

Planning Report

Bell Creek Economic Opportunity Area

City of Sequim, WA

Prepared by
BergerABAM
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Planning Report

City of Sequim Bell Creek Economic Opportunity Area

Submitted to

**Ann Soule
Resource Manager
City of Sequim
Sequim, Washington**

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Submitted by

**BergerABAM
210 East 13th Street, Suite 300
Vancouver, Washington 98660-3231**

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PLANNING REPORT

**City of Sequim
Bell Creek Economic Opportunity Area**

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**PLANNING REPORT
CITY OF SEQUIM
BELL CREEK ECONOMIC OPPORTUNITY AREA**

1.0 INTRODUCTION

In 2017, the City of Sequim (City) initiated a feasibility study and development planning process for the Bell Creek Economic Opportunity Area (Bell Creek EOA). The Bell Creek EOA is a 55-acre site located at the intersection of US 101 and Sequim Avenue (see Figure 1). The site will serve as a gateway to the City and present an opportunity for a mix of residential, commercial, and employment uses. The EOA zone, as currently described in the City's comprehensive plan and municipal code, is intended to support development that contributes to the City's goals for economic resiliency and economic/social diversity with high-tech/light industrial development as a key priority.

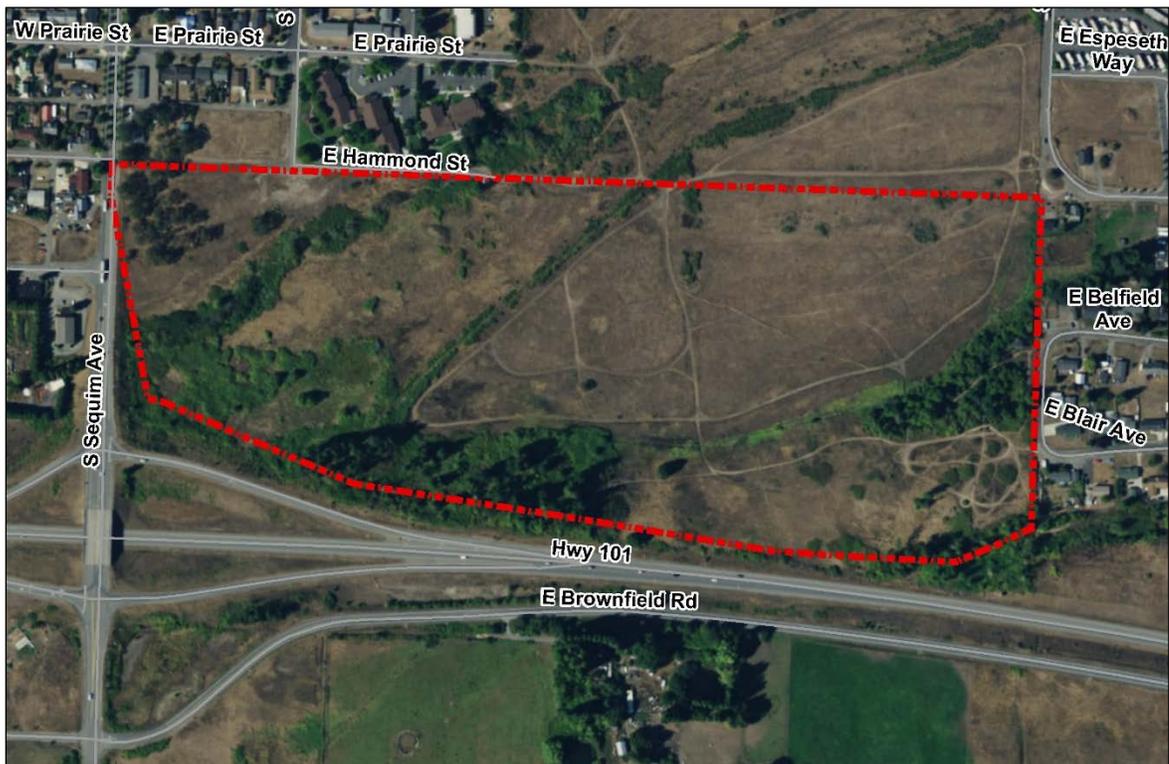


Figure 1. Bell Creek EOA

This planning report, together with the attached Existing Conditions Analysis, is submitted to the City to satisfy Element C of the feasibility study and planning process work scope for the Bell Creek EOA. This project has been funded by the Washington State Community Economic Revitalization Board (CERB), which prioritizes job-creating development that will pay at rates above the median wage level for Clallam County. Planning and feasibility analyses have been conducted by the consulting team of E. D. Hovee & Company, LLC and BergerABAM. The planning and feasibility study process

has involved input from a range of stakeholder interests, including the owner of the Bell Creek EOA site.

Throughout this planning process, the consultant team worked with the City to develop design guidelines and use standards that will support the City's economic development goals while providing the flexibility needed by future development as it responds to market conditions over what likely will be a multiyear period to site build-out. Because of the site's prominent location in the city and the presence of several ecological features (Bell Creek, a grove of Garry oaks, a century-old irrigation ditch, and wetlands), development at the site must include high-quality design and preserve and enhance existing natural resources.

While the 55-acre Bell Creek EOA site is currently under single ownership, the recommendations of this planning process are intended to apply whether the site remains under single ownership or is subdivided with resulting multiple ownerships. This report summarizes the planning process and is organized as follows:

- Overview of the **existing conditions** analysis to provide adequate context to the design and development standard recommendations
- Description of the example **conceptual development plan**
- Recommended **use categories**
- Recommended **performance and development standards**, and **design guidelines**
- Conclusion and next steps

2.0 EXISTING CONDITIONS

The planning process began with an existing conditions analysis, including a review of existing land use and zoning, parks, trails, and open spaces, critical areas, cultural resources, utility and transportation infrastructure, regulatory controls, and an evaluation of the potential for certification under the Sustainable Sites Initiative (SITES). The existing conditions analysis also included a wetland delineation. This analysis and delineation set the stage for concept plan development and identified key considerations to be addressed during the concept development phase. A brief overview of the key considerations is provided below. The full analysis and wetland delineation are included as Attachment A.

2.1 Land Use and Zoning

The entire site is designated in the comprehensive plan and zoned EOA. The intent of the EOA designation is to expand and diversify the City's economic base and increase living-wage employment opportunities. The comprehensive plan further describes EOAs as suitable for "any major development that contributes to city goals for economic resiliency and economic/social diversity" with high-tech/light industrial uses as a key priority. The Sequim Municipal Code (SMC) currently requires a subarea plan to identify allowed uses and development standards in an EOA zone. Prior to the adoption of a subarea plan, EOA-zoned properties default to the uses and development standards allowed in the Single-Family Residence (R4-8) zone. The R4-8 zone allows detached

single-family residences, public facilities and services, and communication facilities and towers as permitted uses, and parks and public institutions as conditional uses, but those uses do not meet the intent of the EOA designation as outlined in the City's Comprehensive Plan or zoning code. Therefore, a subarea plan is necessary to preserve the EOA zoning and establish use parameters and design guidelines to promote economic development, specifically high-tech/light industrial and related new primary employment development.

At the outset, this Bell Creek EOA planning process was intended to meet the subarea plan requirement; however, as the process unfolded, it became clear that the requirement for a subarea plan places an unnecessary burden on property owners and could limit the flexibility needed for future development to respond to market conditions. In addition to the Bell Creek EOA, an EOA is designated in the western portion of the City, north of Highway 101, south of Washington Street, east of River Road, and west of North 7th Avenue. Unlike the Bell Creek EOA, which is currently under single ownership, the western EOA includes multiple property owners and the subarea plan requirement would be even more difficult to satisfy. The purpose of the EOA zone can be fulfilled without a full subarea plan. This can occur with use and development standards that assure non-employment uses will support and complement primary employment activity on the site and with design guidelines that protect ecological features and ensure a high-quality product design. Section 3.0 discusses recommended use and development standards and design guidelines.

2.2 Wetland Delineation

In conjunction with the existing conditions analysis, BergerABAM wetland scientists conducted a wetland delineation using the routine on-site wetland delineation method established by the U.S. Army Corps of Engineers (USACE). The delineation is valid for a period of five years. As noted in the conclusion of the delineation report, the wetland boundaries and classifications in this report were determined using the most appropriate field techniques and best professional judgment of the wetland scientists based on conditions observed during fieldwork. The City, the Washington State Department of Ecology, and the USACE have the final authority in the determination of the boundaries, categories, and jurisdictional status of wetlands under their respective jurisdictions. Therefore, BergerABAM recommends submitting the report of the delineation and assessment to these agencies for their concurrence before beginning any development or planning activities that would affect the wetlands, streams, and/or buffers within the study area.

The wetland delineation identified three streams and three wetlands on the site. The streams are Bell Creek, the Highland Irrigation Canal, and an unnamed stream. Wetlands A and B are located on the southwest side of the study area between the Highland Irrigation Canal and the unnamed stream; Wetland C is located south of the unnamed stream and north of Highway 101 on the eastern half of the site. In order to accommodate future site development, the concept development plan recommends

filling and mitigating Wetlands B and C on site. Mitigation will include the restoration of Wetland A, including buffer restoration, and the creation of additional wetlands in restored bank overflow areas for Bell Creek. Mitigation and restoration areas are identified on the concept development plan (see Attachment B).

2.3 Utility Infrastructure

The existing conditions analysis identified existing utility infrastructure in the vicinity of the site, including water, sewer, and stormwater facilities. Water and sanitary sewer lines are located adjacent to the subarea. A downstream sewer capacity deficiency was identified in the General Sewer Plan. Future site development will have to address this deficiency. Additionally, the site does not have sufficient fire flow and off-site improvements will be required to support future development. The Sequim Water System Plan identifies a number of improvements within the vicinity of the subarea to provide the required fire flow. It is anticipated that future water and sewer infrastructure will align with the preliminary transportation network identified on the concept development plan with on-site connections and infrastructure sizing depending on site uses and final site layouts. Phasing of utility infrastructure will likely occur from north to south to connect to existing utilities in E. Hammond Street. This is the most cost effective phasing approach, but an alternative could be considered based on significant development commitments. On-site utilities will likely be phased with future site development unless the City prioritizes infrastructure improvements to attract development. Additional infrastructure analysis will be required at the time of site development.

Stormwater on site currently infiltrates or discharges through four watercourses draining from west to east and eventually into Sequim Bay. Run-on from off-site stormwater sources is understood to be a concern of the City for the Bell Creek EOA. Off-site run-on contribution from neighboring properties and upstream undersized stormwater facilities are presumed to contribute to existing downstream flooding and significant surface water flows. Development within the EOA will need to identify culverts and run-on locations on site prior to development. Ultimately, future development will need to provide sufficient conveyance capacity to maintain existing watercourses. It is recommended that these channels be constructed as “dry creek beds” with areas of enhanced water quantity storage and control measures to capture, detain, and control downstream releases of stormwater from the Bell Creek EOA. A hydraulic analysis will also be needed prior to site development to demonstrate that the proposed development will reduce the discharge rates from the existing flow rates. Preliminary stormwater facilities are identified on the concept development plan and the recommended stormwater strategy is further described in Section 5.3.

3.0 CONCEPTUAL DEVELOPMENT PLAN

The result of this planning process is a conceptual development plan that identifies most likely developable areas, preliminary circulation routes, a trail network, preliminary stormwater management, and the preservation, restoration, and mitigation of ecological features. This development plan is intended to provide one example of how the site might reasonably develop coupled with standards intended to ensure that future development contributes to the City’s economic development goals while preserving the site’s unique features and maintaining its existing hydrologic functions (see Figure 2).



Figure 2. Conceptual Development Plan

The conceptual development plan identifies approximately 32 acres of developable land within seven development areas. These areas will include future vertical development with a mix of uses from light industrial and flex/tech spaces to attached residential and mixed use, as well as supporting parking, landscaping, and internal circulation. The remaining 23 acres at the Bell Creek EOA are identified for:

- The preservation and restoration of ecological features, including Bell Creek and other onsite watercourses, wetlands, Garry oak grove, and natural vegetation.

- Primary vehicular circulation routes, including an extension of and improvements to East Hammond Street from E. Prairie Street to S. Brown Road, an extension of Center Parkway through the undeveloped property directly to the north of the Bell Creek EOA and into the EOA site, and a new loop road providing internal site circulation south of E. Hammond Street. Primary site access is proposed from S. Brown Road and E. Hammond Street with secondary access from Center Parkway and Prairie Street.

The first phase of transportation infrastructure is anticipated to include the extension of E. Hammond Street to access the site, followed by internal circulation with the layout dependent upon the sequence of site development. The Center Parkway extension should be coordinated with development of the property to the north of the Bell Creek EOA and timing will depend on the specific access requirements and traffic impacts associated with future development within the Bell Creek EOA and to the north.

- A trail network to provide off-road pedestrian access and circulation
- Stormwater facilities –further described in Section 3.3.3.

As identified above, this is only one example of how future development could occur on site. However, the consultant team recommends that the City adopt the use and development standards and design guidelines identified below in order to ensure future development enhances the diversity of the City’s economic base and preserves important ecological features as site amenities.

The conceptual development plan, an aerial perspective sketch showing a build-out scenario, a potential phasing plan, and a design feature drawing identifying proposed design guidelines are included as Attachment B.

4.0 USE CATEGORIES

The SMC identifies permitted uses by zone and use category definitions in SMC 18.20, Purpose of Districts. No uses are identified for the EOA zone, as these uses are to be defined through the subarea plan process as currently required. Through this planning process, the consultant team worked with the City to identify appropriate uses for the Bell Creek EOA. In general, a mix of uses is encouraged to support a variety of economic development opportunities. Table 1 identifies general use categories that are encouraged and prohibited uses. Table 1 also identifies the relationship between the proposed use categories for the Bell Creek EOA and existing use categories included in SMC 18.20.030. Additional uses not specifically included in the categories below may be appropriate and could be considered with Community Development Manager approval as specified in SMC 18.20.020.

Table 1. Use Categories

Bell Creek EOA Use Category	Description	SMC 18.20.030 Use Category
Employment Flex/Light Industrial/Office	Light manufacturing, distribution, service-industrial, professional office, and agribusiness uses (including artisanal uses that may combine production, wholesale/retail, tasting/showroom under one roof)	<ul style="list-style-type: none"> • Agriculture production, low impact • Healthcare (professional offices providing medical treatment) • Heavy commercial/ warehouse¹ • Manufacturing, light • Research and development • Services, personal and professional
Civic, Destination, and Educational Uses	Community-oriented uses with or without an educational component, lodging, event spaces, and other institutional uses	<ul style="list-style-type: none"> • Education and training, vocational • Institution • Public facilities and services • Transient lodging • Travel services
Community Retail/Service	Commercial, retail, and service-oriented uses for the surrounding neighborhood	<ul style="list-style-type: none"> • Retail, commercial² • Retail, neighborhood² • Restaurants
Attached Residential	Townhouses and medium density multi-family residential development	<ul style="list-style-type: none"> • Residence, attached
Mixed-Use	Combination of the uses identified above within a single building or portion of a tax parcel.	The SMC does not include a mixed-use category definition
Prohibited Uses	Single-family residential, mini-storage warehouses, regional retail as defined by SMC 18.20.030	<ul style="list-style-type: none"> • Residence, detached • Retail, regional • Mini-warehouse storage within the <i>heavy commercial/warehouse and services, personal and professional</i> use categories.

¹The heavy commercial/warehouse use category in the SMC allows mini-storage warehouses, which are not recommended for the Bell Creek EOA. Mini-storage warehouses are not recommended for this site because of the prominent location at an entry to the City and the designation as an EOA, which is intended to increase living-wage employment opportunities. There are other uses that could be included in the heavy commercial warehouse use category, such as brewing equipment warehousing and distribution or smaller-scale medical supply, that would be appropriate for the Bell Creek EOA.

²The retail, commercial use category in the SMC is intended to support residents from the larger community that rely on Sequim for regular retail purchases. Some of the specific uses identified in this category may not be appropriate for the Bell Creek EOA; however, retail at the Bell Creek EOA will likely draw from the broader community and perhaps capture a tourism market. Specific uses may include specialty retail establishments for food, beverage, or apparel products. The City may want to consider a square footage limitation on retail uses to ensure the scale is appropriate for the Bell Creek EOA.

4.1 Floor Area Ratio Targets and Use Mix Thresholds

To ensure future development supports a mix of uses and achieves an appropriate density to accommodate economic development opportunities, floor area ratio (FAR) or density minimums and use mix thresholds are recommended.

Table 2. Floor Area Ratio and Use Mix Threshold

Use Category	FAR/Density	Use Mix Threshold
Employment Flex/Light Industrial/Office	Minimum FAR of 0.25	Minimum 40 percent of overall site
Civic, Destination, and Educational Uses	Depends on specific uses proposed; no minimum required	No minimum or maximum required
Community Retail/Service	Minimum FAR of 0.3	Maximum of 40 percent of overall site
Attached Residential	Minimum density of 12 dwelling units/acre and maximum height of four stories.	Maximum of 20 percent of overall site unless part of a mixed-use development
Mixed-Use	Depends on mix – see below	Maximum of 40 percent of overall site
Residential over Non-Residential	Minimum FAR of 0.5 and maximum height of five stories.	
Non-Residential only (i.e. office over retail)	Minimum FAR of 0.3 and maximum height of five stories	

Use mix thresholds are to be applied to the entire site and not to individual project-specific developments until such time as the ability to realize minimum or maximum thresholds for the entire site on a cumulative basis are affected. For example, the first development on the site could be a multifamily development with no commercial or employment uses as long as the development is not proposed on more than 20 percent of the total site. Appropriate mechanisms for monitoring and enforcement could occur either through a full EOA master plan process or in conjunction with deed covenants if the property is subdivided with separate ownerships.

5.0 PERFORMANCE STANDARDS, DEVELOPMENT STANDARDS, AND DESIGN GUIDELINES

As identified above, the conceptual development plan included with this report is only one example of how future development at the site could occur. While a specific development pattern is not required, proposed site features, connectivity improvements, and stormwater facilities are identified on the conceptual development plan and a mix of uses is encouraged. The following performance and development standards and design guidelines are recommended to ensure future development incorporates these proposed elements and minimizes impacts to surrounding properties.

5.1 Environmental Noise

Environmental noise levels are regulated by Washington Administrative Code (WAC) Chapter 173-60. The maximum permissible noise levels are based on the environmental designation for noise abatement (EDNA) classifications established in WAC 173-60-030. The Bell Creek EOA is likely to include all three EDNA classes, including Class A EDNA (residential), Class B EDNA (commercial, retail services, and office), and Class C EDNA (light industrial and manufacturing). Table 3 identifies the maximum permissible environmental noise levels as stated in WAC 173-60-040.

Table 3. Maximum Permissible Noise Levels

Noise Source	Receiving Property		
	Class A	Class B	Class C
Class A	55 dBA ¹	57 dBA	60 dBA
Class B	57	60	65
Class C	60	65	70

¹Maximum noise levels shall be reduced by 10 dBAs between 10 PM and 7 AM.

These noise limitations are intended to protect neighboring properties and individual uses within a mixed-use environment from excessive noise levels. Site design, construction techniques, and buffers can be employed to reduce noise transmission and mitigate impacts. Mitigation measures should be considered in future site and architectural design within the Bell Creek EOA.

5.2 Air Emissions

Future development at the Bell Creek EOA must comply with the provisions of the Washington Clean Air Act and, as applicable, obtain approval from the Olympic Region Clean Air Agency.

5.3 Off-Site Drainage and Stormwater Strategy

The Bell Creek EOA is located within an area of the City with a complex system of stormwater conveyances and concerns. The City has completed significant background documentation of existing stormwater deficiencies and recommendations that will influence the ultimate stormwater development strategies. These documents include the Storm and Surface Water Master Plan (Herrera, 2016), Sequim Stormwater Needs Assessment (Sequim, 2014), and 2015 Sequim-Area Surface Water Flow Monitoring (Sequim 2016).

As part of this planning process, BergerABAM completed high-level review of the background documents and recommends the following stormwater strategy to guide future development within the Bell Creek EOA. The proposed strategy includes a three-pronged approach to manage off-site stormwater run-on, enhance water quality within the Bell Creek watershed, and comply with development regulations for on-site stormwater management. These strategies are intended to be recommendations to guide development and the City during review of proposed development plans.

As indicated in the existing conditions section, run-on from off-site stormwater sources is understood to be a concern of the City for the Bell Creek EOA and future development will need to identify culverts and run-on locations within the EOA prior to development and provide sufficient conveyance capacity to maintain existing watercourses.

Bell Creek is currently a 303(d) listed Category 5 impaired waterbody. Category 5 impaired waterbodies are classified as polluted waters that require a water improvement project. Development within the Bell Creek EOA and, specifically, projects whose stormwater is hydraulically connected to Bell Creek will need to construct

stormwater systems capable of enhanced treatment that can improve the water quality of Bell Creek. It is recommended that development within and adjacent to Bell Creek construct restoration and enhancements to Bell Creek. These enhancements could include some combination of floodplain storage, side channels, constructed wetlands, shading, and natural buffers. In addition, on-site construction will need to select materials that will minimize the effect of runoff on pH, exclude pets from buffering areas, and manage pet and other wastes contributing bacteria to Bell Creek. Treatment should also be considered for nutrients, such as phosphorous, to maintain downstream water quality.

The first two prongs of the stormwater approach are identified on the conceptual development plan as stormwater facilities. Development within the land use blocks identified will need to further mitigate the effect of development on stormwater on site. The site is anticipated to be located over a complex geomorphology of old riverbed sediments and overlain with fine glacial tills. The system appears in function to include limited infiltrative capacity. During larger storm events, the storage capacity of the soils is exceeded and stormwater begins to overflow the channels and flow overland as localized flooding.

Developments on site will need to manage stormwater within their development footprints. Shallow stormwater facilities are recommended, and the dispersal throughout the development of lined swales, ponds, gravel beds, dense vegetation, and green roofs is highly recommended. Distributed multifaceted stormwater techniques will be necessary to minimize the effects of development on stormwater. Ultimately, a hydraulic analysis/stormwater report will be necessary to demonstrate that the combination of run-on management and on-site stormwater design will reduce the overall discharges from the site.

Outside the specific EOA basin, this study additionally recommends that, if possible, the development of the EOA coordinate with the properties immediately north of the study area. Taking this type of combined, area-wide approach to completing stream enhancement/restoration and stormwater management could prove cost-effective. A combined, area-wide facility that included floodplain storage and stormwater runoff storage through the use of constructed wetlands and/or lined detention ponds near the southwest corner of S. Brown Road and E. Washington Street would be ideally located to manage this area's stormwater.

5.4 Natural Resource Protection and Enhancement

The natural resources within the Bell Creek EOA are important and should be protected and enhanced in conjunction with future development. As identified in the existing conditions analysis, these resources include three wetlands, three watercourses, and a Garry oak grove. Impacts to these areas as a result of future development will require on- or off-site mitigation. The conceptual development plan identifies on-site mitigation through wetland enhancements and restoration, and recommends enhancing Bell Creek,

preserving the Garry oak savanna (as required by the SMC), and surrounding the site with natural vegetative buffers. Additionally, a trail network and interpretive/historic markers are identified to improve the pedestrian experience through the site and provide an opportunity to celebrate local history.

Regardless of how the site ultimately develops, the preservation and enhancement of these site amenities and the development of pedestrian facilities and historic markers is important to maintain the site's hydrologic functions and to create a sense of place within future developments.

5.5 Development Standards and Design Guidelines

Through this planning process, development standards and design guidelines for the Bell Creek EOA were developed to encourage high-quality design and guide the form of future development. These standards and guidelines were designed to be consistent with the City's existing design standards (SMC 18.24) and further emphasize design features that are specifically encouraged within the Bell Creek EOA, including pedestrian connectivity and the preservation of environmental amenities.

Recommended standards and guidelines are articulated on the aerial perspective and design feature drawings in Attachment B and outlined below.

Table 4. Development Standards

Standard	Bell Creek EOA Recommendation
Maximum Height	50 feet for single-use building; 65 feet for mixed-use building
Maximum Lot Coverage	Based on stormwater, parking, and landscaping standards per SMC 13.104, 18.22, and 18.24.130 respectively but to also achieve FAR/density minimums
Minimum Setback and Buffer adjacent to public right-of-way	0 and not more than 10 feet with additional landscaping and pedestrian connection to buildings
Minimum Setbacks and Buffers between uses (except when included in mixed-use development)	Depends on use (see below)
Between Employment and Residential Uses	50 feet with landscape screen, including a mixture of trees, shrubs, and ground cover; native plants and drought tolerant plants are encouraged and at least 40 percent of plant material must be evergreen.
Between Employment Uses (including office/light industrial and manufacturing)	10 feet with landscape screen as described above
Between Commercial/Retail and Residential Uses	20 feet with landscape screen as described above
Between Commercial/Retail Uses	10 feet with landscape screen as described above
Parking	Depends on use per SMC 18.48

Table 5. Design Guidelines

Guideline	Purpose
Integrate low impact development stormwater facilities and preserve and enhance on-site ecological amenities to the greatest extent possible	Contributes to the preservation and restoration of hydrologic functions and protects the unique natural environment of the site
Provide pedestrian access and amenities (benches, larger pathways, and pedestrian-scaled lighting) throughout the site and maximize contiguous open spaces	Encourages non-motorized travel within and beyond the site and contributes to the creation of a unique place
Provide human-scale entryways and variations in building materials and facades	Enhances the pedestrian experience and quality of architectural design
Locate parking to the side or rear of buildings to the greatest extent possible	Improves the street frontage and allows direct pedestrian access to buildings from the street
Provide pedestrian and bicycle amenities within street rights of way, including bike lanes or sharrows, detached 6- to 8-foot-wide sidewalks, street trees, and drainage swales	Encourages non-motorized travel and connectivity, enhances the pedestrian experience throughout the site, and improves the character of the development

6.0 CONCLUSION AND NEXT STEPS

Development within the Bell Creek EOA represents an opportunity to contribute to the City's economic development goals and preserve unique site features through quality design and natural resource protection and enhancement. As identified previously in this report, the conceptual development plan offers one example of how the site could be developed. In this scenario, a binding site plan could be used to divide the land into the six developable areas. The recommendations included in this report offer the City a means to preserve flexibility to support a variety of future development opportunities while providing some direction for site design. To implement these recommendations, the City is encouraged to create and codify a unique Bell Creek EOA zone.

