Geddes Marina Phase 2 Critical Areas Report and Mitigation Plan

Prepared for
City of Marysville

December 2021

Prepared by
Parametrix

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Prepared for

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December 2021 | 553-2967-005 (04.04)

CITATION

Parametrix. 2021. Geddes Marina Phase 2 Critical Areas Report and Mitigation Plan. Prepared by Parametrix, Seattle, Washington. December 2021.

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ACRONYMS AND ABBREVIATIONS

cfs	cubic feet per second
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
DC	Downtown Commercial
DPS	distinct population segment
Ecology	Washington State Department of Ecology
ESA	Endangered Species Act
ESU	evolutionarily significant unit
FR	Federal Register
HPA	Hydraulic Project Approval
I-5	Interstate 5
MMC	Marysville Municipal Code
MSMP	City of Marysville Shoreline Master Program
MTCA	Model Toxics Control Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	Ordinary High Water Mark
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
RM	River Mile
SEPA	State Environmental Policy Act
SP	sample plot
SR	State Route
USDA	United States Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington State Department of Fish and Wildlife
WDNR	Washington State Department of Natural Resources
WRIA	Water Resource Inventory Area

1. INTRODUCTION

This report was prepared to facilitate review of the Geddes Marina Phase 2 remediation project, pursuant to Sections 401 and 404 of the federal Clean Water Act, the State Environmental Policy Act (SEPA), and the City of Marysville Shoreline Master Program (MSMP). This report addresses the following Critical Areas: Wetlands (including Waters of the U.S.); Fish and Wildlife Habitat Areas (including Waters of the State and U.S.); and Geologic Hazard Areas. This report also provides additional information on plants and animals associated with the project site and nearby environments. Project-related photographs are found in Appendix A.

1.1 Project Location

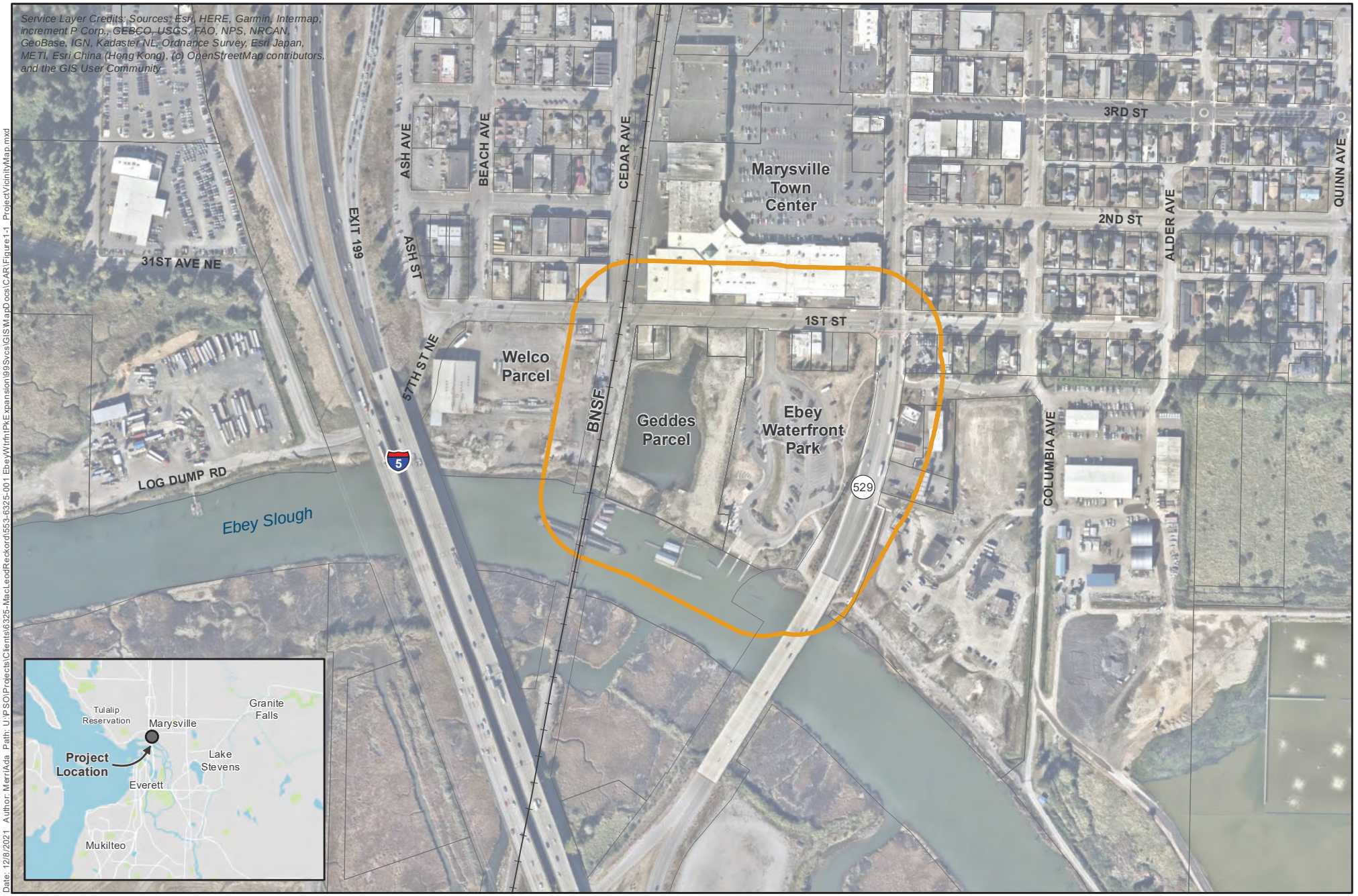
The project is located on the former Geddes Marina site, which is adjacent to and west of the City's Ebey Waterfront Park (Figure 1-1). The site is in the northwest 1/4 of Section 33, Township 30 North, Range 5 East, Willamette Meridian. The site is bounded by 1st Street to the north, Ebey Waterfront Park to the east, Ebey Slough to the south, and a BNSF railroad line to the west.

The project is within the Downtown Commercial (DC) zoning area. The entire project site is located within the City's Shoreline Management Act jurisdiction and are therefore subject to the MSMP (City of Marysville 2020a). According to the MSMP, the project site is within the High Intensity environment designation.

1.2 Background

In 2010, the City purchased the Geddes Marina site, which is currently vacant. The Geddes Marina site was used to moor boats and conduct commercial operations since the late 1800s. A lumber mill was once located near the northwest corner of the site and operated from the early 1900s to 1940s. The property became a full marina in 1947 and was dredged to create a larger inlet sometime between 1938 and 1947. The marina/boat basin area of the site occupies approximately 2.0 acres (Appendix A; Photos 1 and 2). A variety of contaminants are present in the basin substrate, including heavy metals, heavy oils, dioxins/furans, and polychlorinated biphenyls (PCBs).

The City is implementing the final remediation phase (Phase 2), which will include remediating the former boat basin.



Date: 12/8/2021 Author: MerriAda Path: U:\PSO\Projects\Clients\6325-MacLeodReckord\553-6325-001 EbeyWtrfrtPkExpansion\99Svcs\GIS\MapDocs\CAR\Figure1-1_ProjectVicinityMap.mxd

Source: Snohomish County,
© Mapbox, © OpenStreetMap

Study Area
Parcel
City Limit
Railroad

0 100 200 400
Feet

Figure 1-1.
Project Vicinity Map
Geddes Marina Phase 2

Marysville, WA

1.3 Project Description

The project is completing the remedial action on the Geddes Marina site that was initiated in 2016. The Phase 2 remediation involves capping the contaminated sediments in the boat basin to an elevation above the high-water mark (OHWM) with imported clean fill material. Three different alternatives (no action, capping, and excavation) were investigated, and capping the boat basin was determined to be the most feasible alternative in terms of protectiveness, long-term effectiveness, management of short-term risks, and implement ability (Maul Foster Alongi 2020).

A stabilizing layer consisting of a geogrid will be placed on top of the existing sediments within the former boat basin to allow for construction and reduce uneven settling and consolidation of the proposed cap layer. Approximately 5 to 8 feet of clean, imported fill and a 1-foot-thick stabilization layer made of a geotextile liner and rock will be used to cap impacted sediments. Additional fill material will be placed to extend the fill to the top of the basin bank, bringing the final grade above the OHWM and even with the surrounding site area.

The City's downtown stormwater conveyance system currently discharges into the former boat basin south of First Street. Stormwater discharging from the City's Downtown Stormwater Treatment facility will be rerouted via a conveyance pipeline and energy dissipation structure to a conveyance channel constructed along the western edge of the Geddes Marina site. The conveyance channel will discharge to Ebey Slough near the southwest corner of the site.

The conveyance channel will be tidally influenced and will be designed to mimic a natural tidal channel to conform with the City's Shoreline Management Act policies and regulations. The remediation project includes onsite buffer restoration as required by City of Marysville Critical Areas code. Mitigation for project impacts is discussed in detail in Section 5.

1.3.1 Other Actions Affecting the Project Area

In 2016, the City initiated an interim remedial action on the Geddes Marina site (Phase 1). This action included demolishing existing structures and associated facilities on the Geddes Marina site and placing a cap of clean soil over the upland portions of the site. The interim action did not include the remediation of the former marina boat basin.

In January 2019, the City removed all remaining boat houses and docks associated with the former Geddes Marina as an emergency action. This work was completed under an existing Hydraulic Project Approval (HPA) issued by the Washington State Department of Fish and Wildlife (WDFW).

The City is finalizing final design for their Downtown Stormwater Treatment Project (DSTP), which is a stormwater treatment retrofit project that will collect and provide water quality treatment for stormwater runoff from of downtown Marysville. The DSTP project will be constructed in the northwest of the former Geddes Marina boat basin. As the treatment project site is underlain by varying thicknesses of compressible soils, an effort is currently underway to preload the site to reduce settlement (Photo 3). The preload material was placed between August and October 2020. The preload material will be removed in 2021, stockpiled onsite, and will ultimately be used as the cap material for the Geddes Phase 2 Remediation Project. Construction of the stormwater treatment facility is scheduled to begin in early 2022 and is scheduled to be complete in late 2022 or early 2023.

The City is currently planning the expansion of the existing Ebey Waterfront Park, which is directly east of the Geddes Marina site. The primary focus of the park expansion project will be the development of the Geddes Marina site, including the same parcels where both the DSTP and the Geddes Marina Basin

Phase 2 Remediation Project will occur. The park expansion project will include expanded and improved public access to Ebey Slough, restoration of the associated shoreline; new overlooks, piers, and docks to facilitate public access to Ebey Slough; additional space and facilities for public outdoor recreation and events; and improved parking, pedestrian circulation, and accessibility within the existing park area. The City completed preliminary design of the park expansion project in March 2019. The Ebey Waterfront Park Expansion project will be implemented and constructed as a separate project following completion of the Downtown Stormwater Treatment Project and Geddes Marina Basin Phase 2 remediation project.

The descriptions of critical areas and the physical project site contained in this report represent conditions as they exist at the date of publication, which occurred following completion of the Geddes Marina site interim remedial action but before the start of the final remedial action. Discussions of project impacts and associated mitigation in this report are based on anticipated site conditions that will be present following implementation DSTP project.

1.4 Site Visit and Site Investigation

Parametrix wetland biologist (Trey Parry) and senior fish and wildlife biologist (Steve Krueger) conducted a site visit on April 25, 2018, and both individuals conducted a follow-up site visit on July 19, 2018. This work was completed as part of a coordinated evaluation of critical areas within and adjacent to the Geddes Marina site to support each of the City's proposed projects: Downtown Stormwater Treatment Project (including the previously permitted preload project); Geddes Marina Phase 2 site remediation; and the Ebey Waterfront Park Expansion project. An additional site visit was conducted on October 28, 2021 to verify that conditions observed during the previous investigations were unchanged.

1.4.1 Study Area

The study area included all areas in and within 200 feet of the Geddes Marina site (as described in Section 1.1). Wildlife and wildlife habitat were evaluated in all areas within 1/2 mile of the marina site.

1.5 Critical Areas in the Project Vicinity

Marysville Municipal Code (MMC) Chapter 22A.020.040 defines critical areas as areas of environmental sensitivity including wetlands, fish and wildlife habitat, and geologically hazardous areas. All three critical areas are found within the study area and are regulated under MMC Title 22E—Environmental Standards. These areas are discussed in detail in the following chapters of this report: Chapter 2: Wetlands; Chapter 3: Fish and Wildlife Habitat; and Chapter 4: Geologic Hazards. These chapters include details on specific critical area features, impacts to such areas from the proposed project, regulatory considerations, and mitigation measures.

1.5.1 Relationship with the Shoreline Management Act

The Geddes Marina Phase 2 Project is adjacent to a shoreline of the state, and the entire project area subject to the MSMP.

2. WETLANDS

2.1 Assessment Methods

Wetland assessments were based on a review of existing information on previously mapped wetlands, soil mapping, and other geographic and weather data, followed by field investigations, during which wetland boundaries were mapped on site. The methods for these assessment steps are described in the sections below.

2.1.1 Existing Information Review

Project biologists performed literature and data reviews to identify and characterize potentially affected wetland resources in and near the project area. Existing information was compiled and reviewed prior to conducting field reviews, which focused field survey efforts for verifying data and filling information gaps. Maps and other existing documents were an important resource for identifying ecosystem features in the project study area. The following resources were reviewed:

- Aerial photography of the project corridor (including the Snohomish County aerial photography database and Google Earth database).
- City of Marysville Critical Areas Map (City of Marysville 2012).
- National Wetlands Inventory (NWI) data (USFWS 2018a).
- Priority Habitats and Species (PHS) data (WDFW 2021).
- Snohomish County Area Washington Soil Survey (Natural Resources Conservation Service [NRCS] 2018).
- United States Department of Agriculture (USDA) PLANTS database (USDA 2019).
- Washington State Department of Natural Resources (WDNR) Natural Heritage Program database (WDNR 2019).
- Wetland and stream mapping by Snohomish County (Snohomish County 2018).
- Downtown Stormwater Treatment Project Critical Areas Report (Parametrix 2021).

2.1.2 Field Assessment

Field investigations at the project site were conducted to identify and map wetlands in accordance with MMC 22E.010.060. Project biologists used the methods specified in the Corps of Engineers Wetland Delineation Manual (Environmental Laboratory 1987) and the indicators described in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Corps 2010) to delineate on-site wetlands.

Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. An area must meet these three criteria or exhibit at least one positive field indicator of wetland vegetation, soils, and hydrology to be considered a wetland. Wetland determination data forms from the Regional Supplement to the

Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Corps 2010) were recorded for each wetland.

To identify potential wetlands, the wetland biologist evaluated field conditions by traversing the site and noting the presence of wetlands. Where possible, the biologists also looked from the property lines to approximately 200 feet surrounding the site. A sample plot (SP) multiple SPs were established for each area that appeared to have potential wetland characteristics. For each SP, information on dominant plant species, soil conditions in test pits, and evidence of hydrologic conditions was recorded on wetland determination data forms (Appendix B). Plants, soils, and hydrologic conditions were also analyzed and documented in adjacent upland areas. Based on collected data, a determination of wetland or upland was made for each area examined. Observations of wildlife species and signs of their presence were also noted during the field visit.

Following confirmation of wetland conditions, the wetland boundary was delineated by placing sequentially numbered pink wetland flagging along the wetland perimeter. SP locations were also marked with orange flagging or orange pin flags and sequentially numbered. The locations of wetland flags and test plots were subsequently surveyed by a professional land surveyor.

2.2 Assessment Results

2.2.1 Existing Information

2.2.1.1 Previously Mapped Wetlands

NWI identifies Ebey Slough and the on-site former marina basin as estuarine and marine deepwater habitats. No other sources, including the City's critical area maps (City of Marysville 2012), identify wetlands on or immediately adjacent to the site (north, east, and west). NWI identifies marine/estuarine wetlands on the opposite side (south) of Ebey Slough from the project location (USFWS 2018a).

2.2.1.2 Soils

Table 2-1 lists the soil types found within the study area. The predominant soil types mapped within the study area are Ragnar fine sandy loam sand (0 to 8 percent slopes) and Puget silty clay loam.

The Ragnar series consists of very deep, well-drained soils formed in glacial outwash, which is found on outwash plains at elevations ranging from 300 to 1,000 feet (NRCS 2018). This soil type typically does not have hydric soil conditions.

Table 2-1. Soil Types within the Study Area

Map Unit Symbol	Map Unit Name	Hydric Soil Rating[a]
57	Ragnar Fine Sandy Loam, 0 to 8 percent slopes	0%
55	Puget Silty Clay Loam	66 to 99%
83	Water	0%

[a] NRCS (2018). Web soil survey online interactive mapper. Available at http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed July 2018.

The Puget series consists of very deep, poorly drained soils formed in alluvium and found in depressional areas on floodplains at elevations ranging from near sea level to 650 feet. It is listed as a soil with a high likelihood of hydric soil conditions. However, this portion of the soil series is indicated as having been drained (NRCS 2018).

2.2.2 Field Investigations

Three wetlands (A, B, and C) were delineated and surveyed within the study area (Figure 2-1). Detailed descriptions of the delineated wetlands are in the subsections that follow. Wetland classifications and ratings are summarized in Table 2-2.

Table 2-2. Summary of Wetlands within the Study Area

Aquatic Resource Type	Resource Name	USFWS Type	HGM Type	City of Marysville Wetland Rating Category
Wetlands	A	E2EM1/PSSB	Estuarine Fringe	II
	B	E2EM1	Estuarine Fringe	II
	C	E2EM1	Estuarine Fringe	II

[a] As measured within the study area.

[b] As measured between the OHWM within the study area.

E2EM1 = Intertidal Estuarine Persistent Emergent; PSSB = Saturated Palustrine Scrub Shrub; HGM = Hydrogeomorphic

Wetland determination forms are provided in Appendix B. Wetland rating forms and associated figures are included in Appendix C. Appendix D contains a list of plant species observed during delineations.

Source: Snohomish County

0 50 100 200 Feet

Study Area
Parcel
Railroad
Delineated OHWM
Delineated Wetlands

Figure 2-1.
Field Identified Wetlands and OHWM
Geddes Marina Phase 2

Marysville, WA

2.2.2.1 Wetland A

Wetland A is located upstream (east) of the Ebey Waterfront Park boat launch. The wetland is part of a large wetland complex associated with the north shore of Ebey Slough. Its total size is larger than 1 acre, with approximately 0.32 acres within the study area. Wetland A extends off site to the east. Within the study area, the wetland is primarily composed of intertidal estuarine persistent emergent habitat with some saturated palustrine scrub-shrub habitat (Cowardin et al. 1979; FGDC 2013). Under the HGM classification system (Brinson 1993), Wetland A is classified as an estuarine fringe wetland.

The dominant vegetation within Wetland A includes Lyngbye's sedge (*Carex lyngbyei*), Pacific silverweed (*Argentina anserina*), softstem bulrush (*Schoenoplectus tabernaemontani*), broadleaf cattail (*Typha latifolia*), Baltic rush (*Juncus balticus*), and common glasswort (*Salicornia* sp.). The wetland hydrology is supported by Ebey Slough and the tidal flux of Puget Sound. Surface water, a high water table, saturation, water marks, sediment deposits, drift deposits, and additional primary and secondary wetland hydrology indicators were observed within Wetland A.

Soil was examined to a depth of 16 inches and consists of two layers. The first layer (0 to 3 inches) is dark gray (10YR 4/1) silty clay loam with dark brown (7.5YR 3/4) and very dark gray (5Y 3/1) redoximorphic features. The second layer (3 to 16 inches) is dark gray (2.5Y 4/1) silty clay loam with dark brown (5YR 3/4) and very dark gray (5Y 3/1) redoximorphic features. The soil within Wetland A meets the depleted matrix hydric soil indicator.

Although SR 529 crosses over Wetland A, Wetland A was not divided into two wetland rating units beneath the SR 529 bridge because there was no abrupt change in water volume, flow, or velocity, and the shaded unvegetated banks of Ebey Slough measured less than 50 feet long. Wetland A was rated as a Category II wetland based on the special estuarine characteristics of the wetland (Hruby 2014). In accordance with the MSMP, Wetland A receives a standard 50-foot buffer.

Representative wetland determination forms for Wetland A (SP 1 and SP 6) and the adjacent uplands (SP 5 and 6) are provided in Appendix B. The wetland rating form is provided in Appendix C. Photographs of Wetland A (Photos 4 and 5) are presented in Appendix A.

2.2.2.2 Wetland B

Wetland B is located downstream (west) of the Ebey Waterfront Park boat launch and upstream (east) of I-5. Its total size is larger than 1 acre, with 0.48 acre within the study area. Because of the similar landscape position, Wetland B is very similar to Wetland A. Within the study area, the wetland is primarily composed of intertidal estuarine persistent emergent habitat (Cowardin et al. 1979; FGDC 2013). Under the HGM classification system (Brinson 1993), Wetland B is classified as an estuarine fringe wetland. The wetland is intertidal and extends from about the OHWM at approximately elevation 9.4 feet down to approximately elevation 4.5 feet.

The dominant vegetation within Wetland B includes Lyngbye's sedge, Pacific silverweed, softstem bulrush, hardstem bulrush (*Schoenoplectus acutus*), Baltic rush, common glasswort, and climbing nightshade (*Solanum dulcamara*). The wetland hydrology is supported by stormwater inputs, Ebey Slough, and the tidal flux of Puget Sound. Surface water, a high water table, saturation, water marks, sediment deposits, drift deposits, and additional primary and secondary wetland hydrology indicators were observed within Wetland B.

Soil was examined to a depth of 16 inches and consists of two layers. The first layer (0 to 5 inches) is dark grayish brown (10YR 4/2) silty clay loam with gray (10YR 5/1) and strong brown (7.5YR 4/6) redoximorphic features. The second layer (5 to 16 inches) is dark grayish brown (10YR 4/2) silty clay loam with gray (10YR 5/1), strong brown (7.5YR 4/6), greenish black (5GY 2.5/1), and strong brown (7.5YR 5/8) redoximorphic features. The soil within Wetland B meets the depleted matrix hydric soil indicator.

A railroad bridge crosses over Wetland B; the outlet channel from the Geddes Marina site boat basin and Ebey Slough are within Wetland B. However, the wetland was not divided into separate wetland rating units beneath the railroad bridge or downstream of the outlet channel from the Geddes Marina site boat basin because there was no observed abrupt change in water volume, flow, or velocity and there were no unvegetated banks beneath the bridge. The on-site area of Wetland B is about 0.26 acre. The rating unit for Wetland B is separated from Wetland A by the Ebey Waterfront Park developed boat launch, which is approximately 85 feet wide. Wetland B was rated as a Category II wetland based on the special estuarine characteristics of the wetland (Hruby 2014). In accordance with the MSMP, Wetland B receives a standard 50-foot buffer.

Representative wetland determination forms for Wetland B (SP 3) and the adjacent uplands (SP 4) are provided in Appendix B. Wetland rating forms are provided in Appendix C. Photographs of Wetland B (Photos 6, 7, 8, and 9) are presented in Appendix A.

2.2.2.3 Wetland C

Wetland C is the former boat basin of the Geddes Marina. The wetland is approximately 2 acres. It is located to the west of the Ebey Waterfront Park, to the north of Ebey Slough and Wetland B, and it is within an area with a history of high-impact land use. The once natural estuarine wetland was filled between 1938 and 1952. The fill was later removed, and the site was dredged between 1954 and 1969, based on a review of historical aerial photography, to accommodate boat storage and mooring.

