACW	2-foot on-center	20	Bareroot/Plug
Camassia quamash	Small camas	FACW	2-foot on-center	20	Bareroot/Plug

[1] Grass seed of the above composition, proportion, and quality shall be applied at the rate of 100 pounds of Pure Live Seed (PLS) per acre.
[2] The implementing biologist may make changes to the composition and proportions of the proposed species based on the quality and quantity of species available at the time of planting.

Examples of Similar Projects and Experience

Widener & Associates has many years of experience implementing similar wetland mitigation plans in the Puget Lowlands, according to the USACE, EPA, and Ecology interagency guidance in *Wetland Mitigation in Washington State* to ensure no net loss of ecological functions and values. Examples of these mitigation experiences include the creation of two off-site compensatory mitigation bank sites to offset the wetland impacts of the I-5/Port of Tacoma Road Interchange in the City of Fife, Pierce County, and advanced mitigation for the City of Bellingham North End Regional Stormwater Pond project in Whatcom County. These mitigation projects successfully created compensatory depressional wetlands targeting site-specific functions and generated excess mitigation credits than required for no net loss.

Goals, Objectives, and Performance Standards

The site-specific goals of the project will be achieved through the completion of the objectives as determined by the performance standards and attainment of the success standards. This will ensure that the mitigation project provides adequate compensation for losses and the degradation of the wetland area and functions. Performance standards are summarized by monitoring year in Table 4.

Goal #1: *Compensate for the lost 0.10 acres of Wetland A and Wetland C.*

Objective 1: Create a 0.22-acre wetland compensation area through wetland reestablishment.

Objective 2: Establish an 80-foot native vegetated perimeter buffer around the wetland compensation area as part of the protected mitigation site.

Performance Standards

- At year one, all plants will exhibit a survival rate of 100 percent.
- At year two, the percent cover of native species will be at least 20 percent.
- At year three, the percent cover of native species will be at least 30 percent.
- At year five, the percent cover of native species will be at least 50 percent.

Success Standard

- At the ten-year monitoring, or final year, the wetland compensation area will be delineated as a 0.22-acre Category III depressional wetland with an 80-foot vegetated perimeter buffer.

Goal #2: *Reestablish, at a minimum, the lost functions of the impacted wetland.*

Objective 1: The wetland compensation area will exhibit a high function for water quality improvement.

Objective 2: The wetland compensation area will exhibit a moderate to high function for habitat.

Performance Standards

- The wetland compensation area will exhibit inundation or saturation within 12-inches of the surface for two consecutive weeks of the growing season as determined using indicators of wetland hydrology identified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 2010).
- Installed habitat features, including snags, downed logs, or LWD, will function as intended.
- The site will provide a variety of plant species to enhance wildlife habitat and prevent a vegetative monoculture.
- Wetland and buffer areas have 0% coverage of Class A noxious weeds.

Success Standard

- At the ten-year monitoring, or final year, the wetland compensation area will be rated as a Category III depressional wetland with a high function for water quality improvement and a moderate to high function for habitat.

Goal #3: Offset the 0.26-acre loss of Wetland A buffer.

Objective 1: Restore buffer functions in the mowed portion of the Wetland A buffer.

Objective 2: Establish native trees and shrubs in the Wetland A buffer.

Performance Standards

- At year one, all planted trees and shrubs will exhibit a survival rate of 100 percent.
- At year two, the aerial cover of native woody species will be at least 20 percent.
- At year three, the aerial cover of native woody species will be at least 30 percent.
- At year five, the aerial cover of native woody species will be at least 50 percent.

Success Standard

- At least 0.26 acres of the previously mowed section of Wetland A buffer is functioning as intended.

Goal #4: Restore 0.23 acres of temporary impacts to Wetland A and its buffer

Objective 1: Restore the topography of temporarily disturbed areas to the original grade.

Objective 2: Revegetate temporarily disturbed areas with native species.

Performance Standards

- At year one, all planted trees and shrubs will exhibit a survival rate of 100 percent.
- At year two, the aerial cover of native woody species will be at least 20 percent.
- At year three, the aerial cover of native woody species will be at least 30 percent.
- At year five, the aerial cover of native woody species will be at least 50 percent.

Success Standards

- Disturbed areas are revegetated within the first growing season after construction.