**Bell Creek EOA Planning Report
City of Sequim, Washington**

**Attachment A
Existing Conditions Report and Wetland Delineation**



Existing Conditions Analysis

Bell Creek Economic Opportunity Area

City of Sequim, WA

Prepared by
BergerABAM
May 2018

Existing Conditions Analysis

**City of Sequim
Bell Creek Economic Opportunity Area**

Submitted to

**The City of Sequim
Sequim, Washington**

**October 2017
Revised November 2017
Final May 2018**

Submitted by

**BergerABAM
210 East 13th Street, Suite 300
Vancouver, Washington 98660-3231**

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EXISTING CONDITIONS ANALYSIS

**City of Sequim
Bell Creek Economic Opportunity Area**

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**CITY OF SEQUIM
BELL CREEK ECONOMIC OPPORTUNITY AREA
EXISTING CONDITIONS REPORT**

1.0 INTRODUCTION

The subarea plan for the Bell Creek Economic Opportunity Area (EOA) (subarea plan) is a planning effort initiated by the City of Sequim (City) and the property owner to promote economic development within the City. The subarea plan will also address the protection of onsite ecological and cultural/historical resources. The subarea is situated in a prominent location at the intersection of US 101 and Sequim Avenue (Figure 1), and will function as a gateway to the City. The subarea plan will include approximately 53 acres of land in an area historically used as a dairy that currently contains desirable ecological amenities such as a Garry oak grove, Bell Creek, and a century-old irrigation ditch.

This memorandum includes BergerABAM's assessment of existing conditions within the boundaries of the subarea and our evaluation of the adequacy of the existing regulatory framework to support the types of commercial, office/industrial/institutional, and residential development anticipated for this area. With the completion of this existing conditions analysis, the next steps are the development of concept plans for the subarea and the preparation of a subarea plan report. Key considerations to be addressed during subarea plan development are summarized in section 5.0.

2.0 EXISTING CONDITIONS

The following sections describe the existing conditions within the study area, including land use and zoning; parks, trails, and open spaces; critical areas; utility (water, sewer, and stormwater) infrastructure and capacity; and the current transportation network and planned improvements in the plan vicinity.

2.1 Land Use and Zoning

The subarea is currently characterized as approximately 53 acres of undeveloped land formerly used as pasture for a dairy farm. The subarea is located between US 101 to the south, Sequim Avenue to the west, Hammond Street to the north, and an existing residential development to the east. The subarea is only four blocks from the downtown core.

The entire subarea is currently zoned by the City as an EOA. Zoning adjacent to the subarea includes a mix of commercial (community business [CB], highway commercial [HC], and heavy commercial/warehouse [HC/W]); mixed-use (downtown mixed-use I [DMU-1] and downtown mixed-use II [DMU-II]); residential (single-family residential [R4-8]); and Sequim urban growth area.

As identified in Section 18.30.035.A(1) of the Sequim Municipal Code (SMC), properties that are zoned EOA are subject to the requirements of the SMC 18.20.050 Single-Family Residence R4-8 zone table until a subarea plan is adopted. Development standards as they currently exist for the EOA zone without a subarea plan are outlined in Table 1 below. These standards, including setbacks, lot coverage, height, and density, will likely change as a result of this subarea planning process. The criteria that apply to the implementation of development standards in conjunction with a subarea plan are identified in SMC 18.30.060. In general, the standards must be consistent with the Sequim Comprehensive Plan, protect environmentally sensitive areas, and be compatible with surrounding zoning designations.

Table 1. EOA Zone Development Standards

Permitted Uses	Lot Size Standard	General Development Standards					
		Maximum Height	Minimum Front Yard Setback	Minimum Side/Rear Yard Setback	Maximum Lot Coverage	Required Parking	Site Requirements
Residences (Detached)	Minimum lot size – 5,400 sf Maximum lot size – 14,500 sf	25 ft., except 18 ft in Central Height District	15 feet	Side: 6 ft each side, 12 ft one side only if zero-lot-line development Rear: 15 ft	40% lots 10,000 sf and larger,, increases by 0.4% for each 100 sf lot area less than 10,000 sf.	2 spaces/residence	Site plan review per SMC 18.22
Public Facilities and Services	None	25 ft or as determined by conditional use permit		Major: as determined by major conditional use permit Minor: 20 ft		See SMC 18.48.050	Site plan review per SMC 18.22;,, fencing per SMC 18.24.140
Communication Facilities/Towers	None	150 ft		2 times the height of a tower antenna, dish; 50 ft for all other facilities		None	Fencing per SMC 18.24.140
Conditional Uses Major: Parks other than mini-parks, public schools, libraries, community centers, police and fire stations, power substations, cemeteries. Minor: Mini-parks, minor public facilities							

2.2 Parks, Trails, and Open Spaces

There are currently no existing or proposed formal parks, trails, or open spaces within the subarea, according to the City’s Parks and Recreation Master Plan. Pioneer Memorial Park, the nearest park to the subarea, is located approximately 860 feet to the north. Although the subarea does not contain formal parks, trails, or open spaces, the site does contain riparian habitat and a native Garry oak grove, which is a valued and protected resource within the City. Future site planning on the site will be required to consider the location of the Garry oak grove. As the subarea contains valued ecological resources, additional park, trail, and open space amenities will be considered in the concept planning phase of this subarea planning process.

2.3 Critical Areas

The City's Critical and Environmentally Sensitive Areas Protection ordinance (SMC 18.80) identifies critical areas as wetlands, streams, flood hazards, geologic hazards (erosion, landslide, seismic), steep slopes, fish and wildlife habitat areas, locally unique features (ravines, marine bluffs, beaches), and protective buffers and critical aquifer recharge areas (CARA). To determine the presence of critical areas, BergerABAM reviewed these resources: the U.S. Fish and Wildlife Service National Wetlands Inventory; the Washington Department of Natural Resources (DNR) Forest Practices Application Mapping Tool, Natural Hazards Mapper, and Priority Habitats and Species (PHS) On the Web; and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel Number 530021 0540D.

BergerABAM also prepared a wetland delineation in conjunction with this analysis. The delineation identified three streams and three wetlands on site. The streams are Bell Creek, the Highland Irrigation Canal, and an unnamed stream. Wetlands A and B are located on the southwest side of the study area between the Highland Irrigation Canal and the unnamed stream; Wetland C is located south of the unnamed stream and north of Highway 101 on the eastern half of the site (see Figure 5 in Attachment B). The wetland and stream buffers are summarized in Table 2 and Table 3 below and the full delineation report is included as Attachment B.

Table 2. Summary of Identified Wetland Areas and Buffer Widths

Wetland	Wetland Classification			Buffer
	HGM ^a	Habitat Score	Wetland Rating ^b	
Wetland A	Depressional	5	III	125 feet
Wetland B	Depressional	5	III	125 feet
Wetland C	Slope	5	IV	25 feet

Notes:

^a Hydrogeomorphic classification according to Hruby (2014 update).

^b Wetland rating according to Hruby (2014 update).

^c Buffer width based on Washington State Department of Ecology publication *Wetland Mitigation in Washington State* (Ecology et al. 2006) and CCC 40.450.030.E.

Table 3. Summary of Identified Streams and Stream Buffers

Stream	Stream Classification			Buffer Width ^d
	Cowardin ^a	Stream Type ^b	Stream Type ^c	
Bell Creek	R5UBH	2	F	100
Highland Irrigation Canal	R5UBFx	3	F	75
Unnamed Stream	R4SBC	5	Ns	25

Notes:

^a Cowardin, et al. (1979) NWI class: R5UBH = Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Permanently Flooded (H); R5UBFx = Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Semipermanently Flooded (F), Excavated (x); R4SBC = Riverine (R), Intermittent (4), Streambed (SB), Seasonally Flooded (C)

^b SMC Stream Type SMC 18.80.030(S)

^c DNR stream classification system (WAC 222-16) Current, (F) fish bearing; (Ns) non fish bearing, seasonal

^d Based on SMC 18.80.070(A)(1)(a)

The wetland and stream buffers identified above will affect future site development. The buffer widths will be considered during concept plan development and, as necessary, mitigation measures will be discussed to address unavoidable impacts.

In conjunction with the wetland delineation, BergerABAM reviewed Washington State Department of Transportation as-built drawings from the construction of Highway 101 (Sequim Bypass) adjacent to the site. The drawings appear to have used the 1995 wetland delineation layer and were limited to the right-of-way of Highway 101 and therefore, did not provide any information related to the presence of Wetlands A or B on the Bell Creek EOA site. The as-built drawings did appear to show Wetland C, although the configuration has changed since the 1995 delineation.

PHS on the Web indicates that two of the streams on the site support Endangered Species Act-listed (ESA) salmon and steelhead species, and that the site is within a management buffer for northern spotted owl. FEMA's FIRM Panel does not show the site is within any 100-year floodplain or at risk of flood hazards. The DNR Natural Hazards Mapper shows that the site has a moderate to high liquefaction susceptibility; according to the National Earthquake Hazards Reduction Program, the site is categorized as site class D and the presence of any other geologic hazards is not indicated. The site is generally flat and contains neither steep slopes nor any locally unique features. Clallam County GIS indicates the site is within a CARA. The CARA classification is likely high or moderate based on County mapping. Further investigation prior to site development will be required.

Based on our review, most of the site contains some form of critical area; however, a detailed critical areas report was not prepared as part of this existing conditions analysis. Future development of the site will require critical areas review pursuant to SMC 18.80.045 to determine the extent of critical areas and whether a critical area special study is required.

2.4 Cultural Resources

In 2003, Western Shore Heritage Services, Inc. conducted a cultural resources assessment for the site ("The Cultural Resources Assessment for the Bell Farm Center, Sequim, Washington," December 3, 2003). The assessment identified no evidence of archaeological sites or cultural material. However, because the project area is close to a known archaeological site, the following mitigation measures were suggested:

- *An archaeological monitoring program shall be developed in coordination with the Jamestown S'Klallam cultural resources program.*
- *In the event that archaeological sites or cultural material is discovered during project construction, work will be stopped until the discovery can be investigated, permit from DAHP is obtained (Revised Code of Washington [RCW] 27.53) and after consultation with the interested Tribes is completed.*

Before beginning this subarea planning process, the City reached out to the Washington State Department of Archaeology and Historic Preservation (DAHP) to inquire if additional analysis or mitigation would be required. DAHP responded that the prior stipulations placed on the site would apply to future development proposals. Therefore, an archaeological monitoring program developed in coordination with the Jamestown S'Klallam cultural resources program will be required. Furthermore, if archaeological sites or cultural material are discovered during site-disturbing activities, work must stop until the discovery can be investigated, a permit from DAHP has been obtained (RCW 27.53), and after consultation with the interested Tribes has been completed.

2.5 Utility Infrastructure and Capacity

Utility infrastructure is located immediately adjacent to or through the subarea (see Figure 2). Planning-level studies for water, sewer, and stormwater were adopted by the City and include provisions for serving the subarea. A general sewer plan was prepared by Gray Osborn in December 2013. The sewer plan includes the subarea within its planning area. An existing 8-inch-diameter sewer runs along the undeveloped extension of E. Hammond Street. Sewer from the subarea is anticipated to be discharged to this 8-inch sewer. Downstream of the subarea, the sewer heads east to S. Blake Avenue and north in Blake Avenue. The sewer plan identified a downstream capacity deficiency in the primary influent sewer leading into the Sequim water reclamation facility (WRF) from the west along the E. Oak Street alignment.

The City operates its own WRF which was expanded in 2008 from a capacity of 0.8 million gallons per day (mgd) to 1.67 mgd. The upgrades resulted in a WRF capable of meeting Class A reclaimed water standards defined by the Washington State Departments of Health and Ecology. The projected wastewater loadings are anticipated to reach 1.45 mgd at 2032, which slightly exceeds 85 percent of the design criteria. A second phase of improvements is planned to expand the capacity of the WRF so that it would be able to serve the Greater Dungeness Region through 2038.

Water service for the subarea is provided by the City. The City adopted a water system plan in October 2014. Waterlines within the subarea are generally 8 inches in diameter with the exception of a 10-inch-diameter waterline in S Sequim Avenue. The City supply and storage systems are sufficient for the growth projected through 2032.

The City's distribution system in the vicinity of E. Hammond Street north of Highway 101 in the 420 Zone is identified as deficient for the City's standard for fire flow. The City's standard for 3,000 gallons per minute (gpm) is greater than the Unified Facility Code residential requirement for 1,500 gpm. The larger fire flow is anticipated to be required for the subarea. The water system plan identifies a number of improvements within the vicinity of the subarea to provide the required fire flow requirements.

Clallam County PUD provides electrical service in the study area. The surrounding area includes light commercial and residential uses immediately adjacent to the site. A higher

intensity development will require the extension of a 3-phase power distribution system. It is anticipated that this service will be extended in conjunction with development. Furthermore, the City may want to consider requiring development to underground electrical lines within the subarea.

2.5.1 Stormwater

Stormwater within the subarea currently infiltrates or discharges through four watercourses draining from the west toward the east and eventually into Sequim Bay. Off-site runoff to the subarea from Highway 101 is captured in two watercourses that run from west to east and discharge into an unnamed stream and a WSDOT ditch (see Figure 5 to Attachment B). The eventual discharge for the WSDOT ditch could not be confirmed by field staff. Based on aerials, this smaller drainage is likely infiltrated as shallow groundwater and hydraulically connected eventually to the watercourse and culverts located north of E. Belfield Avenue (unnamed stream). The drainage area contributing north of E. Belfield Avenue starts at the approximate western boundary at the westbound off-ramp from Highway 101 to S. Sequim Avenue. This drainage runs along the toe of slope and intercepts runoff from the plateau west of the existing residential areas. Field crews confirmed that this drainage eventually is conveyed through drainage channels and culverts north toward the QFC at the east end of Bell Creek Plaza.

An existing irrigation canal runs northeast through the site. The history of this channel and diversion of flows from naturally occurring streams and creeks further upland is well documented in the City's stormwater management plan. This canal is still used by the Highland Irrigation District and has flow for part of the year. This portion of the canal is understood to be the tail water of the irrigation district's use and eventually discharges into Bell Creek west of Zwicker Park.

Bell Creek is the dominant surface water feature in the subarea located north of the irrigation canal. Bell Creek parallels the irrigation canal in this location. Bell Creek is currently 303D-listed for pH, bacteria, temperature, and dissolved oxygen. Until approximately the year 2000, the middle and lower reaches of Bell Creek were supplemented with flows from the irrigation district. Since irrigation water is no longer supplementing Bell Creek, it is now considered ephemeral and is dry during the summer months. The City has identified areas of downstream flooding just north of the EOA boundary, which occurs during larger storms. In addition, the Bell Creek culvert located at E. Hammond Street is undersized.

Development within the subarea will likely need to use a mixture of low impact development techniques to manage stormwater on site while enhancing or restoring Bell Creek to address its existing deficiencies including hydraulic capacity and water quality.

2.6 Transportation Network and Planned Improvements

The subarea is bordered by Sequim Avenue (Minor Arterial/Urban Avenue) to the west and Highway 101 (Principal Arterial) to the south, but there is limited existing access into the plan area. The subarea is currently accessed via E. Hammond Street (Local Street) from S. Sunnyside Avenue. E. Hammond Street borders the subarea to the north and includes a small section of existing roadway east of Sunnyside Avenue.

The City's Transportation Master Plan (TMP) identifies transportation improvements to meet growth projections for a 20-year planning horizon. The TMP identifies two projects directly adjacent to the subarea: an extension of E. Hammond Street (west to Sequim Avenue and east to S. Brown Street) and a future Olympic Discovery Trail alternative route along Sequim Avenue. The E. Hammond Street extension is not included on the City's 6- or 20-year project lists, but the trail alternative route is included on the City's 20-year project list. In addition, the TMP includes these projects in the project vicinity:

- Extension of Center Street south to the proposed Hammond Street extension
- Future bike lanes, including facilities on Prairie Street and Sunnyside Avenue
- Pedestrian facilities, including sidewalks for use by mobility scooters as well as pedestrians, along Prairie Street and Brown Street from E. Washington to Prairie Street
- Truck routes and delivery destinations along Sequim Avenue, Prairie Street, and Brown Street

The TMP also identifies intersection improvements and access spacing requirements. A signal is proposed at the intersection of Prairie Street and Sequim Avenue. This project is included on the City's 6-year project list and contributions toward this improvement may be traffic impact fee creditable. The TMP identifies arterial access spacing between 500 to 700 feet. The distance between Hammond Street and Prairie Street along Sequim Avenue is approximately 330 feet. Future transportation improvements within the subarea will be required to comply with the access spacing requirements included in the TMP. A full intersection may not be allowed at Hammond Street and Sequim Avenue and alternative ingress/egress will be necessary.

The subarea planning process will identify conceptual transportation layouts and future development will require a transportation impact assessment to identify traffic volumes and required improvements.

3.0 REGULATORY CONTEXT AND PLANNING FRAMEWORK

The existing policy and regulatory documents that affect development within the study area include the City of Sequim 2015-2035 Comprehensive Plan, the Parks and Recreation Master Plan, and the SMC, particularly Title 18 – Zoning. Based on the initial stakeholder interviews and discussions with the property owner and City staff, it is anticipated that development within the study area will include a mix of high-tech/light industrial uses with supporting retail/commercial development and limited residential

development. The sections below evaluate the current land use policies and development standards relevant to addressing this type of development.

3.1 Sequim 2015-2035 Comprehensive Plan

The City's comprehensive plan identifies typical land uses within an EOA zone to include high-tech/light industrial, institutional, regional retail, or a mix of residential, retail, and employment. Land Use Policy LU 3.6.1, Economic Opportunity Areas, indicates EOAs are designed to support development that contributes to the City's goals for economic resiliency and economic/social diversity with high-tech/light industrial as a key priority. In order to establish specific uses and development standards in an EOA zone, a subarea plan is required. The Bell Creek subarea plan will identify site-specific uses that address market opportunities and adopted City policies. The subarea plan will address the following comprehensive plan policies.

Land Use

LU 3.1.1 – Future Land Use Map: Utilize the Future Land Use Map (FLUM) to direct growth and development consistent with the Growth Framework and Vision and to provide a basis for land use regulation, transportation planning, and capital programming.

LU 3.6.1 – Economic Opportunity Areas (EOAs): Designate “Economic Opportunity Areas” that are comprised of large, underdeveloped lands with good access to US 101 and other infrastructure as venues to expand and diversify the city's economic base and increase living-wage employment opportunities.

Economic Development

ED 8.1.1 – Economic Resiliency: Diversify Sequim's employment portfolio by attracting companies that help grow and diversify the economy to reduce dependence on seasonal tourism, low age service hobs, and the health care industry.

ED 8.1.2 – Economic Diversity: Increase employment opportunities for the Valley's high school and college graduates who otherwise move to places of greater opportunity, through greater economic diversity.

ED 8.1.3 – Family-Wage Jobs in Primary Industry: Utilize the opportunities offered by two large undeveloped sites immediately adjacent to US 101 and two designated High-Tech Light Industrial districts to attract major land uses that not only expand the city's economic base but also provide family-wage jobs.

3.2 Parks and Recreation Master Plan

The City's Parks and Recreation Master Plan, completed in 2015, outlines a community vision for Sequim that includes “cost-effective parks, recreation and leisure opportunities which will continue to make Sequim a great place to live and play.” The plan also contains level of service standards for parks and recreation facilities to achieve identified community goals. Table 4 lists these level of service standards for parks and recreation areas.

Table 4. Level of Service Standards for Parks and Recreation Facilities

Facility Type	Standard
Community Parks	2.5 acres per 1,000 people – standard is currently met, with no additional parks anticipated to be required to meet level of service standards by 2035
Neighborhood Parks	1.0 acres per 1,000 people – standard is not currently met. It is anticipated that 1.5 additional acres of neighborhood park will need to be provided by the year 2035 to meet the City’s level of service standard.
School-Park/Site	2.0 acres per 1,000 people – standard is currently met. No additional school-park/sites are anticipated to be required by 2035.
Regional Recreation Facility/Site	1.0 acres per 1,000 people – standard is anticipated to be met by 2035, without the need to develop new facilities.
Paths, Bikeways, and Trails	1,320 linear feet per 1,000 people – standard is currently met, with no additional path, bikeway, or trails required to meet level of service standards by 2035.
Commercial/Community Sites	0.25 acres per 1,000 people – standard is currently met. No additional commercial/community sites are anticipated to be required to meet level of service standards in 2035.

In order to meet the current level of service standards and provide facilities for future residents, the Parks and Recreation Master Plan recommends the development of 1.5 acres of neighborhood park by the year 2035. While a neighborhood park is not planned within the subarea and may not be consistent with the types of uses anticipated, the Bell Creek EOA does include critical areas, Bell Creek, and three delineated wetlands that can be open space amenities.

3.3 Sequim Municipal Code, Title 18 – Zoning

SMC 18.20.140 identifies the intent of the EOA zone as “[to] provide opportunity to utilize large, underdeveloped or vacant lands with good access to transportation and infrastructure as venues to expand and diversify the city’s economic base and increase the number and range of living-wage jobs, including in mixed-use development.” As noted in section 2.1, a subarea plan is required in the EOA zone to establish permitted uses and development standards and, until a subarea plan is adopted, the provisions for the single-family residential zone (R4-8) will apply. The R4-8 zone permits only detached residences, public facilities and services, and communication facilities/towers, and conditionally permits parks, public school, libraries, community centers, police and fire stations, power substations, and cemeteries. These uses are not in line with the uses anticipated for the Bell Creek EOA and, therefore, a subarea plan is required. This subarea planning process for the Bell Creek EOA will meet the requirements of SMC 18.30.035(A) and establish a mix of uses consistent with the intent of the EOA zone. The subarea plan will also recommend development standards to ensure compatibility with adjacent development.

4.0 SITES CERTIFICATION

The Sustainable Sites Initiative (SITES) is a program developed by the American Society of Landscape Architects to emphasize the importance of land as a crucial component of the built environment. Sustainable landscapes are often overlooked in favor of the built

environment, but they offer ecological services and functions that can be economically significant. In order to promote awareness about the importance of sustainable landscapes in relation to development, the SITES certification program was created. SITES is a systematic, comprehensive set of guidelines and rating systems which define sustainable sites, measure performance, and evaluate the value of landscapes.

In order for a project to be considered for SITES certification, an applicant must meet 18 prerequisites. Of the 18 prerequisites, four are awarded based on the applicant's ability to avoid or mitigate sensitive landscapes that occur on a project site, which likely makes these the most difficult prerequisites to meet. The other 14 prerequisites can primarily be met through innovative site design and project coordination, and are not necessarily based on a site's existing conditions. As described further below, the Bell Creek EOA contains three of the four sensitive landscapes SITES certification identifies as necessary to be avoided or mitigated by development. Based on this initial analysis, the subarea is not the most suitable candidate for SITES certification; however, innovative site design and mitigation measures could be used to address the SITES prerequisites and pursue certification. The following section discusses the four site selection prerequisites.

- Prerequisite 1.1: Limit Development on Farmland – The intent is to protect soils that are classified as suitable for farmland. If soils are identified on a site that are suitable for farmland and will be displaced during construction, then an applicant has two options: (1) designate at least 95 percent of the farmland suitable soils as within a vegetation and soil protection zone (VSPZ), or (2) mitigate soil loss due to construction through purchase of an agricultural conservation easement. Because the site is located in an area the City has identified for development (not agriculture), the site would be eligible for mitigation.

According to the U.S. Department of Agriculture web soil survey, approximately 13.5 acres of land in the southeast corner of the study area contains soils classified as "prime farmland if irrigated." These 13.5 acres are equivalent to approximately 22 percent of the overall study area. Development in this portion of the site will be subject to mitigation through purchase of an agricultural conservation easement. The easement must provide permanent protection from development on land with comparable soils at a 2:1 ratio.

- Prerequisite 1.2: Protect Floodplain Functions – This prerequisite places limitations on all new development within designated 100-year floodplains. As indicated in section 2.3, the site does not contain any designated 100-year floodplains. Therefore, this prerequisite could be addressed for the Bell Creek EOA.
- Prerequisite 1.3: Conserve Aquatic Ecosystems – The intent is to conserve and protect aquatic ecosystems, including wetlands and deep water habitats that provide critical ecosystem functions for fish, other wildlife, and people. For sites that contain aquatic ecosystems, a delineation and restoration are recommended. As indicated above, a wetland delineation (Attachment B) was prepared in conjunction with this

existing conditions analysis. SITES certification also would require a site maintenance plan to identify how the “protection or restoration of the aquatic ecosystems will maintain their health long term” and how “maintenance and monitoring activities will ensure sustained proper aquatic function.”

- Prerequisite 1.4: Conserve Habitats for Threatened and Endangered Species – The intent is to protect ecosystem function by avoiding the development of areas that contain habitat for plant and animal species identified as threatened or endangered. As indicated in section 2.3, PHS on the Web indicates that two of the streams on the site support ESA-listed salmon and steelhead species, and the site is within a management buffer for the northern spotted owl. In order to address this prerequisite, a habitat assessment would be required for each ESA-listed species identified on the site. SITES recommends choosing sites that do not contain ESA-listed species and this limitation would militate against the subarea as a site for certification.

5.0 SUBAREA PLAN KEY CONSIDERATIONS

The key considerations for the subarea plan, based on the existing conditions analysis, are summarized below.