Today, Wetland C is no longer used for boat storage or mooring and the weir that was once used to control the water level of the boat basin is in a state of disrepair. As a result, a partially obstructed and semi-natural tidal flux has returned to the site and has resulted in a wetland area greater than 1 acre that is composed of intertidal estuarine persistent emergent habitat (Cowardin et al. 1979; FGDC 2013). Under the HGM classification system (Brinson 1993), Wetland C is classified as an estuarine fringe wetland.

The dominant vegetation within Wetland C includes Lyngbye's sedge, Pacific silverweed, softstem bulrush, hardstem bulrush, Baltic rush, common glasswort, reed canarygrass (*Phalaris arundinacea*), and climbing nightshade. Surface water, a high water table, saturation, water marks, sediment deposits, drift deposits, and additional primary and secondary wetland hydrology indicators were observed within Wetland C. The wetland hydrology is supported by Ebey Slough, tidal flux of Puget Sound, and stormwater inputs from the culvert beneath First Street.

Soil was examined to a depth over 16 inches and consists of three layers. The first layer (0 to 2.5 inches) is dark gray (10YR 4/1) silt loam with strong brown (7.5YR 4/6) redoximorphic features. The second layer (2.5 to 9 inches) is black (N 2.5/) silt loam. The third layer is greenish black (5GY 2.5/1) silt loam with dark brown (7.5YR 3/4) 2.5/1) redoximorphic features. The soil within Wetland C meets the depleted matrix hydric soil indicator.

The rating unit for Wetland C is separated from Wetland B by a weir, which creates a partial hydrologic break between the different wetland rating units. Wetland C was rated as a Category II estuarine wetland based on the special estuarine characteristics of the wetland (Hruby 2014). Because this

wetland and boat basin are mapped as a separate body of water from Ebey Slough, the wetland receives a standard 50-foot buffer according to the MSMP.

Representative wetland determination forms for Wetland C (SP 7) and the adjacent uplands (SP 8) are provided in Appendix B. Wetland rating forms are provided in Appendix C. Photographs of Wetland C (Photos 1, 2, and 11) are presented in Appendix A.

2.3 Regulatory Implications

All wetlands identified within the project vicinity are Category II wetlands within the City of Marysville's jurisdiction. The project would occur entirely along the north shore of Ebey Slough within the western city limits; therefore, the wetland buffer width is 25 feet as measured from the delineated boundary according to the MSMP.

Impacts to wetlands are regulated at the federal, state, and local levels. City development standards and mitigation requirements for wetlands are provided in MMC 22E.010.070 and 22E.010.110 through 22E.010.160.

2.4 Impacts

The project will permanently fill the entire former Geddes Marina boat basin (Wetland C) and the basin outlet channel (a portion of Wetland B), for a total permanent wetland impact area of 1.939 acres (Table 2-3). As summarized in Section 1.3 and detailed in the remediation study (Maul Foster Alongi 2020), capping the basin and outlet channel with imported, clean soil and transforming it into an upland area is the preferred cleanup alternative to address sediment issues on the property.

Table 2-3. Wetland Impacts

Wetland Name	City of Marysville Wetland Rating Category	Permanent Wetland Impacts (acres)	Temporary Wetland Impacts (acres)
A	II	0	0
B	II	0.055	0.088
C	II	1.884	0
Grand Total		**1.939**	**0.088**

In addition to these permanent impacts, approximately 0.20 acre of Wetland B would be temporarily affected on a short-term basis to create the new stormwater conveyance channel along the western edge of the Geddes Marina site. This area will be restored as part of the project.

There will be no direct impacts to Wetland A as part of the project. Additionally, no impacts to functioning wetland buffer vegetation will occur. All buffer areas on the project site were previously filled/capped as part of the Phase 1 remediation project.

3. FISH AND WILDLIFE HABITAT AREAS

Fish and wildlife habitat are critical areas regulated under MMC 22E.010 Article III, which include primary fish and wildlife habitat conservation areas, as described in MMC 22E.010.170(1), and habitats and species of local importance, as described in MMC 22E.010.170(2).

Primary fish and wildlife habitat conservation areas include the following:

- Habitats with federally designated endangered, threatened, and candidate species, including state-designated endangered, threatened, and sensitive species that have a primary association as defined in MMC Chapter 22A.020.
- State-designated priority habitats, and areas that are associated with state-designated endangered, threatened, and sensitive species.
- Naturally occurring ponds under 20 acres or not less than 0.50 acre.
- Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity.
- State natural area preserves and natural resource conservation areas.
- Areas of rare plant species and high-quality ecosystems as documented by the Washington State Department of Natural Resources Heritage Program.
- Land that provides essential connections between habitat blocks and open space and that is designated by the Washington State Department of Fish and Wildlife as a priority habitat in association with state endangered, threatened, or sensitive species.
- Streams as defined and classified in MMC Chapter 22A.020.

Habitats and species of local importance are those identified by the City including, but not limited to, those habitats and species that, due to their population status or sensitivity to habitat manipulation, warrant protection. Habitats may include a seasonal range or habitat element with which a species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce over the long term. No species or habitats of local importance have been identified by the City as of the date of this report.

3.1 Assessment Methods

3.1.1 Wildlife Habitat Assessment

Project biologists performed literature and data reviews to identify and characterize potentially affected ecosystem resources in and near the project area. Existing information was compiled and reviewed prior to conducting field reviews, which focused field survey efforts for verifying data and filling information gaps. Maps and other existing documents were an important resource for identifying ecosystem features in the project area. The following resources were reviewed:

- A Catalog of Washington Streams and Salmon Utilization (Williams et al. 1975).
- Aerial photography of the project area (including the Google Earth database).
- Endangered Species Act (ESA) listing information from the USFWS and the National Marine Fisheries Service (NMFS) (USFWS 2018b; NMFS 2016).

- National Wetlands Inventory (NWI) data (USFWS 2018a).
- Priority Habitats and Species (PHS) data (WDFW 2021).
- Salmonid Habitat Limiting Factors Analysis for the Snohomish River Watershed (Water Resource Inventory Area [WRIA] 7) (Haring 2002).
- SalmonScape fish data and maps (WDFW 2019).
- StreamNet data and maps (StreamNet 2018).
- The most recent Washington State Department of Ecology (Ecology) Clean Water Act (CWA) Water Quality Assessment and Section 303(d) list prepared by Ecology (2018).
- USFWS Critical Habitat Maps for Threatened and Endangered Species (USFWS 2018c).
- WDNR Natural Heritage Program database (WDNR 2019).
- Downtown Stormwater Treatment Project Critical Areas Report (Parametrix 2021).

Using field observation, aerial photographs, and pertinent literature, project biologists gathered and classified vegetation data, including dominant plant species composition and relative abundance by habitat type. Observations of noxious or invasive species were also recorded. The project biologists worked with spatial analysts to develop maps showing the delineated special habitat features identified during field surveys (wetlands/streams), priority habitats and species identified by WDFW, rare plant populations identified by the Natural Heritage Program, and other key ecological features needed to analyze impacts of the project. Sensitive information regarding the locations of proposed, candidate, and listed species and habitats are described in this report but are not mapped to protect the integrity of this information.

To support the analysis of effects on wildlife, project biologists identified wildlife species that are associated with the land cover types in the study area, and with specific habitat elements within each cover type. Project biologists identified the relative function of each plant community in providing habitat for wildlife, based on field observations, literature review, professional opinion, and agency consultation. Project biologists also assessed locations of known ecologically sensitive areas and important wildlife occurrences that may be sensitive to disturbance from noise or human presence. The assessment included a review of site-specific wildlife data, including bird surveys (e.g., eBird 2019), supplemented with data gathered during field visits. The wildlife species assessed include ESA-listed species and other species with regulatory status under the MMC.

3.2 Streams

The project site was assessed for the presence of streams by evaluating existing information, as well as through a field investigation of the entire study area. MMC 22A.020 defines streams as water contained within a channel, either perennial or intermittent, and classified according to locally appropriate stream classification systems based on Washington Administrative Code (WAC) 222-16-030. Streams also include open natural watercourses modified through engineering. Streams do not include irrigation ditches, waste ways, drains, outfalls, operational spillways, channels, stormwater runoff facilities, or other wholly artificial watercourses, except those that directly result from the modification to a natural watercourse.

As part of the on-site investigation and upon identification of an on-site aquatic area, the OHWM was delineated and mapped for all identified aquatic areas. The OHWM, similar to wetland boundaries,

identifies the outside edge of the regulated critical area so that protective buffers can be applied to that critical area to ensure it maintains adequate ecological functions and values.

3.2.1 Ordinary High Water Line Determination

Aquatic areas found on the site were delineated by identifying the OHWM using the definition provided in the Washington Administrative Code as follows: "that mark that will be found by examining the bed and banks and ascertaining where the presence and action of waters are so common and usual, and so long continued in all ordinary years, as to mark upon the soil a character distinct from that of the abutting upland, in respect to vegetation…" (WAC 222-16-030). In addition, the OHWM and elevation in streams were evaluated for compliance with methods and criteria specified in the U.S. Army Corps of Engineers (Corps) Regulatory Guidance Letter (RGL-07-01) and criteria detailed in the Shoreline Management Act (Revised Code of Washington [RCW] 90.58.030(2)(b), Washington, and Hydraulic Code Rules [WAC 220-110-020(31)]).

To delineate the OHWM, the bed and adjacent banks of aquatic areas in the study area were examined for indications of regular high-water events by qualified biologists trained in the use of ordinary high-water determination methods developed by Ecology (Anderson et al. 2016). Factors considered when assessing changes in vegetation included scour (removal of vegetation and exposure of gravel, sand, or other soil substrate), drainage patterns, elevation of floodplain benches, changes in sediment texture across the floodplain, sediment layering, sediment or vegetation deposition, and changes in vegetation communities across the floodplain.

In the field, the OHWM was typically identified with the placement of sequentially numbered blue and white flagging, spaced at 25- to 50-foot intervals. The flags were then professionally surveyed.

3.2.2 Stream Classification and Rating

MMC 22E.010.210 classifies streams into the following types:

- Type S: Those streams, within their OHWM, as inventoried as "shorelines of the state" under Chapter 90.58 RCW and the rules promulgated pursuant to Chapter 90.58 RCW.
- Type F: Those stream segments within the OHWM that are not Type S streams, and which are demonstrated, or provisionally presumed, to be used by salmonid fish. Stream segments which have a width of 2 feet or greater at the OHWM and have a gradient of 16 percent or less for basins less than or equal to 50 acres in size or have a gradient of 20 percent or less for basins greater than 50 acres in size are provisionally presumed to be used by salmonid fish.
- Type Np: Those stream segments within the OHWM that are perennial and are not Type S or Type F streams. However, for the purpose of classification, Type Np streams include the intermittent dry portions of the channel below the uppermost point of perennial flow. If the uppermost point of perennial flow cannot be identified with simple, non-technical observations (see Washington Forest Practices Board Manual, Section 23), then said point shall be determined by a qualified professional selected or approved by the City.
- Type Ns: Those stream segments within the OHWM that are not Type S, Type F, or Type Np streams. These include seasonal streams in which surface flow is not present for at least some portion of a year of normal rainfall that are not located downstream from any Type Np stream segment.

3.3 Assessment Results

The findings described herein were previously documented in the Downtown Stormwater Treatment Project Critical Areas Report (Parametrix 2021).

3.3.1 Existing Information

The study area contains the existing Geddes Marina site and Ebey Waterfront Park. The Park site is characterized by maintained lawn areas, vegetated stormwater conveyance features, asphalt parking areas, boat launch facilities and associated docks, restroom facilities, concrete sidewalks, and the Ebey Slough shoreline (Appendix A: Photos 11 to 14). The adjacent parcel (Geddes Marina site) currently contains preload material (Photo 3) adjacent to an approximate 2-acre boat basin (Wetland C) with a connecting channel to Ebey Slough (Photos 1, 2, 6, and 15). The following subsections describe vegetation cover types in the study area, summarize existing habitat functions and values, describe wildlife use, and identify species and habitats of concern in the study area.

3.3.1.1 Vegetation and Wildlife Habitat

There are no documented occurrences of rare plants or priority ecosystems within the study area (WDNR 2019).

Eleven cover types were identified in the study area. Table 3-1 summarizes the characteristics and relative habitat value of each cover type, based on habitat structure, disturbance types and frequency, and time required for recovery following clearing. Wildlife habitat values were not attributed to each occurrence of a cover type along the project corridor but instead were assigned to the cover type. Habitat value within a cover type at a specific location can vary and depends on several factors, such as size of the area; presence of (or proximity to) other valuable habitat; level and type of human disturbance; diversity of plant species; presence of multiple cover layers (i.e., tree, shrub, forb, and emergent layers); presence of threatened, endangered, or sensitive species; and extent of invasive weeds.

Table 3-1. Cover Types and Associated Wildlife Habitat Value for the Geddes Marina Phase 2 Remediation Project

Cover/Habitat Type	Description	Habitat Value
Unvegetated and Road	Paved roadways; these areas lack wildlife habitat features and are a risk to wildlife. Also includes parking lots and artificially surfaced playfields.	None.
Roadside Right-of-Way	Areas along roadways that are maintained for vehicular safety with mowing and herbicide application. These areas are disturbed regularly with maintenance actions, roadway noise, and pollution. These areas are dominated by non-native grasses and forbs and invasive species.	Low. There is very limited habitat structure and the periodic maintenance disturbance is very high. These areas may provide some browsing habitat for herbivores such as deer, rabbits, and rodents, and some limited foraging habitat for birds.

Table 3-1. Cover Types and Associated Wildlife Habitat Value for the Geddes Marina Phase 2 Remediation Project (continued)

Cover/Habitat Type	Description	Habitat Value
Mown Grass	This cover type includes regularly mown turf grass areas used for sports and recreation in Ebey Waterfront Park.	Low. There is very limited habitat structure and the disturbance is very high. These areas may provide some browsing habitat for herbivores such as deer, rabbits, and rodents, and some limited foraging habitat for birds. This habitat type would be quick to re-establish to current conditions after disturbance.
Grassland	This habitat type is represented by stands of unmown, or infrequently mown, grass weedy areas on the Geddes Marina site. This area was previously capped to cover contaminated soils.	Medium-Low. Although dominated by an invasive species, grasslands do provide habitat to support species adapted to meadows and open areas. The infrequent disturbances in these areas and structural complexity of the tall grass provide resources for a variety of mammals, reptiles, and birds. This habitat type would be quick to re-establish to current conditions after disturbance.
Brush	This habitat type includes patches of Himalayan blackberry (*Rubus armeniacus*), as well as areas of horticultural varieties and native shrubs.	Medium. Areas include native and non-native shrubs. Native shrubs support native wildlife species throughout their life histories. However, thickets of Himalayan blackberry and other invasive shrubs do provide good perching, nesting, and hiding habitat for small birds, reptiles, and mammals, including foraging habitat for some species.
Estuarine/Emergent Wetlands	Wetland areas dominated by rushes, sedges, and other emergent wetland vegetation.	High-Medium. Moderate structural complexity. The wetland functions further elevate the value of this habitat to wildlife and aquatic processes.
Developed—Commercial	Business properties that are dominated by buildings and parking areas. Some trees and patches of understory occur. The understory is highly disturbed and many non-native species are present.	Low. Some tree canopy habitat is available for birds and squirrels.
Light/Industrial	Similar to developed commercial areas with a higher component of impervious surfaces.	Very Low. Vegetation is typically limited to patchy invasive shrub vegetation including Himalayan blackberry.
Stormwater Ponds (boat basin)	Areas excavated specifically to detain and manage stormwater from impervious areas. Most areas are dominated by non-native grass species and are typically maintained through mowing and dredging.	Low. The limited structural diversity and periodic disturbance regime limits the value to wildlife. The ponded habitat tends to have a highly variable water table and polluted water source, severely limiting the value of the habitat to aquatic species.
Stream Channels	Relatively non-vegetated stream and river channels. Some submerged aquatic vegetation is present.	High. Many in-stream processes elevate the value of this habitat to aquatic wildlife.
Riparian Shrub	Areas dominated by shrubs within approximately 200 feet of the OHWM of streams and rivers.	Medium. Moderate structural complexity; short time to recover this habitat following disturbance. The proximity to streams further elevates the value of this habitat to wildlife and aquatic processes.

Wildlife

Overall, the unvegetated/road, grassland, mown grass, and developed commercial areas are the dominant cover/habitat types in the project area and, as such, provide low to moderate habitat value for wildlife. The estuarine wetland areas, Ebey Slough, and riparian habitat comprise a small percentage of the overall habitat within the study area; however, these areas represent the higher value cover and habitat types that are important for wildlife. Wildlife observed during field visits include those typically habituated to human activities including rock dove, English sparrow, American robin, American crow, dark-eyed junco, barn swallow, and killdeer.

Numerous species of birds and mammals are known to use and occupy habitats within the Snohomish River estuary and use its habitats for foraging, breeding, and nesting, as well as rest areas for those species migrating through either on their way to nesting grounds in the north or to overwintering areas in the south.

Ziegler (1986) identified 116 bird migratory and resident bird species using estuarine habitats in the lower Snohomish River estuary. Shorebirds use the estuary during both spring and fall migrations and include such species as Dunlin, western sandpiper, Baird's sandpiper, sharp-tailed sandpiper, pectoral sandpiper, golden plover, black-bellied plover, and dowitcher (Pentec 1996). Raptors and waterfowl also make use of habitats in the estuary and includes species such as northern harrier, red-tailed hawk, Cooper's hawk, peregrine falcon, bald eagle, osprey, Merlin, great-horned owl, western screech owl, Canada goose, loon, goldeneye, northern shoveler, American coot, mallard, northern pintail, ruddy duck, trumpeter swan, scoter, brant, and red-breasted merganser (Carroll 1992; Carroll and Pentec 1992). Other bird species include cormorants, gulls, pigeon guillemot, marsh wrens, American bittern, Virginia rail, sora rail, common snipe, and terns. Warblers and other passerines also migrate through the estuary in spring and fall (City of Everett and Pentec Environmental 2001).

Terrestrial mammals known to occur within the estuary include river otter, mink, raccoon, coyote, muskrat, and weasel (City of Everett and Pentec Environmental 2001). Marine mammals include harbor seal, California sea lion, and Steller sea lion (City of Everett and Pentec Environmental 2001).

3.3.1.2 Fish and Wildlife Habitat Conservation Areas

According to PHS data, no terrestrial wildlife priority species have been recorded within 0.25 mile of the project area (WDFW 2019). The PHS database does identify the area as supporting regular waterfowl concentrations.

The potential value of habitat in the project area is diminished by the abundance of invasive species; noise and disturbance from human activity on surrounding roads, highways, and commercial/industrial properties; and the presence of roads, buildings, fences, and other barriers traveled by wildlife species. These areas have also been degraded by historic and current land use, which limit the ability of the areas to support diverse wildlife populations and instead attract species that, in general, have become accustomed to human disturbance and activity. Regardless, Ebey Slough and adjacent floodplain habitats, including associated wetlands, would be considered a fish and wildlife habitat conservation area because these areas are primary habitats associated with federal and state-listed endangered, threatened, and sensitive species such as Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*O. kisutch*), sockeye salmon (O. *nerka*), pink salmon (*O. gorbuscha*), cutthroat trout (*O. clarkii clarkii*), and steelhead (*O. mykiss*), among others. A more detailed discussion of species with special listing status that occur or may potentially occur in the project area follows.

Federal Listed Endangered, Threatened, and Sensitive Species

ESA-Listed Aquatic Species

Attention is given to species with listing status under the ESA because such status triggers additional regulatory review. The ESA requires each federal agency to ensure that any actions it undertakes or approves do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of their designated critical habitat.

The following subsections summarize the status of these species, as well as the timing and nature of their habitat use in the study area.

Puget Sound Chinook Salmon

Chinook salmon in the Puget Sound evolutionarily significant unit (ESU) are listed as threatened under the ESA (63 Federal Register [FR] 11482, March 24, 1999). The ESU includes naturally spawned Chinook salmon originating from rivers flowing into Puget Sound, along with Chinook salmon from 26 artificial propagation programs. Primary factors contributing to declines in Chinook salmon in the Puget Sound ESU include habitat blockages, genetic modification of wild fish through interbreeding with hatchery fish, urbanization, logging, hydropower development, harvests, and flood control and flood effects (NMFS 1998). Ebey Slough is designated critical habitat for Chinook salmon (USFWS 2018c).

The Snohomish River supports both summer-run and fall-run Chinook salmon stocks, which enter the system between June and September and then spawn from early fall through late November (WDFW 2019; City of Everett and Pentec Environmental 2001). Emergence of fall-run Chinook salmon occurs in February and March with migration to the estuary beginning in March or April. The estuary residence time for juvenile Chinook is from April through July (City of Everett and Pentec Environmental 2001; Pentec and NW GIS 1999). Typically, individual residence time in the estuary for juvenile fall Chinook, which comprises the largest proportion of Chinook salmon stocks in the Snohomish basin, is between 1 and 3 weeks (City of Everett and Pentec Environmental 2001).

Based on the above factors, adult Chinook salmon may be present in the project area from June through September migrating through the project area to spawning areas farther upstream. Out-migrating juvenile Chinook are likely present during all months of the year but with a peak in May and June (Arber 2019; Rice et al. 2014).

Puget Sound Steelhead

The Puget Sound steelhead distinct population segment (DPS) is listed as a threatened species (72 FR 26722, May 11, 2007). The DPS includes all naturally spawned anadromous steelhead originating below natural and artificial impassable barriers from rivers flowing into Puget Sound (79 FR 20802, April 14, 2014). The DPS also includes steelhead from six artificial propagation programs. The Snohomish River supports both summer-run and winter-run steelhead (WDFW 2019). Winter-run steelhead pass through the estuary and return to the Snohomish River system between November and April and spawn in the larger tributaries such as the Skykomish River and Snoqualmie River between January and June (Pentec and NW GIS 1999; WDFW 2019). Summer-run steelhead usually enter the river system between May and October and spawn between January and June in the upper headwaters of the Skykomish River and the upper Tolt River—a major tributary to the Snoqualmie River (Pentec and NW GIS 1999; WDFW 2019). Steelhead smolts, because of their larger size and age in comparison to other species of outmigrating juvenile salmonids, do not typically spend time in the estuary environment prior to moving into the marine environment. Limited numbers of steelhead smolts have been sampled in estuary marshes, including the project area, primarily from mid-April through early July, although some steelhead smolts were still being sampled through August (Pentec 1992).

Steelhead use of Ebey Slough is limited to migration habitat during upstream spawning migrations for adults and outmigration as juveniles. However, some life stage of the species could be present during any time of the year.

Bull Trout

The bull trout (*Salvelinus confluentus*) is listed as a threatened species (64 FR 58910, November 1, 1999) and is a candidate for listing at the state level. All bull trout in the coterminous United States are included in the listing. Bull trout are present the Snohomish River system and may exhibit resident, fluvial, and adfluvial life history forms in addition to anadromy (WDFW 2019; KCDNR 2000). The anadromous life history form is the most likely life history phase to occur in the project area. Typically, adults return to the Snohomish River from August through September and spawn in headwater tributaries between September and October (Pentec and NW GIS 1999). Newly emerged anadromous bull trout emerge from the gravel in the spring and spend approximately 2 years in fresh water before they migrate to marine waters (WDFW 1998). Estuary residence time for juvenile anadromous bull trout is between March and May (Pentec and NW GIS 1999).

Bull trout are likely present in Ebey Slough for most of the year, with the exception between August through November when they are at their upper headwater spawning areas, far removed from the project area.