Table 5. Monitoring Year Performance Standards

Monitoring Year	Performance Standards
1	Inundation or saturation to surface for 14 consecutive days during the growing season. 100% plant survival in created wetland and buffer. Habitat features secure and functioning. Less than 20% total noxious weed coverage. 0% Class A noxious weeds.
2	Inundation or saturation to surface for 14 consecutive days during the growing season 80% plant survival in created wetland and buffer. Habitat features secure and functioning Less than 20% total noxious weed coverage 0% Class A noxious weeds
3	Inundation or saturation to surface for 14 consecutive days during the growing season 15% aerial coverage of native woody plants in wetland creation areas 10% aerial coverage of native woody plants in restored buffer Habitat features secure and functioning Less than 20% total invasive coverage 0% Class A noxious weeds,
5	35% aerial coverage of native woody plants in wetland creation areas 25% aerial coverage of native woody plants in restored buffer Habitat features secure and functioning Less than 20% total invasive coverage 0% Class A noxious weeds,
7	50% aerial coverage of native woody plants in wetland creation areas 35% aerial coverage of native woody plants in restored buffer Habitat features secure and functioning Less than 20% total invasive coverage 0% Class A noxious weeds
10 (Success Standards)	70% aerial coverage of native woody plants in wetland creation areas 50% aerial coverage of native woody plants in restored buffer Habitat features secure and functioning Less than 20% total invasive coverage 0% Class A noxious weeds At least 0.22 acres of delineated wetland reestablishment Category III or higher rating of wetland reestablishment

Monitoring, Maintenance, and Contingency Plans

Upon completion of planting, an As-built plan will be prepared, documenting the final planting design and showing densities, sizes, and locations of planted vegetation. The Port will monitor the wetland areas beginning one year after installation for a minimum of ten years. During the annual monitoring, the survival of the plantings will be assessed, and species composition and aerial/percent coverage will be noted. Maintenance activities will be performed during the site visit. These activities include weed control, ensuring temporary irrigation systems are operational, and installation of replacement plants. Any areas not meeting performance standards will receive treatment as approved by the USACE. The restoration and mitigation objectives will be considered complete when the success standards are met.

Contingency Plans

- If survival rate performance standards are not met one year after planting, the contractor will replant all dead plantings.
- If aerial coverage performance standards are not met in any monitoring year, replanting and weed control will be conducted as necessary.
- If the noxious weed performance standard is not met in any monitoring year, biological and/or mechanical weed control will be performed as necessary.
- Irrigation from the municipal water supply will be provided to ensure establishment, if necessary.

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Appendix A – USGS StreamStats Reports

Basin Characteristics

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.04	square miles
PRECPRIS10	Basin average mean annual precipitation for 1981 to 2010 from PRISM	19.5	inches

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Region 3 2016 5118]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.04	square miles	0.08	2610
PRECPRIS10	Mean Annual Precip PRISM 1981 2010	19.5	inches	33.2	168

Peak-Flow Statistics Disclaimers [Peak Region 3 2016 5118]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Region 3 2016 5118]

Statistic	Value	Unit
50-percent AEP flood	0.295	ft^3/s
20-percent AEP flood	0.494	ft^3/s
10-percent AEP flood	0.635	ft^3/s
4-percent AEP flood	0.824	ft^3/s
2-percent AEP flood	0.968	ft^3/s
1-percent AEP flood	1.13	ft^3/s
0.5-percent AEP flood	1.29	ft^3/s
0.2-percent AEP flood	1.51	ft^3/s

Peak-Flow Statistics Citations

Mastin, M.C., Konrad, C.P., Veilleux, A.G., and Tecca, A.E.,2016, Magnitude, frequency, and trends of floods at gaged and ungaged sites in Washington, based on data through water year 2014 (ver 1.1, October 2016): U.S. Geological Survey Scientific Investigations Report 2016–5118, 70 p. (http://dx.doi.org/10.3133/sir20165118)

NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

No WBD HUC8s intersect the delineated basin.

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6. (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4. (https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4)

Application Version: 4.27.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Parameter Code	Parameter Description	Value	Unit
DRNAREA	Area that drains to a point on a stream	0.04	square miles
PRECPRIS10	Basin average mean annual precipitation for 1981 to 2010 from PRISM	19.4	inches

Peak-Flow Statistics

Peak-Flow Statistics Parameters [Peak Region 3 2016 5118]

Parameter Code	Parameter Name	Value	Units	Min Limit	Max Limit
DRNAREA	Drainage Area	0.04	square miles	0.08	2610
PRECPRIS10	Mean Annual Precip PRISM 1981 2010	19.4	inches	33.2	168

Peak-Flow Statistics Disclaimers [Peak Region 3 2016 5118]

One or more of the parameters is outside the suggested range. Estimates were extrapolated with unknown errors.