Land Use and Zoning

- Identify development standards for the Bell Creek EOA consistent with SMC 18.30.060.
- Revise SMC Title 18 to contain permitted uses specific to the EOA zone. Ensure that the uses allowed are consistent with the vision of the City and the subarea plan for the EOA zone.
- Develop specific development and design standards for the EOA zone that promote development that maintains the character of the community and creates a sense of place.

Parks and Open Space

- According to the City’s Park and Recreation Accessibility Map (see the Parks and Recreation Master Plan), a portion of the study area falls outside existing recreation services areas. Consider the development of additional park/recreation amenities as a component of this subarea plan in order to expand recreation service areas to encompass a larger population of existing and future residents.

Critical Areas and Cultural Resources

- Wetland and stream buffers will affect future site development. As concept plans are developed, consider the preservation of critical areas as open space amenities. As necessary, recommend mitigation measures to address unavoidable impacts.
- Future development on the site will require critical areas review pursuant to SMC 18.80.045 to determine the extent of critical areas and whether a critical area special study is required.

- An archaeological monitoring program developed in coordination with the Jamestown S'Klallam cultural resources program will be required.
- If archaeological sites or cultural material are discovered during site-disturbing activities, work must stop until the discovery can be investigated, a permit from DAHP has been obtained (RCW 27.53), and consultation with the interested tribes has been completed.

Utility Infrastructure and Capacity

- A downstream sewer capacity deficiency was identified in the General Sewer Plan. This deficiency will need to be addressed with future site development.
- The subarea does not have sufficient fire flow. Off-site improvements will be required.
- Development within the subarea will likely need to provide a mixture of on-site low impact development techniques to manage stormwater on site while completing the enhancement or restoration of Bell Creek to address existing deficiencies, including hydraulic capacity and water quality.
- It is anticipated that electric service will be extended in conjunction with future development. The City may want to consider requiring development to underground electrical lines.

Transportation Network and Capacity

- Conceptual transportation plans will need to address access and onsite circulation. Due to access spacing constraints, a full intersection is likely not allowed at E. Hammond Street and Sequim Avenue and alternative ingress/egress will need to be provided.

SITES Certification

- Based on a review of the prerequisites for SITES certification, the subarea is not the most suitable candidate. However, innovative site design and mitigation measures could be employed to address prerequisites and pursue certification.

**City of Sequim
Existing Conditions Analysis
Bell Creek Economic Opportunity Area
Sequim, Washington**

**Attachment A
Figures**



Figure 1: Bell Creek Aerial

Sequim, WA | Bell Creek EOA Existing Conditions | October 2017

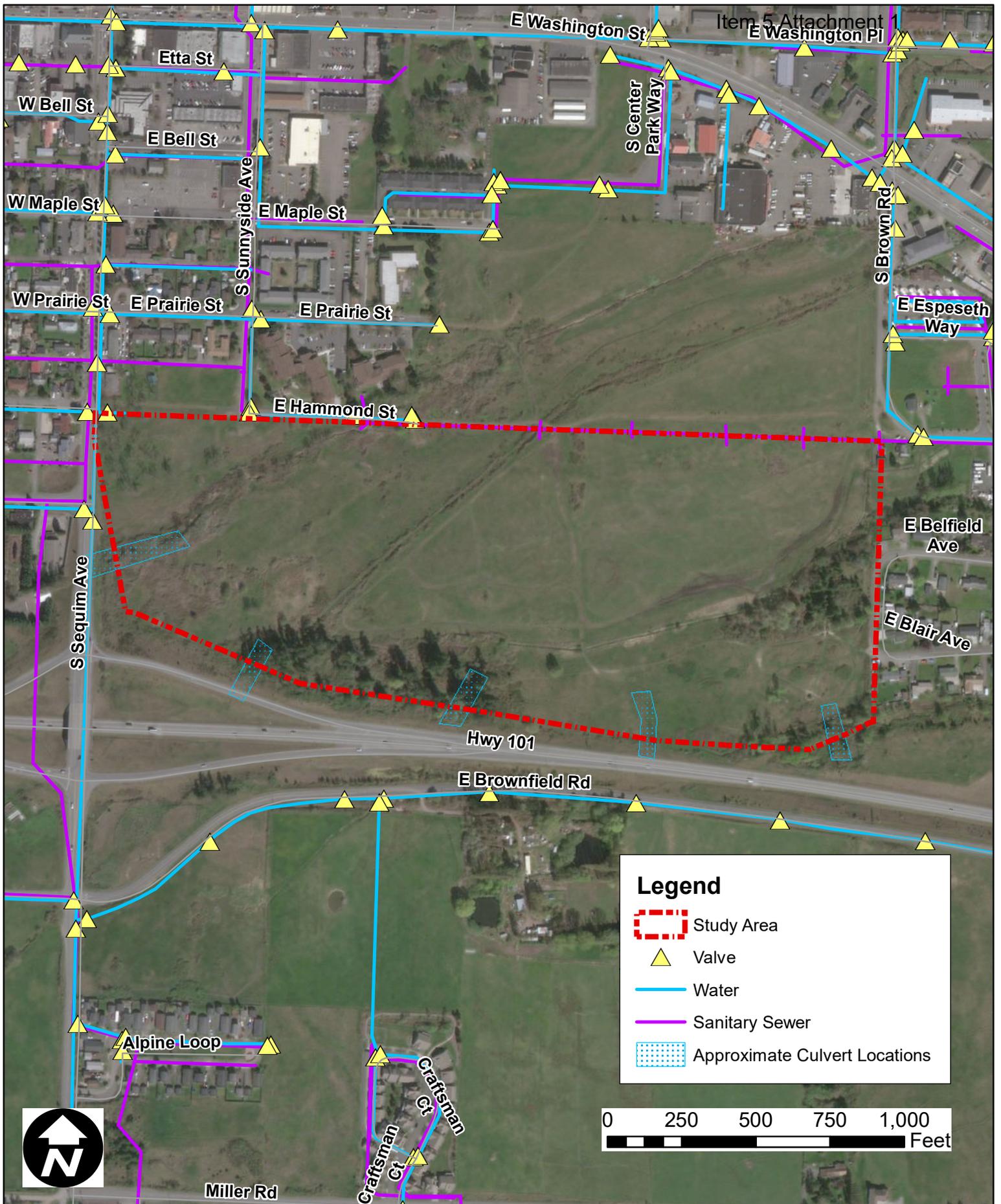


Figure 2: Utilities

Sequim, WA | Bell Creek EOA Existing Conditions | October 2017

**City of Sequim
Existing Conditions Analysis
Bell Creek Economic Opportunity Area
Sequim, Washington**

**Attachment B
Wetland Delineation**



WETLAND DELINEATION AND ASSESSMENT



Bell Creek Economic Opportunity Area Sequim, Washington

Prepared for
The City of Sequim
Sequim, Washington

October 2017
Revised November 2017

Wetland Delineation

Bell Creek Economic Opportunity Area

Prepared for

**City of Sequim
Sequim, Washington**

**October 2017
Revised November 2017**

Prepared by

**BergerABAM
210 East 13th Street, Suite 300
Vancouver, Washington 98660**

A18.0022.00

WETLAND DELINEATION AND ASSESSMENT

City of Sequim Bell Creek Economic Opportunity Area

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**WETLAND DELINEATION AND ASSESSMENT
CITY OF SEQUIM, WASHINGTON
BELL CREEK ECONOMIC OPPORTUNITY AREA**

1.0 INTRODUCTION

The Sequim Economic Opportunity Area at Bell Creek plan (the subarea plan) is a planning effort initiated by the city of Sequim (the City) to promote sustainable economic development within the City, while protecting existing ecological and cultural/historical resources. The subarea plan is situated in a prominent location at the intersection of US 101 and Sequim Avenue, and will function as a gateway to the City (Figure 1; all figures are located in Appendix A). The subarea plan consists of approximately 53 acres of land in an area historically used as a dairy, and currently contains desirable ecological amenities, such as a Garry Oak grove and Bell Creek.

In preparation for the proposed project, the City contracted with BergerABAM to investigate the existence and extent of jurisdictional wetlands and waterbodies at the project site, as defined and regulated by the U.S. Army Corps of Engineers (USACE), the Washington State Department of Ecology (Ecology), and/or the City.

The project area is located between US 101 and the downtown core of Sequim in Section 20, Township 30 North, Range 03 West of the Willamette Meridian (WM) (Figure 1). The site is bordered by South Sequim Avenue to the west and a small residential development to the east.

Using the routine on-site wetland delineation method, BergerABAM wetland scientists identified three palustrine emergent wetlands within the study area. Details of the delineation methods and results are described in the remaining sections of this report.

2.0 METHODS

2.1 Wetland Delineation Methods

On 24 and 30 August, 5 and 7 September, and 4 October 2017, two BergerABAM wetland scientists conducted field investigations for this wetland delineation. Guidance for the delineation came from the USACE 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2* (the regional supplement) (USACE 2010). According to the regional supplement, wetlands are defined as:

... areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

The regional supplement uses three parameters in making wetland determinations: hydrophytic vegetation, hydric soils, and wetland hydrology.

- Hydrophytic vegetation consists of plants that, because of morphological, physiological, and/or reproductive adaptations, have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions.
- Hydric soils are soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions.
- Wetland hydrology is present when an area is inundated or the water table is within 12 inches of the surface for at least 14 consecutive days of the growing season at a minimum frequency of 5 years in 10. The growing season is defined as the portion of the year when soil temperature at 19.7 inches below the soil surface is greater than biologic zero (5 degrees C).

Except in atypical situations as defined in the regional supplement, evidence of a minimum of one positive wetland indicator from each of the three parameters (hydrology, soil, and vegetation) must be found in order to make a positive wetland determination.

In this case, the BergerABAM wetland scientists used the routine on-site wetland delineation method and supplemental guidance for problem areas as needed. In addition to the regional supplement, the scientists used the following information to inform on-site data collection:

- National Wetland Plant List (Lichvar et al. 2016)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Online Mapper
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Agricultural Applied Climate Information System (AgACIS)– Clallam County – Station: Sequim 2 E
- National Weather Service, National Oceanic and Atmospheric Administration (NOAA)
- Washington State Wetland Rating System for Western Washington— Revised (Hruby 2014)
- Washington Department of Fish and Wildlife (WDFW) Salmonscape Online Map Tool
- WDFW Priority Habitat and Species Online Map Tool
- Web Soil Survey (United States Department of Agriculture Natural Resources Conservation Service [USDA-NRCS])
- Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987)
- LC Lee and Associates. 2003. A Description and Characterization of the Geographic Extent of Waters of the U.S., Including Wetlands, on the Bell Farm Center Property, Sequim Washington

As they walked the study area, the scientists used the methodology discussed in the regional supplement as well as technical guidance and documentation issued by the USACE and Ecology to observe any visible wetland conditions. Because of the relatively

large nature of the site, the scientists first established transects across the site to identify representative vegetative communities, soils, and wetland areas (Figure 2). The location of the three representative transects were established using aerial imagery and the best professional judgement of the scientists. Transects were regularly sampled to collect data points to characterize each community. Once they had identified the general locations of the wetland areas, the scientists took paired data points in areas that represented the conditions of the uplands and wetlands. In general, each point was chosen in a uniform topographic position that was representative of a single plant community. Paired points were generally located approximately 5 to 10 feet apart to minimize the margin of error. The scientists inspected the soils at each data point to a depth of 16 inches (or more depending on conditions) to determine the presence or absence of hydric soil characteristics and/or wetland hydrology.

In most portions of the study area, the wetland boundary was associated with a clearly defined change in vegetation related to a break in topography. In other areas, there was no clear break in topography and the wetland boundary was determined based on the presence of hydric soils and wetland hydrology (e.g., redoximorphic features, soil saturation) and a dominance of hydric vegetation. It should be noted that, while only paired and transect points were recorded in the field, numerous unrecorded points were dug to confirm presence or absence of wetland indicators and establish wetland boundaries. The on-site wetlands were classified according to the USFWS classification system (Cowardin et al. 1979) and the hydrogeomorphic (HGM) classification system (Adamus 2001).

During the site visits, the scientists recorded vegetation, soil, and hydrologic conditions at 19 recorded data points. The wetland boundary and data points were marked in the field with pink pin flags. After confirming wetland boundaries, pin flag locations for the boundaries and the data points were recorded with a GPS unit.

Each wetland in the study area is discussed in greater detail in section 4.0.

Additionally, BergerABAM scientists marked the ordinary high water mark (OHWM) of portions of Bell Creek, Highland Canal, and the unnamed stream within the study area.

The OHWM is defined as:

... that mark...found by examining the bed and banks of a body of water 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 as that condition exists on June 1, 1971, as it may naturally change thereafter, or as it may change thereafter in accordance with permits issued by a local government or Washington Department of

Ecology (Ecology); Provided that in any area where the OHWM cannot be found, the OHWM adjoining fresh water shall be the line of mean higher water.¹

During the assessment, the OHWMs of the streams were recorded with a handheld GPS unit. *Determining the Ordinary High Water Mark for Shoreline Management Act Compliance in Washington State* (Ecology 2016). The scientists used a combination of field indicators (e.g., vegetation distribution, sediment lines on vegetation or other fixed objects, scour lines, etc.) to determine the OHWM.

3.0 SITE CHARACTERISTICS

The approximately 53-acre study area is bound to the south by Highway 101 and South Sequim Avenue to the west, and is situated south of the downtown core of Sequim. Topographically, the site is relatively flat and slopes to the northeast (Figure 2). The site consists of land historically used for pasture and hay production, and current vegetation is largely a reflection of this historic land use. Vegetation is generally dominated by a combination of facultative grass species commonly occurring in areas used by grazing livestock, a remnant of the site's previous use as a dairy; there is also a large presence of the invasive species Himalayan blackberry (*Rubus armeniacus*) and reed canarygrass (*Phalaris arundinacea*). Upland areas also contain forested clusters of coniferous and deciduous species, particularly in association with the riparian areas of streams on site. Bell Creek bisects the property from southwest to northeast, Highland Canal runs across the central portion of the property, and a third unnamed stream is mapped in the southeast corner of the property.

3.1 Hydrology

The growing season for Clallam County is 261 days, starting on March 10 and ending on November 29. This growing season is based on 28 degrees F, 5 out of 10 years in the soil survey of Clallam County (Hallion 1987). According to the USACE wetland delineation manual, flooding, ponding, or saturation in the upper 12 inches of the soil profile for a period of at least 14 consecutive days during the growing season is indicative of wetland hydrology.

Table 1 displays precipitation data for the 14 days prior to the 24 August site visit through the 4 October 2017 site visit. Table 2 shows precipitation data for three months prior to the initial site visit. The information comes from the USDA-NRCS Agricultural Applied Climate Information System (AgACIS) at the Sequim E2 station, and the National Weather Service.

In addition to daily rainfall totals for the 14 days prior to the site visits, a BergerABAM wetland scientist reviewed other historic precipitation data available on the NOAA Online Weather Data (NOWData) website. The data shows:

- For the 14 days preceding the 24 August 2017 site visit through the 4 October 2017 site visit, a total of 0.58 inch of precipitation was recorded, averaging 0.01 inch per day.

¹ Revised Code of Washington 90.58.030(2)(b) and Washington Administrative Code (WAC) 173-22-030(6)

According to historical rainfall data, 1.38 inches of precipitation is the normal record for these dates; the 2017 amount is 0.80 inch below historic average precipitation.

- For the entire month of August 2017, observed precipitation was 0.10 inch, 0.49 inch less than the historic normal of 0.59 inch. In the month of September, 0.49 inch of precipitation was observed, 0.31 inch less than the historic average.

Table 1. Precipitation Data for 14 Days Prior to the 24 August 2017 Site Visit Through the 4 October 2017 Site Visit

Date	Rain (Inches)	Date	Rain (Inches)	Date	Rain (Inches)	Date	Rain (Inches)
10 August	0.00	24 August	0.00	7 September	0.06	21 September	0.00
11 August	0.00	25 August	0.00	8 September	0.00	22 September	0.00
12 August	0.05	26 August	0.00	9 September	0.05	23 September	0.00
13 August	0.03	27 August	0.00	10 September	0.01	24 September	0.12
14 August	0.00	28 August	0.00	11 September	0.00	25 September	0.00
15 August	0.00	29 August	0.00	12 September	0.00	26 September	0.00
16 August	0.01	30 August	0.00	13 September	0.00	27 September	0.00
17 August	0.00	31 August	0.00	14 September	0.00	28 September	0.01
18 August	0.00	1 September	0.00	15 September	0.00	29 September	0.02
19 August	0.00	2 September	0.00	16 September	0.00	30 September	0.12
20 August	0.00	3 September	0.00	17 September	0.03	1 October*	0.00
21 August	0.00	4 September	0.00	18 September	0.04	2 October*	0.00
22 August	0.00	5 September	0.00	19 September	0.03	3 October*	0.00
23 August	0.00	6 September	0.00	20 September	0.00	4 October*	0.00
Total:							0.58

Source: USDA-NRCS 2017

*data not available from NRCS or NOAA, data obtained from AccuWeather

BergerABAM scientists also reviewed data from the USDA-NRCS AgACIS for the three months prior to the initial site visit. According to the AgACIS for Sequim, in May observed precipitation was slightly higher than average and in June precipitation was very near normal; however, no rain was recorded for the entire month of July, and observed precipitation was well below normal in the months of August and September.

Table 2. Precipitation Data for May through September 2017

	Observed	Normal	Departure from Normal
May	1.41	1.25	+0.16
June	0.96	0.97	+0.01
July	0.00	0.54	-0.54
August	0.10	0.59	-0.49
September	0.49	0.80	-0.31

Source: USDA-NRCS

The site is located in the Dungeness-Elwha watershed (U.S. Geological Survey Hydrologic Unit Code 17110020). Current hydrologic inputs come from direct precipitation, overland flow from adjacent uplands, and a seasonally high water table.

During the site investigation, the scientists documented the presence or absence of wetland hydrology field indicators for each of the 19 soil pits excavated in the data points. Data recorded included depth of inundation, depth to water table, and soil saturation, when found, as well as indicators of wetland hydrology, including drainage patterns (B10), dry-season water table (C2), saturation visible on aerial imagery (C9), and geomorphic position (D2). As stated above, the primary sources of hydrology within the study area are likely direct precipitation, overland flow from adjacent uplands, and a seasonally high water table.

During the site visit, most of the wetland soils were not saturated within the upper 12 inches of the profile, which is typical of seasonally inundated wetlands in the Pacific Northwest that experience high amounts of precipitation in the fall, winter, and spring seasons and relatively dry summers. Additionally, Sequim is in the rain shadow of the Olympic Mountains and receives considerably less rain than other areas in the region. The hydrologic data collected above suggests the site was experiencing drier than normal conditions during the time of the investigation.

3.2 Wetlands

The NWI online mapper indicates the presence of three potential wetland areas within the study site (USFWS 2017) (Figure 3). These wetlands include areas associated with streams on the site and are identified on NWI as:

- **R5UBH**– Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Permanently Flooded (H).
- **R5UBFx** – Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Semipermanently Flooded (F), Excavated (x).
- **R4SBC** – Riverine (R), Intermittent (4), Streambed (SB), Seasonally Flooded (C).

The scientists verified the existence of these streams; however, each was identified as intermittent, as they all lacked hydrologic flow during the 4 October site visit. In prior visits only Bell Creek showed no visible flows. The Highland Irrigation Canal and unnamed stream were both flowing during August and September visits. In addition to these stream features, the scientists identified three palustrine emergent wetlands scattered across the southern half of study area.

3.3 Soils

The Web Soil Survey identifies the following soil mapping units within the study area (Figure 4). The descriptions are excerpted from the Clallam County soil survey.

- **Clallam gravelly sandy loam, 0 to 15 percent slopes (12)**. Clallam gravelly sandy loam, 0 to 15 percent slopes is a moderately deep, moderately well drained soil on hills, and was form in compact glacial till. The surface layer, where mixed for a depth

of 6 inches, is dark brown gravelly sandy loam. The upper part of the subsoil is brown gravelly sandy loam about 4 inches thick, and the lower part is brown very gravelly sandy loam about 18 inches thick. Compact glacial till is at a depth of 28 inches. Depth to compact glacial till ranges from 20 to 40 inches. This soil is included on the USDA-NRCS State Soil Data Access (SDA) Hydric soils list.

- *Sequim very gravelly sandy loam (63)*. This very deep, somewhat excessively drained soil is on terraces and alluvial fans. It formed in old alluvium. Typically, the surface layer is very dark brown very gravelly sandy loam 10 inches thick. The next layer is dark brown extremely cobbly loamy sand 13 inches thick. Below this to a depth of 60 inches or more is brown and dark grayish brown extremely cobbly sand. In some areas of similarly included soils, the surface layer is very cobbly sandy loam, gravelly loam, or cobbly loam. This soil is not included on the USDA-NRCS State Soil Data Access (SDA) Hydric Soils List.

The potential locations of soils within the study area were obtained from the USDA-NRCS Web Soil Survey, and the hydric soils listing was obtained from the USDA-NRCS State SDA Hydric Soils List. A BergerABAM scientist examined soils at each data point for hydric soil indicators and recorded its soil profile and characteristics (matrix color, redoximorphic features, texture, and other features). Observations of soil conditions during the site visit were typically consistent with the map units described and identified in the USDA-NRCS soil survey.

3.4 Vegetation

Hydrophytic vegetation consists of plant species that have adapted to growing in periodically inundated or saturated substrates. Five basic groups of vegetation are recognized based on how frequently they occur in wetlands (Lichvar 2016).² From the wettest to the driest plant communities, the categories are obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and obligate upland (UPL) plants. Hydrophytic vegetation is present when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC.

The wetland scientists documented the visual percent cover of the dominant plant community species for key sample sites. Using soil pit locations as centers of reference, the scientists investigated data points of varying proportions for dominant tree, shrub, herb, and woody vine species. The composition and orientation of the plant communities within the point determined the size and shape of each data point. Data points were set up so that their boundaries included a representative cross section of the plant community within the point. Estimating the absolute percent cover of each species within each stratum determined the dominance of plant species.

The scientists listed species from each stratum in descending order of percent cover, and used the USACE's 50-20 technique to determine the dominant species. Using this method, when the most abundant plant species are ranked in descending order of abundance and

² Plant nomenclature in this report follows Reed (1988 and 1993) and the 2016 National Wetland Plant List.

cumulatively totaled, any species immediately exceeding 50 percent of the total cover, plus any species comprising more than 20 percent of the total cover, represent the dominant species. If more than 50 percent of the dominant species included by these criteria are FAC or wetter, the vegetation community is considered hydrophytic.

The grasses and herb species at the site include Kentucky bluegrass (*Poa pratensis*, FAC), spreading bentgrass (*Agrostis stolonifera*, FAC), velvet grass (*Holcus lanatus*, FAC), red fescue (*Festuca rubra*, FAC) creeping buttercup (*Ranunculous repens*, FAC), orchard grass (*Dactylis glomerata*, FACU), redtop (*Agrostis gigantea*, FAC), quackgrass (*Agropyron repens*, FAC), tall fescue (*Festuca arundinacea*), awl fruited sedge (*Carex stipata*, OBL), English plantain (*Plantago lanceolata*, FACU), ox-eye daisy (*Leucanthemum vulgare*, FACU), horsetail (*Equisetum arvense*, FAC), creeping spike rush (*Eleocharis palustris*, OBL), quackgrass (*Elymus repens*, FAC), common rush (*Juncus effusus*), black medic (*Medicago lupulina*), and sword fern (*Polystichum munitinum*, FACU).

The tree and shrub species consist of snowberry (*Symphoricarpos albus*, FACU), Oregon ash (*Fraxinus latifolia*, FACW), Oregon white oak (*Quercus garryana*, FACU), red alder (*Alnus rubra*, FAC), bigleaf maple (*Acer macrophyllum*, FAC), Douglas fir (*Pseudotsuga menziesii*, FACU), western red cedar (*Thuja plicata*, FAC), black hawthorne (*Crataegus douglasii*, FAC), woodland rose (*Rosa woodsia*, FACU), Indian plum (*Olemeria cerasiformis*, FACU), and ocean spray (*Holodiscus discolor*, FACU).

Additionally, a number of invasive species were also identified on the site including Himalayan blackberry (FAC), reed canarygrass (FACW), common teasel (*Dipsacus fullonum*, FAC), Canada thistle (*Cirsium arvense*, FAC), and Scotch broom (*Cytisus scoprius*).

4.0 WETLAND DESCRIPTIONS

BergerABAM’s investigation of hydrology, soils, and vegetation inside the study area identified three palustrine emergent wetlands (Wetlands A, B, and C, Table 3). Wetlands A and B are located on the southwest side of the study area between Highland Canal and an unnamed stream; Wetland C is located south of the unnamed stream and north of Highway 101 on the eastern half of the site (Figure 5).

Table 3. Summary of Identified Wetland Areas

Wetland	Wetland Classification				Area (Acres)
	Cowardin ^a	HGM ^b	Habitat Score ^c	Wetland Rating ^d	
Wetland A	PEM	Depressional	5	III	1.07
Wetland B	PEM	Depressional	5	III	0.49
Wetland C	PEM	Slope	5	IV	0.40

Notes:

a Cowardin et al. (1979) or NWI class based on vegetation: PEM = Palustrine Emergent

PFO= Palustrine forested

b Hydrogeomorphic classification according to Hruby (2014).

c Habitat score according to Hruby (2014).

d Wetland rating according to Hruby (2014).

Appendix B comprises 19 wetland determination forms that show the data collected during the site visits, the numbers assigned to the data sheets correspond to the data points. The wetlands were rated using the revised Wetland Rating System for Western Washington (Hruby 2014) (Appendix C). Wetlands A and B were rated using the depressional HGM classification and both received a score of 19 for a Category III rating. Wetland C was rated under the slope HGM classification and received a score of 15 points for a Category IV rating.