Southern Resident Killer Whale

The southern resident DPS of killer whales (*Orcinus orca)* was listed as endangered on February 16, 2006 (70 FR 69903), and a recovery plan was completed in 2008. In 2016, NMFS completed a 5-year review and concluded that southern resident killer whale should remain listed as endangered (NMFS 2016). Critical habitat in inland waters of Washington was designated on November 29, 2006 (71 FR 69054); no designated critical habitat is present in the project area.

Aquatic habitats in the action area consist of shallow, confined, estuarine areas that southern resident killer whales (SRKW) are not expected to enter. There have been no documented observations of SRKW in the action area.

ESA-Listed Terrestrial Species

The USFWS Information, Planning, and Conservation System identified four ESA-listed wildlife species, and one species proposed for listing, as potentially occurring in areas that might be affected by the project (USFWS 2018b). Only one of the four species have the potential to be affected by project activities with the remaining species being eliminated from further consideration for the following reasons:

- Yellow-billed cuckoo (*Coccyzus americanus*), listed as threatened, requires large blocks of riparian forest habitat for breeding and foraging. No such habitat is present in or near the study area. Currently, the species no longer breeds in western Canada and the northwestern continental United States (Washington, Oregon, and Montana) (79 FR 59992, October 3, 2014). No observations of this species have been documented within 15 miles of the study area (WDFW 2019). No critical habitat for the yellow-billed cuckoo has been proposed in Washington.
- Streaked horned lark (*Eremophila alpestris strigata*), listed as threatened, is known to occur in Washington only in portions of southern Puget Sound, along the Washington coast, and at lower Columbia River islands (78 FR 61452, October 3, 2013). Breeding habitat for streaked horned lark in Washington consists of grasslands and sparsely vegetated areas at airports, sandy islands,

and coastal spits. The subspecies is largely absent from the Puget Trough during the non-breeding season; individuals observed in this area outside of the breeding season have been seen using similar habitats to those used for breeding. No such habitat is present in the study area, and the study area is not within the known range of the subspecies. The nearest location where critical habitat has been designated for the streaked horned lark is more than 100 miles from the study area.

- North American wolverine (*Gulo gulo luscus*), proposed for listing as threatened, avoids people and developed areas, and prefer cold and remote mountainous areas with persistent spring snow cover. No such habitat is present in the lowland, urban setting of the study area.
- Oregon spotted frog (*Rana pretiosa*), listed as threatened, occupies emergent freshwater wetland habitats in forested landscapes but not under canopy. Current distribution is limited to only six sub-basins/watersheds in Washington (79 FR 57658, August 29, 2014), of which the Snohomish River watershed was not included. Given the lack of suitable habitat on the site and current distribution, the presence of this species is not anticipated within the study area.

Marbled Murrelet

Marbled murrelet (*Brachyramphus marmoratus*), listed as threatened, require old-growth forest for nesting and marine habitat for foraging. No breeding or foraging habitat is present in the immediate study area; however, marbled murrelets have been documented in Possession Sound approximately 2 miles west of the project area where foraging habitat is available (eBird 2019). Marbled murrelets may fly over the project area between the marine foraging areas of Puget Sound and nesting habitat in eastern Snohomish County. The nearest location where critical habitat has been designated for the marbled murrelet is more than 25 miles from the study area.

State-Listed Species and Species of Local Importance

In addition to the ESA-listed species discussed above, several species that may use aquatic habitats in the study area have state listing status. Table 3-2 presents the regulatory status of these species and summarizes each species' known or expected use of habitats in the study area. Similarly, several terrestrial wildlife species may use habitats in the project area and have state listing. Table 3-3 presents the regulatory status of these species and summarizes each species' known or expected use of habitats in the study area.

Table 3-2. Special Status Fish Species in the Study Area

Species	Status[b]	Habitat Use in Study Area
Bull trout	FT, SC	Anadromous bull trout pass through the estuary from April through August to upstream spawning areas; outmigrating anadromous bull trout are typically present within the estuary between March and May
Chinook salmon	FT, SP	Adult Chinook typically migrate through the estuary to suitable spawning habitat upstream between June and September. Estuary habitat is crucial for rearing Chinook salmon. Individual juvenile residence time in the estuary varies depending on the age class (1 to 3 weeks) but typically they are present between March and May.
Chum salmon	SP	Adults pass through the estuary September through March to upstream spawning areas and juveniles are typically present in the estuary between April and June. Chum salmon juveniles are highly associated with estuarine habitats in the Snohomish River system.

Species	Status[b]	Habitat Use in Study Area
Coho salmon	SP	Adults pass through the estuary August through November to upstream spawning areas and juveniles are typically present in the estuary between March and May. Coho juveniles show a stronger affinity to estuarine habitats in the Snohomish River system than previously thought.
Coastal cutthroat trout	SP	Sea-run cutthroat trout pass through the estuary in December through June to upstream spawning areas and estuary residence time is January through October.
Pacific lamprey	SP	No documented occurrence in the project area; however, Pacific lamprey is documented in Pilchuck River upstream.
Pacific herring	SP	Occasional visitor to Snohomish River estuary
Pink salmon	SP	Adults pass through the estuary August through September to upstream spawning areas and juvenile pink salmon move through the estuary only during even years, following odd-year spawning by adults. Of all salmon species, pink salmon juveniles are the least associated with estuary habitats and move relatively quickly to marine waters.
Rainbow trout	SP	Occasionally observed
River lamprey	SC	No documented occurrence in the project area; however, river lamprey is documented in the Snoqualmie River upstream; typically associated with larger river systems such as the Columbia River or Fraser River.
Sockeye salmon	SP	Rearing habitat for juveniles and migration corridor for adults
Steelhead	FT, SC	Migratory corridor for adults and outmigrating smolts

Sources: City of Everett and Pentec 2001; Pentec and NW GIS 1999; Pentec 1996a, 1996b; KCDNR 2000; WDFW 2019, 2021.

[a] See discussion in the introduction to this subsection.

[b] FT – Federally listed as Threatened under the ESA; SC = Candidate for state listing; SP = State priority species

Table 3-3. Special Status Wildlife in the Study Area

Species	Status[a]	Habitat Use in Study Area
Birds		
Barrow's goldeneye	SP	Occasional visitor to estuary
Western High Arctic Brant	SP	Occasional visitor to estuary
Bufflehead	SP	Common visitor to estuary
Common goldeneye	SP	Common winter visitor
Common loon	SS	Occasional visitor
Great blue heron	SP	Common year-round
Trumpeter swan	SP	Occasional winter visitor to estuary
Tundra swan	SP	Rare winter visitor in estuary
Mammals		
Steller sea lion	SP	Infrequent/rare visitor to Snohomish Estuary
California sea lion	SP	Occasional visitor to Snohomish Estuary
Harbor seal	SP	Occasional visitor to Snohomish Estuary

Sources: eBird 2019; Carroll and Pentec 1992; City of Everett and Pentec 2001; Pentec 1996a, b: Audubon Society 2018; WDFW 2019.

[a] SC = Candidate for state listing; SP = State priority species; SS = State Sensitive; Fco: Federal Species of Concern

3.3.1.3 Previously Mapped Aquatic Areas

Numerous sources identify the Ebey Slough as occurring within the study area (USFWS 2018a; Snohomish County 2018; StreamNet 2018; WDFW 2019). No other aquatic areas were identified within the study area using existing information.

3.3.2 Field Investigations

Project biologists identified one stream in the study area: Ebey Slough (see Figure 1). The former marina boat basin was also identified and has a direct connection to Ebey Slough. The attributes of the slough are summarized in Table 3-4.

Table 3-4. Stream Summary

Stream Name	Stream Index No.[a]	State Interim Water Type[b]	Local Jurisdiction	Local Jurisdiction Stream Classification	Local Jurisdiction Standard Buffer Width (feet)[c]
Ebey Slough and off-channel boat basin	07.0043	Type 1	City of Marysville	Type S	25

[a] WRIA identification numbers from Williams et al. (1975)

[b] WAC 222-16-031

[c] Buffer width established through the MSMP (City of Marysville 2020a)

3.3.2.1 Ebey Slough

Ebey Slough is a right-bank side channel or tidal-influenced distributary of the Snohomish River and connects to the Snohomish River at approximately River Mile (RM) 8.1. Ebey Slough then flows north-northwest for approximately 12.4 miles before discharging to Possession Sound, approximately 2 miles north of the Snohomish River (Williams et al. 1975).

The north bank (right bank) of Ebey Slough, within the study area, has been highly modified by historic and current land use practices. The existing Ebey Waterfront Park includes a boat launch facility and associated dock structures (Appendix A: Photo 11). The Geddes Marina site contains a remanant rail boat lift (Photos 7 and 16) and creosote piles. Riparian vegetation is limited to a narrow band, only several feet wide, and in most cases, are only vegetated with weedy herbaceous species (Appendix A: Photo 18). Narrow estuarine wetlands exist along most of the shoreline within the project area, which is discussed in more detail in Chapter 2. Common vegetation includes Lyngbye's sedge, Pacific silverweed, softstem bulrush, broadleaf cattail, Baltic rush, and common glasswort (Appendix A: Photos 4 and 9).

Fish Use

The lower Snohomish estuary, including the distributary channel of Ebey Slough, supports seven salmonid species including Chinook salmon, coho salmon, sockeye salmon, chum salmon (*O. keta*), pink salmon, steelhead, sea-run coastal cutthroat trout (*O. clarkii clarkii*), Dolly Varden (*Salvelinus malma*), and bull trout (*S. confluentus*) (WDFW 2019; Corps 2012).

For adult salmonids the lower estuary, including Ebey Slough, is used primarily as a migration corridor and as a physiologic transition zone between saltwater and freshwater environments. Spawning for all salmonid species occurs farther upstream in the mainstem Snohomish, Snoqualmie, and Skykomish rivers and their tributaries. For some species such as Chinook salmon, coho salmon, and chum salmon,

the residence time within the lower estuary environment for outmigrating juveniles is important because the physiological transition from freshwater to saltwater takes longer than other species such as steelhead, pink salmon, and anadromous forms of bull trout and Dolly Varden, who tend to not linger in the lower estuary and move quickly to the marine environment (Corps 2012).

Other species commonly occurring in the lower estuary environment includes starry flounder and peamouth chub, Pacific staghorn sculpin, and prickly sculpin. Other species that can be found in the lower estuary environment include shiner perch, Pacific and river lampreys, and three-spined sticklebacks. White sturgeon, pumpkinseed sunfish, candlefish, and Pacific herring are less common in the lower estuary but may be present occasionally (Snohomish County 2011).

3.3.2.2 Former Off-Channel Marina/Boat Basin

The center of the Geddes Marina site is an approximately 2-acre former boat basin. The boat basin is the discharge point for stormwater conveyed from the approximately 480-acre drainage area that includes much of downtown Marysville. Water exchanges between the boat basin and Ebey Slough via an approximately 70-foot-long, 12-foot-wide outlet channel (Appendix A: Photos 1 and 6). Remnants of an old water control structure, which allowed the boat basin to maintain adequate depth for use as a marina, are still visible at the outlet channel (Appendix A: Photos 1 and 15). The weir no longer functions to control water elevations in the former boat basin.

Under current conditions, the boat basin is tidally influenced, and water levels within the boat basin fluctuate accordingly, but the foundation of the former boat basin weir remains in place and limits the inflow of water from Ebey Slough to periods with higher tide levels. Most of the boat basin is exposed mud flat when the tide is ebbing, except for a narrow channel cutting through the mudflat that typically stays wetted because of stormwater contributions. The perimeter of the boat basin is vegetated primarily with herbaceous weedy plant species (Appendix A: Photo 18). During the site visit and when the tide was out, numerous unidentified juvenile salmonids were observed within the narrow channel cut into the mudflat up to the culvert beneath First Street (Appendix A: Photo 10). Given its unrestricted connection to Ebey Slough, any species that currently use Ebey Slough could potentially occur within the boat basin.

Stormwater entering the Geddes Marina site from the drainage basin has been monitored for arsenic, chromium, copper, lead, nickel, selenium, and zinc, but none of the pollutants were above or close to the limits set by Ecology (Ecology 2011). The sediment in the Geddes Marina site was tested with soil samples taken throughout the site. Arsenic, cadmium, copper, lead, mercury, and zinc were found in various locations and were above the Model Toxics Control Act (MTCA) Method A level or the ecological indicator concentration.

3.4 Regulatory Implications

MMC 22E.010.180 identifies regulated activities within fish and wildlife habitat areas. While wetlands are technically considered fish and wildlife habitat conservation areas, they have separate and distinct development regulations and are discussed in more detail in Chapter 2.

3.5 Impacts

As described above in Section 2.4, the project will permanently fill the entire boat basin and outlet channel, for a total impact area below OHWM of 2.088 acres. An additional 0.117 acre of habitat below the OHWM of Ebey Slough would be temporarily affected on a short-term basis due to shoreline restoration activities and excavation of the new stormwater conveyance channel.

4. GEOLOGIC HAZARDS

The following sections summarize information on existing geological site conditions in relation to identified geologic hazards, as described in the project's draft geotechnical report prepared by HWA GeoSciences Inc (2021).

4.1 Methods

Geologic hazards include landslide hazard areas, erosion hazard areas, and seismic hazard areas, which are regulated critical areas as identified in MMC 22E.010.010.010(1). These features were identified in the study area through a review of the City of Marysville's Geologic Hazard Map (2014).

4.2 Geologic Hazards in the Study Area

The City of Marysville (2014) identifies that the only geologic hazard located within the City's jurisdiction for this project are seismic hazard areas, including areas with moderate to high susceptibility to liquefaction. No other geologic hazard areas are mapped within the project vicinity.

4.3 Regulatory Implications

The development standards in 22E.010.290 indicate that alterations to seismic hazard areas may be approved if the applicant implements appropriate engineering design based on the best available engineering and geological practices that either eliminates or minimizes the risk to structures or injury resulting from seismically induced settlement or soil liquefaction.

4.4 Geologic Evaluation

The study area is located within the Puget Lowland Basin, where the near-surface geology has been shaped by numerous glacial episodes during the past approximately 2 million years. Each of these glacial periods was separated by interglacial periods, where non-glacial sediment deposition occurred. The most recent glacial episode, the Vashon Stade of the Fraser Glaciation, is responsible for most of the present-day topography and near-surface geologic conditions within the proposed alignment corridor. Near-surface deposits in the project area include alluvial and glacial outwash soils associated with the Halocene Younger Alluvial Deposits (Qyal) in the south and Quaternary Recessional Outwash (Qvrm) in the northern part of the study area near First Street (HWA 2021). The deposits area is described as stream-laid stratified sediment composed of interbedded layers of silt, sand, and clay.

4.4.1 Geologic Units

Several prior geotechnical studies were conducted within the study area that included approximately 30 exploratory borings (Maul Foster and Alongi 2014, 2015a, 2015b; Gray and Osborne, Inc. 2014; HWA GeoSciences, Inc. 2016) as summarized in HWA GeoSciences, Inc. (2021). An additional 2 boring were conducted in September 8, 2021, directly south and east of the boat basin. Four soil units (geologic units) were identified within the study area including fill, silty and clayey peat, alluvium, and recessional outwash and are represented below starting with the younger more recently deposited material.

4.4.1.1 Fill

Fill placed to raise grades as part of past development activities at the site was observed in all the borings. Fill generally consisted of loose to medium dense, slightly silty to silty sand, with no gravel to little gravel and interbedded lenses of silt and clay (HWA 2021). Woody debris and construction debris were also encountered in several locations.

4.4.1.2 Silty and Clayey Peat

Silty or clayey layers were observed in several of the borings and were often found above or interbedded with very soft to soft clay and silt material. These soils were likely deposited in the slower moving waters at the edge of the slough and are typically compressible (HWA 2021).

4.4.1.3 Alluvium

Alluvium was typically encountered below the fill and peat layers at depths ranging from 6 to 12 feet and consists of loose to medium dense sand, with varying amounts of silt and gravel. The layer of alluvial material extends a considerable distance beneath the peaty material and is generally susceptible to liquefaction during an earthquake (HWA 2021).

4.4.1.4 Recessional Outwash

Recessional outwash encountered consists of loose to medium dense, brown to gray, sand to silty sand, and were deposited in meltwaters from receding glaciers and therefore have not been overridden, resulting in a less dense material to that of other glacial deposits (HWA 2021). Similar to alluvium, recessional outwash material is typically susceptible to liquefaction during an earthquake.

4.4.2 Groundwater Conditions

Groundwater was typically observed at depth of approximately 5 to 10 feet. In general, groundwater conditions are assumed to be no deeper than the elevation of the water surface in Ebey Slough, which are influenced by tidal elevations throughout the day.

4.5 Impacts

The project area is located within a mapped seismic hazard area (moderate to high liquefaction hazard) and is underlain by a combination of compressible and potentially liquefiable soils and extend to considerable depths below the site. Methods to minimize the risk of structural damage and injury result from seismically induced settlement and soil liquefaction will be implemented through the engineering and design process for the project.

5. PRELIMINARY MITIGATION PLAN

The purpose of the mitigation plan is to compensate for impacts as a result of the proposed Geddes Marina Phase 2 remediation project. This is a conceptual-level mitigation plan prepared to support review of the project pursuant to SEPA and the MSMP and was prepared to meet the requirements of MMC 22E.010.140(1). A detailed final mitigation plan will be prepared during final design.

5.1 Mitigation Sequencing

MMC 22E.010.100 and the MSMP require project proponents to sequence the design of projects so that impacts to critical areas can be avoided and minimized to the extent practicable, and that when impacts to these sensitive areas are unavoidable, the combination of minimization measures, including construction-related best management practices (BMPs), and mitigation will result in "no net loss" of ecological function. The following is the sequence of steps that have been applied in order of priority:

a) Avoiding the impact altogether by not taking a certain action or parts of actions;

b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

d) Reducing or eliminating the impact over time by preservation and maintenance operations;

e) Compensating for the impact by replacing or providing substitute resources or environments;

f) Monitoring the impact and taking appropriate corrective measures.

Through design, the critical areas and shoreline were avoided and minimized to the extent practicable. The project will not impact on-site portions of Wetland A and impacts to higher valued and higher quality areas of Wetland B were minimized.

5.1.1 Water Pollution Minimization Measures During Construction

The project will require in-water work, including excavation, debris removal, the placement of in-water fill material. The project will also require soil disturbance and other site work in upland areas adjacent to surface water and in areas that collect stormwater and discharge stormwater to surface waters. Conservation measures and BMPs will be incorporated into the proposed project to avoid and minimize short-term and long-term impacts to water quality during construction. The following includes BMPs and conservation measures that will be implemented to minimize impacts to water quality.

- Implementing construction phasing that minimizes the amount of earthwork that exposes the ground surface to erosion;
- Implementing a Temporary Erosion and Sediment Control (TESC) plan including sediment-control BMPs such as silt fences, check dams, sediment traps, sedimentation basins, and flocculation methods as required by the City of Marysville Engineering Drainage and Erosion Control Design Standards;
- Using erosion-control practices (seeding, mulching, soil conditioning with polymers, use of geo-synthetics, sod stabilization, erosion-control blankets, vegetative buffer strips, and preservation of trees with construction fences);

- Using construction entrances, exits, and parking areas that reduce tracking sediment onto public roads;
- Performing routine inspections of erosion-control and sediment-control BMPs and subsequent BMP maintenance;
- Work within Ebey Slough will require an HPA from WDFW. The project will comply with all permit conditions to minimize impacts on aquatic resources;
- Exposed slopes and disturbed areas around the construction area will be replanted;
- A Spill Prevention Control and Countermeasures (SPCC) plan will be developed for the project implemented prior to construction;
- All mechanical equipment will be fueled at least 150 feet from the stream. All vehicles will be inspected daily for fluid leaks. Spill response equipment will be on-site for potential fluid leakage;
- All staging and stockpile areas will be located outside of streams, wetlands, and vegetated buffers; and
- Erosion of stockpiled materials will be controlled as required for City of Marysville Engineering Drainage and Erosion Control Design Standards.

5.2 Advance Wetland Mitigation

Most impacts to critical areas will occur as a result of filling the former boat basin (Wetland C) and outlet channel (a portion of Wetland B) required for the remedial action. Capping the boat basin and converting it to upland was determined to be the most practicable remediation alternative for the site as detailed in the remediation investigation and alternatives analysis (Maul Foster Alongi 2020). Compensatory mitigation for these permanent wetland aquatic habitat impacts will be provided using the City's Advance Wetland Mitigation (AWM) Project.

The City proposes to utilize credits from the AWM project to compensate for permanent wetland and aquatic habitat impacts resulting from the Geddes Marina Phase 2 Remediation Project. The AWM Agreement between the City, Ecology, and Corps is included as Appendix E. The Geddes Marina Phase 2 Remediation project is specifically identified in the agreement (see 'Geddes Marina Redevelopment' on Page 10).

The AWM is 17.5 acres in area and is a component of the 400-acre Qwuloolt Estuary Restoration (QER) Project (City of Marysville 2018). The goal of the QER project is to restore tidal processes to currently fallow pasturelands. The project objectives include:

- Create a self-sustaining brackish (salinity values greater than or equal to 0.5 ppt) tidal site;
- Restore natural hydrology, salinity, and sedimentation;
- Promote natural channel formation;
- Provide opportunities for juvenile salmon off channel rearing and forage areas;
- Facilitate natural processes and functions to occur
- Assist recovery and re-vegetation of native species;
- Provide public education on marsh restoration; and
- Balance public access with ecological objectives.

The AWM portion of the QER project was constructed in 2015. Restoration work included removal of reed canary grass and other invasive species, ditch filling, and excavation of a new tidal channel. The Year 5 monitoring report for the AWM was recently issued (City of Marysville 2020b). As of October 2021, 6.45 AWM credits are available.

The AWM agreement states that a Mitigation Site Use Plan must be submitted to and approved by the Corps and Ecology in order to utilize the advance mitigation credits. A use plan for the Geddes Marina Phase 2 project is attached as Appendix F. Overall, 4.385 AWM credits will be required to compensate for the 2.088 acres of permanent wetland and aquatic habitat impacts resulting from the project.

5.3 On-Site Restoration

Approximately 0.117 acres of aquatic habitat below OHWM (including portions of Wetland B) would be temporarily disturbed due to shoreline restoration activities and excavation of the new stormwater conveyance channel along the western edge of the Geddes Marina site. As this area is expected to retain wetland conditions post-impact, no compensatory mitigation is proposed. Impacted areas will be restored as part of the project. While this restoration is not proposed for compensatory mitigation purposes, it will be maintained and monitored for a period of at least 5 years in accordance with MMC 22E.010.160. Additionally, approximately 0.95 acre of shoreline buffer will be restored.

5.3.1 Restoration Goal

The goal of the onsite restoration is to provide an uplift of shoreline habitats in the project area, as compared to existing conditions.

5.3.2 Restoration Objectives

The goal of the restoration plan will be achieved through the objectives listed below:

- Vegetate or revegetate new and restored intertidal estuarine wetlands with native persistent emergent vegetation and establish or re-establish stable substrates appropriate for the slope and configuration of the shoreline that approximate restored conditions within the higher valued areas of Wetland A and Wetland B.
- Vegetate or revegetate on-site buffer areas. Restoration planting zones with the buffer will be enhanced with woody plants species native to the Pacific Northwest lowlands to establish a diverse, riparian plant community.
- Install large woody material habitat structures to support habitat functions in restored and newly created wetland and aquatic areas.

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Appendix A

Site Photographs

Photo 1: Lagoon (Wetland C) in background and outlet channel to Ebey slough at high tide. Location of weir is visible and is the break line between Wetland B and Wetland C (4/25/2018).

Photo 2: Lagoon (Wetland C) along perimeter of boat basin at low tide looking north toward 1st Street on Geddes Site (4/25/2018).