Peak-Flow Statistics Flow Report [Peak Region 3 2016 5118]

Statistic	Value	Unit
50-percent AEP flood	0.292	ft^3/s
20-percent AEP flood	0.49	ft^3/s
10-percent AEP flood	0.63	ft^3/s
4-percent AEP flood	0.817	ft^3/s
2-percent AEP flood	0.96	ft^3/s
1-percent AEP flood	1.12	ft^3/s
0.5-percent AEP flood	1.28	ft^3/s
0.2-percent AEP flood	1.5	ft^3/s

Peak-Flow Statistics Citations

Mastin, M.C., Konrad, C.P., Veilleux, A.G., and Tecca, A.E.,2016, Magnitude, frequency, and trends of floods at gaged and ungaged sites in Washington, based on data through water year 2014 (ver 1.1, October 2016): U.S. Geological Survey Scientific Investigations Report 2016–5118, 70 p. (http://dx.doi.org/10.3133/sir20165118)

NHD Features of Delineated Basin

NHD Streams Intersecting Basin Delineation Boundary

This functionality attempts to find the stream name at the delineation point. The name of the nearest intersecting National Hydrography Dataset (NHD) stream is selected by default to appear in the report above. NHD streams do not correspond to the StreamStats stream grid and may not be accurate. If you would like a different stream to appear in the above section, please make a selection below.

Watershed Boundary Dataset (WBD) HUC 8 Intersecting Basin Delineation Boundary

This functionality attempts to find the intersecting HUC 8 of the delineated watershed. HUC boundaries do not correspond to the StreamStats data and may not be accurate.

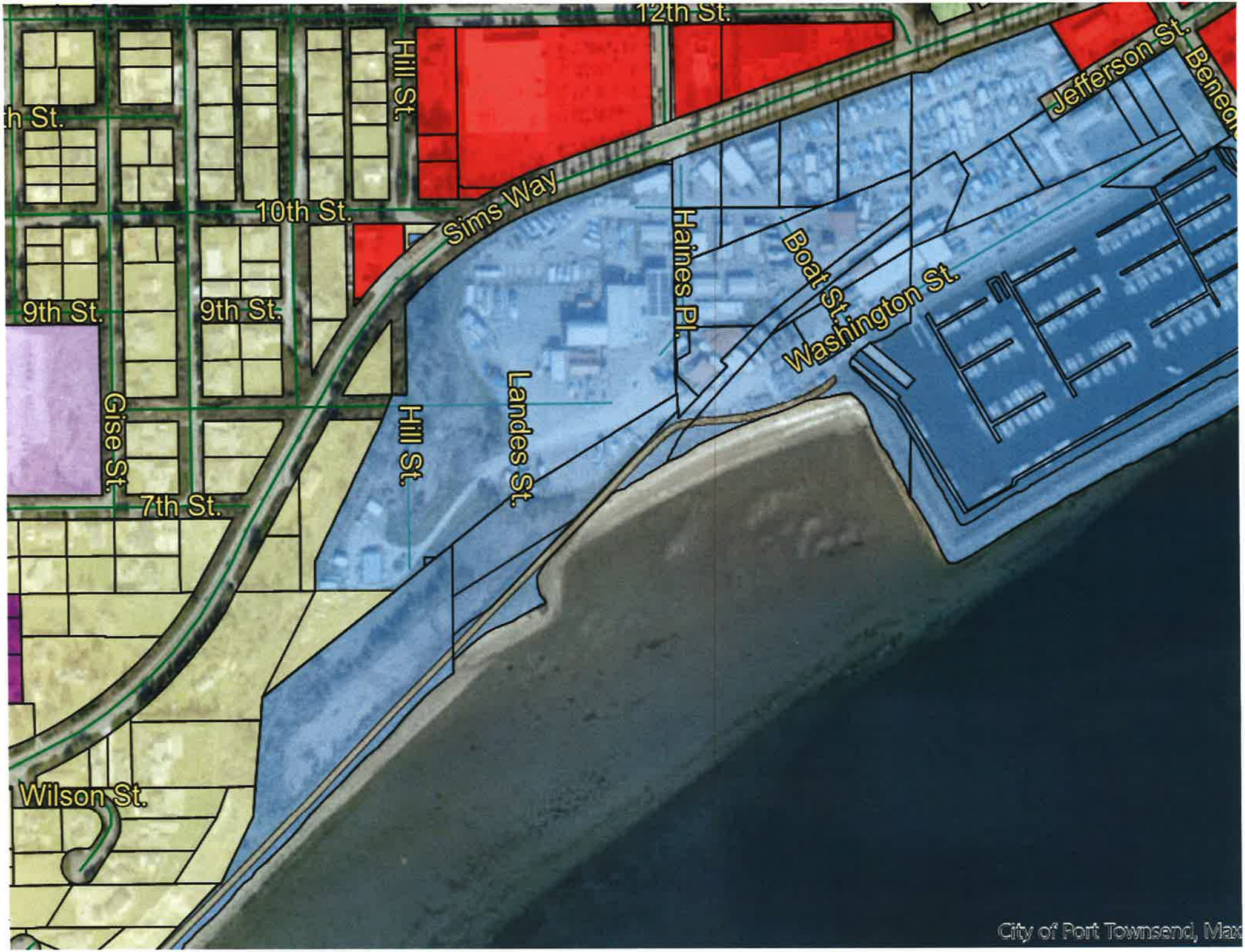
No WBD HUC8s intersect the delineated basin.