4.1 Wetland A

Wetland A Summary

WETLAND A- INFORMATION SUMMARY		
Location:	Wetland A is located north of Highway 101, on the west side of the study area. It is located at the toe of roadway fill slope.	
	Local Jurisdiction	Sequim, WA
	WRIA	18- Elwha-Dungeness
	Ecology Rating (Hruby 2014)	III
	City of Sequim Buffer Width	125 feet
	Wetland Size	1.07 acres
	Cowardin Classification	PEM
	HGM Classification	depressional
	Wetland Data Sheet(s)	T1-1, DP2,
	Upland Data Sheet (s)	T1-2, DP4, DP3
	Flag Color	Pink
Dominant Vegetation	Wetland vegetation is characterized by creeping buttercup, common rush, black medic, and lupine.	
Soils	Soils were examined to a depth of 20-25 inches, depending on conditions encountered. Soils were characterized by an approximately 22-inch layer of black (10YR 2/1) silty clay with gray (10YR 5/1) and yellowish brown (10YR 5/8) depletions in the matrix. Observed hydric soils indicator includes F6, redox dark surface.	
Hydrology	Wetland hydrology included dry season water table (C2), saturation visible on aerial imagery (C9) and geomorphic position (D2). The source of hydrology is likely a combination of groundwater tables, direct precipitation, and overland flow from adjacent uplands.	
Rationale for Delineation	Wetland A was delineated in a topographic depression where indicators of wetland vegetation, hydrology, and hydric soils were present. The boundary generally corresponds to the topographic break in slope.	
Wetland Functions Summary		
Water Quality	Improving Water Quality Functions Score: 8. Provides infiltration functions	
Hydrologic	Hydrologic Function Score: 6. Provides water storage and groundwater recharge.	
Habitat	Habitat Score: 5. Limited habitat functions.	
Buffer Condition	Buffer is degraded, but extensively vegetated with grammanoid species that appear to be mowed.	

4.2 Wetland B

Wetland B Summary

WETLAND B- INFORMATION SUMMARY		
Location:	Wetland B is located north of Highway 101, on the west side of the study area just east of Wetland A.	
	Local Jurisdiction	Sequim, WA
	WRIA	18- Elwha-Dungeness
	Ecology Rating (Hruby 2014)	III
	City of Sequim Buffer Width	125 feet
	Wetland Size	0.49 acres
	Cowardin Classification	PEM
	HGM Classification	depressional
	Wetland Data Sheet(s)	T2-2
	Upland Data Sheet (s)	T2-3
	Flag Color	Pink
Dominant Vegetation	Wetland vegetation is characterized by horsetail, Canada thistle, red fescue, common rush, Kentucky bluegrass, and creeping buttercup.	
Soils	Soils were examined to a depth of 12 to 25 inches, depending on conditions encountered. Soils were characterized by an approximately 22 inch layer of black (10YR 2/1) silty clay and gravely silty clay, with yellowish red (5YR 4/6) redox concentrations in the matrix. Observed hydric soils indicator includes F6, redox dark surface.	
Hydrology	Wetland hydrology included dry season water table (C2) and geomorphic position (D2). The source of hydrology is likely a combination of groundwater tables, overland flow from adjacent uplands, and direct precipitation.	
Rationale for Delineation	Wetland B was delineated in a topographic depression where indicators of wetland vegetation, hydrology, and hydric soils were present. The boundary generally corresponds to the topographic break in slope.	
Wetland Functions Summary		
Water Quality	Improving Water Quality Functions Score: 8 Wetland B provides infiltration	
Hydrologic	Hydrologic Function Score: 6. Provides water storage and groundwater recharge functions.	
Habitat	Habitat Score: 5. Limited habitat functions.	
Buffer Condition	Buffer is degraded, but extensively vegetated with grammanoid species that appear to be mowed.	

4.3 Wetland C

Wetland C Summary

WETLAND C- INFORMATION SUMMARY		
Location:	Wetland C is located south of an unnamed stream, and north of Highway 101 on the southeast side of the study area.	
	Local Jurisdiction	Sequim, WA
	WRIA	18- Elwha-Dungeness
	Ecology Rating (Hruby 2014)	IV
	City of Sequim Buffer Width	25 feet
	Wetland Size	0.40 acres
	Cowardin Classification	PEM
	HGM Classification	Slope
	Wetland Data Sheet(s)	DP5
	Upland Data Sheet (s)	DP6
	Flag Color	Pink
Dominant Vegetation	Wetland vegetation is characterized by <i>reed canarygrass</i> and a variety of common facultative grasses, including <i>red fescue</i> , <i>spreading bentgrass</i> , and <i>redtop</i> . Common rush was also noted within this wetland.	
Soils	Soils were examined to a depth of approximately 12 inches because of the presence of a restrictive layer. Soils consisted of an approximately 10-inch layer of very dark brown loam above a dark gray (10YR 4/1) clay restrictive layer with dark yellowish brown (10YR 4/6) redox concentrations. Observed hydric soil indicators include A11, depleted below dark surface.	
Hydrology	Wetland hydrology indicators included drainage patterns (B10), geomorphic position (D2), and shallow aquitard (D3). The source of hydrology is likely a combination of direct precipitation and overland flow from adjacent uplands.	
Rationale for Delineation	Wetland A was delineated along a slope where indicators of wetland vegetation, hydrology, and hydric soils were present. The boundary generally corresponds to the presence/absence of species that are considered FACW or OBL and a lack of hydrologic indicators, as there was no distinct break in topography, and the clay restrictive layer was present throughout soils in the area, but varied in depth.	
Wetland Functions Summary		
Water Quality	Improving Water Quality Functions Score: 6. Slows the downhill movement of water and provides infiltration functions	
Hydrologic	Hydrologic Function Score: 4. Promotes groundwater recharge.	
Habitat	Habitat Score: 5. Limited habitat functions	
Buffer Condition	Buffer is degraded, but extensively vegetated with grammanoid species that appear to be mowed.	

5.0 STREAMS

The Washington State Department of Natural Resources (WDNR) Forest Practices Application Mapping Tool shows the presence of three streams flowing on the site. Bell Creek runs southwest to northeast through the northwest corner of the site, and is mapped as fish-bearing. Highland Canal runs through the central portion of the site and is also mapped as fish-bearing. The online applications SalmonScape and StreamNet Mapper both indicate that these two streams support Endangered Species Act-listed salmon and steelhead (WDFW 2017, Pacific States Marine Fisheries Commission 2017). The third stream is unnamed, flows through the southeastern corner of the site, and is mapped as a non-fish-bearing stream.

The scientists verified the presence of each of these streams and determined that they are all intermittent, as there was no active flow in any of the channels at the time of the 4 October site visit. Bell Creek and Highland Canal were confirmed in the general location indicated by WDNR mapping. The unnamed stream was mapped in a different alignment. A fourth watercourse was also identified in the southeast corner of the site and was determined to be a roadside ditch associated with Highway 101.

Bell Creek runs southwest to northeast across the northwestern portion of the site. It was not observed to be flowing during any of the field investigation visits. Dense thickets of Himalayan blackberry are well established along the majority of the banks and riparian zone of Bell Creek. Where the blackberry does not dominate the vegetation, other species include reed canarygrass, teasel, and common facultative grasses, as well as ornamental plums and willow trees. The channel of the creek is generally 4 to 6 feet wide and 2 feet deep and are defined by a well-established bank and bed features. The channel bed substrate is generally composed of silts and sands with scattered cobbles and large rocks indicative of variable flows and grain sorting. A portion of the creek that flows through a particularly dense thicket of blackberry and plum lacks well-defined banks. In this segment, Bell Creek appears to pond during seasonal runoff or in response to precipitation. Underneath the blackberry was evidence of prolonged inundation in the form of bare, dry, and cracked soil.

Highland Canal flows from southwest to northeast through the central portion of the site. This canal averages 2 to 4 feet wide and 1 to 2 feet deep. The channel is vegetated with reed canarygrass, and there is dense Himalayan blackberry scattered along the banks. At the southwest portion of the site, the channel enters the property following the toe of the fill slope of Highway 101; in the north central portion of the site, the channel exits the site via a culvert under an unnamed gravel extension of NE Hammond Street.

The unnamed stream identified on site is characterized by two distinct segments. The first segment flows north from an assumed culvert under Highway 101 down a slope to the lower terrace. Irrigation and surface runoff from Bell Hill south of Highway 101 is suspected to contribute to the source of water in this system. This segment includes a 4- to 6-foot-wide channel, approximately 12 to 18 inches deep with defined bed and bank features. The banks along the upper slope of this stream are dominated by Himalayan

blackberry, and the bed along this reach shows signs of exposed gravel and scour. Low flows were present during the August and September site visits. The second segment begins at the toe of slope where the channel converges with an excavated ditch that runs west to east. The channel is characterized by dense reed canarygrass and varies in width from 4 to 6 feet and 12 to 18 inches deep. Flows were not present west of the convergence with the ditch and this portion of the ditch like carries surface runoff during rain events. On the north side of the channel, there is a small berm that follows the length of the channel, likely the result of sidecast material removed during previous excavation or maintenance of the ditch. Along the eastern portion of the stream, the channel deepens to approximately 2 feet and is covered by a mix of snowberry and rose. One culverted crossing is present in the central portion of the stream to allow passage of a dirt access road. Along the eastern boundary of the site, the stream turns to flow north and exits the property to the east behind a private residence.

6.0 REGULATORY REVIEW

This section is an overview of regulatory requirements as they pertain to the wetlands and streams identified within the study site. Future development of the project area is expected to be subject to review under these regulations.

6.1 Wetlands

The study area is located within the jurisdiction of the City and the on-site wetlands will be subject to Section 18.80 of the Sequim Municipal Code (SMC). The ordinance establishes protective buffers associated with wetlands and requires that certain permits or approvals be obtained for projects containing wetlands and/or their respective buffers. The ordinance requires the use of Ecology's revised wetland rating system to determine a wetland's category and its score for habitat, water quality, and hydrologic functions.³

According to the rating system (Hruby 2014), the Wetlands A and B were rated using the depressional HGM classification, and Wetland C was rated using the slope HGM classification. Wetlands A and B were both rated as Category III wetlands with a total score within the range of 16 to 19 points (both having scored 19 points); Wetland C was rated as a Category IV wetland, with a total score within the range of 9 to 15 points. Table 4 shows the wetland ratings and classifications.

In addition to the City ordinance, the USACE and Ecology regulate jurisdictional wetlands at the federal and state levels under sections 404 and 401 of the Clean Water Act, respectively. A jurisdictional determination may be needed to establish USACE authority over these wetlands. Any impacts to the regulated on-site wetlands will require notifying USACE and Ecology and obtaining their approval.

³ Tom Hruby, Washington State Wetland Rating System for Western Washington—Revised, 2014.

6.2 Streams

SMC 18.80.070(A) states that any development or construction adjacent to streams must preserve an undisturbed buffer that is wide enough to maintain the natural hydraulic and habitat functions of that stream as it relates to an urban environment.

The streams within the study site will be subject to the City's Critical and Environmentally Sensitive Areas Protection ordinance (SMC 18.80). The ordinance establishes protective buffers associated with streams and specifies that certain permits or approvals be obtained for projects containing streams and/or their respective buffers. Table 5 summarizes characteristics of the identified streams.

In addition to the county ordinance, the USACE and Ecology regulate waters of the state at the federal and state levels under Sections 404 and 401 of the Clean Water Act, respectively. Any impacts to the regulated on-site waterways will require notifying USACE and Ecology and obtaining their approval.

6.3 Buffer Widths

SMC 18.80.070(F)(5) establishes wetland buffer widths based on the wetland rating category, habitat score, and the land use intensity. According to the code "low impact land use" means land uses with low levels of human disturbance or low wetland habitat impacts, including but not limited to, passive recreation, open space, educational field trips and small gardens, or low impact stormwater management facilities. "High impact land use" means land uses associated with moderate or high levels of human or structural disturbance. The site is intended to be developed with light industrial businesses, development that would be considered a high land use intensity. SMC 18.80.070(F)(5) includes habitats scores from the 2006 version of the wetland rating system; Ecology has provided an update to the 2006 version and a conversion system for category and functions scores. The scores provided in the table below resulted from scoring under the updated system. Wetlands A and B both received 5 points for habitat function; Category III wetlands with a habitat score of 5-7 (20-28 points under the old system), in an area with a proposed high intensity land use require a 125-foot buffer. Category IV wetlands, such as Wetland C, require a 25-foot buffer regardless of proposed land use.

Table 4 summarizes the classifications, ratings, habitat score, and resulting buffers for high impact land use of the delineated wetlands. Figure 5 includes buffer widths for each wetland. Photographs of the delineated wetlands and identified streams are shown in Figures 6-8.

Table 4. Summary of Identified Wetland Areas and Buffer Widths

Wetland	Wetland Classification			Buffer
	HGM ^a	Habitat Score	Wetland Rating ^b	
Wetland A	Depressional	5	III	125 feet
Wetland B	Depressional	5	III	125 feet
Wetland C	Slope	5	IV	25 feet

Notes:

^a Hydrogeomorphic classification according to Hruby (2014 Update).

^b Wetland rating according to Hruby (2014 Update).

^c Buffer width based on Ecology publication Wetland Mitigation in Washington State (Ecology et al. 2006) and CCC 40.450.030.E.

Bell Creek and Highland Canal are both classified as Type F (fish-bearing) waterways, and the third unnamed stream is classified as a Type Ns as mapped by the DNR (Table 5). SMC 18.80.070(A)(1) designates the required width of undisturbed, native vegetation that must be provided for different classes of streams. The SMC has established a stream Typing system as follows:

1. Type 1 streams are those inventoried as shorelines of the state in the City’s adopted shoreline master program (DNR Stream Type S)
2. Type 2 streams are perennial or intermittent streams used by anadromous fish during any stage of life (DNR Stream Type F)
3. Type 3 streams are perennial or intermittent streams with the potential for anadromous fish use, but which do not currently support anadromous fish because of fish barriers or any other conditions that substantially interferes with stream use by anadromous fish. (DNR Stream Type F)
4. Type 4 means intermittent or perennial streams that are not Type 1, 2, or 3 that may contain fish other than anadromous fish (DNR Stream Type Np)
5. Type 5 streams are perennial or intermittent streams that are not Type 1, 2, 3, or 4 (DNR Stream Type Ns)

Bell Creek and Highland Canal are both mapped as used by anadromous fish by WDFW’s Priority Habitats and Species online mapping; however, they are not shorelines of the state. A review of culvert data on WDFW’s Salmonscape online mapping identified a barrier culvert on the Highland Canal at its confluence with Bell Creek. The culvert is mapped as a total blockage. Based on this information, Bell Creek is considered to be a Type 2 stream and requires a 100-foot stream buffer. Highland Canal is a Type 3 stream because of the total barrier, and requires a buffer of 75 feet. The unnamed stream is mapped as a non-fish-bearing stream and, therefore, would be classified as a Type 5 stream and require a 25-foot buffer.

Figure 5 shows the stream buffer widths for the streams identified on the site, and Table 5 summarizes the streams identified at the project site.

Table 5. Summary of Identified Streams and Stream Buffers

Stream	Stream Classification			Buffer Width ^d
	Cowardin ^a	Stream Type ^b	Stream Type ^c	
Bell Creek	R5UBH	2	F	100
Highland Irrigation Canal	R5UBFx	3	F	75
Unnamed Stream	R4SBC	5	Ns	25

Notes:

^a Cowardin et al. (1979) NWI class: R5UBFx = Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Semipermanently Flooded (F), Excavated (x); R5UBH = Riverine (R), Unknown Perennial (5), Unconsolidated Bottom (UB), Permanently Flooded (H); R4SBC = Riverine (R), Intermittent (4), Streambed (SB), Seasonally Flooded (C)

^{Ab} SMC Stream Type SMC 18.80.030(S)

^c DNR stream classification system (WAC 222-16) Current, (F) fish bearing: (Ns) non fish bearing, seasonal

^d Based on SMC 18.80.070(A)(1)(a)

7.0 CONCLUSIONS

The wetlands and streams identified within the study area are subject to regulation by the City, Ecology, and the USACE. Any fill placed within the regulated wetlands would require a Section 401 permit through Ecology and a Section 404 permit through the USACE before beginning the project. In addition, the City will require the submittal and approval of a wetland and/or habitat permit for any impacts to wetlands, streams, and/or buffers (SMC 18.80). Any required mitigation would be determined during the permitting process.

Finally, it should be noted that the wetland boundaries and classifications in this report were determined using the most appropriate field techniques and best professional judgment of the wetland scientists based on conditions observed during fieldwork. The City, Ecology, and the USACE have the final authority in the determination of the boundaries, categories, and jurisdictional status of wetlands under their respective jurisdictions. Therefore, BergerABAM recommends submitting this report of the delineation and assessment to these agencies for their concurrence before beginning any development or planning activities that would affect the wetlands, streams, and/or buffers on within the study area.

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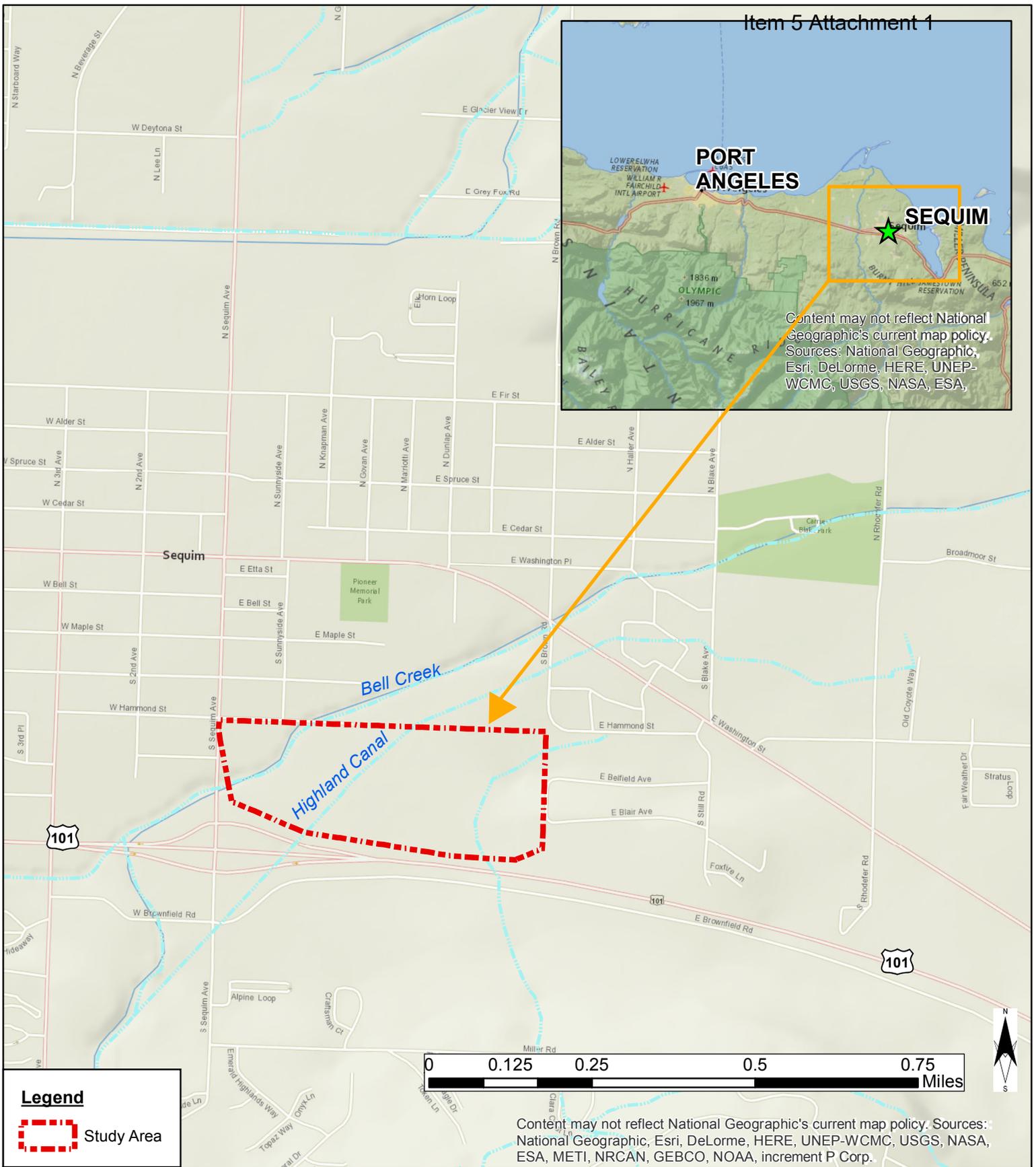
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**Bell Creek Economic Opportunity Area
Wetland Delineation and Assessment
Sequim, Washington**

**Appendix A
Figures**



BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

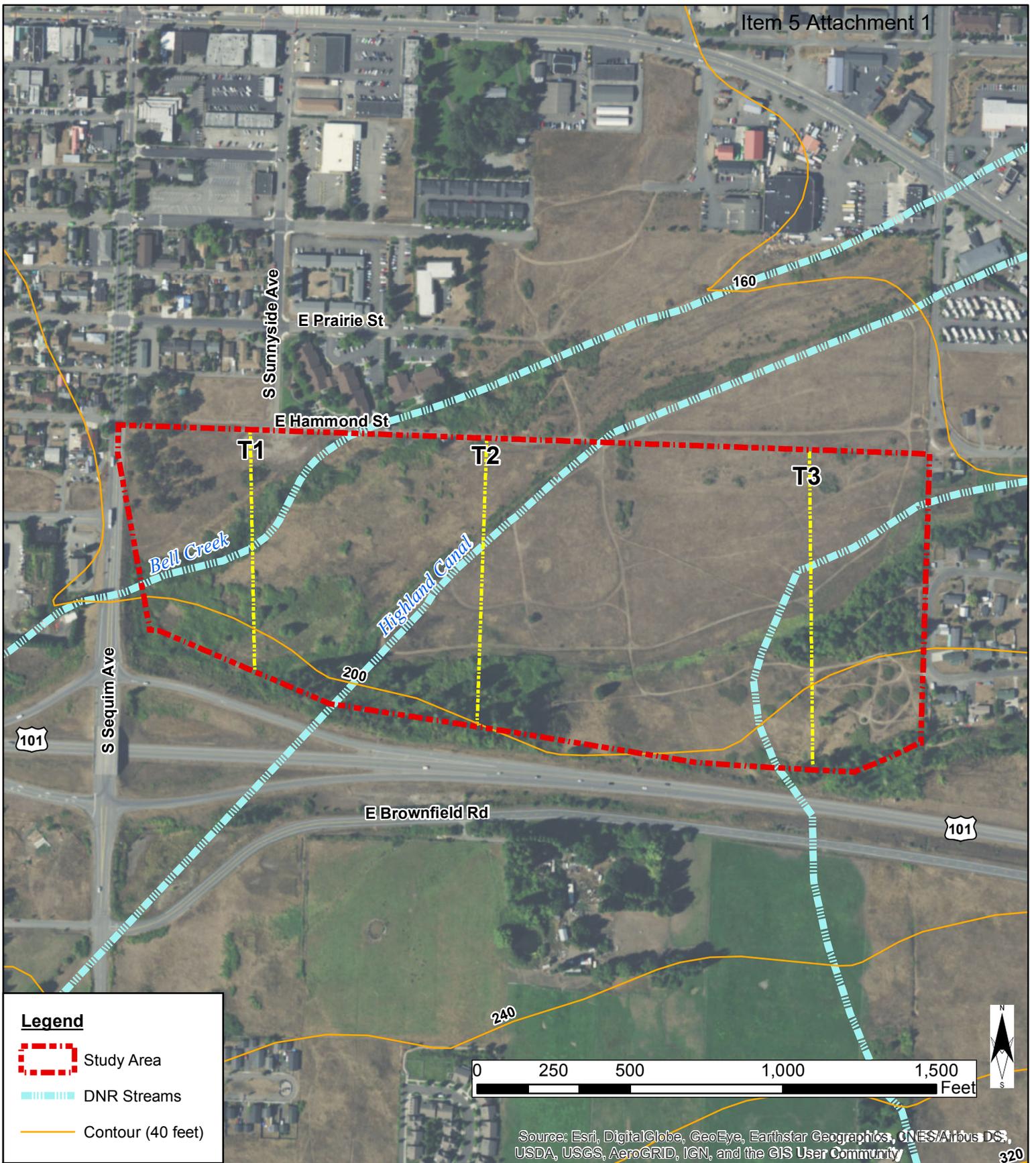
FIGURE 1 - VICINITY MAP



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



Legend

-  Study Area
-  DNR Streams
-  Contour (40 feet)



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 2 - EXISTING SITE CONDITIONS AND TOPOGRAPHY



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON

SHEET 2 OF 8

OCTOBER 2017



Content may not reflect National Geographic's current map policy. Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Legend