Photo 3: Preload material on Geddes Site (10/2020).

Photo 4: Wetland A looking east from beneath SR 529 (4/25/2018).

Photo 5: Ebey Slough shoreline and Wetland A east of Ebey waterfront Park's boat ramp looking toward SR 529 (4/25/2018).

Photo 6: Outlet channel from Lagoon to Ebey Slough with Wetland B on either side of channel and extending to the right and left along Ebey Slough shoreline. Looking southwest toward BNSF & I-5. railroad and I-5.

Photo 7. Old wood rail boat lift on Geddes Site in foreground extending into Ebey Slough with docks and boat houses in background. Approximate location of new non-motorized boat launch with Wetland B on either side (4/25/2018).

Photo 8: Wetland B to along shoreline. Looking west from boat basin outlet to Ebey Slough (4/25/2018). The boathouses and dock have since been removed (see Photo 16 and 17).

Photo 9: Unarmored portion of Wetland B along Ebey Slough looking west toward I-5 (4/25/2018). The boathouses and have since been removed. (see Photos 16 and 17).

Photo 10: Looking north from edge of boat basin on Geddes Site towards the 36-inch culvert that discharges stormwater into lagoon from beneath 1st Street. Wetland C skirts the perimeter of the entire boat basin.

Photo 11. Existing motorized boat launch facilities at Ebey Waterfront Park (4/25/2018).

Photo 12: Constructed stormwater swale in parking area of Ebey Waterfront Park looking north toward park entrance and downtown commercial properties (4/25/2018).

Photo 13: Landscaping and paved parking in Ebey Waterfront Park looking southeast (7/11/2018).

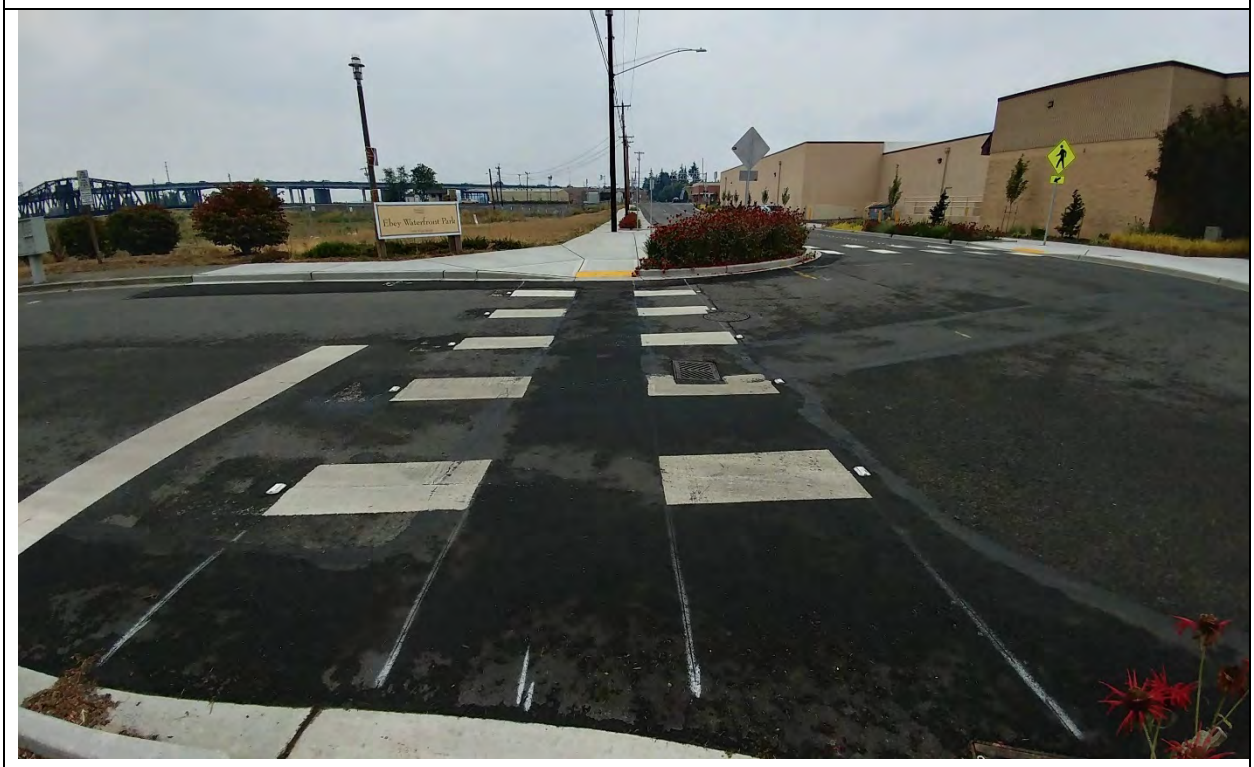


Photo 14: Entrance to Ebey Waterfront Park via 1st Street looking west (7/11/2018).

Photo 15: Dilapidated weir between lagoon and Ebey Slough. No longer functioning, so lagoon responds to tidal influence (4/25/2018).

Photo 16: Remnant docks/floats/piles waterward of Geddes Site in Ebey Slough. All boat houses shown in prior pictures have been removed (3/13/2019).

Photo 17. Photo showing that boathouses and some of the docks/floats have been removed. Old pilings still remain and will be removed as part of the expansion project (3/13/2019).

Photo 18: Weeds along waterward edge of Geddes Site in Ebey Slough (7/11/2018).

Appendix B

Wetland Determination Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 4/25/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 1

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 4

Subregion (LRR): A Lat: 48.0470 Long: -122.1784 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: This SP is located below the ordinary high water mark of Ebey Slough and was sampled at 8:55 near the low tide. NWI does not have this area mapped as a wetland; however, NWI maps a subtidal unconsolidated bottom estuarine wetland a short distance downslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Carex lyngbyei	70	Yes	OBL
2. Argentina anserina	10	No	OBL
3. Schoenoplectus tabernaemontani	7	No	OBL
4. Typha latifolia	5	No	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	92	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/1	75	7.5YR 3/4	15	C	M	SiCL	
			5Y 3/1	10	C	M		
3-16	2.5Y 4/1	60	5YR 3/4	35	C	M	SiCL	
			5Y 3/1	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☒ No ☐ Depth (inches): 15"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0" (surface)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 8:55 during a low tide.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 4/25/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 2

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 8

Subregion (LRR): A Lat: 48.0470 Long: -122.1785 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: This SP is located above the ordinary high water mark of Ebey Slough and was sampled at 9:25, shortly after the low tide. NWI does not have this area mapped as a wetland; however, NWI maps a subtidal unconsolidated bottom estuarine wetland a short distance downslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. Rosa pisocarpa	30	Yes	FAC
2. Alnus rubra	25	Yes	FAC
3. Crataegus monogyna	15	No	FAC
4. Rubus armeniacus	10	No	FAC
5.			
	80	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Poa sp.	45	Yes	FAC
2. Grindelia integrifolia	10	No	FACW
3. Vicia sativa	10	No	FACU
4. Plantago lanceolata	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-9	2.5Y 3/2	100					SL	
9-16	10YR 3/2	78	10YR 4/2	15	D	M	SL	
			7.5YR 3/3	7	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 9:25, shortly after low tide.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 4/25/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 3

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 6

Subregion (LRR): A Lat: 48.0471 Long: -122.1793 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: This SP is located below the ordinary high water mark of Ebey Slough and was sampled at 13:15, approximately 4.5 hours after low tide. NWI does not have this area mapped as a wetland; however, NWI maps a subtidal unconsolidated bottom estuarine wetland a short distance downslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. Rubus armeniacus	3	No	FAC
2.			
3.			
4.			
5.			
	3	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Typha latifolia	95	Yes	OBL
2. Argentina anserina	5	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	60	10YR 5/1	20	D	M	SiCL	
			7.5YR 4/6	20	C	M+PL		
5-16	10YR 4/2	55	10YR 5/1	20	D	M	SiCL	
			7.5YR 4/6	15	C	M+PL		
			5GY 2.5/1	5	C	M		
			7.5YR 5/8	5	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☒ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☒ No ☐ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0" (surface)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 13:15, approximately 4.5 hours after low tide.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 4/25/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 4

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 40-50

Subregion (LRR): A Lat: 48.0472 Long: -122.1793 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: This SP is located slightly below the ordinary high water mark of Ebey Slough and was located on the edge of a fill pad. NWI does not have this area mapped as a wetland; however, NWI maps a subtidal unconsolidated bottom estuarine wetland a short distance downslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. Rubus armeniacus	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Poa pratensis	35	Yes	FAC
2. Taraxacum officinale	10	Yes	FACU
3. Achillea millefolium	10	Yes	FACU
4. Conium maculatum	10	Yes	FAC
5. Argentina anserina	5	No	OBL
6. Scirpus microcarpus	3	No	OBL
7. Typha latifolia	3	No	OBL
8.			
9.			
10.			
11.			
	76	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5Y 3/2	100					Gr L	
7-9	10YR 2/2	95	5YR 3/4	3	C	M	Gr L	
9-16	10YR 2/2	100					L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks: The soil matrix had a lot of intermixed garbage, glassm and gravel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 13:30 during a rising tide.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 4/25/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 5

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 5

Subregion (LRR): A Lat: 48.0465 Long: -122.1775 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: This SP is located below the ordinary high water mark of Ebey Slough and was sampled at 14:40 during a normal tide (approximately 8.31 feet). NWI does not have this area mapped as a wetland; however, NWI maps a subtidal unconsolidated bottom estuarine wetland a short distance downslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. None.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Juncus balticus	70	Yes	OBL
2. Scirpus microcarpos	20	Yes	OBL
3. Carex lyngbyei	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	N 2.5/	90	10YR 5/2	5	D	M	SiCL	
			7.5YR 4/6	5	C	M		
5-16	5Y 3/1	68	5Y 4/1	30	D	M	SiCL	
			7.5YR 4/6	2	C	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☒ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☒ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☒ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☒ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☒ No ☐ Depth (inches): 3"

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0" (surface)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 14:40 during a normal tide (8.31 feet).

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 4/25/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 6

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 100+

Subregion (LRR): A Lat: 48.0466 Long: -122.1775 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: This SP is located above the ordinary high water mark of Ebey Slough and was located on top of a cut bank near the Ebery Waterfront Trail. NWI does not have this area mapped as a wetland; however, NWI maps a subtidal unconsolidated bottom estuarine wetland a short distance downslope.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. Rosa pisocarpa	15	Yes	FAC
2. Sambucus racemosa	5	No	FACU
3. Rubus armeniacus	5	No	FAC
4.			
5.			
	25	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Poa pratensis	30	Yes	FAC
2. Grindelia integrifolia	10	Yes	FACW
3. Vicia sativa	5	No	UPL
4. Taraxacum officinale	5	Yes	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? **Yes ☒ No ☐**

Remarks:

SOIL

Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/2						L	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 14:20 during normal tide (approximately 8.31 feet). The SP was located at the top of a cut bank above the OHWM of Ebey Slough.

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 7/19/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 7

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): lagoon Local relief (concave, convex, none): None Slope (%): 1-2

Subregion (LRR): A Lat: 48.04765 Long: -122.17961 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☒ No ☐ Hydric Soil Present? Yes ☒ No ☐ Wetland Hydrology Present? Yes ☒ No ☐	**Is the Sampled Area within a Wetland?** Yes ☒ No ☐

Remarks: This SP is located below the ordinary high water mark of Ebey Slough within the lagoon-like shipyard area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Carex lyngbyei	80	Yes	OBL
2. Juncus balticus	10	No	FACW
3. Salicornia sp.	5	No	N/A
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 5

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☒ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☐

Remarks: The vegetation has water stained leaves.

SOIL

Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2.5	10YR 4/1	75	7.5YR 4/6	25	C	PL	SiL	Oxidized rhizospheres.
2.5-9	N 2.5/	100					SiL	
9-16+	5GY 2.5/1	95	7.5YR 3/4	5	C	M	SiL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☒ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☒ No ☐

Remarks: Positive reaction with AAD within the top six inches of the soil profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☒ High Water Table (A2)
- ☒ Saturation (A3)
- ☒ Water Marks (B1)
- ☒ Sediment Deposits (B2)
- ☒ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☒ Hydrogen Sulfide Odor (C1)
- ☒ Oxidized Rhizospheres along Living Roots (C3)
- ☒ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☒ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☒ Saturation Visible on Aerial Imagery (C9)
- ☒ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☒ No ☐ Depth (inches): 5

Saturation Present? (includes capillary fringe) Yes ☒ No ☐ Depth (inches): 0 (surface)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 11:00 during normal tide (approximately 7.60 feet).

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Ebey Waterfront Park City/County: Marysville/Snohomish Sampling Date: 7/19/2018

Applicant/Owner: City of Marysville State: WA Sampling Point: 8

Investigator(s): Trey Parry Section, Township, Range: 33, T30N, R5E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 3

Subregion (LRR): A Lat: 48.047598 Long: -122.179517 Datum: WGS-84

Soil Map Unit Name: Puget silty clay loam NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation No, Soil No, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation No, Soil No, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☐ No ☒ Hydric Soil Present? Yes ☐ No ☒ Wetland Hydrology Present? Yes ☐ No ☒	**Is the Sampled Area within a Wetland?** Yes ☐ No ☒

Remarks: This SP is located above the ordinary high water mark of Ebey Slough and was located on top of a fill pad above SP-7.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: r=3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. None			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: r=2m)			
1. None			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: r=1m)			
1. Festuca rubra	35	Yes	FACU
2. Holcus lanatus	30	Yes	FAC
3. Trifolium poratense	15	No	FACU
4. Argentina anserina	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85	= Total Cover	
Woody Vine Stratum (Plot size: r=2m)			
1. None			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 15

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ☐ Rapid Test for Hydrophytic Vegetation
- ☐ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Wetland Non-Vascular Plants[1]
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks:

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5YR 3+/3	100					Gr SL	
7-16+	2.5YR 3+/3	100					Cb SL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ 2 cm Muck (A10)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☒

Remarks: The soil was sampled within a fill pad that was used to cap the contaminated site.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Stunted or Stressed Plants (D1) (**LRR A**)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Raised Ant Mounds (D6) (**LRR A**)
- ☐ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches):

Water Table Present? Yes ☐ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Sampled at 11:23 during normal tide (approximately 7.69 feet). No saturation or water table was observed within the excavated depth of 24 inches.The SP was located on the top of a fill pad above SP-7.

Appendix C

Wetland Rating Forms

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland A Date of site visit: 4/25/2018

Rated by T. Parry Trained by Ecology? ☑ Yes ☐ No Date of training Sep-16

HGM Class used for rating Riverine & Fresh Water Tidal Wetland has multiple HGM classes? ☐ Yes ☐ No

NOTE: Form is not complete with out the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI 2014

OVERALL WETLAND CATEGORY II (based on functions ☐ or special characteristics ☑)

1. Category of wetland based on FUNCTIONS

_____ **Category I** - Total score = 23 - 27
_____ **Category II** - Total score = 20 - 22
_____ **Category III** - Total score = 16 - 19
_____ **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
			List appropriate rating (H, M, L)	
Site Potential				
Landscape Potential				
Value				**Total**
Score Based on Ratings				**0**

Score for each function based on three ratings (*order of ratings is not important*)

9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	II
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	

Wetland name or number A

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods*)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (*can be added to another figure*)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to another figure*)	S 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	

Wetland name or number _A_____

Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number A

HGM Classification of Wetland in Western Washington

For questions 1 -7, the criteria described must apply to the entire unit being rated.
If hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1 - 7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☐ NO - go to 2 ☑ **YES** - the wetland class is **Tidal Fringe** - go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☑ **NO - Saltwater Tidal Fringe (Estuarine)** ☐ **YES - Freshwater Tidal Fringe**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☑ NO - go to 3 ☐ **YES** - The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
- ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☑ NO - go to 4 ☐ **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The wetland is on a slope (*slope can be very gradual*),
- ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
- ☐ The water leaves the wetland **without being impounded.**

☑ NO - go to 5 ☐ **YES** - The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
- ☑ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- ☑ The overbank flooding occurs at least once every 2 years.

☐ NO - go to 6 ☑ **YES** - The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding.

Wetland name or number A

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☑ NO - go to 7 ☐ **YES** - The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☑ NO - go to 8 ☐ **YES** - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have ***more than 2 HGM classes*** *within a wetland boundary, classify the wetland as Depressional for the rating.*

NOTES and FIELD OBSERVATIONS:

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☑ The dominant water regime is tidal, ☑ Vegetated, and ☑ With a salinity greater than 0.5 ppt ☑ Yes - Go to **SC 1.1** ☐ No = **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☑ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☑ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina* , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☑ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes - Go to **SC 2.2** ☐ No - Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes - **Contact WNHP/WDNR and to SC 2.4** ☐ No = **Not WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☑ No = **Not WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions*** . SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes - Go to **SC 3.3** ☑ No - Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes - Go to **SC 3.3** ☑ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No - Go to **SC 3.4** **NOTE**: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	

spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	

Wetland name or number A

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*)

☐ Yes - Go to **SC 5.1** ☑ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- ☐ Long Beach Peninsula: Lands west of SR 103
- ☐ Grayland-Westport: Lands west of SR 105
- ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109

☐ Yes - Go to **SC 6.1** ☑ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?

☐ Yes = **Category I** ☐ No - Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No - Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	**Cat. II**

Wetland name or number Wetland B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 4/25/2018

Rated by T. Parry Trained by Ecology? ☑ Yes ☐ No Date of training Sep-16

HGM Class used for rating Riverine & Fresh Water Tidal Wetland has multiple HGM classes? ☐ Yes ☐ No

NOTE: Form is not complete with out the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI 2014

OVERALL WETLAND CATEGORY II (based on functions ☐ or special characteristics ☑)

1. Category of wetland based on FUNCTIONS

_____ **Category I** - Total score = 23 - 27
_____ **Category II** - Total score = 20 - 22
_____ **Category III** - Total score = 16 - 19
_____ **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
			List appropriate rating (H, M, L)	
Site Potential				
Landscape Potential				
Value				**Total**
Score Based on Ratings				**0**

Score for each function based on three ratings (*order of ratings is not important*)

9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	II
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	

Wetland name or number Wetland B

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods*)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (*can be added to another figure*)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to another figure*)	S 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	

Wetland name or number Wetland B

Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number Wetland B

HGM Classification of Wetland in Western Washington

For questions 1 -7, the criteria described must apply to the entire unit being rated.
If hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1 - 7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☐ NO - go to 2 ☑ **YES** - the wetland class is **Tidal Fringe** - go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☑ **NO - Saltwater Tidal Fringe (Estuarine)** ☐ **YES - Freshwater Tidal Fringe**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it.
Groundwater and surface water runoff are NOT sources of water to the unit.

☑ NO - go to 3 ☐ **YES** - The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
- ☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☑ NO - go to 4 ☐ **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
- ☐ The wetland is on a slope (*slope can be very gradual*),
- ☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
- ☐ The water leaves the wetland **without being impounded.**

☑ NO - go to 5 ☐ **YES** - The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
- ☑ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
- ☑ The overbank flooding occurs at least once every 2 years.

☐ NO - go to 6 ☑ **YES** - The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☑ NO - go to 7 ☐ **YES** - The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☑ NO - go to 8 ☐ **YES** - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have ***more than 2 HGM classes*** *within a wetland boundary, classify the wetland as Depressional for the rating.*

NOTES and FIELD OBSERVATIONS:

Wetland name or number Wetland B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. *The number of checks is the number of points.* ☐ Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long) ☐ Standing snags (dbh > 4 in) within the wetland ☐ Undercut banks are present for at least 6.6 ft (2 m) **and/or** overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) ☐ Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (*cut shrubs or trees that have not yet weathered where wood is exposed*) ☐ At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (*structures for egg-laying by amphibians*) ☐ Invasive plants cover less than 25% of the wetland area in every stratum of plants (*see H 1.1 for list of strata*)	
Total for H 1 Add the points in the boxes above	**0**

Rating of Site Potential If Score is: ☐ **15 - 18 = H** ☐ **7 - 14 = M** ☐ **0 - 6 = L** *Record the rating on the first page*

H 2.0. Does the landscape have the potential to support the habitat function of the site?	
H 2.1 Accessible habitat (include *only habitat that directly abuts wetland unit*). *Calculate:* _____ % undisturbed habitat + (_____ % moderate & low intensity land uses / 2) = If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon points = 3 20 - 33% of 1 km Polygon points = 2 10 - 19% of 1 km Polygon points = 1 < 10 % of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. *Calculate:* _____ % undisturbed habitat + (_____ % moderate & low intensity land uses / 2) = Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3 Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2) ≤ 50% of 1km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	**0**

Rating of Landscape Potential If Score is: ☐ **4 - 6 = H** ☐ **1 - 3 = M** ☐ **< 1 = L** *Record the rating on the first page*

H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? *Choose only the highest score that applies to the wetland being rated* . Site meets ANY of the following criteria: points = 2 ☐ It has 3 or more priority habitats within 100 m (see next page) ☐ It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) ☐ It is mapped as a location for an individual WDFW priority species ☐ It is a Wetland of High Conservation Value as determined by the Department of Natural Resources ☐ It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan	

Site has 1 or 2 priority habitats (listed on next page) with in 100m	points = 1	
Site does not meet any of the criteria above	points = 0	

Rating of Value If Score is: ☐ **2 = H** ☐ **1 = M** ☐ **0 = L** *Record the rating on the first page*

Wetland name or number Wetland B

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☑ The dominant water regime is tidal, ☑ Vegetated, and ☑ With a salinity greater than 0.5 ppt ☑ Yes - Go to **SC 1.1** ☐ No = **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☑ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☑ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina* , see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☑ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes - Go to **SC 2.2** ☐ No - Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes - **Contact WNHP/WDNR and to SC 2.4** ☐ No = **Not WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☑ No = **Not WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions*** . SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes - Go to **SC 3.3** ☑ No - Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes - Go to **SC 3.3** ☑ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No - Go to **SC 3.4** **NOTE**: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann	

spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

- ☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.
- ☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- ☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks
- ☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*)

☐ Yes - Go to **SC 5.1** ☑ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

- ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).
- ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- ☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

- ☐ Long Beach Peninsula: Lands west of SR 103
- ☐ Grayland-Westport: Lands west of SR 105
- ☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109

☐ Yes - Go to **SC 6.1** ☑ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?

☐ Yes = **Category I** ☐ No - Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No - Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	**Cat. II**

Wetland name or number Wetland C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 4/25/2018

Rated by T. Parry Trained by Ecology? ☑ Yes ☐ No Date of training Sep-16

HGM Class used for rating Riverine & Fresh Water Tidal Wetland has multiple HGM classes? ☐ Yes ☐ No

NOTE: Form is not complete with out the figures requested (*figures can be combined*).
Source of base aerial photo/map ESRI 2014

OVERALL WETLAND CATEGORY II (based on functions ☐ or special characteristics ☑)

1. Category of wetland based on FUNCTIONS

_____ **Category I** - Total score = 23 - 27
_____ **Category II** - Total score = 20 - 22
_____ **Category III** - Total score = 16 - 19
_____ **Category IV** - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
		List appropriate rating (H, M, L)		
Site Potential				
Landscape Potential				
Value				**Total**
Score Based on Ratings				**0**

Score for each function based on three ratings (*order of ratings is not important*)

9 = H, H, H
8 = H, H, M
7 = H, H, L
7 = H, M, M
6 = H, M, L
6 = M, M, M
5 = H, L, L
5 = M, M, L
4 = M, L, L
3 = L, L, L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	Category
Estuarine	II
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	

Maps and Figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	
Hydroperiods	D 1.4, H 1.2	
Location of outlet (*can be added to map of hydroperiods*)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	D 2.2, D 5.2	
Map of the contributing basin	D 4.3, D 5.3	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (*can be added to another figure*)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	L 1.1, L 4.1, H 1.1, H 1.4	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of **dense** trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of **dense, rigid** trees, shrubs, and herbaceous plants (*can be added to another figure*)	S 4.1	
Boundary of area within 150 ft of the wetland (*can be added to another figure*)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

HGM Classification of Wetland in Western Washington

For questions 1 -7, the criteria described must apply to the entire unit being rated.
If hydrologic criteria listed in each question do not apply to the entire unit being rated, you probably have a unit with multiple HGM classes. In this case, identify which hydrologic criteria in questions 1 - 7 apply, and go to Question 8.