NHD Hydrologic Features Citations

U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6. (https://hydro.nationalmap.gov/arcgis/rest/services/nhd/MapServer/6) U.S. Geological Survey, 2022, USGS TNM - National Hydrography Dataset, accessed July 21, 2022 at URL https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4. (https://hydro.nationalmap.gov/arcgis/rest/services/wbd/MapServer/4)

Application Version: 4.27.0
StreamStats Services Version: 1.2.22
NSS Services Version: 2.2.1

Appendix B – Land Use and Zoning


12th St.
Hill St.
Jefferson St.
Sims Way
10th St.
Haines Pl.
Boat St.
Washington St.
9th St.
9th St.
Gise St.
Hill St.
Landes St.
7th St.
Wilson St.
City of Port Townsend, Max

Appendix C – NRCS Web Soil Survey

Soil Map—Jefferson County Area, Washington
(Sims Way Stormwater Facility (300ft buffer))

Map Scale: 1:4,390 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Jefferson County Area, Washington
Survey Area Data: Version 23, Aug 29, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 31, 2022—Aug 8, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
CfC	Cassolary sandy loam, 0 to 15 percent slopes	1.2	2.3%
CmC	Clallam gravelly sandy loam, 0 to 15 percent slopes	11.2	20.8%
Co	Coastal beaches	1.7	3.2%
Cu	Cut and fill land	23.8	44.2%
DcC	Dick loamy sand, 0 to 15 percent slopes	1.4	2.7%
Ro	Rough broken land	4.6	8.6%
Totals for Area of Interest		**53.9**	**100.0%**

Appendix D – Impact and Mitigation Quantities

The anticipated impact and proposed mitigation quantities are shown to the thousandth place to clarify rounding errors contained in the in-text tables.

Figure 7. Impact and Mitigation Quantity Details

Wetland	Rating	HGM Class	Cowardin Class	Total Size (acres)	Permanent Impacts				Temporary Impacts				Mitigation Type	Mitigation Ratio	Wetland Mitigation Area	
					Wetland		Buffer		Wetland		Buffer					
					SF	AC	SF	AC	SF	AC	SF	AC			SF	AC
Wetland A	Category II-Coastal Lagoon	Depressional	Emergent	3.63			11,500	0.264	1,955	0.044	8,200	0.188	Restoration	1:1	21,655	0.497
					320	0.007							Re-establishment	3:1	960	0.022
Wetland C1	Category III	Depressional	Emergent	0.07	2,975	0.070	-	-	-	-	-	-	Re-establishment	2:1	5,950	0.137
Wetland C2	Category III	Depressional	Emergent	0.03	1,257	0.030	-	-	-	-	-	-	Re-establishment	2:1	2,514	0.058
			Total	3.73	4,552	0.104	11,500	0.264	1,955	0.044	8,200	0.188		2.1:1	9,424	0.216