-  Study Area
-  NWI Wetlands
-  County Mapped Wetlands
-  DNR Streams

BELL CREEK ECONOMIC OPPORTUNITY AREA
 APPLICANT: CITY OF SEQUIM
 ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

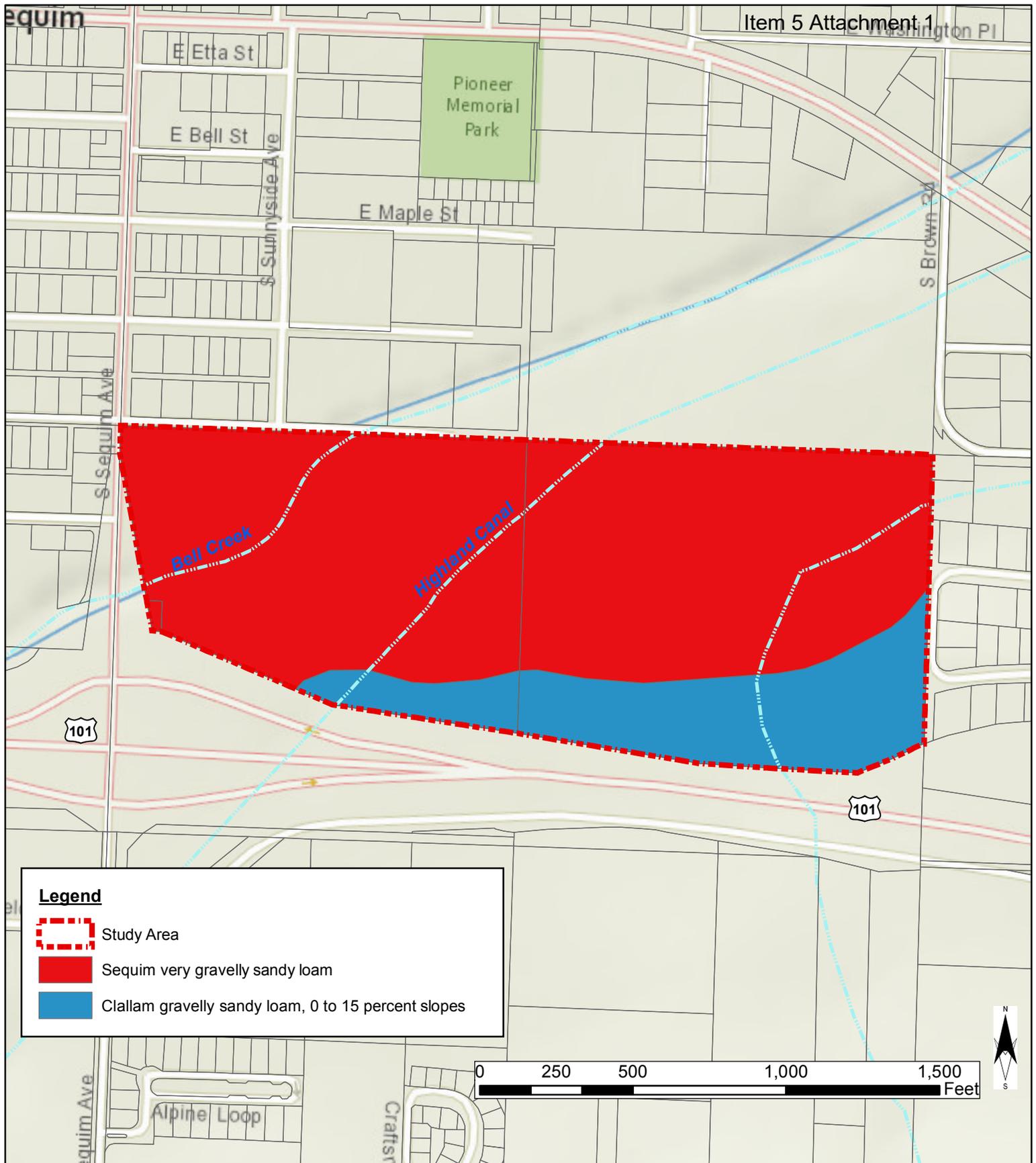
FIGURE 3 - PREVIOUSLY MAPPED WETLANDS



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

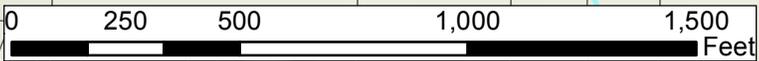
LEGAL: S20 T30N R03W

CITY: SEQUIM
 COUNTY OF: CLALLAM
 STATE OF: WASHINGTON



Legend

-  Study Area
-  Sequim very gravelly sandy loam
-  Clallam gravelly sandy loam, 0 to 15 percent slopes



BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

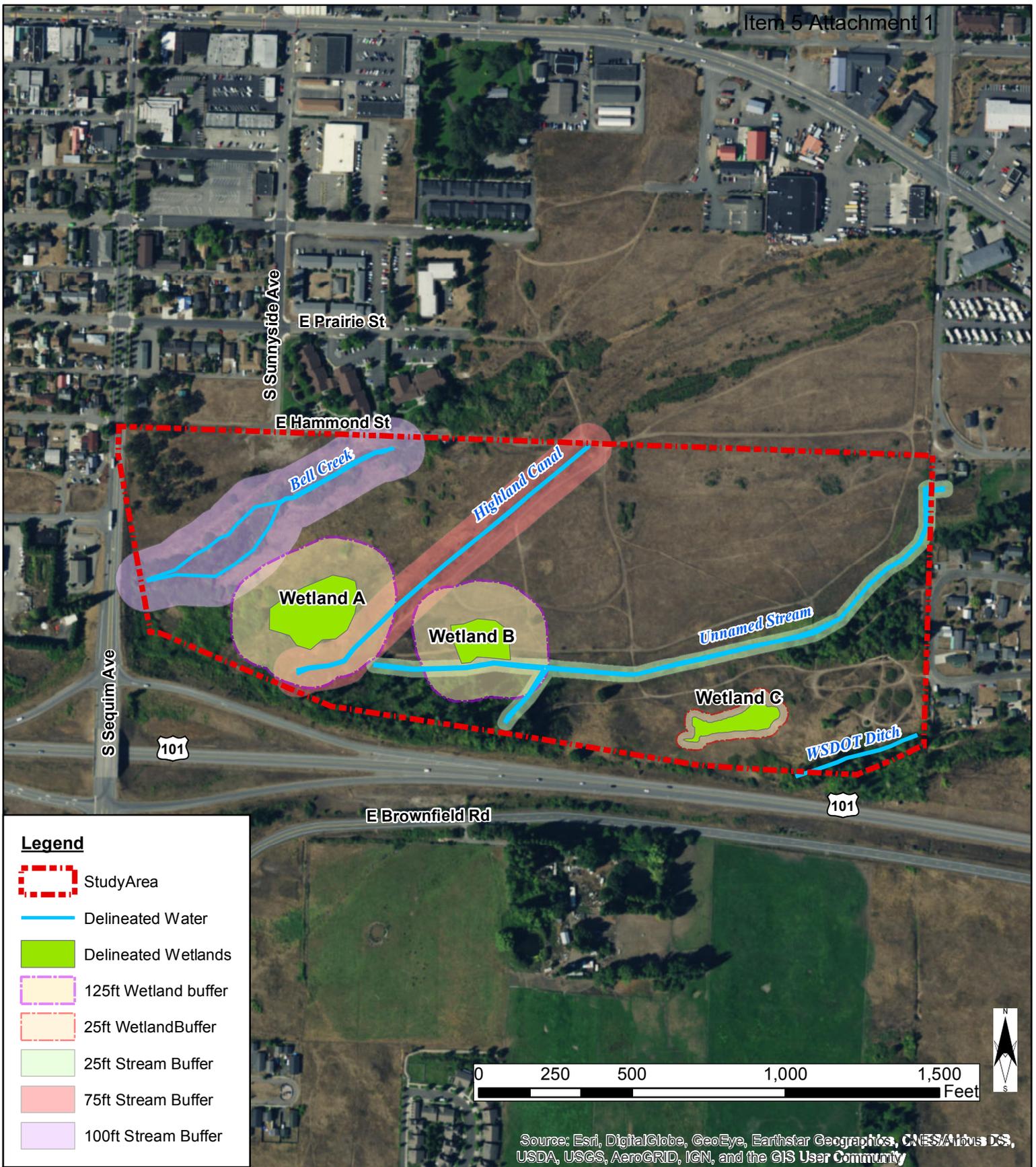
FIGURE 4 - SOILS



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

-  Study Area
-  Delineated Water
-  Delineated Wetlands
-  125ft Wetland buffer
-  25ft Wetland Buffer
-  25ft Stream Buffer
-  75ft Stream Buffer
-  100ft Stream Buffer

BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 5 -DELINEATED AND WETLAND AND STREAM BUFFERS



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



PHOTO 1: BELL CREEK CHANNEL



PHOTO 2: BELL CREEK CORRIDOR VIEW



PHOTO 3: TYPICAL FORESTED COMMUNITY SE SLOPE



PHOTO 4: TYPICAL MOWED GRASS FIELD EASTERN PROPERTY

BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 6 - PHOTO SHEET



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON

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PHOTO 5: TYPICAL MOWED GRASS FIELD WESTERN PROPERTY



PHOTO 6: TYPICAL MOWED GRASS FIELD



PHOTO 7: TYPICAL OAK WOODLAND NW CORNER



PHOTO 8: TYPICAL RUAM COMMUNITY SW CORNER



PHOTO 9: TYPICAL UNMOWED FIELD SW SLOPES



PHOTO 10: TYPICAL UNMOWED GRASS FIELD

BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 7 - PHOTO SHEET



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



PHOTO 11: TYPICAL UNNAMED STREAM LOWER SEGMENT



PHOTO 12: TYPICAL UNNAMED STREAM UPPER SEGMENT



PHOTO 13: UNNAMED STREAM AT SOUTHERN PROPERTY LINE



PHOTO 14: WETLAND A

BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 8 - PHOTO SHEET



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON

SHEET 8 OF 8

OCTOBER 2017

**Bell Creek Economic Opportunity Area
Wetland Delineation and Assessment
Sequim, Washington**

**Appendix B
Wetland Determination Data Forms**

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 9/7/17
 Applicant/Owner: _____ State: WA Sampling Point: T1-1
 Investigator(s): D. Roscoe G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): CONCAVE Slope (%): 2
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: sequim very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks:	<u>SW corner of mowed field, between Bell Creek and Highline Canal, located at toe off Hwy 101 exit ramp. The field has been mowed</u>				

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals:	_____ (A) _____ (B)
1. <u>Cirsium arvense</u>	<u>15</u>	<u>FACU</u>	_____	Prevalence Index = B/A = _____	
2. <u>Agrostis gigantea</u>	<u>40</u>	<u>FAC</u>	<u>X</u>	Hydrophytic Vegetation Indicators:	
3. <u>Phragmites communis</u>	<u>10</u>	<u>FAC</u>	_____	___ 1 - Rapid Test for Hydrophytic Vegetation	
4. <u>Phalaris arundinacea</u>	<u>20</u>	<u>FACW</u>	_____	___ 2 - Dominance Test is >50%	
5. <u>Equisetum arvense</u>	<u>40</u>	<u>FAC</u>	<u>X</u>	___ 3 - Prevalence Index is ≤3.0 ¹	
6. <u>Festuca parundinacea</u>	<u>10</u>	<u>FAC</u>	_____	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
7. <u>Carex stipata</u>	<u>25</u>	<u>FACW</u>	_____	___ 5 - Wetland Non-Vascular Plants ¹	
8. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
9. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
10. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
11. _____	_____	_____	_____	= Total Cover	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: TL-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
1-9	10 YR 2/1	100					Sandy clay loam	
9-16	10 YR 3/1		10 YR 5/8	10	C	M		
			10 YR 5/4		C	M		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present?	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks: no visible hydrology indicators

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

Project/Site: Bell Creek EOA City/County: Sequim/Cullum Sampling Date: 07/17
 Applicant/Owner: _____ State: WA Sampling Point: T1-0
 Investigator(s): D. Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): -
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequm very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>located south of Bell Creek in mowed field</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. <u>Rubus armeniacus</u>	<u>10</u>	<u>FAC</u>	<u>X</u>	Total % Cover of:	Multiply by:
2. <u>Crataegus douglasii</u>	<u>5</u>	<u>FACU</u>	_____	OBL species _____	x 1 = _____
3. _____	_____	_____	_____	FACW species _____	x 2 = _____
4. _____	_____	_____	_____	FAC species _____	x 3 = _____
5. _____	_____	_____	_____	FACU species _____	x 4 = _____
= Total Cover <u>15</u>				UPL species _____	x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals:	_____ (A) _____ (B)
1. <u>Equisetum arvense</u>	<u>10</u>	<u>FAC</u>	_____	Prevalence Index = B/A = _____	
2. <u>Juncus effusus</u>	<u>15</u>	<u>FACW</u>	_____	Hydrophytic Vegetation Indicators:	
3. <u>Acrostichum spp</u>	<u>15</u>	<u>FAC</u>	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. <u>Phalaris ammodendracea</u>	<u>30</u>	<u>FAC</u>	<u>X</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. <u>Festuca rubra</u>	<u>20</u>	<u>FAC</u>	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
6. <u>Eleocharis palustris</u>	<u>15</u>	<u>OBL</u>	_____		
7. <u>Carex stricta</u>	<u>15</u>	<u>OBL</u>	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
= Total Cover <u>120</u>					
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
= Total Cover _____					
% Bare Ground in Herb Stratum _____					
Remarks: _____					

SOIL

Sampling Point: T1-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 2/1	100	-	-	-	-	Sandy clay loam	
16-24	10YR 3/1		10YR 5/8	10	C	M		
			10YR 5/4		C	M		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 09/07/17
 Applicant/Owner: _____ State: WA Sampling Point: T1-3
 Investigator(s): Dan Roscoe, Grace Roberts Section, Township, Range: S10 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <2
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: sequim very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>within Bell Creek corridor</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Rubus armenicus</u>	<u>90</u>	<u>FAC</u>	<u>X</u>	
2. <u>fireweed</u>	<u>20</u>	<u>FACU</u>	_____	
3. <u>thistle - cirsium arvense</u>	<u>10</u>	<u>FACU</u>	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>120</u> = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				

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:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

5 - Wetland Non-Vascular Plants¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
--

Remarks:

SOIL

Sampling Point: TI-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10YR 2/1							
20-23	10YR 4/1		10YR 4/6	Z	C			
			10YR 4/1	S	D			

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input checked="" type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators 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)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input checked="" type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 09/27/17
 Applicant/Owner: _____ State: WA Sampling Point: 11-4
 Investigator(s): D. Roscoe, G. Roberts Section, Township, Range: Concave
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): <2
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sagum very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>	
Remarks: <u>north of Bell Creek, recently moved</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>75%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				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 = _____
1. <u>Rubus cuneifolius</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0' ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
1. <u>Phalaris arundinacea</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
2. <u>Cirsium arvense</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
3. <u>Epilobium spp</u>	<u>10</u>	_____	_____	
4. <u>Vicia spp</u>	<u>5</u>	_____	_____	
5. <u>Elymus repens</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____				

SOIL

Sampling Point: _____

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-17	10 Y 2 / 1	100	-				gravelly sandy clay loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required: check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

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:

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 09/07/17
 Applicant/Owner: _____ State: WA Sampling Point: T1-5
 Investigator(s): D. Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): none Slope (%): -
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequim very gravelly sandy loam NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>NW property - grass field by Bell Cr, recently mowed</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
= Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ = Total Cover				
Herb Stratum (Plot size: _____) 1. <u>Dactylis glomerata</u> 15 FACU 2. <u>Festuca spp</u> 15 FAC 3. <u>Elymus repens</u> 40 FAC X 4. <u>Festuca pubera</u> 20 FAC 5. <u>Poa pratensis</u> 30 FAC X 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ = Total Cover <u>120</u>				
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>see standard grass plot</u>				

SOIL

Sampling Point: T1-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					Very gravelly sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: no redox features visible

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks: no hydrology indicators

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

Project/Site: Bell Creek EOA City/County: Sequim/Cullam Sampling Date: 8/29/17
 Applicant/Owner: _____ State: WA Sampling Point: 12-1
 Investigator(s): D. Roscoe, G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%): <5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Cullam gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>located on slope North of Hwy 101</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30'x30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>western red cedar</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>10'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
1. <u>snowberry</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. <u>scotch broom</u>	<u>15</u>	_____	<u>UPL</u>	
3. <u>lim. blackberry</u>	<u>15</u>	_____	<u>FAC</u>	
4. <u>trailing blackberry</u>	<u>5</u>	_____	<u>FACU</u>	
5. <u>woodland rose</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
<u>15</u> = Total Cover <u>FACU</u>				
Herb Stratum (Plot size: <u>5'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
1. <u>chicory</u>	<u>10</u>	_____	<u>FACU</u>	
2. <u>arabidopsis capillaris</u>	<u>70</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
3. <u>subularia</u>	<u>5</u>	_____	<u>FAC</u>	
4. <u>buttercup</u>	<u>5</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

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

Project/Site: Bell Creek EDA City/County: Sequim/Clallam Sampling Date: 08/24/17
 Applicant/Owner: _____ State: WA Sampling Point: T2-2
 Investigator(s): Dan Roscoe, Grace Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): <5%
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequim very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present? Yes <u>X</u> No _____	
Wetland Hydrology Present? Yes <u>X</u> No _____	
Remarks: <u>located north of dry ditch at toe of slope. recently mowed</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>0</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	= Total Cover
Sapling/Shrub Stratum (Plot size: <u>0</u>)				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 = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	= Total Cover
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
1. <u>Elymus arvensis</u>	<u>50</u>	<u>X</u>	<u>FAC</u>	
2. <u>Juncus effusus</u>	<u>20</u>		<u>FACW</u>	
3. <u>Taraxacum officinale</u>	<u>30</u>		<u>UPL</u>	
4. <u>Ranunculus repens</u>	<u>10</u>		<u>FACW</u>	
5. <u>Cirsium arvense</u>	<u>5</u>		<u>FACU</u>	
6. <u>Poa pratensis</u>	<u>40</u>	<u>X</u>	<u>FAC</u>	
7. <u>Festuca rubra</u>	<u>15</u>			
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	= Total Cover
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	= Total Cover
% Bare Ground in Herb Stratum _____				
Remarks: <u>pasture grass - recently mowed.</u>				

SOIL

Sampling Point: T2-2

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-22	10YR 2/1	98	5YR 4/6	2	C	M	silty clay gravelly silty clay

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input checked="" type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

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): 22"

Wetland Hydrology Present? Yes No

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

Remarks: saturation present @ 22" during dry season, data point is located in shallow depression @ toe of slope and likely collect surface runoff in wet season

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 08/24/17
 Applicant/Owner: _____ State: WA Sampling Point: T2-3
 Investigator(s): Dan Roscoe, Grace Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): <5%
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequm very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>located in mowed field</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. <u>n/a</u>				Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____				= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____				Total % Cover of:	Multiply by:
2. _____				OBL species _____	x 1 = _____
3. <u>n/a</u>				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
= Total Cover				UPL species _____	x 5 = _____
Herb Stratum (Plot size: _____)				Column Totals:	_____ (A) _____ (B)
1. <u>Festuca rubra</u>	<u>20</u>		<u>FAC</u>	Prevalence Index = B/A = _____	
2. <u>agrostis spp</u>	<u>15</u>		<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3. <u>Elymus repens</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
4. <u>Poa pratense</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
= Total Cover <u>105</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. <u>n/a</u>					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks: <u>Mowed field</u>					

SOIL

Sampling Point: T2-3

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹		
0-16	10YR 2/1	100				Sandy clay loam; gravel + cobble	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: Bell Creek EOA City/County: Sequim, Skallam Sampling Date: 8/24/17
 Applicant/Owner: _____ State: WA Sampling Point: T2-4
 Investigator(s): Dan Roscoe, Grace Roberts Section, Township, Range: T20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): < 5%
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequim very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>located in mowed field south of Highway Canal</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. <u>N/A</u>	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. _____	_____	_____	_____	FACW species _____ x 2 = _____
2. <u>N/A</u>	_____	_____	_____	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
_____ = Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. _____	_____	_____	_____	1 - Rapid Test for Hydrophytic Vegetation
2. <u>see T2-3</u>	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. _____	_____	_____	_____	3 - Prevalence Index is ≤3.0 ¹
4. _____	_____	_____	_____	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____	Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____				

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

Project/Site: Bell Creek EOA City/County: Seymour/Clallam Sampling Date: 8/24/17
 Applicant/Owner: _____ State: WA Sampling Point: T2-5
 Investigator(s): D. Rowce, G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): ≤5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Seymour very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>located north of Highline Canal in grass field</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
1. <u>Himalayan Yewberry</u>	<u>5</u>	<u>FAC</u>	<u>X</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Saxifraga cernua</u>	_____	_____	_____	
2. <u>poa</u>	_____	_____	_____	
3. <u>Missile</u>	<u>≤5</u>	_____	_____	
4. <u>(Dune grass mix as T2-2, T2-4)</u>	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Hydrophytic - Vegetation Present? Yes <input checked="" type="checkbox"/> No _____				
Remarks: _____				

SOIL

Sampling Point: D-5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc ²		
0-4			T ₂ -H					

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators 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:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present?	Yes _____ No <u> X </u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u> / </u>
Water Table Present?	Yes _____ No <u> X </u>	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No <u> X </u>	Depth (inches): _____	

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

Remarks:

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 8/30/17
 Applicant/Owner: _____ State: WA Sampling Point: T3-1
 Investigator(s): D. Roscoe Section, Township, Range: SJO T30N R3W
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): concave Slope (%): 25
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Clallam gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>local depression @ top of slope, mowed field</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u>	(A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u>	(B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50%</u>	(A/B)
4. _____				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 = _____	
Sapling/Shrub Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>N/A</u>				___ 1 - Rapid Test for Hydrophytic Vegetation	
2. _____				___ 2 - Dominance Test is >50%	
3. _____				___ 3 - Prevalence Index is ≤3.0 ¹	
4. _____				___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. _____				___ 5 - 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.	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	
1. <u>Dactylis glomerata</u>	<u>25</u>		<u>FACU</u>		
2. <u>Agrostis spicata</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FAC</u>		
3. <u>Festuca rubra</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACU</u>		
4. <u>Leucanthemum vulgare</u>	<u>10</u>		<u>FACU</u>		
5. <u>Plantago lanceolata</u>	<u>5</u>		<u>FACU</u>		
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
				Prevalence Index = B/A = _____	
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: T3-1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	1.5 yr 2.0/3	100					Sandy clay	
8-18	2.5 yr 4/4	100					"	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Inundation Visible on Aerial imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	

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

Remarks:

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

Project/Site: Roll Creek EOA City/County: Sequim/Clallam Sampling Date: 9/5/17
 Applicant/Owner: _____ State: WA Sampling Point: B-2
 Investigator(s): D. Roscoe, G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): convex Slope (%): 5%
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequim very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____ No <u>X</u>	
Wetland Hydrology Present?	Yes _____ No <u>X</u>	
Remarks: <u>located on forested slope near east property boundary</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33%</u> (A/B)
1. <u>big leaf maple acer macrophyllum</u>	<u>25</u>	<u>X</u>	<u>FACU</u>	
2. <u>western red cedar</u>	<u>10</u>	<u>X</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
<u>45</u> = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	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 = _____
1. <u>Indian plum</u>	<u>15</u>	_____	<u>FACU</u>	
2. <u>hazelnut</u>	<u>50</u>	<u>X</u>	<u>FACU</u>	
3. <u>sword fern</u>	<u>30</u>	<u>X</u>	<u>FACU</u>	
4. <u>Oceanspray</u>	<u>10</u>	_____	<u>FACU</u>	
5. _____	_____	_____	_____	
<u>105</u> = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
1. <u>horsetail</u>	<u>50</u>	<u>X</u>	<u>FAC</u>	
2. <u>thistle</u>	<u>5</u>	_____	<u>FACU</u>	
3. <u>orchard grass</u>	<u>5</u>	_____	<u>FACU</u>	
4. <u>red canary grass</u>	<u>10</u>	_____	<u>FAC</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>70</u> = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes _____ No <u>X</u>
1. <u>ivy</u>	<u>20</u>	<u>X</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
<u>20</u> = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____				

SOIL

Sampling Point: TB-2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	7.5 YR 2.5/2	100					Sandy loam	
14-23	7.5 YR 3/2	98	10 YR 4/6	2			gravelly sandy loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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

³Indicators 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)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: Bell Creek EOA City/County: Squam/Clallam Sampling Date: 9/5/17
 Applicant/Owner: _____ State: WA Sampling Point: TB-3
 Investigator(s): D. Roscoe, G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 52
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Squam very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present?	Yes _____	No <u>X</u>	
Wetland Hydrology Present?	Yes _____	No <u>X</u>	
Remarks: <u>located north of forested slope in mowed field</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. _____				
3. _____				
4. _____				
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) 5 - 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.
1. <u>Typical pasture grasses (see T2 plots)</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____				

SOIL

Sampling Point: TS-3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
10-16	10 YR/1	100	—	—	—	—	gravelly sandy clay loam	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: no visible redox in soil profile

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <u>X</u>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <u>X</u>
Water Table Present? Yes _____ No <u>X</u>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <u>X</u>	Depth (inches): _____	

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

Remarks: no hydrology or indicators present

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 9/15/17
 Applicant/Owner: _____ State: WA Sampling Point: T3-4
 Investigator(s): D. Roscoe, G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): Concave Slope (%): <2
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequm very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u> No <u>_____</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: <u>located NE corner of the property in mowed field</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	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 = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>See</u>	_____	_____	_____	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No _____
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____				

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 09/07/17
 Applicant/Owner: _____ State: WA Sampling Point: DP-1
 Investigator(s): D. Roser, G. Roberts Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): convex Slope (%): ≤2
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequim very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No <input checked="" type="checkbox"/>	
Remarks: <u>located in oak stand in NW corner of property. The site has been recently mowed.</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Quercus garryana</u>	<u>25</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>4</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. <u>Staphylea trifolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	FACW species _____ x 2 = _____
2. _____	_____	_____	_____	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
_____ = Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Festuca rubra</u>	<u>20</u>	<u>FAC</u>	_____	___ 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Leucanthemum vulgare</u>	<u>5</u>	<u>FACU</u>	_____	___ 2 - Dominance Test is >50%
3. <u>Poa pratensis</u>	<u>30</u>	<u>FAC</u>	<input checked="" type="checkbox"/>	___ 3 - Prevalence Index is ≤3.0 ¹
4. <u>Elymus repens</u>	<u>40</u>	<u>FAC</u>	<input checked="" type="checkbox"/>	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Agrostis spp</u>	<u>15</u>	<u>FAC</u>	_____	___ 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: _____				