1. Are the water levels in the entire unit usually controlled by tides except during floods?

☐ NO - go to 2 ☑ **YES** - the wetland class is **Tidal Fringe** - go to 1.1

1.1 Is the salinity of the water during periods of annual low flow below 0.5 ppt (parts per thousand)?

☑ **NO - Saltwater Tidal Fringe (Estuarine)** ☐ **YES - Freshwater Tidal Fringe**
*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for **Riverine** wetlands. If it is Saltwater Tidal Fringe it is an **Estuarine** wetland and is not scored. This method **cannot** be used to score functions for estuarine wetlands.*

2. The entire wetland unit is flat and precipitation is the only source (>90%) of water to it. Groundwater and surface water runoff are NOT sources of water to the unit.

☑ NO - go to 3 ☐ **YES** - The wetland class is **Flats**
*If your wetland can be classified as a Flats wetland, use the form for **Depressional** wetlands.*

3. Does the entire wetland unit **meet all** of the following criteria?
☐ The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
☐ At least 30% of the open water area is deeper than 6.6 ft (2 m).

☑ NO - go to 4 ☐ **YES** - The wetland class is **Lake Fringe** (Lacustrine Fringe)

4. Does the entire wetland unit **meet all** of the following criteria?
☐ The wetland is on a slope (*slope can be very gradual*),
☐ The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
☐ The water leaves the wetland **without being impounded.**

☑ NO - go to 5 ☐ **YES** - The wetland class is **Slope**

NOTE: Surface water does not pond in these type of wetlands except occasionally in very small and shallow depressions or behind hummocks (depressions are usually <3 ft diameter and less than 1 ft deep).

5. Does the entire wetland unit **meet all** of the following criteria?
☑ The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
☑ The overbank flooding occurs at least once every 2 years.

☐ NO - go to 6 ☑ **YES** - The wetland class is **Riverine**

NOTE: The Riverine unit can contain depressions that are filled with water when the river is not flooding.

6. Is the entire wetland unit in a topographic depression in which water ponds, or is saturated to the surface, at some time during the year? *This means that any outlet, if present, is higher than the interior of the wetland.*

☑ NO - go to 7 ☐ **YES** - The wetland class is **Depressional**

7. Is the entire wetland unit located in a very flat area with no obvious depression and no overbank flooding? The unit does not pond surface water more than a few inches. The unit seems to be maintained by high groundwater in the area. The wetland may be ditched, but has no obvious natural outlet.

☑ NO - go to 8 ☐ **YES** - The wetland class is **Depressional**

8. Your wetland unit seems to be difficult to classify and probably contains several different HGM classes. For example, seeps at the base of a slope may grade into a riverine floodplain, or a small stream within a Depressional wetland has a zone of flooding along its sides. GO BACK AND IDENTIFY WHICH OF THE HYDROLOGIC REGIMES DESCRIBED IN QUESTIONS 1-7 APPLY TO DIFFERENT AREAS IN THE UNIT (make a rough sketch to help you decide). Use the following table to identify the appropriate class to use for the rating system if you have several HGM classes present within the wetland unit being scored.

NOTE: Use this table only if the class that is recommended in the second column represents 10% or more of the total area of the wetland unit being rated. If the area of the HGM class listed in column 2 is less than 10% of the unit; classify the wetland using the class that represents more than 90% of the total area.

HGM classes within the wetland unit being rated	HGM class to use in rating
Slope + Riverine	Riverine
Slope + Depressional	Depressional
Slope + Lake Fringe	Lake Fringe
Depressional + Riverine along stream within boundary of depression	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine
Salt Water Tidal Fringe and any other class of freshwater wetland	Treat as ESTUARINE

If you are still unable to determine which of the above criteria apply to your wetland, or if you have ***more than 2 HGM classes*** *within a wetland boundary, classify the wetland as Depressional for the rating.*

NOTES and FIELD OBSERVATIONS:

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type *Check off any criteria that apply to the wetland. List the category when the appropriate criteria are met.*	**Category**
SC 1.0. Estuarine Wetlands Does the wetland meet the following criteria for Estuarine wetlands? ☑ The dominant water regime is tidal, ☑ Vegetated, and ☑ With a salinity greater than 0.5 ppt ☑ Yes - Go to **SC 1.1** ☐ No = **Not an estuarine wetland**	
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? ☐ Yes = **Category I** ☑ No - Go to **SC 1.2**	
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? ☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are *Spartina*, see page 25) ☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. ☐ The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. ☐ Yes = **Category I** ☑ No = **Category II**	
SC 2.0. Wetlands of High Conservation Value (WHCV) SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? ☐ Yes - Go to **SC 2.2** ☐ No - Go to **SC 2.3** SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? ☐ Yes = **Category I** ☐ No = **Not WHCV** SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf ☐ Yes - **Contact WNHP/WDNR and to SC 2.4** ☐ No = **Not WHCV** SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on their website? ☐ Yes = **Category I** ☑ No = **Not WHCV**	
SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? *Use the key below.* ***If you answer YES you will still need to rate the wetland based on its functions*** *.* SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? ☐ Yes - Go to **SC 3.3** ☑ No - Go to **SC 3.2** SC 3.2. Does an area within the wetland unit have organic soils, either peats or mucks, that are less than 16 in deep over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? ☐ Yes - Go to **SC 3.3** ☑ No = **Is not a bog** SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? ☐ Yes = **Is a Category I bog** ☐ No - Go to **SC 3.4** **NOTE**: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? ☐ Yes = **Is a Category I bog** ☐ No = **Is not a bog**	

SC 4.0. Forested Wetlands

Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? ***If you answer YES you will still need to rate the wetland based on its functions.***

☐ **Old-growth forests** (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.

☐ **Mature forests** (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).

☐ Yes = **Category I** ☐ No = **Not a forested wetland for this section**

SC 5.0. Wetlands in Coastal Lagoons

Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

☐ The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks

☐ The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (*needs to be measured near the bottom*)

☐ Yes - Go to **SC 5.1** ☑ No = **Not a wetland in a coastal lagoon**

SC 5.1. Does the wetland meet all of the following three conditions?

☐ The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).

☐ At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.

☐ The wetland is larger than $^{1}/_{10}$ ac (4350 ft^2)

☐ Yes = **Category I** ☐ No = **Category II**

SC 6.0. Interdunal Wetlands

Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? ***If you answer yes you will still need to rate the wetland based on its habitat functions.***

In practical terms that means the following geographic areas:

☐ Long Beach Peninsula: Lands west of SR 103

☐ Grayland-Westport: Lands west of SR 105

☐ Ocean Shores-Copalis: Lands west of SR 115 and SR 109

☐ Yes - Go to **SC 6.1** ☑ No = **Not an interdunal wetland for rating**

SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)?

☐ Yes = **Category I** ☐ No - Go to **SC 6.2**

SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?

☐ Yes = **Category II** ☐ No - Go to **SC 6.3**

SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?

☐ Yes = **Category III** ☐ No = **Category IV**

Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	**Cat. II**

Appendix D

Geddes Marina Site Plant List

Ebey Waterfront Riparian & Geddes Site Plant List

Location	Common Name	Scientific Name
Pond perimeter	Cow-parsnip	*Heracleum lanatum*
	English plantain	*Plantago lanceolata*
	Giant horsetail	*Equisetum talmatia*
	Curly dock	*Rumex crispus*
	Scotch Broom	*Cytisus scoparius*
	White sweet clover	*Melilotus alba*
	Bird's foot trefoil	*Lotus corniculatus*
	Himalayan blackberry	*Rubus armeniacus*
	Evergreen blackberry	*Rubus laciniatus*
	Hedge bindweed	*Convolvulus sepium*
	Mint	*Labaitae Family*
	Yarrow	*Achillea millefolium*
	Tansy ragwort	*Senecio jacobaea*
	Canada thistle	*Cirsium arvense*
	Bull thistle	*Circium vulgare*
	Prickly lettuce	*Lactuca serriola*
	Japanese knotweed	*Polyganum cuspidatum*
	Narrowleaf cattail	*Typha angustifolia*
	Colonial bentgrass	*Agrostis capillaris*
Open areas	Red clover	*Trifolium pratense*
	White clover	*Trifolium repens*
	White sweet clover	*Melilotus alba*
Riparian (Park)	Red alder	*Alnus rubra*
	Black cottonwood	*Populus balsamifera*
	Himalayan blackberry	*Rubus armeniacus*
	Scotch Broom	*Cytisus scoparius*
	Tansy ragwort	*Senecio jacobaea*
	Hardhack	*Spiraea douglasii*
	Black twinberry	*Lonicera involucrata*
	Nootka Rose	*Rosa nutkana*
	Willow	*Salix spp.*
	Douglas fir	*Pseudotsuga menziesii*
Riparian (Geddes)	Broadleaved pepperweed	*Lepidium latifolium*
	Himalayan blackberry	*Rubus armeniacus*
	White sweet clover	*Melilotus alba*
	Yarrow	*Achillea millefolium*
	Tansy ragwort	*Senecio jacobaea*
	Curly dock	*Rumex crispus*
	Red clover	*Trifolium pratense*
	White clover	*Trifolium repens*
	Hairy cat's-ear	*Hypochaeris radicata*

Appendix E

Advance Wetland Mitigation Agreement

Advance Wetland Mitigation Agreement for the City of Marysville, Washington

Between the US Army Corps of Engineers, the Washington State Department of Ecology and the City of Marysville

March 2013

CITY OF Marysville WASHINGTON

DEPARTMENT OF ECOLOGY State of Washington

US Army Corps of Engineers
Seattle District

Advance Wetland Mitigation Agreement
For the City of Marysville, WA

I. Parties

The parties to this Advance Wetland Mitigation Agreement (Agreement), dated the ____ day of _____ 2013, are: The City of Marysville (City), the Washington State Department of Ecology and the U.S. Army Corps of Engineers (Corps).

II. Purpose of Agreement

The purpose of this Agreement is to document the results of the Corps' and Ecology review of the Advance Wetland Mitigation Plan, dated __April 1, 2013___ and attached as Exhibit A to this Agreement; and to memorialize the Corps' and Ecology's expectations as to future generation of compensatory mitigation credits when the City of Marysville's Advance Mitigation Project is completed. The property subject to this Agreement includes parcels owned by the City (18.10 acres) and which the City has a permanent flood easement across (3.14 acres) for a total of 21.24 acres.

This Agreement also describes how potential debit projects may become eligible for use of credits generated under this Agreement, and identifies possible debit projects that may qualify for such use, following evaluation on a case-by-case basis.

III. Advance Mitigation Agreement Background

The Advanced Mitigation Project parcels are within the footprint of the overall Corps' 544 Qwuloolt Estuary Restoration (QER) Project located within the historic Snohomish estuary. The QER 544 Project includes levee construction and breaching of the existing levee system. The activities approved for the overall QER Project will restore tidally influenced hydrologic conditions to approximately 400 acres, including the City's advance mitigation area. The overall restoration effort occurring on the 400 acres in addition to the Corps' 544 QER Project, includes activities undertaken by the Tulalip Tribes, National Oceanic and Atmospheric Administration (NOAA), US Fish and Wildlife Service, and the Washington State Department of Ecology (Ecology). The overall QER Project has been underway since 1998, when the Natural Resource Conservation Service obtained a conservation easement under the Wetland Reserve program for most of the agricultural properties behind the Ebey Slough levee. However, the conservation easement does not apply to the City owned property or City flood easement area.

The City-owned properties and City flood easement property that will be considered advance mitigation based on this Agreement, are expected to be subject to the ebb and

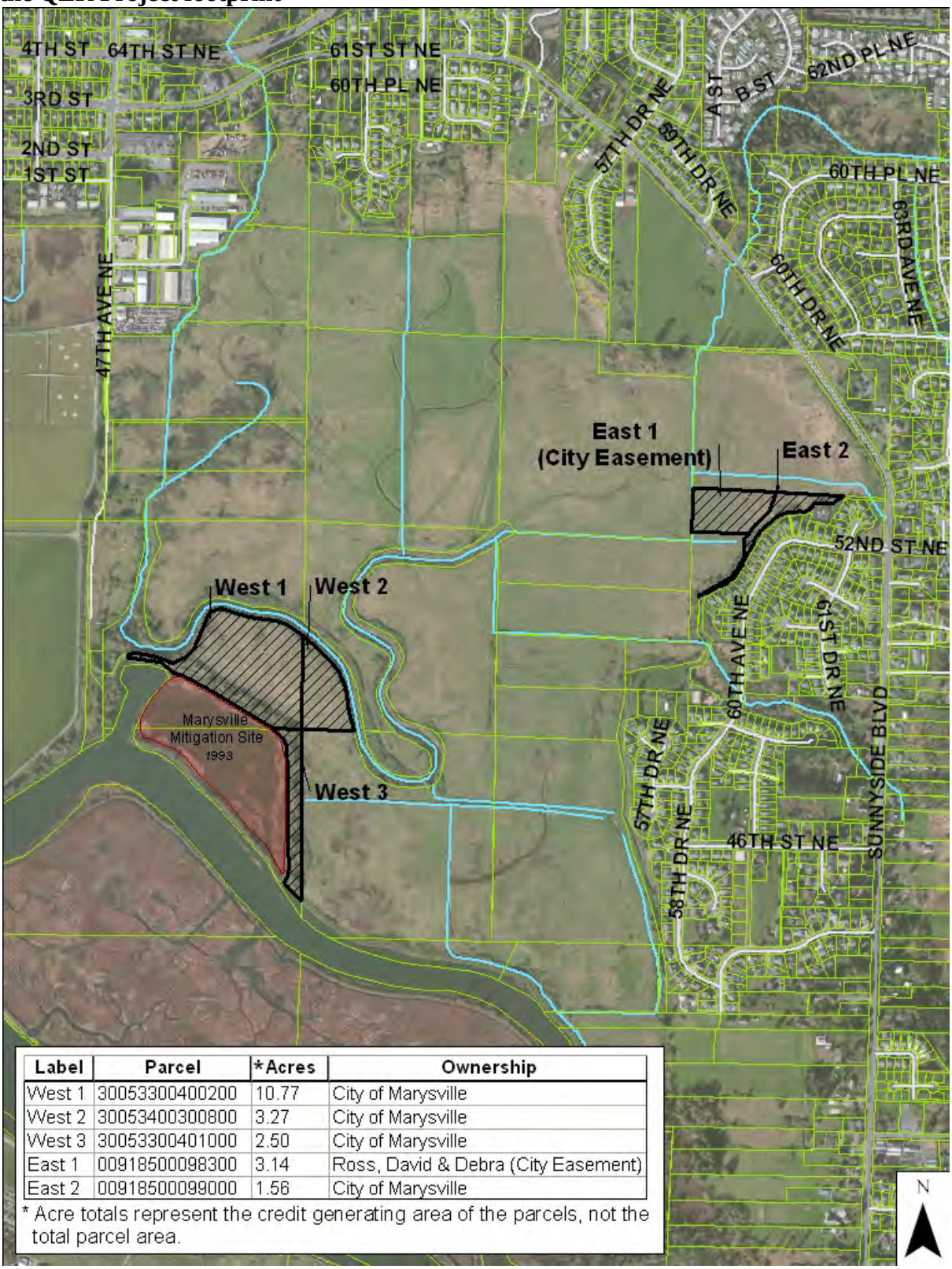
flow of the tides (Figure 1), resulting from the Corps' 544 QER project. Therefore, this Agreement pertains to and describes the potential incremental functional lift achieved above and beyond the benefits resulting from the Corps' 544 QER Project.

The City will be required to obtain a Nationwide Permit 27 for the construction activities related to this Agreement.

IV. Historical Background

The affected area was diked and converted to agricultural land in the late 1800's. The advance mitigation site is part of the former Poortinga Farm and is identified within the Snohomish Estuary Wetland Integration Plan (SEWIP) finalized in 1997. SEWIP is a comprehensive watershed planning tool created *"to integrate the wetland regulatory frameworks of federal, state, and local agencies into one process on the basis of an agreed-upon plan"* (SEWIP, 1997). The SEWIP identifies the Poortinga Property as the top priority for tidal restoration and mitigation options within the Snohomish Estuary. The prioritization of projects in SEWIP was conducted based on the results of habitat assessments at the time of the study, fieldwork to characterize the Ecological Management Unit boundaries within the plan and input from user group committees working with the City of Everett to develop the plan.

FIGURE 1: Site Location map showing City properties and easement area within the QER Project footprint



Label	Parcel	*Acres	Ownership
West 1	30053300400200	10.77	City of Marysville
West 2	30053400300800	3.27	City of Marysville
West 3	30053300401000	2.50	City of Marysville
East 1	00918500098300	3.14	Ross, David & Debra (City Easement)
East 2	00918500099000	1.56	City of Marysville

* Acre totals represent the credit generating area of the parcels, not the total parcel area.

V. Recitals

WHEREAS, the parties to this Agreement share a common interest to improve the salmonid habitat in the Snohomish Estuary;

WHEREAS, the parties to this Agreement agree that the restoration activities under the Advance Wetlands Mitigation Plan at the site identified in this Agreement have the potential to improve the salmonid habitat in the Snohomish Estuary;

WHEREAS, the advance mitigation site has the potential to restore natural hydrological and tidal processes within a portion of the Snohomish Estuary;

WHEREAS, a process for identifying potential debit projects and a list of potential debit projects have been identified herein;

WHEREAS, the functional lift projected to be derived from implementation of the Advance Wetland Mitigation Plan referenced in and appended to this Agreement is expected to generate compensatory mitigation credits which may be utilized to provide compensatory mitigation for a portion of the potential wetland impacts of the City's debit projects that must undergo mitigation sequencing in accordance with relevant federal, state and local statutes.

WHEREAS, the advance mitigation site is intended to be conducted in conjunction with the Qwuloolt Estuary Restoration (QER) Project in order to maximize the overall ecological benefits of the QER Project in accordance with 33 CFR 332.3(j)(2).

WHEREAS, the City of Marysville intends to retain ownership of their property and associated easement, and is prepared to retain all responsibility associated with the success of the Advance Wetland Mitigation Plan in order to provide potential compensatory mitigation for City of Marysville projects, therefore fulfilling the definition of Permittee-responsible mitigation as defined by 33 CFR 332.2.

WHEREAS, the wetland restoration plan for the QER Project was approved by the Corps on November 16, 2010. This restoration plan is detailed in the *Environmental Assessment* written by the Corps and dated December 2010 as well as *Qwuloolt/Poortinga Technical Report* written by the Corps and dated January 17, 2002. The QER wetland restoration plan describes the goals and objectives of the overall project, including the properties associated with this advance mitigation plan.

VI. Agreement

NOW, THEREFORE, in consideration of the aforesaid recitals, the parties agree as follows:

VI.1 Advance Wetland Mitigation Plan.

The City of Marysville has developed an **Advance Wetland Mitigation Plan** detailing the sites to be used and activities to be accomplished in order to establish the advance mitigation effort that is the subject of this Agreement. This plan is hereby incorporated into this Agreement as Exhibit A.

The designs, terms and provisions of the Advance Wetland Mitigation Plan are hereby approved, in concept, by the Corps and Ecology.

The five City properties and easement area within the restoration footprint (Figure 1) total 21.24 acres, as follows:

TABLE 1: City Properties and Easement Area

Parcel Label	Parcel #	Acres	Ownership
West 1	30053300400200	10.77	City of Marysville
West 2	30053400300800	3.27	City of Marysville
West 3	30053300401000	2.50	City of Marysville
East 1	00918500098300	3.14	Ross, David & Debra (City Easement)
East 2	00918500099000	1.56	City of Marysville
	Total	**21.24**	

VI.2 Credit Generation

For purposes of estimated credit calculation, it is assumed that 100% of the acreage is jurisdictional wetlands[1] (Cereghino, 2006). According to the SEWIP plan and the Salmon Overlay to SEWIP, these wetlands are rated as the lowest quality wetlands in the lower Snohomish estuary. They are currently palustrine wetlands dominated by reed canary grass (*Phalaris arundinacea*). A credit ratio will be applied to the City property and easement area for activities resulting in ecological lift from the restored tidally influenced baseline. The City intends to achieve functional lift over and above baseline conditions by implementing the following activities on the City owned parcels or easement area listed in Table 1:

West 1: Mow reed canary grass (*Phalaris arundinacea*), then deep till, and fill an existing 925lf ditch.

[1] Much of the City acreage within the QER footprint was likely effectively drained twelve years ago when the project planning process started. In the intervening years, maintenance of drainage channels within the district ceased and drainage started to fail. As a result, wetland hydrology has slowly reinstated on most if not all of the City's properties.

West 2: Mow reed canary grass (*Phalaris arundinacea*), then deep till, and excavate a new 380lf blind channel.

West 3: The City will not remove or disturb an area of existing large trees in order to encourage large woody debris and snag accumulation.

East 1: Mow reed canary grass (*Phalaris arundinacea*), then deep till.

East 2: Mow reed canary grass (*Phalaris arundinacea*), then deep till, remove Himalayan Blackberry (*Rubus armeniacus*), plant native vegetation, and install wetland signs.

These activities are anticipated to generate the following ratios:

Ditch fill and blind channel excavation- Restoration (1:1)

Mowing and deep till- Enhancement (2:1)

Large woody debris recruitment- Enhancement (4:1)

Although the Corps and Ecology will act in good faith in establishing credit generation ratios, and will give serious consideration to applying the ratios estimated above, the Corps and Ecology can make no commitment through the vehicle of this Agreement to adhere to these ratios when a Mitigation Site Use Plan is submitted for review and approval. There is a total of 16.54 acres on the West, potentially generating 8.01 acre credits. There is a total of 4.70 acres on the East, potentially generating 2.35-acre credits. Credit ratios may be adjusted as needed based on site development, among other possible factors.

The City will be required to demonstrate satisfactory accomplishment of performance standards in order to generate aquatic resource compensatory mitigation credits. Exhibit A contains detailed information regarding anticipated performance standards. Although the Corps and Ecology will act in good faith in establishing performance standards, and will give serious consideration to applying the performance standards reflected in Exhibit A as a basis for generation of compensatory mitigation credits, the Corps and Ecology can make no commitment through the vehicle of this Agreement to adhere to these performance standards until a Mitigation Site Use Plan is submitted for review and approval. Factors that may affect the establishment and application of performance standards are described in Exhibit A in more detail.

Exhibit A also contains a projected schedule of milestones at which accomplishment of performance standards will be evaluated, and at which point release of credits may be approved. This schedule contains numbers of credits the City anticipates proposing for Corps and Ecology approval for utilization as compensatory mitigation at each respective milestone. Although the Corps and Ecology will act in good faith in establishing a credit generation schedule, and will give serious consideration to applying the credit generation schedule reflected in Exhibit A as a basis for approval of release of compensatory

mitigation credits, the Corps and Ecology can make no commitment through the vehicle of this Agreement to adhere to these credit generation schedules until a Mitigation Site Use Plan is submitted for review and approval.

VI.3 Site Protection Instrument

As a prerequisite to the approval of utilization of any advance compensatory mitigation credits generated pursuant to this Agreement, the City must demonstrate that it has instituted, and presently has in force and effect, a real estate site protection mechanism approved by the Corps and Ecology. The site protection mechanism must extend to the City owned property and easement area, irrespective of the footprint on which the performance standards proposed as a basis for credit release have been accomplished.

City owned parcels subject to this Agreement are proposed to be protected by execution of a restrictive covenant that prohibits future development and outlines consistent and allowable uses, as well as restricted and inconsistent uses on the City owned parcels. The location and limitations associated with the critical areas shall be included in the site protection instrument that is to be recorded with the Snohomish County Auditor's Office.

The City will work with the property owner of East 1 (Parcel #00918500098300) to execute a site protection instrument for that property. The site protection instrument will prohibit future development and outline consistent and allowable uses, as well as restricted and inconsistent uses on the City easement parcel. The location and limitations associated with the critical areas shall be included in the site protection instrument that is to be recorded with the Snohomish County Auditor's Office. If a site protection instrument cannot be recorded than the City will amend Exhibit A accordingly.

VI.4 Credit Generation Contingencies

Prior to any utilization of credits, if the City finds, during routine maintenance and monitoring described in Exhibit A, that site conditions do not warrant credit accrual the City may relinquish claims for credit prior to any utilization of mitigation credits under this Agreement. In such a circumstance, the City will reduce or eliminate the maintenance and monitoring described in Exhibit A for areas that are not eligible for credit accrual. The City also has the option, prior to any utilization of credits, to develop a contingency plan if site conditions warrant a modification to the performance standards delineated in Exhibit A.

Following first utilization of any credits reflecting accomplishment of any performance standards on any portion of the advance mitigation site covered by this Agreement, the City may submit a request to discontinue accomplishment of subsequent performance standards, and to forgo generation of the corresponding compensatory mitigation credits. Such a request will be considered a request for amendment of the Advance Wetland Mitigation Plan and this Agreement, which may be accomplished only with the express written approval of the Corps and Ecology. The Corps and Ecology will act in good faith

in reviewing any request for contingency amendment to Exhibit A following first utilization of credits generated under this Agreement, and approval thereof shall not be unreasonably denied. Alteration to maintenance and monitoring plans described in Exhibit A must similarly be submitted to the Corps and Ecology through a requested amendment to the Advance Wetland Mitigation Plan, and must be approved by the Corps and Ecology prior to implementation.

VI.5 Impact Project Geographic Use Area

The overall QER Project is expected to benefit Chinook and bull trout, as well as steelhead trout, other salmonids, other fish and wildlife by increasing the areal extent and connectivity of wetlands in the Snohomish River system. The entire Water Resource Inventory Area (WRIA) 07 will benefit from the ecological lift in functions expected from implementing the Corps 544 QER Project. The additional work the City intends to perform on the City parcels and easement area, subject of this Agreement, would incrementally add to the functional lift in WRIA 07 associated with the QER Project. The overall QER Project in combination with the potential credit generating activities the City is proposing on their Parcels and easement area will provide a synergistic functional lift for the watershed. For the purposes of this Agreement the impact project geographic use area will include any parcel within Marysville City limits. All parcels in the impact project geographic use area must be below an elevation of 500 feet. A map of the impact project geographic use area is identified in Figure 2. The Snohomish County Assessor maintains detailed shapefiles of the Marysville City limits and parcel information. If the impact project geographic use area is questionable, these shapefiles will be used to make a determination.

The geographic use area, as described above and as depicted in Figure 2, is hereby approved by the Corps and Ecology.

VI.6 Utilization of Credits

The City will have the right to request utilization of credits generated by the Advance Wetland Mitigation Project to compensate for unavoidable project impacts associated with City projects. Credits generated by the advance mitigation site, once approved by the Corps and Ecology for utilization as compensatory mitigation in connection with an identified impacting project pursuant to this Agreement, cannot be sold. This advance mitigation Agreement is considered permittee-responsible mitigation as defined in 33 CFR 332.2.

Example unavoidable project impacts associated with City projects are identified in Table 2 below and described in Exhibit B. The Corps and Ecology must approve utilization of any compensatory mitigation credits generated pursuant to this Agreement, at the time of review of the Mitigation Site Use Plan. Utilization of credits for any specific compensatory mitigation purpose cannot be pre-approved through this Agreement. Consideration of debit of the advanced mitigation credits is not limited to the potential projects identified in Table 2. Impacts from additional City projects not listed in Table 2

may be eligible to utilize credits in the future but must fall within the impact project geographic use area as defined above. Debiting against wetland mitigation credit may begin upon approval by the Corps and Ecology of the Mitigation Site Use Plan, provided that the regulatory agencies with jurisdiction over the impacting City project(s) also approve the utilization of credits generated pursuant to this Agreement as adequate and appropriate compensatory mitigation.

The 24 projects listed in Table 2 and described in Exhibit B are located within the City of Marysville (see Figure 2) and fall otherwise within the established impact project geographic use area. From a watershed perspective, the advance mitigation project may provide ecologically preferable mitigation for impacts related to the listed projects, for reasons including the following: The advanced mitigation project creates habitat that is a limited resource in the watershed. The majority of the potential debit projects have low (e.g. Category III or IV) quality freshwater wetland impacts, which are not a limited resource in WRIA 07. Many of the wetlands in the debit project footprints are disconnected from other wetlands or stream corridors. Furthermore, a majority of the proposed debit projects will result from the expansion of existing infrastructure, which may contribute to the degraded functions at these locations.

TABLE 2: Potential City of Marysville Debit Projects

Improvement Project	Estimated Affected Wetlands	
	(s.f.)	Acres
SR 92 Break in Access	30,000	0.69
40th Street Extension	24,000	0.55
Sunnyside Blvd Expansion	44,300	1.02
Soper Hill Rd Expansion	26,600	0.61
1st Street Bypass	90,000	2.07
83rd Ave NE Expansion	73,500	1.69
Deering Park Frontage	4,000	0.09
Bayview Trail Corridor	50,700	1.16
Harborview Trail Corridor	5,600	0.13
67th Ave NE Expansion	71,700	1.65
88th Expansion (Allen Creek Crossing)	15,000	0.34
State Ave. Expansion (Quilceda Creek Crossing)	15,000	0.34
51st Ave NE Expansion	99,300	2.28
67th/108th Intersection Improvements	2,500	0.06
132nd Street Retaining Wall Repairs	2,500	0.06
New Sewer Alignment (156th St NE to 172nd St NE)	24,000	0.55
Frontier Fields Wetlands	1,800	0.04
Smokey Point Master Plan Area	170,000	3.90

Strawberry Fields	252,700	5.80
156th Street (West of Smokey Point Master Plan)	18,000	0.41
Geddes Marina Redevelopment	74,052	1.70
Regional Pond #2	69,696	1.60
Jennings Park expansion/improvements	21,780	0.50
27th Avenue Extension	15,000	0.34
Total	**1,201,728**	**27.58**

The City will be allowed to propose use of the available wetland mitigation credits until all credits generated and approved for utilization by the Corps and Ecology have been completely debited. At the time credit generated pursuant to this Agreement is proposed to be used as compensatory mitigation for a specific project, the City shall provide to the Corps and Ecology the following:

- Reference to the terms of this Agreement and to the Advance Wetland Mitigation Plan incorporated into this Agreement as Exhibit A, and verification that the project is in the impact project geographic use area.
- Copies of any monitoring reports that have been produced for the advance mitigation site; and
- A Mitigation Site Use Plan.

At a minimum, the **Mitigation Site Use Plan** shall contain sufficient documentation to demonstrate to the satisfaction of the Corps and Ecology the following:

1. Demonstrate the advance mitigation site's ecological lift by meeting stated performance standards, through documentation in monitoring reports, site visits, and other supporting information as required by the Corps or Ecology.
2. Propose and substantiate the number of compensatory mitigation credits to be generated as a result of accomplishment of the identified performance standards.
3. Demonstrate through the ledger required pursuant to this Agreement that sufficient credits are available for the proposed compensatory mitigation purpose.
4. Propose and substantiate further monitoring and documentation methods and requirements, applicable to the credits generated and to be utilized.
5. Propose and substantiate maintenance requirements to sustain the credits generated and to be utilized; such maintenance requirements may need to include the accomplishment of subsequent performance standards that are integral to the generated credits, the accomplishment of which: will be obligatory once initial credits are approved for utilization; and will generate, in turn, their own opportunity for advance compensatory mitigation credit.
6. Propose and substantiate an adaptive management plan applicable to the advance compensatory mitigation credits generated and to be utilized.

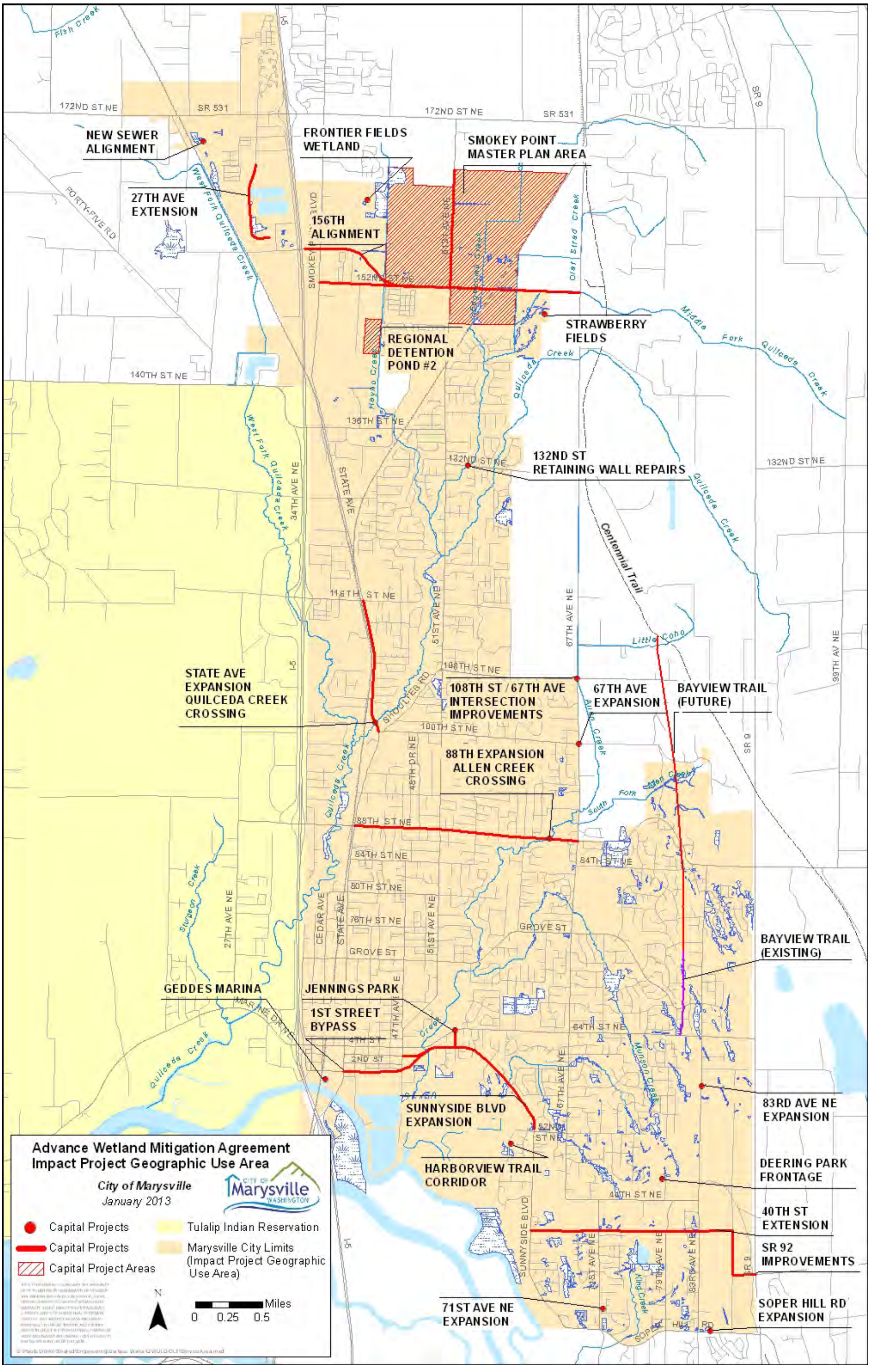
7. Propose and substantiate a long-term management and maintenance plan applicable to the advance compensatory mitigation credits generated and to be utilized.
8. Demonstrate that the City has instituted, and continues to maintain in force and effect, the site protection instrument required by Section VI.3 of this Agreement, applicable to the City owned property.
9. Describe the debit project's impacts to aquatic resources that require mitigation. Include type of aquatic impact, acreage, functions lost, and how impacts have been avoided and minimized.
10. Describe how the advance mitigation adequately compensates for the unavoidable impacts to waters of the U.S. and waters of the State.
11. From a watershed perspective, demonstrate the advance mitigation is ecologically preferable to on-site mitigation options. For critical functions/resources it may be necessary to perform part of the mitigation on-site and use the advance mitigation site to compensate for the remainder of the functions (decouple the compensation).
12. Identify the amount of mitigation credit, generated from the advance site, that the City proposes is necessary to offset lost functions from the proposed impacts.

The Corps and Ecology note that impacts to wetlands must be avoided to the greatest extent practicable and that this Agreement does not provide any pre-approval of potential impacts to wetlands. The final decisions on impact project approval and the amount and type of compensatory mitigation required for that project are made by the applicable regulatory agencies with jurisdiction over the impacting proposal. The final decision on approval of availability of credits for utilization in providing advance compensatory mitigation pursuant to this Agreement lies with the Corps and Ecology.

The potential to use the advance mitigation site as compensation for wetland impacts associated with these projects is predicated upon acquiring all required permits, and is subject to mitigation sequencing as required by the agencies with jurisdiction over the proposed impacting project.

The City of Marysville will maintain ownership or easement rights, as applicable, of the properties comprising the site of this advance mitigation Agreement and will retain full responsibility for all mitigation success, monitoring, maintenance, adaptive management, long-term management and maintenance, reporting, and tracking of all compensatory mitigation credits generated and utilized pursuant to this Agreement.

FIGURE 2: Potential City of Marysville Impact Projects



VI.7 Wetland Mitigation Ratios

The mitigation ratios for the impact projects will be determined on a case-by-case basis, based on the joint State-Federal wetland mitigation guidance (Ecology et al., 2006) or other applicable document approved by the Corps and Ecology.

For project impacts solely regulated by the City of Marysville and not subject to State or Federal permitting, the City's Critical Areas Ordinance will be used.

The City must demonstrate that impacts cannot be avoided or further minimized before discussing compensatory mitigation with the Corps and Ecology.

VI.8 Duration of Agreement

Once credits generated pursuant to this Agreement are first utilized, this Agreement shall remain in effect until all available wetland mitigation credits that may be generated by the advance mitigation site are debited, or the City has notified the Corps and Ecology that it relinquishes the opportunity to generate any further credits on the advance mitigation site, whichever occurs first; provided that this Agreement will continue to remain in force until all obligations arising out of Mitigation Site Use Plans approved pursuant to this Agreement have been fulfilled, and until a Long Term Management and Maintenance Plan as called for in Exhibit A has been approved by the Corps and Ecology. The advanced mitigation site protection instrument, monitoring requirements, long-term maintenance, and adaptive maintenance plan described in Exhibit A will remain in effect for the term described in the Mitigation Site Use Plan(s) approved pursuant to this Agreement.

This site is being used as "permittee-responsible mitigation." Therefore, the City will not be allowed to sell or transfer any advance mitigation credits generated by the advance mitigation site once the City has first utilized any credit(s) generated pursuant to this Agreement as compensatory mitigation for an impact project. If it is determined the advance mitigation site and credits which could be generated as a result of accomplishment of additional performance standards are not needed by the City, the City will need to coordinate possible options with the Corps and Ecology. The functions of monitoring, maintenance, and long-term management prescribed in this mitigation Agreement may be assigned with prior approval from the Corps and Ecology; however, the City will remain legally responsible for the overall success of the advance mitigation site.

VI.9 Recording Credit Transactions

When a credit is generated through the accomplishment of performance standards, approved by the Corps and Ecology, and then utilized as compensatory mitigation for an aquatic resource impact, the City shall document each use in a credit ledger. The credit ledger shall include the following:

a) The year, and number of credits, that have been generated through the accomplishment of performance standards and have been approved by the Corps and Ecology under a Mitigation Site Use Plan;
b) Date and number of credits utilized as compensatory mitigation for an impacting project;
c) The number of residual mitigation credits available for use that have been previously approved under a Mitigation Site Use Plan but not yet utilized;
d) Location of the debit project that is proposed to utilize as compensatory mitigation credits from the advance mitigation project site;
e) Debit project permit numbers and types; and
f) Debit project impact to wetland acreage and wetland types affected.

The City will also submit to the Corps and Ecology a credit ledger after each utilization of advance credits as compensatory mitigation for an impacting project. If no transactions happen within a year then the ledger can be submitted by January 31st of each year. The submittal of an annual credit ledger will include the items a through f above. The City is encouraged to post this Agreement and a copy of the current ledger on its website.

VII. Notice to Parties

All correspondence related to this Agreement must contain the applicable Corps and Ecology reference number (e.g. projects utilizing the advance mitigation site), and including the NWP 27 used to authorize the construction of the City's Advanced Mitigation Project (NWS 2013-209). Pursuant to this advance mitigation Agreement the City will be responsible for sending a copy of the "As-built" report(s), Mitigation Site Use Plan(s), and all other required documentation to the Corps and Ecology at the following addresses:

US Army Corps of Engineers
Regulatory Branch, Seattle District
4735 E Marginal Way S
PO Box C-3755
Seattle, WA 98124-2255

WA State Department of Ecology
Shorelands and Environmental Assistance Program
3190 160th Avenue SE
Bellevue, WA 98008

VIII. Amendments

Amendments to this Agreement, including approved changes to the Advance Wetland Mitigation Plan incorporated as Exhibit A, may be accomplished through the express written agreement of all parties to this Agreement.

VII. Signatures.

CITY OF MARYSVILLE

_____
BY: Jon Nehring, Mayor
City of Marysville

_____
Date

WASHINGTON DEPARTMENT OF ECOLOGY

_____
BY: Gordon White, Program Manager
Shorelands & Environmental Assistance Program

_____
Date

U.S. ARMY CORPS OF ENGINEERS

_____
BY: Michelle, Walker, Chief, Regulatory Branch
Seattle District, U.S. Army Corps of Engineers

_____
Date

Attest:

_____
City Clerk

Approved as to form:

_____
City Attorney

VIII. References

Salmon Overlay to the Snohomish Estuary Wetland Integration Plan. 2001. Available at http://www.everettwa.org/cityhall/upload_directory/SEWIP%20Salmon%20Overlay.pdf

Seattle District, Corps of Engineers. December 2010. Environmental Assessment, Qwuloolt Section 544 Ecosystem Restoration Project, Marysville Washington.

Seattle District, Corps of Engineers. January 2002. Qwuloolt/Portinga Technical Report, Prepared for Tulalip Tribes of Washington.

Snohomish County Assessor's Office. Assessor Data Web Page. 2011. Available at http://assessor.snoco.org/services/data.aspx

Snohomish Estuary Wetland Integration Plan (SEWIP). 1997. Available at http://www.everettwa.org/cityhall/upload_directory/SEWIP%201997.pdf97.

Washington State Department of Ecology, US Army Corps of Engineers Seattle District, and US Environmental Protection Agency Region 10. Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1), Washington State Department of Ecology Publication #06-06-011a. Olympia, WA. Available at https://fortress.wa.gov/ecy/publications/summarypages/0606011a.html

Appendix F

Mitigation Use Plan

Geddes Marina Phase 2 Mitigation Site Use Plan

Prepared for
City of Marysville

December 2021

Prepared by
Parametrix

Geddes Marina Phase 2
Mitigation Site Use Plan

Prepared for

City of Marysville
Marysville City Hall
1049 State Avenue
Marysville, WA 98270

Prepared by

Parametrix
60 Washington Avenue, Suite 390
Bremerton, WA 98337
T. 360.377.0014 F. 1.855.542.6353
www.parametrix.com

December 2021 | 553-2967-005

CITATION

Parametrix, 2021. Geddes Marina Phase 2
Mitigation Site Use Plan.
Prepared by Parametrix, Bremerton, Washington.
December 2021.

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ACRONYMS AND ABBREVIATIONS

Agreement	Advance Wetland Mitigation Agreement
City	City of Marysville
Corps	U.S. Army Corps of Engineers
Ecology	Washington State Department of Ecology
MSMP	Marysville Shoreline Master Program
PCBs	polychlorinated biphenyls
Plan	Advance Wetland Mitigation Plan
QER	Qwuloolt Estuary Restoration
WRIA	Water Resource Inventory Area

INTRODUCTION

The City of Marysville (City) seeks to use 4.385 credits from the Advance Mitigation Project as compensatory mitigation for impacts resulting from the Geddes Marina Phase 2 Remediation Project. In accordance with the Advance Wetland Mitigation Agreement (Agreement) (Corps et al. 2013), the City is allowed to propose use of the available wetland mitigation credits until all credits generated and approved for utilization by the U.S. Army Corps of Engineers (Corps) and Washington State Department of Ecology (Ecology) have been completely debited. Pursuant to the agreement, upon request of credit use, the City must provide to the Corps and Ecology the following:

- *Reference to the terms of this Agreement and to the Advance Wetland Mitigation Plan incorporated into this Agreement as Exhibit A, and verification that the project is in the impact project geographic use area.*
  See Attachment A for a copy of the Agreement.
- Figure 1 shows the project impact area within the impact geographic use area.
- *Copies of any monitoring reports that have been produced for the advance mitigation site.* See

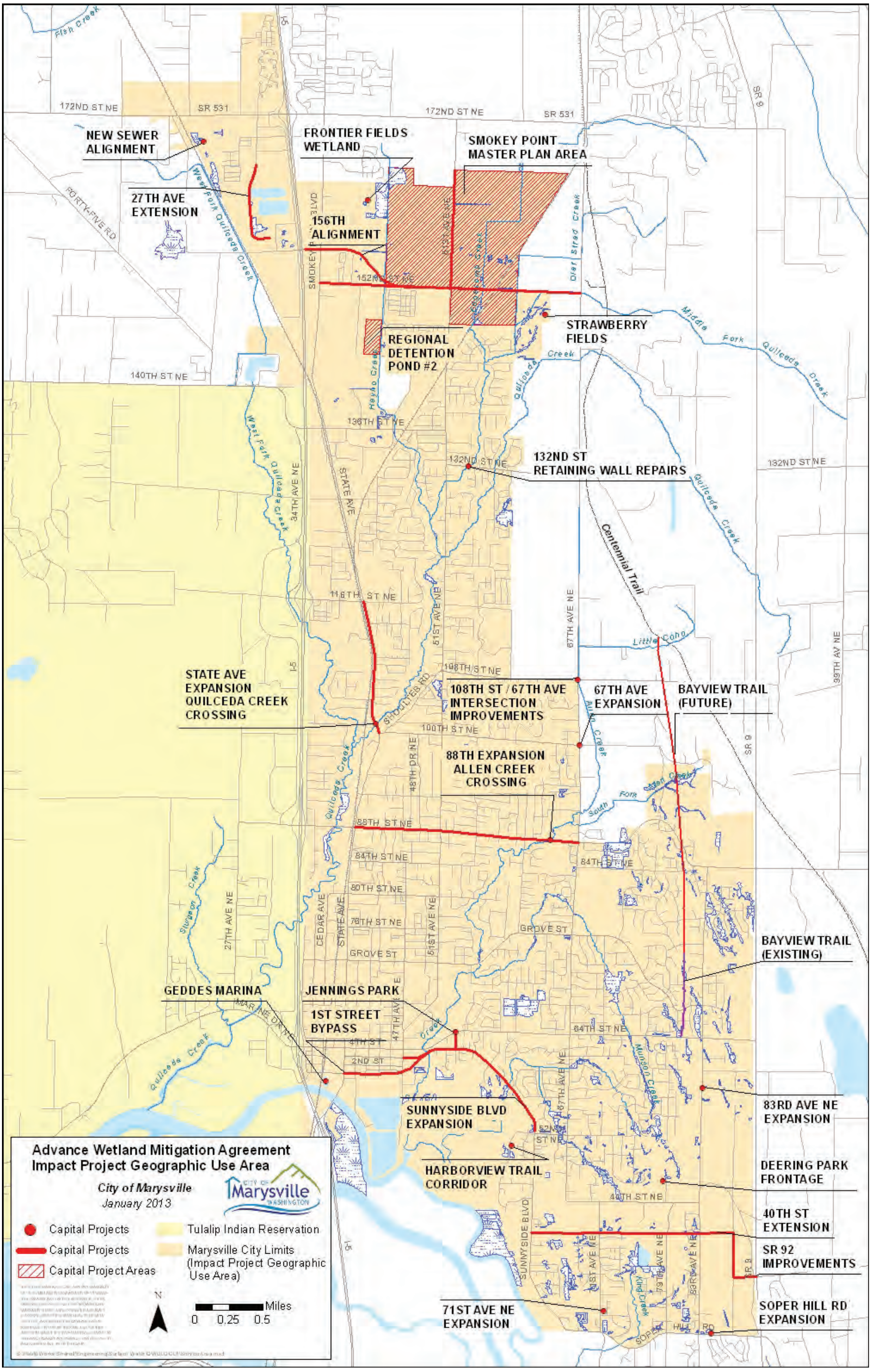
  Will be provided under separate cover.
- *A Mitigation Site Use Plan.*

Advance Mitigation Project Overview

The Advance Mitigation Project generates compensatory mitigation credits for projects within the impact project geographic use area (Figure 1) of the City of Marysville. The Advanced Mitigation Project parcels (17.54 acres of city-owned parcels) are within the footprint of the Qwuloolt Estuary Restoration (QER) Project, which is located within the historic Snohomish River Estuary. The QER Project was originally implemented in 1998 to restore approximately 400 acres of former estuary by constructing a new levee and breaching the existing levee system.