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

Project/Site: Bell Creek EOA City/County: Seguin/Chatham Sampling Date: 9/7/17
 Applicant/Owner: _____ State: WA Sampling Point: OP2
 Investigator(s): D. Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): concave Slope (%): 55
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Seguin very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No _____		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No _____		
Remarks: <u>located in Wetland A, small depression on west side of property</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____ x 1 = _____
1. _____	_____	_____	_____	FACW species _____ x 2 = _____
2. _____	_____	_____	_____	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
_____ = Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:
1. <u>Ranunculus repens</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. <u>Juncus effusus</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. <u>Medicago lupulina</u>	<u>10</u>		<u>FAC</u>	<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Gallium spp</u>	<u>1</u>			<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____	_____	_____	_____	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____	_____	_____	_____	Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks:				

SOIL

Sampling Point: DP2

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-22	10YR 2/1	96	10YR 5/1	2	D	M		silty clay
			10YR 5/8	2		M		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Salt Crust (B11)	
<input type="checkbox"/> Aquatic Invertebrates (B13)	
<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	
<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	
<input type="checkbox"/> Presence of Reduced Iron (C4)	
<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	
<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	
<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations:

Surface Water Present? Yes No Depth (inches): _____

Water Table Present? Yes No Depth (inches): 20

Saturation Present? Yes No Depth (inches): 17

Wetland Hydrology Present? Yes No

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

Remarks: dry season water table

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 10/4/17
 Applicant/Owner: _____ State: WA Sampling Point: OP-3
 Investigator(s): D. Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 52
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: segum very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Hydric Soil Present? Yes _____ No <u>X</u>	
Wetland Hydrology Present? Yes _____ No <u>X</u>	
Remarks: <u>located in mowed grass field north of Wetland A & OP-2</u>	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>N/A</u>					Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____				Prevalence Index worksheet:	
= Total Cover					Total % Cover of: _____ Multiply by: _____
Sampling/Shrub Stratum (Plot size: _____)					OBL species _____ x 1 = _____
1. <u>N/A</u>					FACW species _____ x 2 = _____
2. _____					FAC species _____ x 3 = _____
3. _____				FACU species _____ x 4 = _____	
4. _____				UPL species _____ x 5 = _____	
5. _____				Column Totals: _____ (A) _____ (B)	
= Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>see standard grass data from transect data points</u>					<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____					<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
3. _____					<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹
4. _____					<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____					<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
6. _____					<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
7. _____					¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
8. _____					Hydrophytic Vegetation Present? Yes <u>X</u> No _____
9. _____					
10. _____					
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks: <u>OP-3 is located north of Wetland A</u>					

SOIL

Sampling Point: DP 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 3/2						Sandy clay loam	
14-20	10YR 2/1							

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

³Indicators 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: *soil is very friable, no redox observed in either layer*

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks: *no evidence of hydrology*

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

Project/Site: Bell Creek EOA City/County: Sequim/WA Sampling Date: 10/11/17
 Applicant/Owner: _____ State: WA Sampling Point: DP#
 Investigator(s): D Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): terrace Local relief (concave, convex, none): none Slope (%): 52
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sequms very gravelly sandy loam NWI classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>			
Remarks: <u>south of wetland A @ toe of slope</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>2</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>66</u> (A/B)
4. _____				Prevalence Index worksheet:	
= Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species	x 1 = _____
1. _____				FACW species	x 2 = _____
2. _____				FAC species	x 3 = _____
3. _____				FACU species	x 4 = _____
4. _____				UPL species	x 5 = _____
5. _____				Column Totals:	(A) _____ (B) _____
= Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Cirsium arvense</u>	<u>40</u>	<u>FACU</u>	<u>X</u>	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
2. <u>Festuca rubra</u>	<u>40</u>	<u>FAC</u>	<u>X</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
3. <u>Agrostis gigantea</u>	<u>25</u>	<u>FAC</u>	<u>X</u>		
4. <u>Equisetum arvense</u>	<u>5</u>	<u>FAC</u>			
5. <u>Holcus lanatus</u>	<u>10</u>	<u>FACW</u>			
6. _____					
7. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
8. _____					
9. _____					
10. _____					
11. _____					
= Total Cover					
Woody Vine Stratum (Plot size: _____)					
1. _____					
2. _____					
= Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: OPA

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/1	100					sandy clay loam	
10-18	10YR 3/1	90	10YR 5/4	10	C	M		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

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)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No _____ Depth (inches): _____	
Saturation Present? Yes _____ No _____ Depth (inches): _____ (includes capillary fringe)	

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

Remarks: no hydrology indicators

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

Project/Site: Bell Creek EOA City/County: Sequim/Clallam Sampling Date: 10/4/2017
 Applicant/Owner: _____ State: WA Sampling Point: DP5
 Investigator(s): A. Kinney, D. Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): hill slope Local relief (concave, convex, none): none Slope (%): 2-5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Clallam gravelly Sandy loam 0 to 15 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <input checked="" type="checkbox"/>	No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No _____	
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No _____	
Remarks: <u>Located in a mowed grass field east of wetlands A and B</u>			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:	
_____ = Total Cover				Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: _____)				OBL species _____	x 1 = _____
1. _____	_____	_____	_____	FACW species _____	x 2 = _____
2. _____	_____	_____	_____	FAC species _____	x 3 = _____
3. _____	_____	_____	_____	FACU species _____	x 4 = _____
4. _____	_____	_____	_____	UPL species _____	x 5 = _____
5. _____	_____	_____	_____	Column Totals:	_____ (A) _____ (B)
_____ = Total Cover				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. <u>Agrostis gigantea</u>	<u>40</u>	<u>X</u>	<u>FAC</u>	___ 1 - Rapid Test for Hydrophytic Vegetation	
2. <u>Festuca rubra</u>	<u>25</u>	<u>X</u>	<u>FAC</u>	___ 2 - Dominance Test is >50%	
3. <u>Poa Pratensis</u>	<u>20</u>		<u>FAC</u>	___ 3 - Prevalence Index is ≤3.0 ¹	
4. <u>Phalaris arundinacea</u>	<u>25</u>	<u>X</u>	<u>FACW</u>	___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
5. <u>Juncus effusus</u>	<u>10</u>		<u>FACW</u>	___ 5 - Wetland Non-Vascular Plants ¹	
6. _____	_____	_____	_____	___ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____					
Remarks:					

SOIL

Sampling Point: DP5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/2	100					Loam	
10-	10YR 4/1	85	10YR 4/6	15	C	M		

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: Clay

Depth (inches): 10

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Salt Crust (B11)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input checked="" type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations:

Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Depth (inches): _____	

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

Remarks:

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

Project/Site: Bell Creek EOA City/County: Sequim Clallam Sampling Date: 10/4/2017
 Applicant/Owner: _____ State: _____ Sampling Point: DPL6
 Investigator(s): A Kinney D. Roscoe Section, Township, Range: S20 T30N R3W
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): None Slope (%): 2-5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Clallam gravelly sandy loam 0-15 percent slopes NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
 Are Vegetation X, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
 Are Vegetation _____, Soil _____, or Hydrology _____ 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 <u>X</u> No _____	Hydic Soil Present? Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Wetland Hydrology Present? Yes _____ No <u>X</u>		
Remarks: <u>grassy mowed hillside east of wetlands A & B</u>		

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				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 = _____
Sapling/Shrub Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: _____)	1. <u>Asp. gigantea</u>	<u>40</u>	<u>X</u>	<u>FAC</u>
2. <u>Festuca rubra</u>	<u>30</u>	<u>X</u>	<u>FAC</u>	
3. <u>Poa Pratensis</u>	<u>25</u>	<u>X</u>	<u>FAC</u>	
4. <u>Phalaris arundinacea</u>	<u>25</u>	<u>X</u>	<u>FACW</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>120</u> = Total Cover				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ 5 - 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.
Woody Vine Stratum (Plot size: _____)	1. _____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____
Remarks: _____				

SOIL

Sampling Point: DPL6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-10	10YR 2/2	100					Loam	
10-	10YR 4/1	95	10YR 4/6	15	C	M	clay	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)
<input checked="" type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: clay
 Depth (inches): 10

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Geomorphic Position (D2)
	<input checked="" type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)
	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
	<input type="checkbox"/> 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:

**Bell Creek Economic Opportunity Area
Wetland Delineation and Assessment
Sequim, Washington**

**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: 10/4/17
 Rated by D. Roscoe Trained by Ecology? Yes ___ No Date of training _____
 HGM Class used for rating Depressional Wetland has multiple HGM classes? ___ Y N

NOTE: Form is not complete without the figures requested (figures can be combined).
 Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY III (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	
<i>Circle the appropriate ratings</i>				
Site Potential	H (M) L	H (M) L	H M (L)	
Landscape Potential	(H) M L	(H) M L	H M (L)	
Value	(H) M L	H M (L)	(H) M L	TOTAL
Score Based on Ratings	8	6	5	19

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	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<input checked="" type="checkbox"/>

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	2
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	N/A
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	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	1
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

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 (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	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 (<i>can be added to another figure</i>)	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 (<i>can be added to figure above</i>)	S 4.1	
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	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	

Wetland name or number A

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the 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.

Wetland name or number A

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.*

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 (No = 0)	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0	2
Total for D 1	Add the points in the boxes above 10

Rating of Site Potential If score is: 12-16 = H ~~X~~ 6-11 = M ___ 0-5 = L Record the rating on the first page

D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0 1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0 1
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source <u>Dogs</u>	Yes = 1 No = 0 1
Total for D 2	Add the points in the boxes above 3

Rating of Landscape Potential If score is: ~~X~~ 3 or 4 = H ___ 1 or 2 = M ___ 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 (No = 0) 0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0 1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)?	Yes = 2 No = 0 2
Total for D 3	Add the points in the boxes above 4

Rating of Value If score is: ~~X~~ 2-4 = H ___ 1 = M ___ 0 = L Record the rating on the first page

Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation		
D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	1	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3	
Total for D 4	Add the points in the boxes above	8

Rating of Site Potential If score is: 12-16 = H ~~X~~ 6-11 = M 0-5 = L *Record the rating on the first page*

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: ~~X~~ 3 = H 1 or 2 = M 0 = L *Record the rating on the first page*

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____ points = 0 There are no problems with flooding downstream of the wetland. points = 0	0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	0

Rating of Value If score is: 2-4 = H 1 = M ~~X~~ 0 = L *Record the rating on the first page*

Wetland name or number A

These questions apply to wetlands of all HGM classes.
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

H 1.0. Does the site have the potential to provide habitat?

H 1.1. Structure of plant community: *Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.*

<input type="checkbox"/> Aquatic bed	4 structures or more: points = 4	0
<input checked="" type="checkbox"/> Emergent	3 structures: points = 2	
<input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover)	2 structures: points = 1	
<input type="checkbox"/> Forested (areas where trees have > 30% cover)	1 structure: points = 0	
<i>If the unit has a Forested class, check if:</i>		
<input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon		

H 1.2. Hydroperiods

Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (*see text for descriptions of hydroperiods*).

<input type="checkbox"/> Permanently flooded or inundated	4 or more types present: points = 3	1
<input type="checkbox"/> Seasonally flooded or inundated	3 types present: points = 2	
<input checked="" type="checkbox"/> Occasionally flooded or inundated	2 types present: points = 1	
<input checked="" type="checkbox"/> Saturated only	1 type present: points = 0	
<input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland		
<input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland		
<input type="checkbox"/> Lake Fringe wetland	2 points	
<input type="checkbox"/> Freshwater tidal wetland	2 points	

H 1.3. Richness of plant species

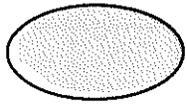
Count the number of plant species in the wetland that cover at least 10 ft².
Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle

If you counted: > 19 species points = 2
 5 - 19 species points = 1
 < 5 species points = 0

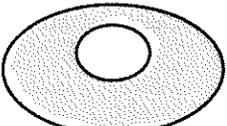
1

H 1.4. Interspersion of habitats

Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. *If you have four or more plant classes or three classes and open water, the rating is always high.*



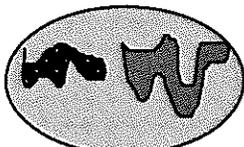
None = 0 points

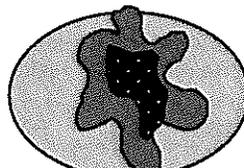


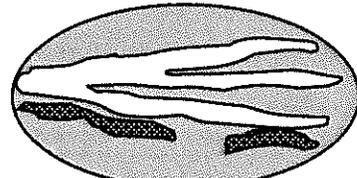
Low = 1 point



Moderate = 2 points







All three diagrams in this row are **HIGH = 3points**

0

Wetland name or number A

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> 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) <input type="checkbox"/> 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 (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		1
Total for H 1	Add the points in the boxes above	3

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). Calculate: % undisturbed habitat <u>3%</u> + [(% moderate and low intensity land uses)/2] <u>4.5</u> = <u>7.5</u> % If total accessible habitat is: <u>3%</u> <u>9/2</u> > 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</p>		0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat <u>8</u> + [(% moderate and low intensity land uses)/2] <u>12</u> = <u>20</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches <u>24/2</u> points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0</p>		1
<p>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 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	-1

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input checked="" type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> 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) within 100 m points = 1 Site does not meet any of the criteria above points = 0</p>		2

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

Wetland name or number A

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>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</p>	
<p>Yes – Go to SC 1.1 No = Not an estuarine wetland</p>	
<p>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?</p>	<p>Cat. I</p>
<p>Yes = Category I No - Go to SC 1.2</p>	
<p>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 <i>Spartina</i>, 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 unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>Yes = Category I No = Category II</p>	
<p>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?</p>	<p>Cat. I</p>
<p>Yes – Go to SC 2.2 No – Go to SC 2.3</p>	
<p>SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value?</p>	<p>Cat. I</p>
<p>Yes = Category I No = Not a WHCV</p>	
<p>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</p>	
<p>Yes – Contact WNHP/WDNR and go to SC 2.4 No = Not a WHCV</p>	
<p>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?</p>	
<p>Yes = Category I No = Not a WHCV</p>	
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i></p>	
<p>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?</p>	<p>Cat. I</p>
<p>Yes – Go to SC 3.3 No – Go to SC 3.2</p>	
<p>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?</p>	
<p>Yes – Go to SC 3.3 No = Is not a bog</p>	
<p>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? 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.</p>	<p>Cat. I</p>
<p>Yes = Is a Category I bog No – Go to SC 3.4</p>	
<p>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?</p>	
<p>Yes = Is a Category I bog No = Is not a bog</p>	

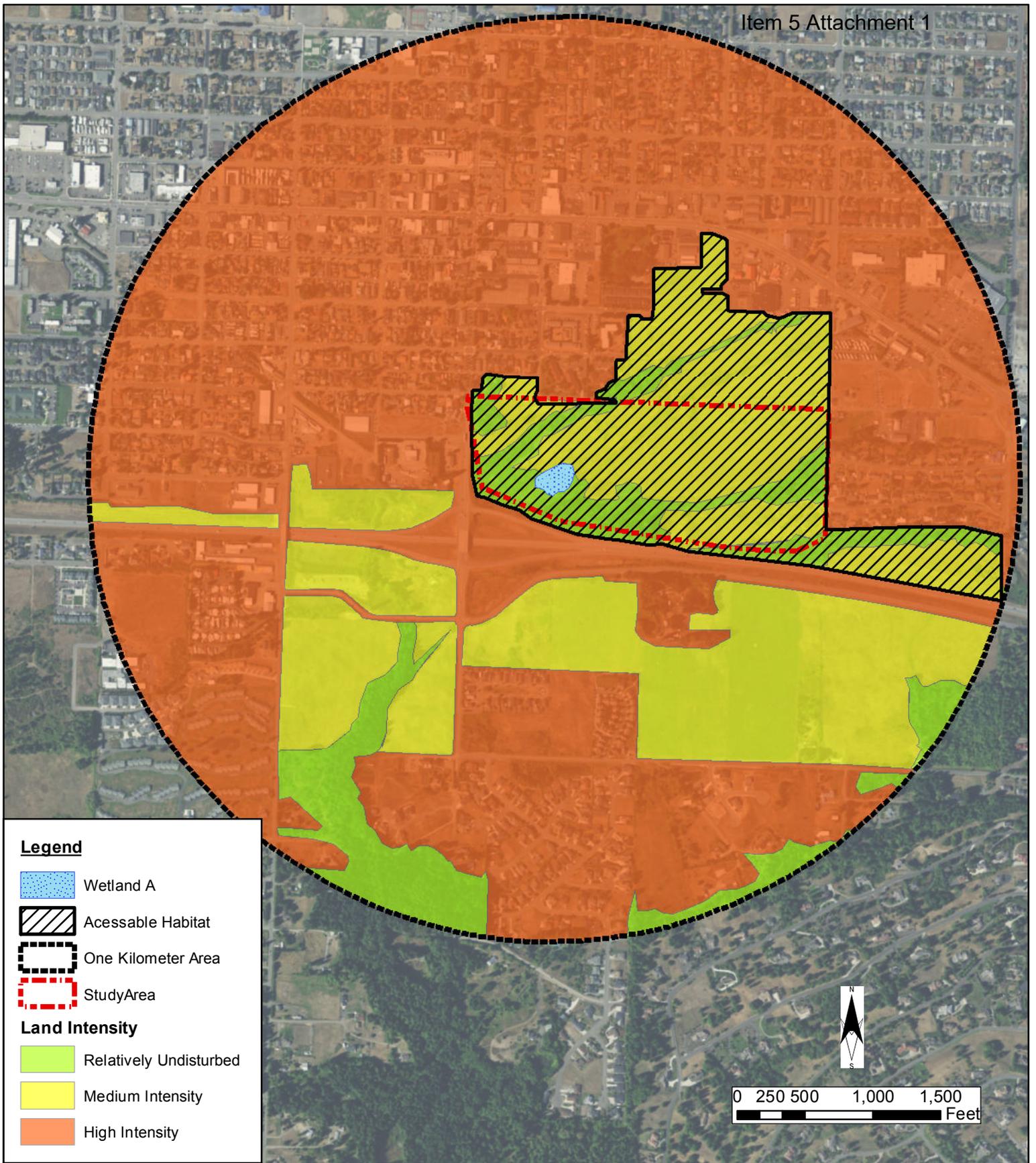
Wetland name or number _____

<p>SC 4.0. Forested Wetlands</p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> — 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). <p style="text-align: right;">Yes = Category I No = Not a forested wetland for this section</p>	<p>Cat. I</p>
<p>SC 5.0. Wetlands in Coastal Lagoons</p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> — 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 (<i>needs to be measured near the bottom</i>) <p style="text-align: right;">Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon</p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> — 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 ft²) <p style="text-align: right;">Yes = Category I No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p>SC 6.0. Interdunal Wetlands</p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> — 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 <p style="text-align: right;">Yes – Go to SC 6.1 No = not an interdunal wetland for rating</p> <p>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</p> <p>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</p> <p>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</p>	<p>Cat I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p>Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form</p>	

Wetland name or number _____

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Legend

-  Wetland A
-  Accessable Habitat
-  One Kilometer Area
-  StudyArea

Land Intensity

-  Relatively Undisturbed
-  Medium Intensity
-  High Intensity

BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 1 - WETLAND A
LANDUSE INTENSITY



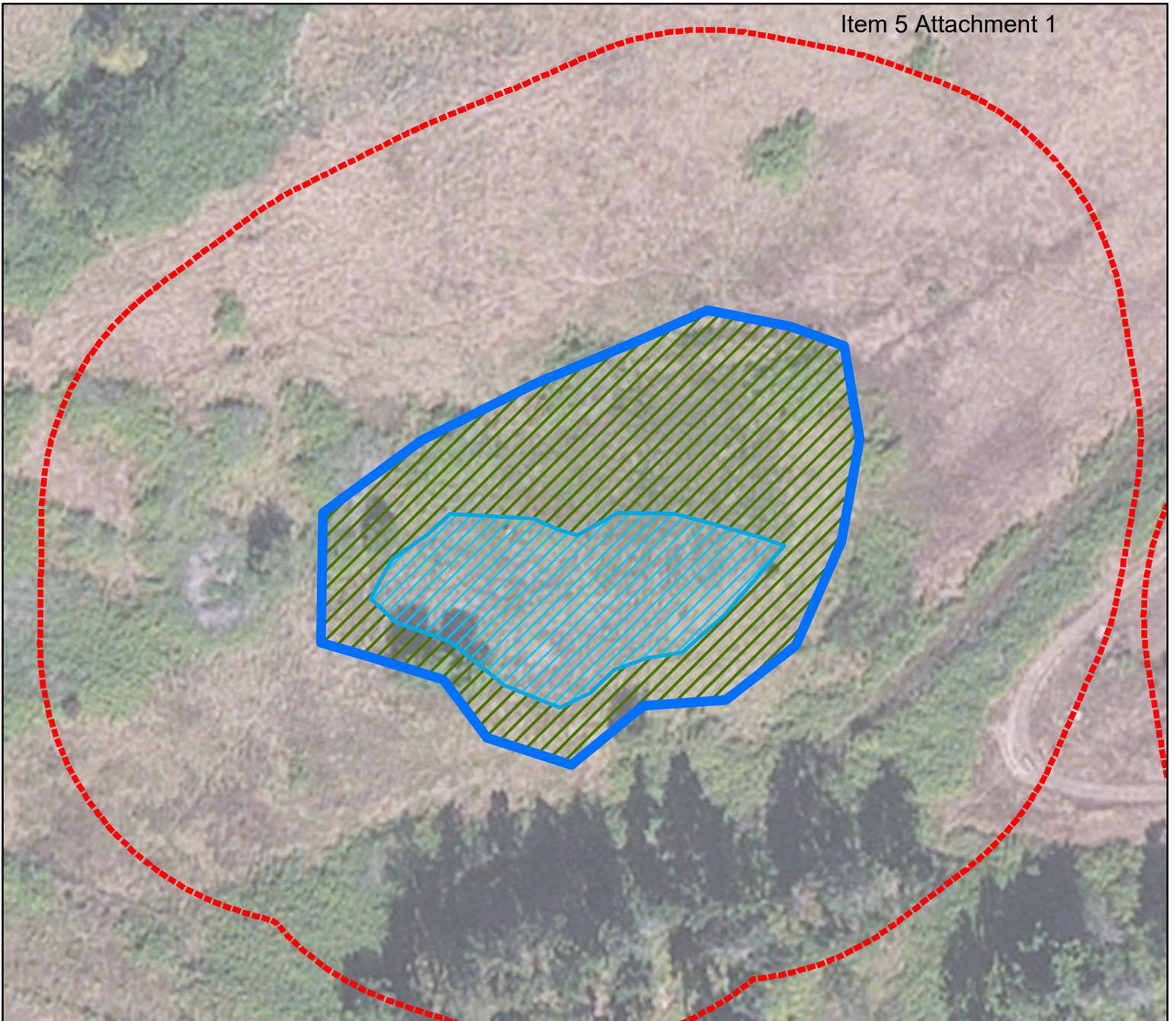
PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON

SHEET 2 OF X

OCTOBER 2017



Legend

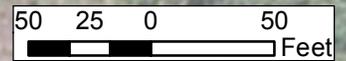
 Wetland A
Cowardin Class - Entirely Emergent

 150' Wetland Buffer

Hydroperiods

 Saturated Only

 Occasionally Flooded/Inundated

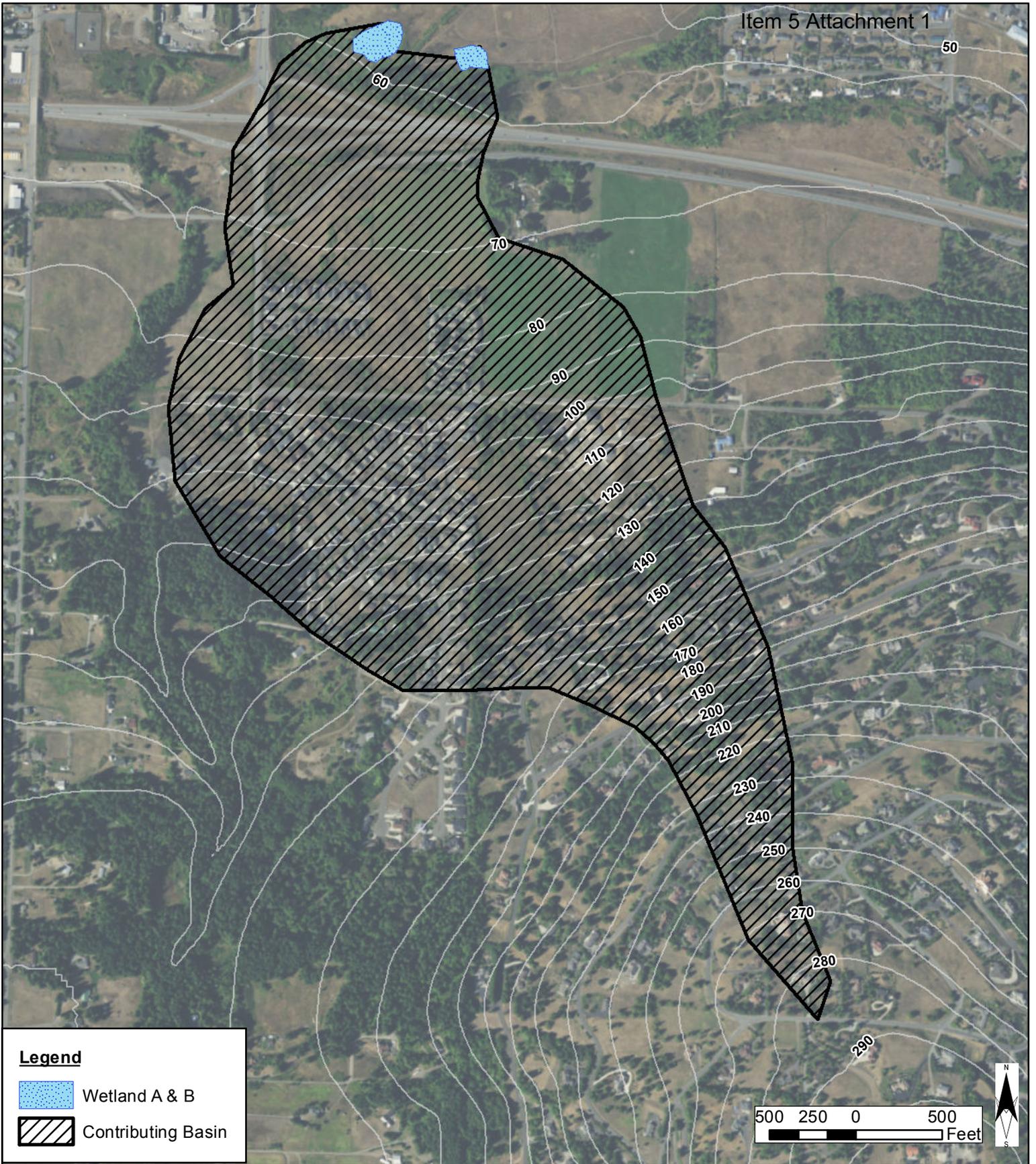


BELL CREEK ECONOMIC OPPORTUNITY AREA
 APPLICANT: CITY OF SEQUIM
 ATTN:
 PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 2 - WETLAND A
 HYDROPERIODS &
 COWARDIN CLASS

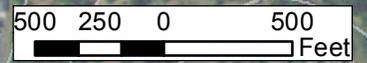


PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED
 LEGAL: S20 T30N R03W
 CITY: SEQUIM
 COUNTY OF: CLALLAM
 STATE OF: WASHINGTON
 SHEET 2 OF X
 OCTOBER 2017



Legend

-  Wetland A & B
-  Contributing Basin



BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 3 - WETLAND A & B CONTRIBUTING BASIN



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



[Water Quality Improvement](#) > [Water Quality Improvement Projects by County](#) > [Clallam County](#)

Clallam County projects

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this county. Please use links (where available) for more information on a project.

To get additional information about the water bodies in Clallam County please use the [Water Quality Assessment Query Tool](#).



WRIAs in Clallam County

- [WRIA 17](#) - Quilcene-Snow
- [WRIA 18](#) - Elwha-Dungeness
- [WRIA 19](#) - Lyre-Hoko
- [WRIA 20](#) - Soleduck-Hoh

Water-body Name	Pollutants	Status	TMDL Leads
Strait of Juan de Fuca	Dioxin	EPA approved	Andrew Kolosseus 360-407-7543
Dungeness Bay	Fecal Coliform	EPA approved	Andrew Kolosseus 360-407-7543
Matriotti Creek Dungeness River Tributaries: <ul style="list-style-type: none"> • Meadowbrook Creek • Golden Sands • Cooper Creek • Dungeness River RM 1,0 • Irrigation Ditch 1 • Irrigation Ditch 2 	Fecal Coliform	EPA approved	Andrew Kolosseus 360-407-7543

Wetland name or number B

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland B Date of site visit: 10/4/17
 Rated by P. Roscoe Trained by Ecology? Yes ___ No Date of training _____
 HGM Class used for rating depressional Wetland has multiple HGM classes? ___ Y N

NOTE: Form is not complete without the figures requested (figures can be combined).

Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY III (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

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H (M) L	H (M) L	H M (L)	
Landscape Potential	(H) M L	(H) M L	H M (L)	
Value	(H) M L	H M (L)	(H) M L	TOTAL
Score Based on Ratings	8	6	5	19

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	X

Wetland name or number 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	2
Hydroperiods	D 1.4, H 1.2	2
Location of outlet <i>(can be added to map of hydroperiods)</i>	D 1.1, D 4.1	N/A
Boundary of area within 150 ft of the wetland <i>(can be added to another figure)</i>	D 2.2, D 5.2	2
Map of the contributing basin	D 4.3, D 5.3	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	1
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	4
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	5

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 <i>(can be added to another figure)</i>	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream <i>(can be added to another figure)</i>	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 <i>(can be added to another figure)</i>	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 <i>(can be added to figure above)</i>	S 4.1	
Boundary of 150 ft buffer <i>(can be added to another figure)</i>	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	

Wetland name or number B

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the 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.

Wetland name or number B

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.*

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation

D 4.0. Does the site have the potential to reduce flooding and erosion?		
D 4.1. Characteristics of surface water outflows from the wetland:		
Wetland is a depression or flat depression with no surface water leaving it (no outlet)	points = 4	4
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet	points = 2	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch	points = 1	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 0	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part.		
Marks of ponding are 3 ft or more above the surface or bottom of outlet	points = 7	0
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
The wetland is a "headwater" wetland	points = 3	
Wetland is flat but has small depressions on the surface that trap water	points = 1	
Marks of ponding less than 0.5 ft (6 in)	points = 0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself.		
The area of the basin is less than 10 times the area of the unit	points = 5	3
The area of the basin is 10 to 100 times the area of the unit	points = 3	
The area of the basin is more than 100 times the area of the unit	points = 0	
Entire wetland is in the Flats class	points = 5	
Total for D 4	Add the points in the boxes above	7

Rating of Site Potential If score is: 12-16 = H ~~6-11 = M~~ 0-5 = L Record the rating on the first page

D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges?	Yes = 1 No = 0	1
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff?	Yes = 1 No = 0	1
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)?	Yes = 1 No = 0	1
Total for D 5	Add the points in the boxes above	3

Rating of Landscape Potential If score is: ~~3 = H~~ 1 or 2 = M 0 = L Record the rating on the first page

D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met.		
The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds):		0
• Flooding occurs in a sub-basin that is immediately down-gradient of unit.	points = 2	
• Surface flooding problems are in a sub-basin farther down-gradient.	points = 1	
Flooding from groundwater is an issue in the sub-basin.	points = 1	
The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why _____	points = 0	
There are no problems with flooding downstream of the wetland.	points = 0	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?		
	Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	0

Rating of Value If score is: 2-4 = H 1 = M ~~0 = L~~ Record the rating on the first page

Wetland name or number B

DEPRESSIONAL AND FLATS WETLANDS	
Water Quality Functions - Indicators that the site functions to improve water quality	
D 1.0. Does the site have the potential to improve water quality?	
D 1.1. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	3
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > 1/2 of area points = 3 Wetland has persistent, ungrazed plants > 1/10 of area points = 1 Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
D 1.4. Characteristics of seasonal ponding or inundation: <i>This is the area that is ponded for at least 2 months. See description in manual.</i> Area seasonally ponded is > 1/2 total area of wetland points = 4 Area seasonally ponded is > 1/4 total area of wetland points = 2 Area seasonally ponded is < 1/4 total area of wetland points = 0	0
Total for D 1	3

Rating of Site Potential If score is: 12-16 = H ~~X~~ 6-11 = M 0-5 = L Record the rating on the first page

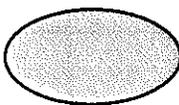
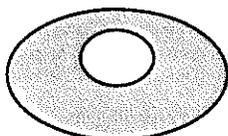
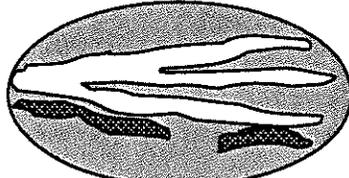
D 2.0. Does the landscape have the potential to support the water quality function of the site?	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	1
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source <u>dogs</u> Yes = 1 No = 0	1
Total for D 2	3

Rating of Landscape Potential If score is: ~~X~~ 3 or 4 = H 1 or 2 = M 0 = L Record the rating on the first page

D 3.0. Is the water quality improvement provided by the site valuable to society?	
D 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 <u>No = 0</u>	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	2
Total for D 3	3

Rating of Value If score is: ~~X~~ 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number B

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
<p>H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class.</i> Check the Cowardin plant classes in the wetland. <i>Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i></p> <p> <input type="checkbox"/> Aquatic bed 4 structures or more: points = 4 <input checked="" type="checkbox"/> Emergent 3 structures: points = 2 <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) 2 structures: points = 1 <input type="checkbox"/> Forested (areas where trees have > 30% cover) 1 structure: points = 0 </p> <p><i>If the unit has a Forested class, check if:</i></p> <p> <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon </p>	0
<p>H 1.2. Hydroperiods</p> <p>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).</p> <p> <input type="checkbox"/> Permanently flooded or inundated 4 or more types present: points = 3 <input checked="" type="checkbox"/> Seasonally flooded or inundated 3 types present: points = 2 <input type="checkbox"/> Occasionally flooded or inundated 2 types present: points = 1 <input checked="" type="checkbox"/> Saturated only 1 type present: points = 0 </p> <p> <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake Fringe wetland 2 points <input type="checkbox"/> Freshwater tidal wetland 2 points </p>	1
<p>H 1.3. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i></p> <p>If you counted: > 19 species points = 2 5 - 19 species points = 1 < 5 species points = 0</p>	1
<p>H 1.4. Interspersion of habitats</p> <p>Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are HIGH = 3 points</p>	0

Wetland name or number B

H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> 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) <input type="checkbox"/> 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 (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)		1
Total for H 1	Add the points in the boxes above	3

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 functions of the site?		
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat $\frac{4}{9} + [(\% \text{ moderate and low intensity land uses})/2] \frac{45}{12} = 8.5\%$ 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		0
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat $\frac{10}{24} + [(\% \text{ moderate and low intensity land uses})/2] \frac{12}{12} = 22\%$ 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		1
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 1 km Polygon is high intensity points = 0		-2
Total for H 2	Add the points in the boxes above	-1

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 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input checked="" type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> 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) within 100 m points = 1 Site does not meet any of the criteria above points = 0		2

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

Wetland name or number B

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number B

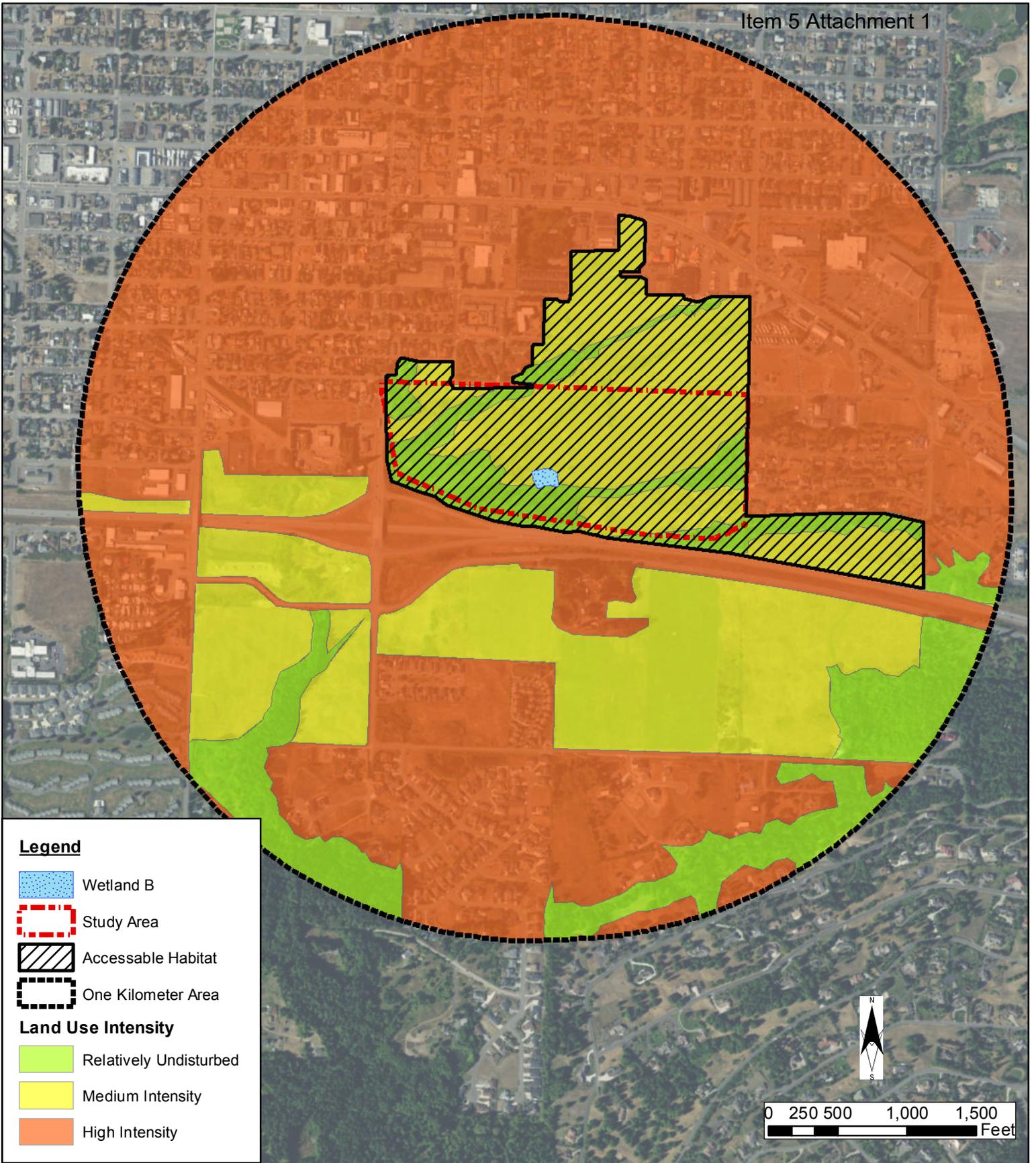
CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>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</p>	
<p>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</p>	Cat. I
<p>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 <i>Spartina</i>, 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 unmowed 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</p>	Cat. I Cat. II
<p>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 a 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 go to SC 2.4 No = Not a 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 a WHCV</p>	Cat. I
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> 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</p>	Cat. I

Wetland name or number _____

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1-4
3-17



Legend

-  Wetland B
-  Study Area
-  Accessible Habitat
-  One Kilometer Area

Land Use Intensity

-  Relatively Undisturbed
-  Medium Intensity
-  High Intensity

BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 1 - WETLAND B
LANDUSE INTENSITY



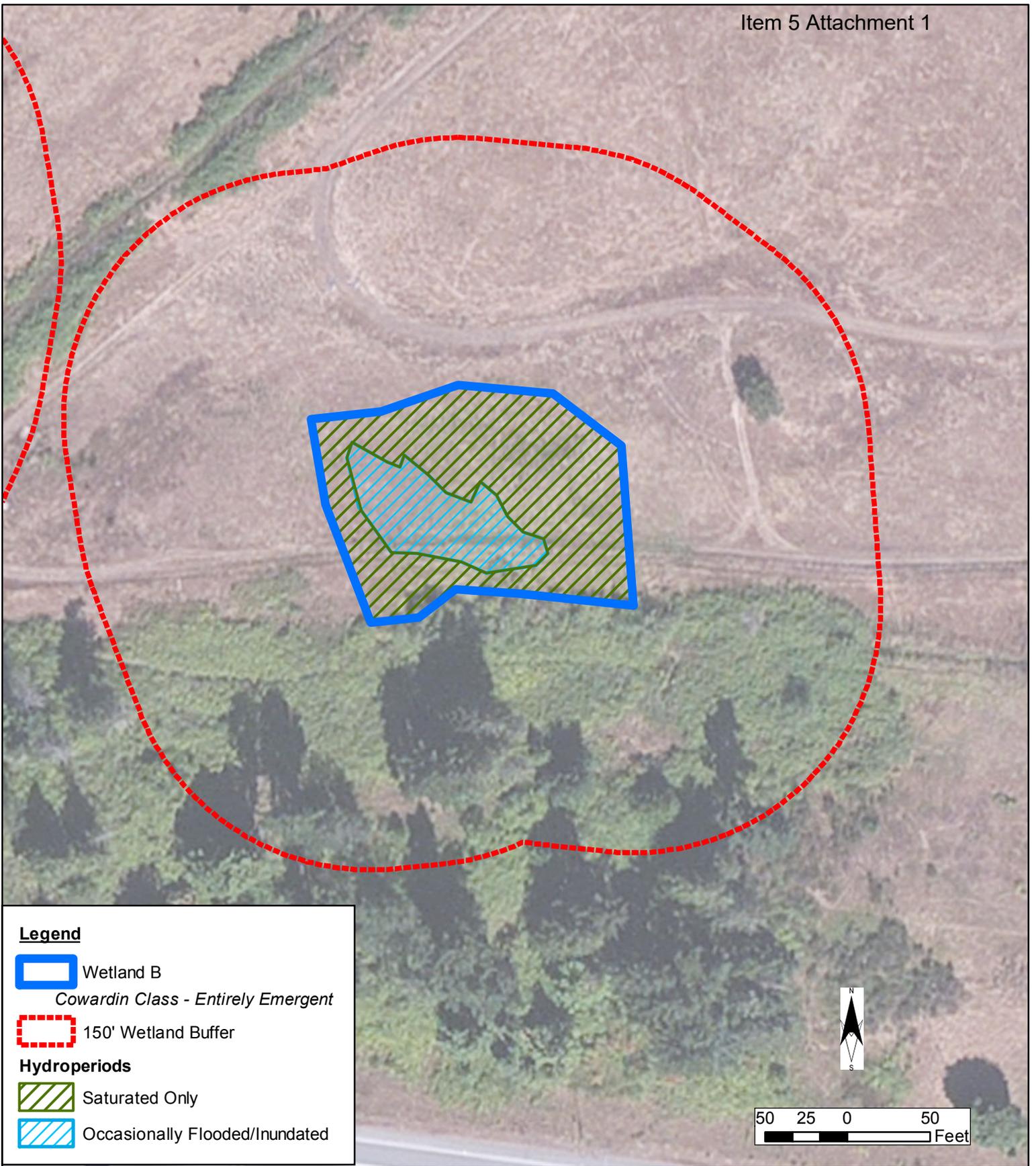
PROJECT AREA IN: DUNGENESS-ELWHA
WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON

SHEET 2 OF X

OCTOBER 2017



Legend

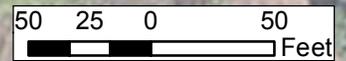
 Wetland B
Cowardin Class - Entirely Emergent

 150' Wetland Buffer

Hydroperiods

 Saturated Only

 Occasionally Flooded/Inundated



BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

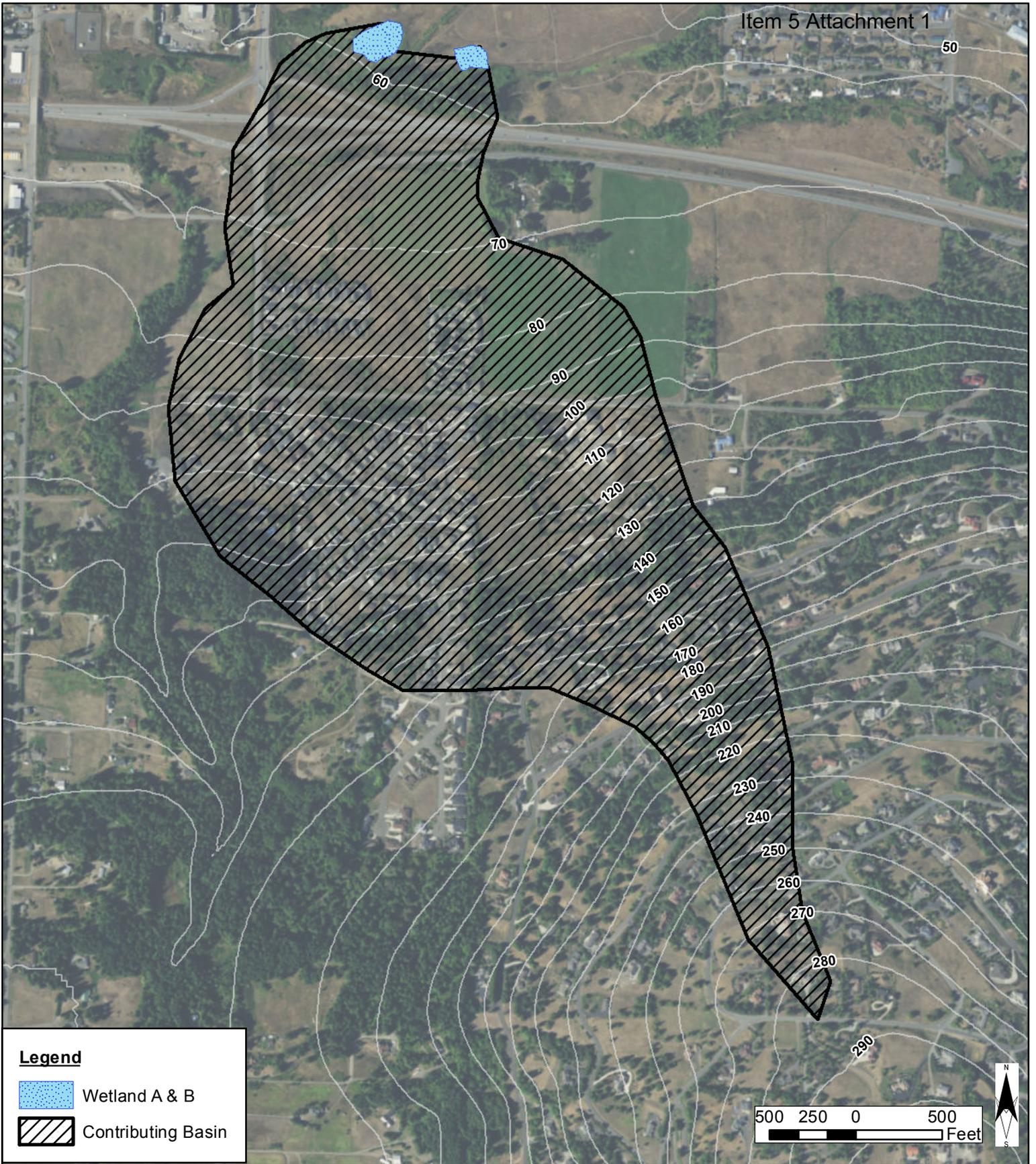
FIGURE 2 - WETLAND B
HYDROPERIODS &
COWARDIN CLASS



PROJECT AREA IN: DUNGENESS-ELWHA
WATERSHED

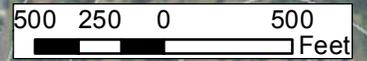
LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



Legend

-  Wetland A & B
-  Contributing Basin



BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

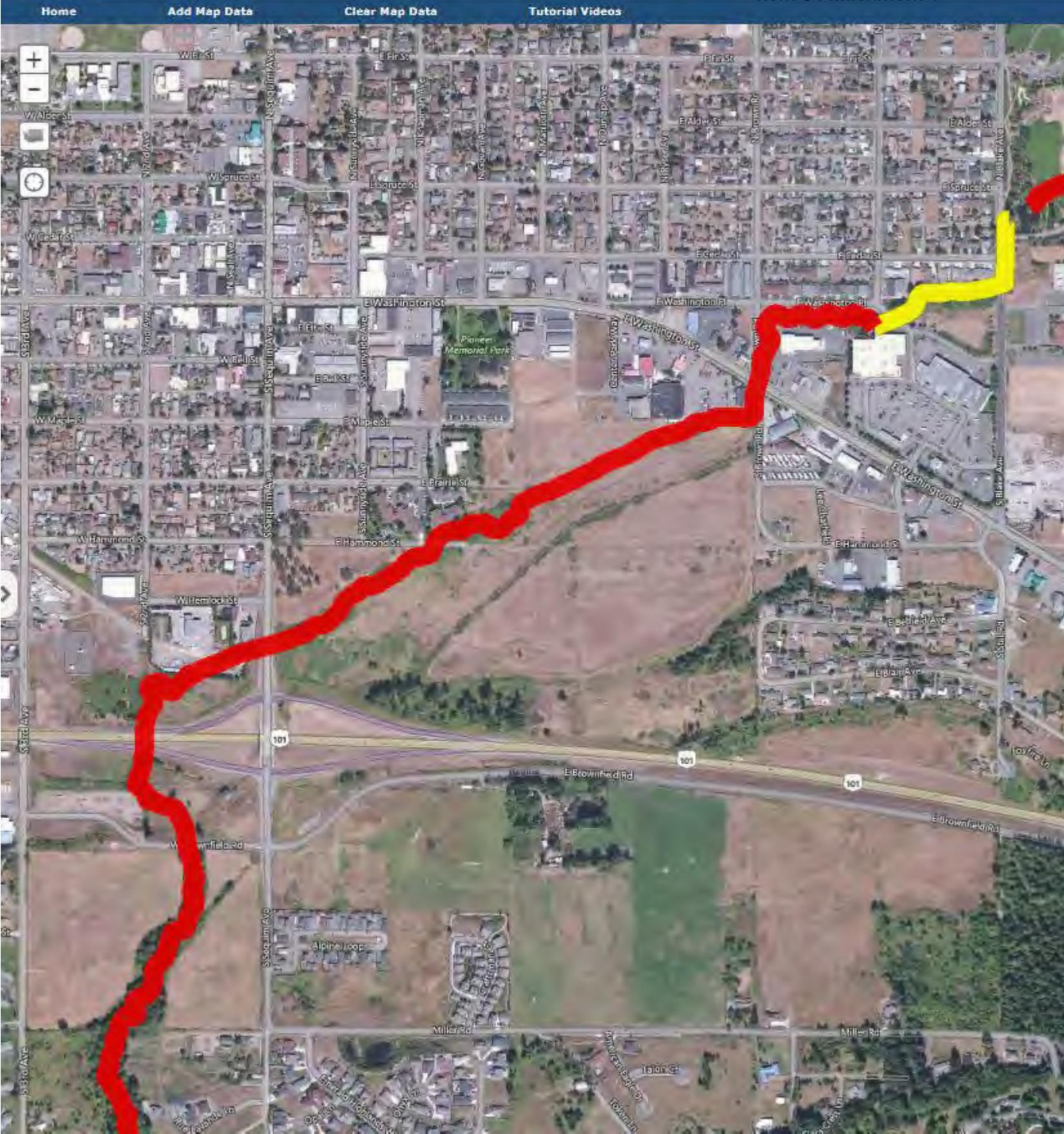
FIGURE 3 - WETLAND A & B CONTRIBUTING BASIN



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON



[Water Quality Improvement](#) > [Water Quality Improvement Projects by County](#) > [Clallam County](#)

Clallam County projects

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this county. Please use links (where available) for more information on a project.