The Advance Wetland Mitigation Plan (Plan) (City of Marysville 2013) was written to provide a framework for how credits are generated and released. The Plan states that the City will only receive credit if an ecological lift above the baseline condition is achieved, as documented by the successful completion of performance standards described in the Plan.

The completion of performance standards are documented through annual monitoring reports. Four monitoring reports have been completed (Years 1, 2, 3, and 5). Upon the completion of Year 5, the Corps and Ecology have released a total of 6.45 credits City project use (Ensor 2021).


NEW SEWER ALIGNMENT
FRONTIER FIELDS WETLAND
SMOKEY POINT MASTER PLAN AREA
27TH AVE EXTENSION
156TH ALIGNMENT
REGIONAL DETENTION POND #2
STRAWBERRY FIELDS
132ND ST RETAINING WALL REPAIRS
STATE AVE EXPANSION QUILCEDA CREEK CROSSING
108TH ST / 67TH AVE INTERSECTION IMPROVEMENTS
67TH AVE EXPANSION
BAYVIEW TRAIL (FUTURE)
88TH EXPANSION ALLEN CREEK CROSSING
BAYVIEW TRAIL (EXISTING)
GEDDES MARINA
JENNINGS PARK
1ST STREET BYPASS
SUNNYSIDE BLVD EXPANSION
83RD AVE NE EXPANSION
HARBORVIEW TRAIL CORRIDOR
DEERING PARK FRONTAGE
40TH ST EXTENSION
SR 92 IMPROVEMENTS
71ST AVE NE EXPANSION
SOPER HILL RD EXPANSION
172ND ST NE
SR 531
SR 9
I-5
140TH ST NE
136TH ST NE
132ND ST NE
116TH ST NE
108TH ST NE
100TH ST NE
88TH ST NE
84TH ST NE
80TH ST NE
78TH ST NE
GROVE ST
4TH ST
2ND ST
152ND ST NE
FORTY-FIVE RD
MARINE DR NE
SMOKEY POINT BLVD
STATE AVE
CEDAR AVE
27TH AVE NE
34TH AVE NE
43RD AVE NE
47TH AVE NE
48TH DR NE
51ST AVE NE
67TH AVE NE
83RD AVE NE
87TH AVE NE
39TH AV NE
SOPER HILL RD
Fish Creek
West Fork Quilceda Creek
Quilceda Creek
Middle Fork Quilceda Creek
Allen Creek
Little Coho
Centennial Trail
Stillaguamish Tribe of Indians
Advance Wetland Mitigation Agreement
Impact Project Geographic Use Area
City of Marysville
January 2013
Capital Projects
Capital Projects
Capital Project Areas
Tulalip Indian Reservation
Marysville City Limits (Impact Project Geographic Use Area)
N
Miles
0 0.25 0.5

Mitigation Site Use Plan

As per the Agreement, a Mitigation Site Use Plan shall contain sufficient documentation to demonstrate to the satisfaction of the Corps and Ecology the following:

1. ***Demonstrate the advance mitigation site's ecological lift by meeting stated performance standards, through documentation in monitoring reports, site visits, and other supporting information as required by the Corps and Ecology.***

Monitoring of the City-owned parcels within the Qwuloolt Restoration Area is scheduled to occur in Years 1, 2, 3, 5, 7, and 10. Year 1 monitoring occurred 1 calendar year after the levee breach, per the terms and conditions of the Agreement (Corps et al. 2013). As of December 2021, 5 years of monitoring have been completed. Specifics on methods, goals (objectives and performance standards), and results are discussed in Monitoring Reports Year 1, Year 2, Year 3, and Year 5.

2. ***Propose and substantiate the number of compensatory mitigation credits to be generated as a result of accomplishment of the identified performance standards.***

Table 1 below summarizes performance standards met within each monitoring year.

Table 1. Overview of Performance Standards in Each Year of Monitoring

	Performance Standard							
Year	**2A**	**2B**	**4A**	**4B**	**5A**	**5B**	**6**	**7**
1 (2016)	met	met	met	met	met	met	met	met
2 (2017)	N/A[1]	met	N/A[1]	met	N/A[1]	N/A[1]	N/A[1]	met
3 (2018)	met	met	met	met	met	met	met	met
5 (2020)	met	met	met	met, except West 1 parcel	met	met	met	N/A[1]

[1] N/A represents that performance standard did not require monitoring that year.

3. ***Demonstrate through the ledger required pursuant to the Agreement that sufficient credits are available for the proposed compensatory mitigation purpose.***

As of October 11, 2021, 6.45 credits have been approved for release from the Advance Mitigation Protection (Ensor 2021 personal communication).

4. ***Propose and substantiate further monitoring and documentation methods and requirements, applicable to the credits generated and to be utilized.***

As stated in the Plan, credits are expected to be released only if monitoring shows that performance standards applicable to each City-owned parcel have been met. Year 1, 2, 3, and 5 Monitoring Reports were completed to demonstrate compliance with the performance standards. Five additional years of monitoring are proposed in order to identify maintenance needs and generate additional credits.

Upon review of the monitoring reports, credits have been released incrementally by the Corps and Ecology. As of October 2021, 6.45 credits are available to be utilized for debit projects (see number 3 above).

5. ***Propose and substantiate maintenance requirements to sustain the credits generated and to utilized; such maintenance requirements may need to include the accomplishment of subsequent performance standards that are integral to the generated credits, the accomplishment of which will be obligatory once initial credits are approved for utilization and will generate, in turn, their own opportunity for advance compensatory mitigation credit.***

No additional maintenance requirements are necessary to sustain the credits generated. The Year 5 Monitoring Report states that a small patch of a difficult-to-eradicate invasive species, common reed (*Phragmites australis*), was found in the West 1 parcel. Another invasive species, perennial pepperweed (*Lepidium latifolium*) has been found within City properties, along the Ebey Waterfront Trail, and scattered throughout the QER site since Year 2. Invasive species eradication efforts have since been implemented.

While perennial pepperweed is not specifically listed under performance standards, it is an invasive weed listed as a Class B Noxious Weed, and control is required in Snohomish County. Treatment for both invasive species have been implemented and will continue to be a required annually as long as new infestations occur (One Horse Enterprises 2020).

6. ***Propose and substantiate an adaptive management plan applicable to the advance compensatory mitigation credits generated and to be utilized.***

The Plan states specific compensatory mitigation activities that, if successfully implemented, will generate advance mitigation credit for City debit projects within the geographic impact use area.

7. ***Propose and substantiate a long-term management and maintenance plan applicable to the advance compensatory mitigation credits generated and to be utilized.***

City-owned parcels subject to the Plan are protected by the execution of a restrictive covenant that prohibits future development and outlines consistent and allowable uses as well as restricted and inconsistent uses. This ensures ownership of the parcels will remain with the City of Marysville and the long-term management and maintenance plans stated within the Plan will and can be fully executed.

8. ***Demonstrate that the City has instituted, and continues to maintain in force and effect, the site protection instrument required by Section V1.3 of this Agreement, applicable to the City-owned property.***

As stated above, City-owned parcels subject to the Plan are protected by a restrictive covenant. The covenant has been recorded with the Snohomish County Auditor's Office.

9. ***Describe the debit project's impacts to aquatic resources that require mitigation. Include type of aquatic impact, acreage, functions lost, and how impacts have been avoided and minimized.***

See Geddes Critical Area Study (Parametrix 2021) for details on aquatic resources and impacts.

10. Describe how the advance mitigation adequately compensates for the unavoidable impacts to water of the U.S. and waters of the State.

The project is located within the City's Shoreline Management Act jurisdiction and is therefore subject to the Marysville Shoreline Master Program (MSMP) (City of Marysville 2020). All proposed project related alterations and mitigation comply with the MSMP.

Advance mitigation adequately compensates for unavoidable impacts to water of the U.S. and waters of the State by restoring wetland conditions within the same watershed, along a water supply with the same hydrologic connection. Additionally, restored wetlands will persist due to the execution of a restrictive covenant (see number 7 above).

11. From a watershed perspective, demonstrate the advance mitigation is ecologically preferable to on-site mitigation options. For critical functions/resources, it may be necessary to perform part of the mitigation on-site and use the advance mitigation site to compensate for the remainder of the functions (decouple the compensation).

All compensatory mitigation will be met using the Advance Mitigation Project. The Advance Mitigation Project is preferred to on-site mitigation because it provides an ecological lift to the entire Water Resource Inventory Area (WRIA) 7 by increasing the areal extent and connectivity of wetland habitat to the Snohomish River system. The Advance Mitigation Project improves fish habitat, including for listed-species such as Chinook salmon, bull trout, and steelhead.

Additionally, the entire Geddes property is contaminated with heavy metal, heavy oils, dioxins/furans, polychlorinated biphenyls (PCBs), and other contaminants. Constructing wetland mitigation on site is not practical, as inundation of these substrates could release contaminants into surface and groundwaters.

12. Identify the amount of mitigation credit, generated from the advance site, that the City proposes is necessary to offset lost functions from the proposed impacts.

The Project will permanently fill 1.939 acres of Category II wetland habitat and an additional 0.149 acre of adjacent non-wetland aquatic habitat. For advance wetland mitigation projects that have completed 5 years of monitoring, Ecology, the Corps, and EPA (2021) recommend a mitigation ratio of 2.1:1 to compensate for impacts to Category II wetlands. Using this ratio, 4.072 credits from the Advance Mitigation Project would be required to compensate for project-related wetland impacts. To ensure no net loss of shoreline functions, the City proposes to provide mitigation at the same ratio (0.313 credit) for the 0.149 acre of non-wetland aquatic habitat. Therefore, in total, the City proposes to utilize 4.385 credits from Advance Mitigation Project for the Geddes Marina Phase 2 project.

REFERENCES

City of Marysville. 2013. Advance Wetland Mitigation Plan, City of Marysville, WA.

City of Marysville. 2020. Marysville Shoreline Master Program. Available at: https://marysvillewa.gov/988/Shoreline-Master-Program.

Corps (U.S. Army Corps of Engineers), Ecology (Washington State Department of Ecology), and City of Marysville. 2013. Advance Wetland Mitigation Agreement. City of Marysville, WA.

Ecology (Washington State Department of Ecology), Corps (U.S. Army Corps of Engineers), and EPA (U.S. Environmental Protection Agency. 2021. Wetland Mitigation in Washington State Part 1: Agency Policies and Guidance (Ecology Publication # 21-06-003). Available at: https://ecology.wa.gov/Water-Shorelines/Wetlands/Mitigation/Interagency-guidance.

Ensor, Brooke. 2021. NPDES Coordinator, City of Marysville, Marysville, WA. Personal Communication [email to Benn Burke, Parametrix senior consultant]. October 11, 2021.

One Horse Enterprises. 2020. Advance Wetland Mitigation for the Qwuloolt Restoration Area Monitoring Report, Year 5. Sultan, Washington. Army Corps reference # NWS-2013-209.

Parametrix. 2021. Geddes Marine Phase 2: Critical Areas Report and Mitigation Plan. Prepared by Parametrix, Seattle, WA. December 2021.

Attachment A

Advance Wetland Mitigation Agreement for the City of Marysville, Washington

Advance Wetland Mitigation Agreement for the City of Marysville, Washington

Between the US Army Corps of Engineers, the Washington State Department of Ecology and the City of Marysville

March 2013

CITY OF Marysville WASHINGTON

DEPARTMENT OF ECOLOGY State of Washington

US Army Corps of Engineers
Seattle District

Advance Wetland Mitigation Agreement
For the City of Marysville, WA

I. Parties

The parties to this Advance Wetland Mitigation Agreement (Agreement), dated the ____ day of ____ 2013, are: The City of Marysville (City), the Washington State Department of Ecology and the U.S. Army Corps of Engineers (Corps).

II. Purpose of Agreement

The purpose of this Agreement is to document the results of the Corps' and Ecology review of the Advance Wetland Mitigation Plan, dated __April 1, 2013___ and attached as Exhibit A to this Agreement; and to memorialize the Corps' and Ecology's expectations as to future generation of compensatory mitigation credits when the City of Marysville's Advance Mitigation Project is completed. The property subject to this Agreement includes parcels owned by the City (18.10 acres) and which the City has a permanent flood easement across (3.14 acres) for a total of 21.24 acres.

This Agreement also describes how potential debit projects may become eligible for use of credits generated under this Agreement, and identifies possible debit projects that may qualify for such use, following evaluation on a case-by-case basis.

III. Advance Mitigation Agreement Background

The Advanced Mitigation Project parcels are within the footprint of the overall Corps' 544 Qwuloolt Estuary Restoration (QER) Project located within the historic Snohomish estuary. The QER 544 Project includes levee construction and breaching of the existing levee system. The activities approved for the overall QER Project will restore tidally influenced hydrologic conditions to approximately 400 acres, including the City's advance mitigation area. The overall restoration effort occurring on the 400 acres in addition to the Corps' 544 QER Project, includes activities undertaken by the Tulalip Tribes, National Oceanic and Atmospheric Administration (NOAA), US Fish and Wildlife Service, and the Washington State Department of Ecology (Ecology). The overall QER Project has been underway since 1998, when the Natural Resource Conservation Service obtained a conservation easement under the Wetland Reserve program for most of the agricultural properties behind the Ebey Slough levee. However, the conservation easement does not apply to the City owned property or City flood easement area.

The City-owned properties and City flood easement property that will be considered advance mitigation based on this Agreement, are expected to be subject to the ebb and

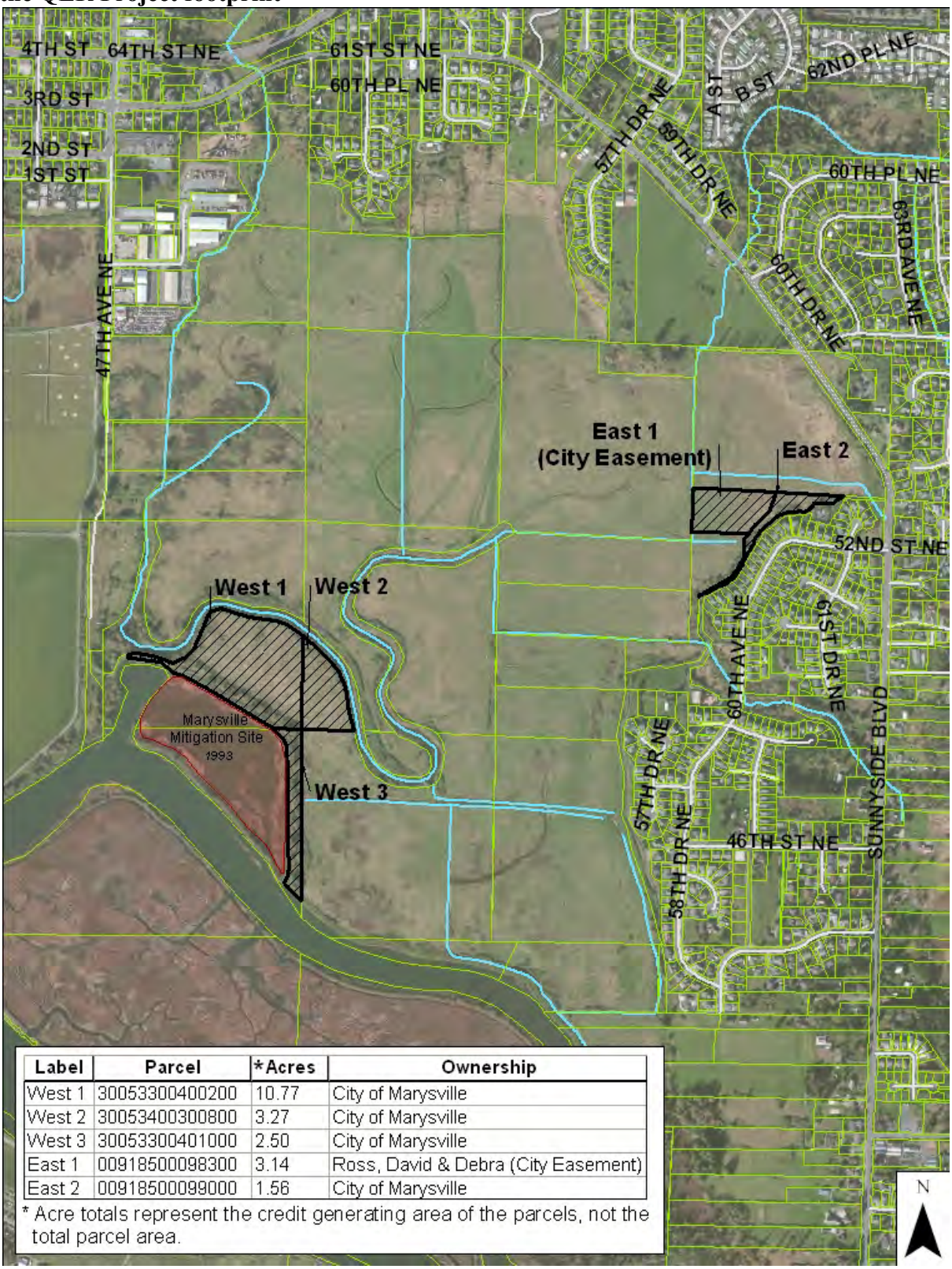
flow of the tides (Figure 1), resulting from the Corps' 544 QER project. Therefore, this Agreement pertains to and describes the potential incremental functional lift achieved above and beyond the benefits resulting from the Corps' 544 QER Project.

The City will be required to obtain a Nationwide Permit 27 for the construction activities related to this Agreement.

IV. Historical Background

The affected area was diked and converted to agricultural land in the late 1800's. The advance mitigation site is part of the former Poortinga Farm and is identified within the Snohomish Estuary Wetland Integration Plan (SEWIP) finalized in 1997. SEWIP is a comprehensive watershed planning tool created *"to integrate the wetland regulatory frameworks of federal, state, and local agencies into one process on the basis of an agreed-upon plan"* (SEWIP, 1997). The SEWIP identifies the Poortinga Property as the top priority for tidal restoration and mitigation options within the Snohomish Estuary. The prioritization of projects in SEWIP was conducted based on the results of habitat assessments at the time of the study, fieldwork to characterize the Ecological Management Unit boundaries within the plan and input from user group committees working with the City of Everett to develop the plan.

FIGURE 1: Site Location map showing City properties and easement area within the QER Project footprint



Label	Parcel	*Acres	Ownership
West 1	30053300400200	10.77	City of Marysville
West 2	30053400300800	3.27	City of Marysville
West 3	30053300401000	2.50	City of Marysville
East 1	00918500098300	3.14	Ross, David & Debra (City Easement)
East 2	00918500099000	1.56	City of Marysville

* Acre totals represent the credit generating area of the parcels, not the total parcel area.

V. Recitals

WHEREAS, the parties to this Agreement share a common interest to improve the salmonid habitat in the Snohomish Estuary;

WHEREAS, the parties to this Agreement agree that the restoration activities under the Advance Wetlands Mitigation Plan at the site identified in this Agreement have the potential to improve the salmonid habitat in the Snohomish Estuary;

WHEREAS, the advance mitigation site has the potential to restore natural hydrological and tidal processes within a portion of the Snohomish Estuary;

WHEREAS, a process for identifying potential debit projects and a list of potential debit projects have been identified herein;

WHEREAS, the functional lift projected to be derived from implementation of the Advance Wetland Mitigation Plan referenced in and appended to this Agreement is expected to generate compensatory mitigation credits which may be utilized to provide compensatory mitigation for a portion of the potential wetland impacts of the City's debit projects that must undergo mitigation sequencing in accordance with relevant federal, state and local statutes.

WHEREAS, the advance mitigation site is intended to be conducted in conjunction with the Qwuloolt Estuary Restoration (QER) Project in order to maximize the overall ecological benefits of the QER Project in accordance with 33 CFR 332.3(j)(2).

WHEREAS, the City of Marysville intends to retain ownership of their property and associated easement, and is prepared to retain all responsibility associated with the success of the Advance Wetland Mitigation Plan in order to provide potential compensatory mitigation for City of Marysville projects, therefore fulfilling the definition of Permittee-responsible mitigation as defined by 33 CFR 332.2.

WHEREAS, the wetland restoration plan for the QER Project was approved by the Corps on November 16, 2010. This restoration plan is detailed in the *Environmental Assessment* written by the Corps and dated December 2010 as well as *Qwuloolt/Poortinga Technical Report* written by the Corps and dated January 17, 2002. The QER wetland restoration plan describes the goals and objectives of the overall project, including the properties associated with this advance mitigation plan.

VI. Agreement

NOW, THEREFORE, in consideration of the aforesaid recitals, the parties agree as follows:

VI.1 Advance Wetland Mitigation Plan.

The City of Marysville has developed an **Advance Wetland Mitigation Plan** detailing the sites to be used and activities to be accomplished in order to establish the advance mitigation effort that is the subject of this Agreement. This plan is hereby incorporated into this Agreement as Exhibit A.

The designs, terms and provisions of the Advance Wetland Mitigation Plan are hereby approved, in concept, by the Corps and Ecology.

The five City properties and easement area within the restoration footprint (Figure 1) total 21.24 acres, as follows:

TABLE 1: City Properties and Easement Area

Parcel Label	Parcel #	Acres	Ownership
West 1	30053300400200	10.77	City of Marysville
West 2	30053400300800	3.27	City of Marysville
West 3	30053300401000	2.50	City of Marysville
East 1	00918500098300	3.14	Ross, David & Debra (City Easement)
East 2	00918500099000	1.56	City of Marysville
	Total	**21.24**	

VI.2 Credit Generation

For purposes of estimated credit calculation, it is assumed that 100% of the acreage is jurisdictional wetlands[1] (Cereghino, 2006). According to the SEWIP plan and the Salmon Overlay to SEWIP, these wetlands are rated as the lowest quality wetlands in the lower Snohomish estuary. They are currently palustrine wetlands dominated by reed canary grass (*Phalaris arundinacea*). A credit ratio will be applied to the City property and easement area for activities resulting in ecological lift from the restored tidally influenced baseline. The City intends to achieve functional lift over and above baseline conditions by implementing the following activities on the City owned parcels or easement area listed in Table 1:

West 1: Mow reed canary grass (*Phalaris arundinacea*), then deep till, and fill an existing 925lf ditch.

[1] Much of the City acreage within the QER footprint was likely effectively drained twelve years ago when the project planning process started. In the intervening years, maintenance of drainage channels within the district ceased and drainage started to fail. As a result, wetland hydrology has slowly reinstated on most if not all of the City's properties.

West 2: Mow reed canary grass (*Phalaris arundinacea*), then deep till, and excavate a new 380lf blind channel.

West 3: The City will not remove or disturb an area of existing large trees in order to encourage large woody debris and snag accumulation.

East 1: Mow reed canary grass (*Phalaris arundinacea*), then deep till.

East 2: Mow reed canary grass (*Phalaris arundinacea*), then deep till, remove Himalayan Blackberry (*Rubus armeniacus*), plant native vegetation, and install wetland signs.

These activities are anticipated to generate the following ratios:

Ditch fill and blind channel excavation- Restoration (1:1)

Mowing and deep till- Enhancement (2:1)

Large woody debris recruitment- Enhancement (4:1)

Although the Corps and Ecology will act in good faith in establishing credit generation ratios, and will give serious consideration to applying the ratios estimated above, the Corps and Ecology can make no commitment through the vehicle of this Agreement to adhere to these ratios when a Mitigation Site Use Plan is submitted for review and approval. There is a total of 16.54 acres on the West, potentially generating 8.01 acre credits. There is a total of 4.70 acres on the East, potentially generating 2.35-acre credits. Credit ratios may be adjusted as needed based on site development, among other possible factors.

The City will be required to demonstrate satisfactory accomplishment of performance standards in order to generate aquatic resource compensatory mitigation credits. Exhibit A contains detailed information regarding anticipated performance standards. Although the Corps and Ecology will act in good faith in establishing performance standards, and will give serious consideration to applying the performance standards reflected in Exhibit A as a basis for generation of compensatory mitigation credits, the Corps and Ecology can make no commitment through the vehicle of this Agreement to adhere to these performance standards until a Mitigation Site Use Plan is submitted for review and approval. Factors that may affect the establishment and application of performance standards are described in Exhibit A in more detail.

Exhibit A also contains a projected schedule of milestones at which accomplishment of performance standards will be evaluated, and at which point release of credits may be approved. This schedule contains numbers of credits the City anticipates proposing for Corps and Ecology approval for utilization as compensatory mitigation at each respective milestone. Although the Corps and Ecology will act in good faith in establishing a credit generation schedule, and will give serious consideration to applying the credit generation schedule reflected in Exhibit A as a basis for approval of release of compensatory

mitigation credits, the Corps and Ecology can make no commitment through the vehicle of this Agreement to adhere to these credit generation schedules until a Mitigation Site Use Plan is submitted for review and approval.

VI.3 Site Protection Instrument

As a prerequisite to the approval of utilization of any advance compensatory mitigation credits generated pursuant to this Agreement, the City must demonstrate that it has instituted, and presently has in force and effect, a real estate site protection mechanism approved by the Corps and Ecology. The site protection mechanism must extend to the City owned property and easement area, irrespective of the footprint on which the performance standards proposed as a basis for credit release have been accomplished.

City owned parcels subject to this Agreement are proposed to be protected by execution of a restrictive covenant that prohibits future development and outlines consistent and allowable uses, as well as restricted and inconsistent uses on the City owned parcels. The location and limitations associated with the critical areas shall be included in the site protection instrument that is to be recorded with the Snohomish County Auditor's Office.

The City will work with the property owner of East 1 (Parcel #00918500098300) to execute a site protection instrument for that property. The site protection instrument will prohibit future development and outline consistent and allowable uses, as well as restricted and inconsistent uses on the City easement parcel. The location and limitations associated with the critical areas shall be included in the site protection instrument that is to be recorded with the Snohomish County Auditor's Office. If a site protection instrument cannot be recorded than the City will amend Exhibit A accordingly.

VI.4 Credit Generation Contingencies

Prior to any utilization of credits, if the City finds, during routine maintenance and monitoring described in Exhibit A, that site conditions do not warrant credit accrual the City may relinquish claims for credit prior to any utilization of mitigation credits under this Agreement. In such a circumstance, the City will reduce or eliminate the maintenance and monitoring described in Exhibit A for areas that are not eligible for credit accrual. The City also has the option, prior to any utilization of credits, to develop a contingency plan if site conditions warrant a modification to the performance standards delineated in Exhibit A.

Following first utilization of any credits reflecting accomplishment of any performance standards on any portion of the advance mitigation site covered by this Agreement, the City may submit a request to discontinue accomplishment of subsequent performance standards, and to forgo generation of the corresponding compensatory mitigation credits. Such a request will be considered a request for amendment of the Advance Wetland Mitigation Plan and this Agreement, which may be accomplished only with the express written approval of the Corps and Ecology. The Corps and Ecology will act in good faith

in reviewing any request for contingency amendment to Exhibit A following first utilization of credits generated under this Agreement, and approval thereof shall not be unreasonably denied. Alteration to maintenance and monitoring plans described in Exhibit A must similarly be submitted to the Corps and Ecology through a requested amendment to the Advance Wetland Mitigation Plan, and must be approved by the Corps and Ecology prior to implementation.

VI.5 Impact Project Geographic Use Area

The overall QER Project is expected to benefit Chinook and bull trout, as well as steelhead trout, other salmonids, other fish and wildlife by increasing the areal extent and connectivity of wetlands in the Snohomish River system. The entire Water Resource Inventory Area (WRIA) 07 will benefit from the ecological lift in functions expected from implementing the Corps 544 QER Project. The additional work the City intends to perform on the City parcels and easement area, subject of this Agreement, would incrementally add to the functional lift in WRIA 07 associated with the QER Project. The overall QER Project in combination with the potential credit generating activities the City is proposing on their Parcels and easement area will provide a synergistic functional lift for the watershed. For the purposes of this Agreement the impact project geographic use area will include any parcel within Marysville City limits. All parcels in the impact project geographic use area must be below an elevation of 500 feet. A map of the impact project geographic use area is identified in Figure 2. The Snohomish County Assessor maintains detailed shapefiles of the Marysville City limits and parcel information. If the impact project geographic use area is questionable, these shapefiles will be used to make a determination.

The geographic use area, as described above and as depicted in Figure 2, is hereby approved by the Corps and Ecology.

VI.6 Utilization of Credits

The City will have the right to request utilization of credits generated by the Advance Wetland Mitigation Project to compensate for unavoidable project impacts associated with City projects. Credits generated by the advance mitigation site, once approved by the Corps and Ecology for utilization as compensatory mitigation in connection with an identified impacting project pursuant to this Agreement, cannot be sold. This advance mitigation Agreement is considered permittee-responsible mitigation as defined in 33 CFR 332.2.

Example unavoidable project impacts associated with City projects are identified in Table 2 below and described in Exhibit B. The Corps and Ecology must approve utilization of any compensatory mitigation credits generated pursuant to this Agreement, at the time of review of the Mitigation Site Use Plan. Utilization of credits for any specific compensatory mitigation purpose cannot be pre-approved through this Agreement. Consideration of debit of the advanced mitigation credits is not limited to the potential projects identified in Table 2. Impacts from additional City projects not listed in Table 2

may be eligible to utilize credits in the future but must fall within the impact project geographic use area as defined above. Debiting against wetland mitigation credit may begin upon approval by the Corps and Ecology of the Mitigation Site Use Plan, provided that the regulatory agencies with jurisdiction over the impacting City project(s) also approve the utilization of credits generated pursuant to this Agreement as adequate and appropriate compensatory mitigation.

The 24 projects listed in Table 2 and described in Exhibit B are located within the City of Marysville (see Figure 2) and fall otherwise within the established impact project geographic use area. From a watershed perspective, the advance mitigation project may provide ecologically preferable mitigation for impacts related to the listed projects, for reasons including the following: The advanced mitigation project creates habitat that is a limited resource in the watershed. The majority of the potential debit projects have low (e.g. Category III or IV) quality freshwater wetland impacts, which are not a limited resource in WRIA 07. Many of the wetlands in the debit project footprints are disconnected from other wetlands or stream corridors. Furthermore, a majority of the proposed debit projects will result from the expansion of existing infrastructure, which may contribute to the degraded functions at these locations.

TABLE 2: Potential City of Marysville Debit Projects

Improvement Project	Estimated Affected Wetlands	
	(s.f.)	Acres
SR 92 Break in Access	30,000	0.69
40th Street Extension	24,000	0.55
Sunnyside Blvd Expansion	44,300	1.02
Soper Hill Rd Expansion	26,600	0.61
1st Street Bypass	90,000	2.07
83rd Ave NE Expansion	73,500	1.69
Deering Park Frontage	4,000	0.09
Bayview Trail Corridor	50,700	1.16
Harborview Trail Corridor	5,600	0.13
67th Ave NE Expansion	71,700	1.65
88th Expansion (Allen Creek Crossing)	15,000	0.34
State Ave. Expansion (Quilceda Creek Crossing)	15,000	0.34
51st Ave NE Expansion	99,300	2.28
67th/108th Intersection Improvements	2,500	0.06
132nd Street Retaining Wall Repairs	2,500	0.06
New Sewer Alignment (156th St NE to 172nd St NE)	24,000	0.55
Frontier Fields Wetlands	1,800	0.04
Smokey Point Master Plan Area	170,000	3.90

Strawberry Fields	252,700	5.80
156th Street (West of Smokey Point Master Plan)	18,000	0.41
Geddes Marina Redevelopment	74,052	1.70
Regional Pond #2	69,696	1.60
Jennings Park expansion/improvements	21,780	0.50
27th Avenue Extension	15,000	0.34
Total	**1,201,728**	**27.58**

The City will be allowed to propose use of the available wetland mitigation credits until all credits generated and approved for utilization by the Corps and Ecology have been completely debited. At the time credit generated pursuant to this Agreement is proposed to be used as compensatory mitigation for a specific project, the City shall provide to the Corps and Ecology the following:

- Reference to the terms of this Agreement and to the Advance Wetland Mitigation Plan incorporated into this Agreement as Exhibit A, and verification that the project is in the impact project geographic use area.
- Copies of any monitoring reports that have been produced for the advance mitigation site; and
- A Mitigation Site Use Plan.

At a minimum, the **Mitigation Site Use Plan** shall contain sufficient documentation to demonstrate to the satisfaction of the Corps and Ecology the following:

1. Demonstrate the advance mitigation site's ecological lift by meeting stated performance standards, through documentation in monitoring reports, site visits, and other supporting information as required by the Corps or Ecology.
2. Propose and substantiate the number of compensatory mitigation credits to be generated as a result of accomplishment of the identified performance standards.
3. Demonstrate through the ledger required pursuant to this Agreement that sufficient credits are available for the proposed compensatory mitigation purpose.
4. Propose and substantiate further monitoring and documentation methods and requirements, applicable to the credits generated and to be utilized.
5. Propose and substantiate maintenance requirements to sustain the credits generated and to be utilized; such maintenance requirements may need to include the accomplishment of subsequent performance standards that are integral to the generated credits, the accomplishment of which: will be obligatory once initial credits are approved for utilization; and will generate, in turn, their own opportunity for advance compensatory mitigation credit.
6. Propose and substantiate an adaptive management plan applicable to the advance compensatory mitigation credits generated and to be utilized.

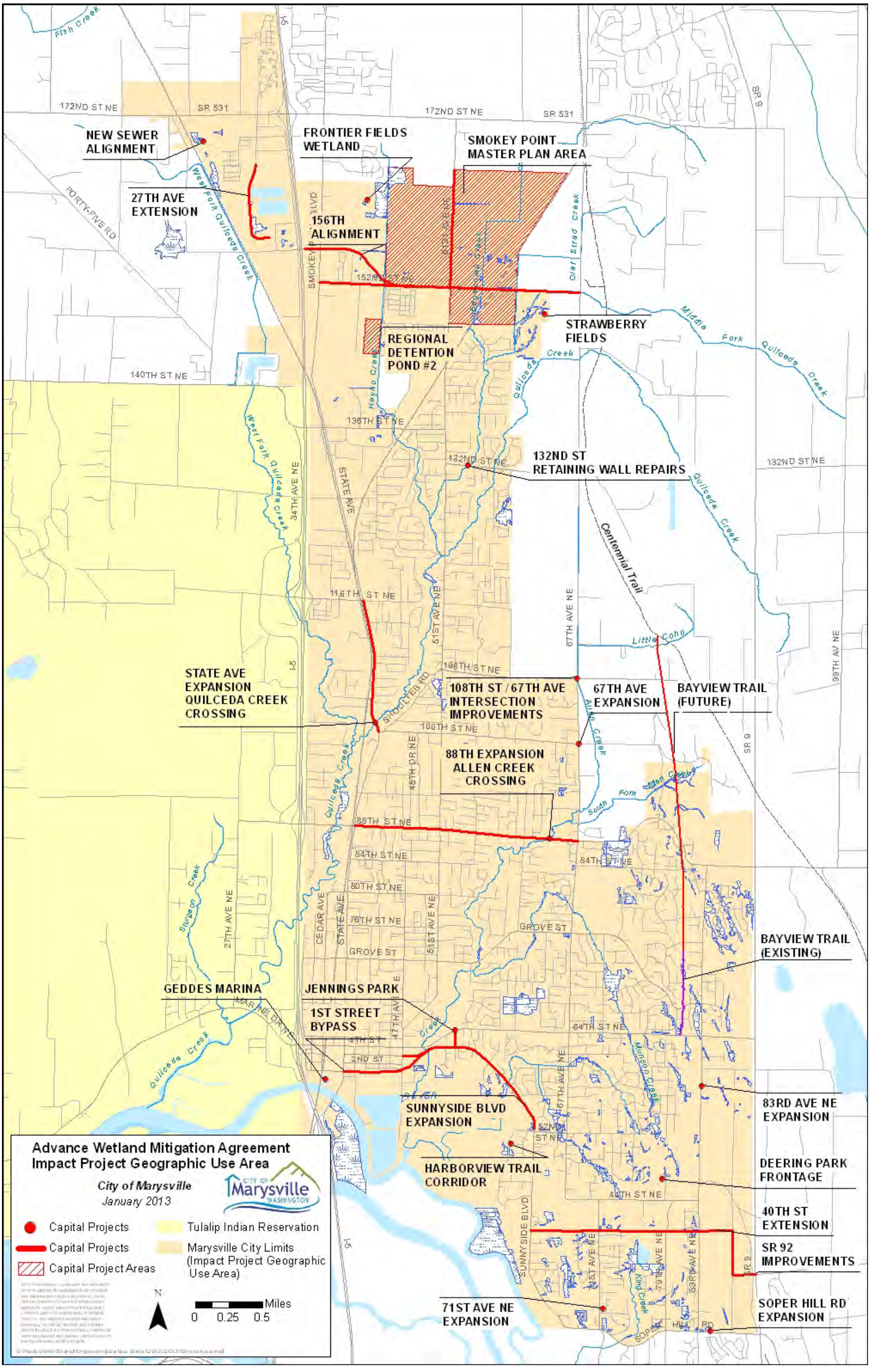
7. Propose and substantiate a long-term management and maintenance plan applicable to the advance compensatory mitigation credits generated and to be utilized.
8. Demonstrate that the City has instituted, and continues to maintain in force and effect, the site protection instrument required by Section VI.3 of this Agreement, applicable to the City owned property.
9. Describe the debit project's impacts to aquatic resources that require mitigation. Include type of aquatic impact, acreage, functions lost, and how impacts have been avoided and minimized.
10. Describe how the advance mitigation adequately compensates for the unavoidable impacts to waters of the U.S. and waters of the State.
11. From a watershed perspective, demonstrate the advance mitigation is ecologically preferable to on-site mitigation options. For critical functions/resources it may be necessary to perform part of the mitigation on-site and use the advance mitigation site to compensate for the remainder of the functions (decouple the compensation).
12. Identify the amount of mitigation credit, generated from the advance site, that the City proposes is necessary to offset lost functions from the proposed impacts.

The Corps and Ecology note that impacts to wetlands must be avoided to the greatest extent practicable and that this Agreement does not provide any pre-approval of potential impacts to wetlands. The final decisions on impact project approval and the amount and type of compensatory mitigation required for that project are made by the applicable regulatory agencies with jurisdiction over the impacting proposal. The final decision on approval of availability of credits for utilization in providing advance compensatory mitigation pursuant to this Agreement lies with the Corps and Ecology.

The potential to use the advance mitigation site as compensation for wetland impacts associated with these projects is predicated upon acquiring all required permits, and is subject to mitigation sequencing as required by the agencies with jurisdiction over the proposed impacting project.

The City of Marysville will maintain ownership or easement rights, as applicable, of the properties comprising the site of this advance mitigation Agreement and will retain full responsibility for all mitigation success, monitoring, maintenance, adaptive management, long-term management and maintenance, reporting, and tracking of all compensatory mitigation credits generated and utilized pursuant to this Agreement.

FIGURE 2: Potential City of Marysville Impact Projects



VI.7 Wetland Mitigation Ratios

The mitigation ratios for the impact projects will be determined on a case-by-case basis, based on the joint State-Federal wetland mitigation guidance (Ecology et al., 2006) or other applicable document approved by the Corps and Ecology.

For project impacts solely regulated by the City of Marysville and not subject to State or Federal permitting, the City's Critical Areas Ordinance will be used.

The City must demonstrate that impacts cannot be avoided or further minimized before discussing compensatory mitigation with the Corps and Ecology.

VI.8 Duration of Agreement

Once credits generated pursuant to this Agreement are first utilized, this Agreement shall remain in effect until all available wetland mitigation credits that may be generated by the advance mitigation site are debited, or the City has notified the Corps and Ecology that it relinquishes the opportunity to generate any further credits on the advance mitigation site, whichever occurs first; provided that this Agreement will continue to remain in force until all obligations arising out of Mitigation Site Use Plans approved pursuant to this Agreement have been fulfilled, and until a Long Term Management and Maintenance Plan as called for in Exhibit A has been approved by the Corps and Ecology. The advanced mitigation site protection instrument, monitoring requirements, long-term maintenance, and adaptive maintenance plan described in Exhibit A will remain in effect for the term described in the Mitigation Site Use Plan(s) approved pursuant to this Agreement.

This site is being used as "permittee-responsible mitigation." Therefore, the City will not be allowed to sell or transfer any advance mitigation credits generated by the advance mitigation site once the City has first utilized any credit(s) generated pursuant to this Agreement as compensatory mitigation for an impact project. If it is determined the advance mitigation site and credits which could be generated as a result of accomplishment of additional performance standards are not needed by the City, the City will need to coordinate possible options with the Corps and Ecology. The functions of monitoring, maintenance, and long-term management prescribed in this mitigation Agreement may be assigned with prior approval from the Corps and Ecology; however, the City will remain legally responsible for the overall success of the advance mitigation site.

VI.9 Recording Credit Transactions

When a credit is generated through the accomplishment of performance standards, approved by the Corps and Ecology, and then utilized as compensatory mitigation for an aquatic resource impact, the City shall document each use in a credit ledger. The credit ledger shall include the following:

a) The year, and number of credits, that have been generated through the accomplishment of performance standards and have been approved by the Corps and Ecology under a Mitigation Site Use Plan;
b) Date and number of credits utilized as compensatory mitigation for an impacting project;
c) The number of residual mitigation credits available for use that have been previously approved under a Mitigation Site Use Plan but not yet utilized;
d) Location of the debit project that is proposed to utilize as compensatory mitigation credits from the advance mitigation project site;
e) Debit project permit numbers and types; and
f) Debit project impact to wetland acreage and wetland types affected.

The City will also submit to the Corps and Ecology a credit ledger after each utilization of advance credits as compensatory mitigation for an impacting project. If no transactions happen within a year then the ledger can be submitted by January 31st of each year. The submittal of an annual credit ledger will include the items a through f above. The City is encouraged to post this Agreement and a copy of the current ledger on its website.

VII. Notice to Parties

All correspondence related to this Agreement must contain the applicable Corps and Ecology reference number (e.g. projects utilizing the advance mitigation site), and including the NWP 27 used to authorize the construction of the City's Advanced Mitigation Project (NWS 2013-209). Pursuant to this advance mitigation Agreement the City will be responsible for sending a copy of the "As-built" report(s), Mitigation Site Use Plan(s), and all other required documentation to the Corps and Ecology at the following addresses:

US Army Corps of Engineers
Regulatory Branch, Seattle District
4735 E Marginal Way S
PO Box C-3755
Seattle, WA 98124-2255

WA State Department of Ecology
Shorelands and Environmental Assistance Program
3190 160th Avenue SE
Bellevue, WA 98008

VIII. Amendments

Amendments to this Agreement, including approved changes to the Advance Wetland Mitigation Plan incorporated as Exhibit A, may be accomplished through the express written agreement of all parties to this Agreement.

VII. Signatures.

CITY OF MARYSVILLE

_____
BY: Jon Nehring, Mayor
City of Marysville

_____
Date

WASHINGTON DEPARTMENT OF ECOLOGY

_____
BY: Gordon White, Program Manager
Shorelands & Environmental Assistance Program

_____
Date

U.S. ARMY CORPS OF ENGINEERS

_____
BY: Michelle, Walker, Chief, Regulatory Branch
Seattle District, U.S. Army Corps of Engineers

_____
Date

Attest:

_____
City Clerk

Approved as to form:

_____
City Attorney

VIII. References

Salmon Overlay to the Snohomish Estuary Wetland Integration Plan. 2001. Available at http://www.everettwa.org/cityhall/upload_directory/SEWIP%20Salmon%20Overlay.pdf

Seattle District, Corps of Engineers. December 2010. Environmental Assessment, Qwuloolt Section 544 Ecosystem Restoration Project, Marysville Washington.

Seattle District, Corps of Engineers. January 2002. Qwuloolt/Portinga Technical Report, Prepared for Tulalip Tribes of Washington.

Snohomish County Assessor's Office. Assessor Data Web Page. 2011. Available at http://assessor.snoco.org/services/data.aspx

Snohomish Estuary Wetland Integration Plan (SEWIP). 1997. Available at http://www.everettwa.org/cityhall/upload_directory/SEWIP%201997.pdf97.

Washington State Department of Ecology, US Army Corps of Engineers Seattle District, and US Environmental Protection Agency Region 10. Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance (Version 1), Washington State Department of Ecology Publication #06-06-011a. Olympia, WA. Available at https://fortress.wa.gov/ecy/publications/summarypages/0606011a.html