To get additional information about the water bodies in Clallam County please use the [Water Quality Assessment Query Tool](#).



WRIAs in Clallam County

- [WRIA 17](#) - Quilcene-Snow
- [WRIA 18](#) - Elwha-Dungeness
- [WRIA 19](#) - Lyre-Hoko
- [WRIA 20](#) - Soleduck-Hoh

Water-body Name	Pollutants	Status	TMDL Leads
Strait of Juan de Fuca	Dioxin	EPA approved	Andrew Kolasseus 360-407-7543
Dungeness Bay	Fecal Coliform	EPA approved	Andrew Kolasseus 360-407-7543
Matriotti Creek Dungeness River Tributaries: <ul style="list-style-type: none"> • Meadowbrook Creek • Golden Sands • Cooper Creek • Dungeness River RM 1,0 • Irrigation Ditch 1 • Irrigation Ditch 2 	Fecal Coliform	EPA approved	Andrew Kolasseus 360-407-7543

Wetland name or number C

RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetland C Date of site visit: 10-4 2017

Rated by Allison Kinney Trained by Ecology? Yes No Date of training _____

HGM Class used for rating Slope Wetland has multiple HGM classes? Y N

NOTE: Form is not complete without the figures requested (figures can be combined).
Source of base aerial photo/map _____

OVERALL WETLAND CATEGORY IV (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			
<i>Circle the appropriate ratings</i>										
Site Potential	H	M	<u>L</u>	H	M	<u>L</u>	H	M	<u>L</u>	
Landscape Potential	H	<u>M</u>	L	H	<u>M</u>	L	H	M	<u>L</u>	
Value	<u>H</u>	M	L	H	M	<u>L</u>	<u>H</u>	M	L	TOTAL
Score Based on Ratings	<u>6</u>			<u>4</u>			<u>5</u>			<u>15</u>

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	I II
Wetland of High Conservation Value	I
Bog	I
Mature Forest	I
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	<u>X</u>

Wetland name or number C

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 (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	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 (<i>can be added to another figure</i>)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (<i>can be added to another figure</i>)	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 (<i>can be added to another figure</i>)	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	2
Hydroperiods	H 1.2	2
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	2
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	N/A
Boundary of 150 ft buffer (<i>can be added to another figure</i>)	S 2.1, S 5.1	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	1
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	3
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	4

Wetland name or number C

HGM Classification of Wetlands in Western Washington

For questions 1-7, the criteria described must apply to the entire unit being rated.

If the 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.

Wetland name or number L

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.*

Wetland name or number C

SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to improve water quality		
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevation for every 100 ft of horizontal distance)		
Slope is 1% or less	points = 3	2
Slope is > 1%-2%	points = 2	
Slope is > 2%-5%	points = 1	
Slope is greater than 5%	points = 0	
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Yes = 3 No = 0		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants:		
Choose the points appropriate for the description that best fits the plants in the wetland. <i>Dense means you have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plants are higher than 6 in.</i>		
Dense, uncut, herbaceous plants > 90% of the wetland area	points = 6	3
Dense, uncut, herbaceous plants > ½ of area	points = 3	
Dense, woody, plants > ½ of area	points = 2	
Dense, uncut, herbaceous plants > ¼ of area	points = 1	
Does not meet any of the criteria above for plants	points = 0	
Total for S 1	Add the points in the boxes above	5

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L Record the rating on the first page

S 2.0. Does the landscape have the potential to support the water quality function of the site?		
S 2.1. Is > 10% of the area within 150 ft on the uphill side of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	1
S 2.2. Are there other sources of pollutants coming into the wetland that are not listed in question S 2.1?	Yes = 1 No = 0	1
Other sources _____		
Total for S 2	Add the points in the boxes above	2

Rating of Landscape Potential If score is: X 1-2 = M 0 = L Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?		
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list?	Yes = 1 No = 0	1
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? <i>At least one aquatic resource in the basin is on the 303(d) list.</i>	Yes = 1 No = 0	1
S 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality? <i>Answer YES if there is a TMDL for the basin in which unit is found.</i>	Yes = 2 No = 0	2
Total for S 3	Add the points in the boxes above	4

Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number C

SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream erosion	
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. <i>Stems of plants should be thick enough (usually > 1/8 in), or dense enough, to remain erect during surface flows.</i> Dense, uncut, rigid plants cover > 90% of the area of the wetland All other conditions	points = 1 points = 0 0

Rating of Site Potential If score is: 1 = M ~~0~~ = L Record the rating on the first page

S 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
S 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff?	Yes = 1 No = 0 1

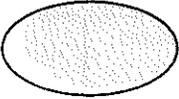
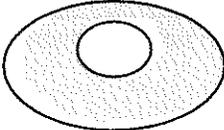
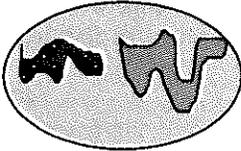
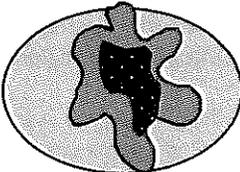
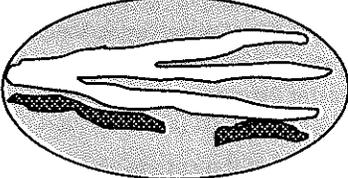
Rating of Landscape Potential If score is: ~~1~~ = M 0 = L Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) points = 2 Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0	 0 0 0
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	Yes = 2 No = 0 0
Total for S 6	Add the points in the boxes above 0

Rating of Value If score is: 2-4 = H 1 = M ~~0~~ = L Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

Wetland name or number C

These questions apply to wetlands of all HGM classes. HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
<p>H 1.1. Structure of plant community: <i>Indicators are Cowardin classes and strata within the Forested class. Check the Cowardin plant classes in the wetland. Up to 10 patches may be combined for each class to meet the threshold of ¼ ac or more than 10% of the unit if it is smaller than 2.5 ac. Add the number of structures checked.</i></p> <p> <input type="checkbox"/> Aquatic bed <input checked="" type="checkbox"/> Emergent <input type="checkbox"/> Scrub-shrub (areas where shrubs have > 30% cover) <input type="checkbox"/> Forested (areas where trees have > 30% cover) <i>If the unit has a Forested class, check if:</i> <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon </p>	<p>4 structures or more: points = 4 3 structures: points = 2 2 structures: points = 1 1 structure: points = 0</p> <p style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 2px;">0</p>
<p>H 1.2. Hydroperiods</p> <p>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (<i>see text for descriptions of hydroperiods</i>).</p> <p> <input type="checkbox"/> Permanently flooded or inundated <input type="checkbox"/> Seasonally flooded or inundated <input checked="" type="checkbox"/> Occasionally flooded or inundated <input checked="" type="checkbox"/> Saturated only <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland <input type="checkbox"/> Lake Fringe wetland <input type="checkbox"/> Freshwater tidal wetland </p>	<p>4 or more types present: points = 3 3 types present: points = 2 2 types present: points = 1 1 type present: points = 0</p> <p>2 points 2 points</p> <p style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 2px;">1</p>
<p>H 1.3. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold and you do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Canadian thistle</i></p> <p>If you counted: > 19 species 5 - 19 species < 5 species</p>	<p>points = 2 points = 1 points = 0</p> <p style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 2px;">1</p>
<p>H 1.4. Interspersion of habitats</p> <p>Decide from the diagrams below whether interspersion among Cowardin plants classes (described in H 1.1), or the classes and unvegetated areas (can include open water or mudflats) is high, moderate, low, or none. <i>If you have four or more plant classes or three classes and open water, the rating is always high.</i></p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>None = 0 points</p> </div> <div style="text-align: center;">  <p>Low = 1 point</p> </div> <div style="text-align: center;">  <p>Moderate = 2 points</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 20px;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div> <p>All three diagrams in this row are HIGH = 3 points</p>	<p style="text-align: center; border: 1px solid black; border-radius: 50%; padding: 2px;">0</p>

Wetland name or number C

<p>H 1.5. Special habitat features: Check the habitat features that are present in the wetland. <i>The number of checks is the number of points.</i> <input type="checkbox"/> Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). <input type="checkbox"/> Standing snags (dbh > 4 in) within the wetland <input type="checkbox"/> 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) <input type="checkbox"/> 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 (<i>cut shrubs or trees that have not yet weathered where wood is exposed</i>) <input type="checkbox"/> At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (<i>structures for egg-laying by amphibians</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (<i>see H 1.1 for list of strata</i>)</p>		0
Total for H 1	Add the points in the boxes above	2

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

<p>H 2.0. Does the landscape have the potential to support the habitat functions of the site?</p>		
<p>H 2.1. Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). Calculate: % undisturbed habitat <u>4</u> + [(% moderate and low intensity land uses)/2] <u>45</u> = <u>8.5</u> % If total accessible habitat is: > 1/3 (33.3%) of 1 km Polygon 9/2 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</p>		0
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat <u>13</u> + [(% moderate and low intensity land uses)/2] <u>13</u> = <u>26</u> % Undisturbed habitat > 50% of Polygon 26/2 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</p>		1
<p>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 1 km Polygon is high intensity points = 0</p>		-2
Total for H 2	Add the points in the boxes above	-1

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

<p>H 3.0. Is the habitat provided by the site valuable to society?</p>		
<p>H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? <i>Choose only the highest score that applies to the wetland being rated.</i> Site meets ANY of the following criteria: points = 2 <input type="checkbox"/> It has 3 or more priority habitats within 100 m (see next page) <input type="checkbox"/> It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) <input checked="" type="checkbox"/> It is mapped as a location for an individual WDFW priority species <input type="checkbox"/> It is a Wetland of High Conservation Value as determined by the Department of Natural Resources <input type="checkbox"/> 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) within 100 m points = 1 Site does not meet any of the criteria above points = 0</p>		2

Rating of Value If score is: ~~X~~ 2 = H 1 = M 0 = L Record the rating on the first page

Wetland name or number C

WDFW Priority Habitats

Priority habitats listed by WDFW (see complete descriptions of WDFW priority habitats, and the counties in which they can be found, in: Washington Department of Fish and Wildlife. 2008. Priority Habitat and Species List. Olympia, Washington. 177 pp. <http://wdfw.wa.gov/publications/00165/wdfw00165.pdf> or access the list from here: <http://wdfw.wa.gov/conservation/phs/list/>)

Count how many of the following priority habitats are within 330 ft (100 m) of the wetland unit: **NOTE:** *This question is independent of the land use between the wetland unit and the priority habitat.*

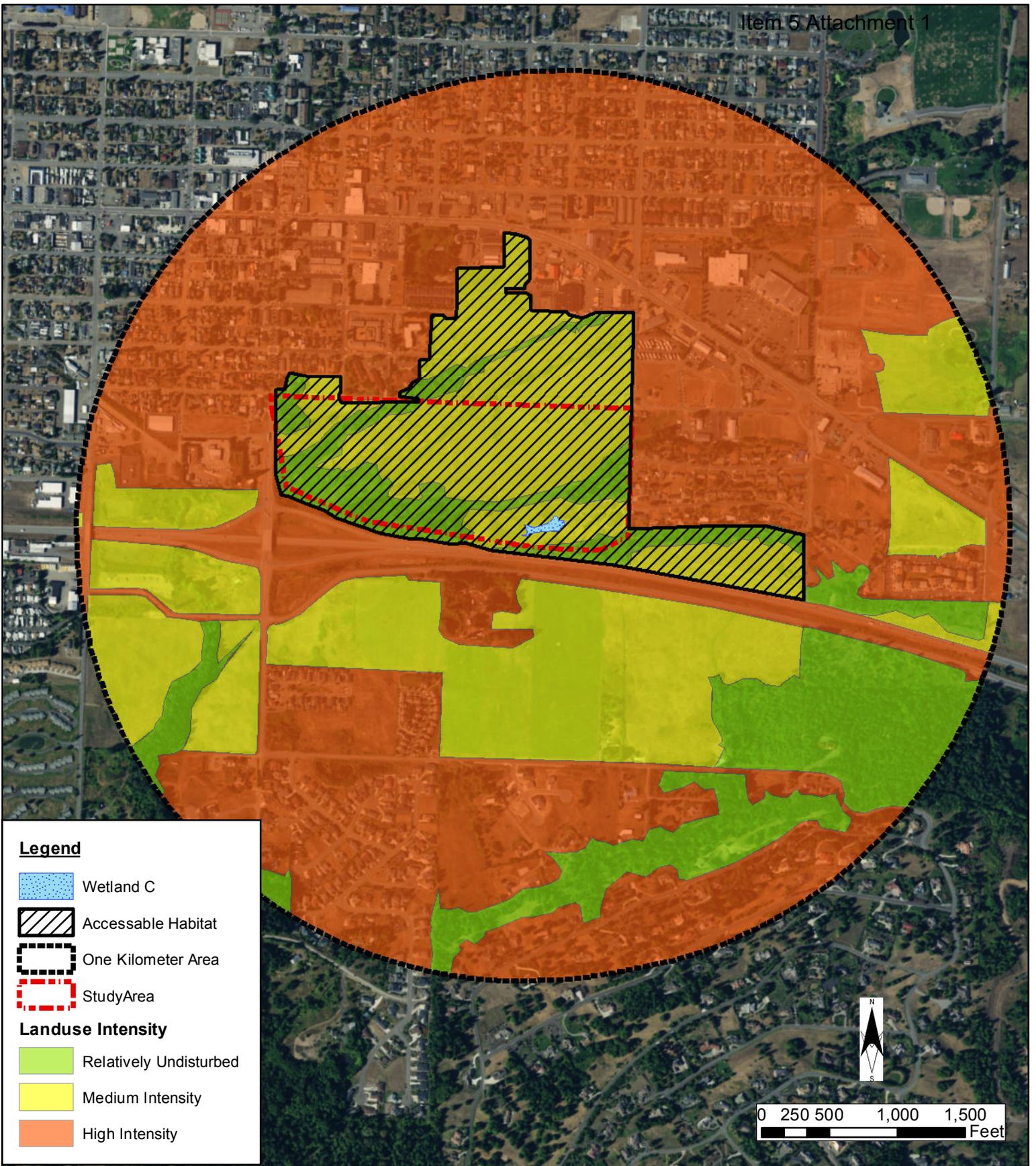
- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (*full descriptions in WDFW PHS report*).
- **Herbaceous Balds:** Variable size patches of grass and forbs on shallow soils over bedrock.
- **Old-growth/Mature forests:** Old-growth west of Cascade crest – Stands of at least 2 tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) > 32 in (81 cm) dbh or > 200 years of age. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (*full descriptions in WDFW PHS report p. 158 – see web link above*).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Nearshore:** Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (*full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page*).
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

Note: All vegetated wetlands are by definition a priority habitat but are not included in this list because they are addressed elsewhere.

Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
<i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i>	
<p>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</p>	
<p>Yes – Go to SC 1.1 No = Not an estuarine wetland</p> <p>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 332-30-1S1?</p>	<p>Cat. I</p>
<p>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 <i>Spartina</i>, see page 2S) — At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or unmowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.</p>	<p>Cat. I Cat. II</p>
<p>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? SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? 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 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?</p>	<p>Cat. I</p>
<p>SC 3.0. Bogs Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? <i>Use the key below. If you answer YES you will still need to rate the wetland based on its functions.</i> 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? 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? 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? 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?</p>	<p>Cat. I</p>

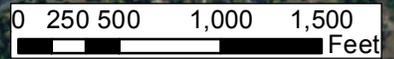


Legend

-  Wetland C
-  Accessible Habitat
-  One Kilometer Area
-  Study Area

Land Use Intensity

-  Relatively Undisturbed
-  Medium Intensity
-  High Intensity

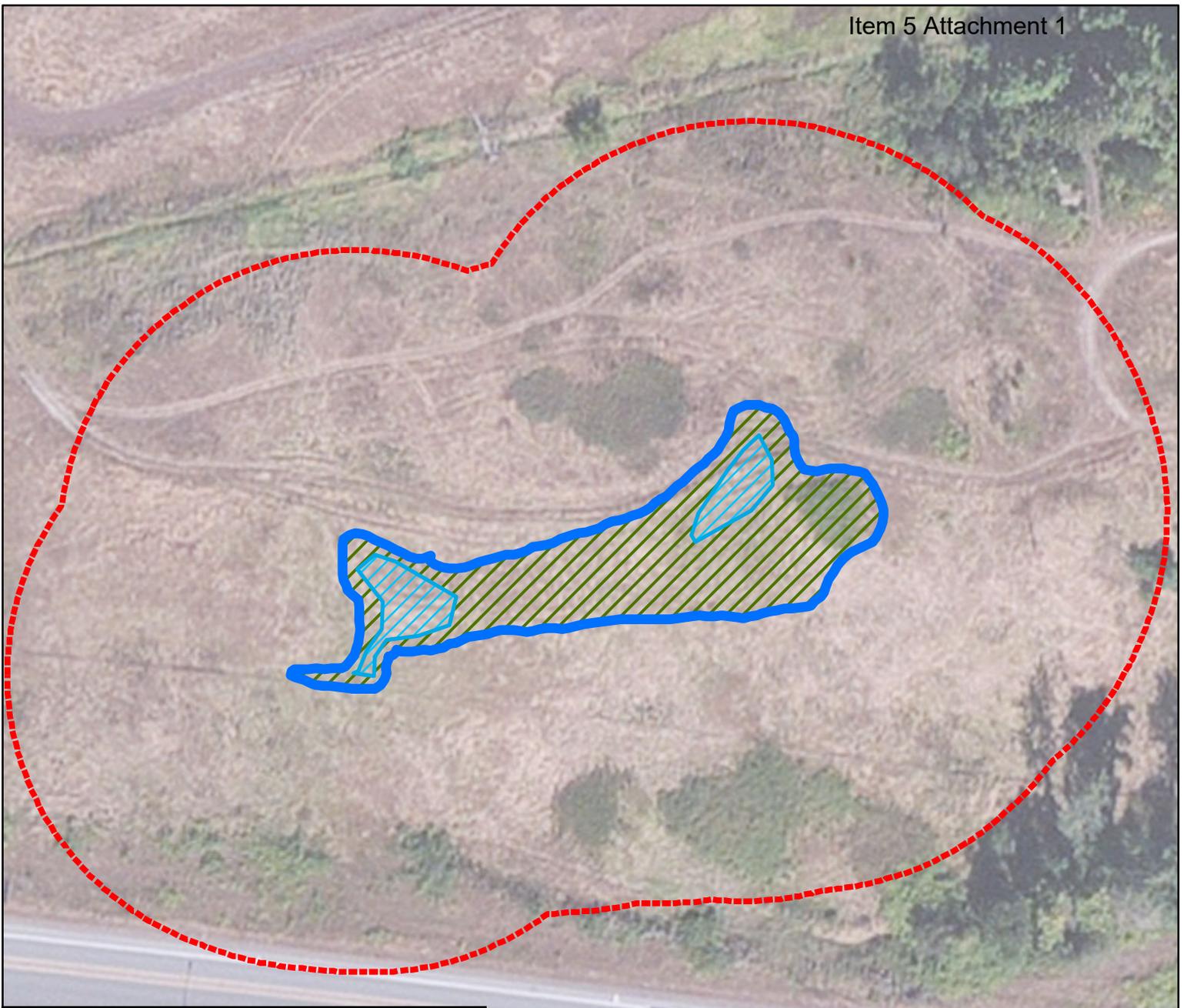


BELL CREEK ECONOMIC OPPORTUNITY AREA
 APPLICANT: CITY OF SEQUIM
 ATTN:
 PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 1 - WETLAND C
 LAND USE INTENSITY



PROJECT AREA IN: DUNGENESS-ELWHA WATERSHED
 LEGAL: S20 T30N R03W
 CITY: SEQUIM
 COUNTY OF: CLALLAM
 STATE OF: WASHINGTON
 SHEET 2 OF X
 AUGUST 2017



Legend

 Wetland C

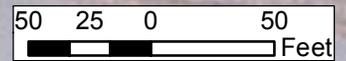
*Cowardin Class - Entirely Emergent
Plant Cover - Entirely Dense Herbaceous Plants*

 150' Wetland Buffer

Hydroperiods

 Saturated Only

 Occasionally Flooded/Inundated



BELL CREEK ECONOMIC OPPORTUNITY AREA

APPLICANT: CITY OF SEQUIM
ATTN:

PURPOSE: WETLAND DELINEATION & ASSESSMENT

FIGURE 2 - WETLAND C
HYDROPERIODS &
COWARDIN CLASS



PROJECT AREA IN: DUNGENESS-ELWHA
WATERSHED

LEGAL: S20 T30N R03W

CITY: SEQUIM
COUNTY OF: CLALLAM
STATE OF: WASHINGTON

SHEET 2 OF X

OCTOBER 2017



[Water Quality Improvement](#) > [Water Quality Improvement Projects by County](#) > [Clallam County](#)

Clallam County projects

The following table lists overview information and links to specific water quality improvement projects (including total maximum daily loads, or TMDLs) for this county. Please use links (where available) for more information on a project.

To get additional information about the water bodies in Clallam County please use the [Water Quality Assessment Query Tool](#).



WRIAs in Clallam County

- [WRIA 17](#) - Quilcene-Snow
- [WRIA 18](#) - Elwha-Dungeness
- [WRIA 19](#) - Lyre-Hoko
- [WRIA 20](#) - Soleduck-Hoh

Water-body Name	Pollutants	Status	TMDL Leads
Strait of Juan de Fuca	Dioxin	EPA approved	Andrew Kolosseus 360-407-7543
Dungeness Bay	Fecal Coliform	EPA approved	Andrew Kolosseus 360-407-7543
Matriotti Creek Dungeness River Tributaries: <ul style="list-style-type: none"> • Meadowbrook Creek • Golden Sands • Cooper Creek • Dungeness River RM 1,0 • Irrigation Ditch 1 • Irrigation Ditch 2 	Fecal Coliform	EPA approved	Andrew Kolosseus 360-407-7543

**Bell Creek EOA Planning Report
City of Sequim, Washington**

**Attachment B
Conceptual Development Plan**



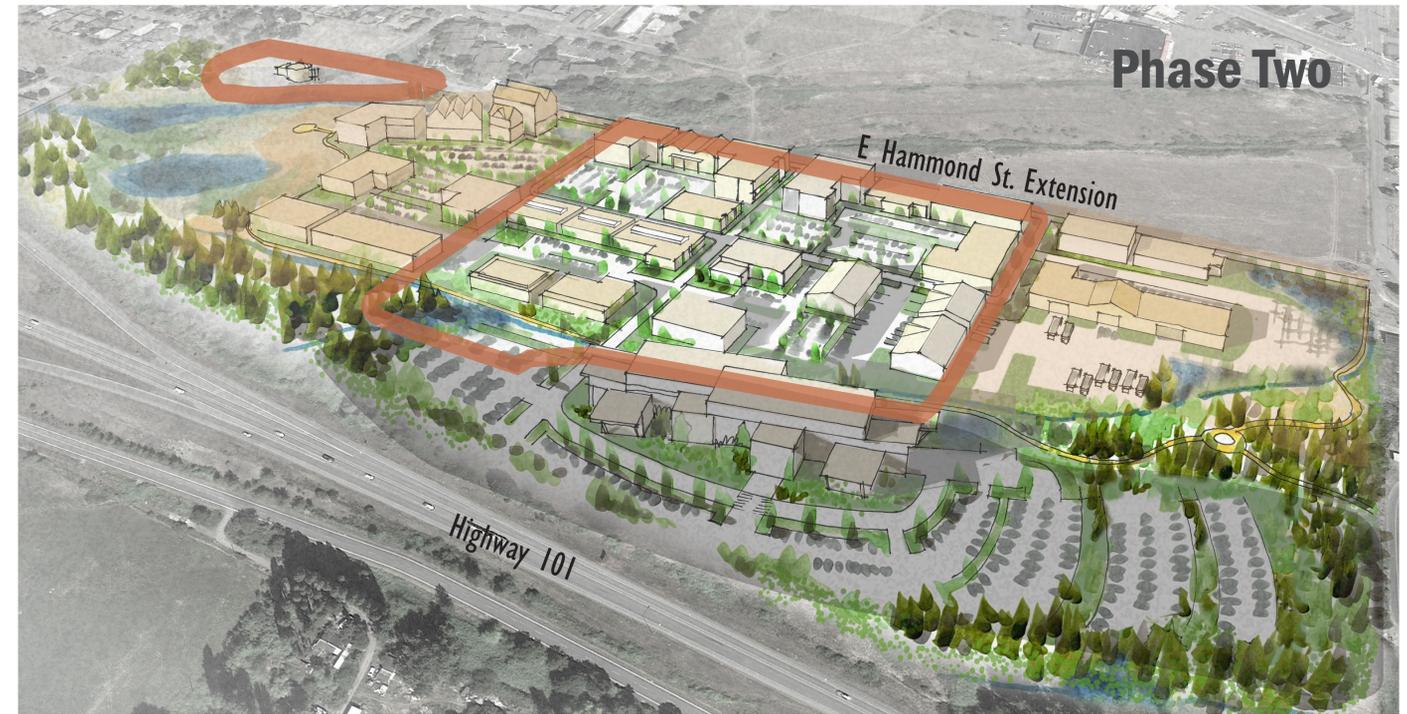
Legend

- ① Retain As Garry Oak Savanna & Potential Park
 - ② Bell Creek Restoration & Wetland Mitigation
 - ③ Existing Wetland & Wetland-buffer Restoration
 - ④ Interpretive Boardwalk
 - ⑤ Retain & Enhance Natural Vegetation Buffer
 - ⑥ Stormwater Facility
 - ⑦ Stream Restoration
- Vehicular Circulation
 - Pedestrian Circulation
 - Stormwater Swale
 - Outfall Locations
 - Culvert Irrigation Channel
 - Interpretive/Historic Marker





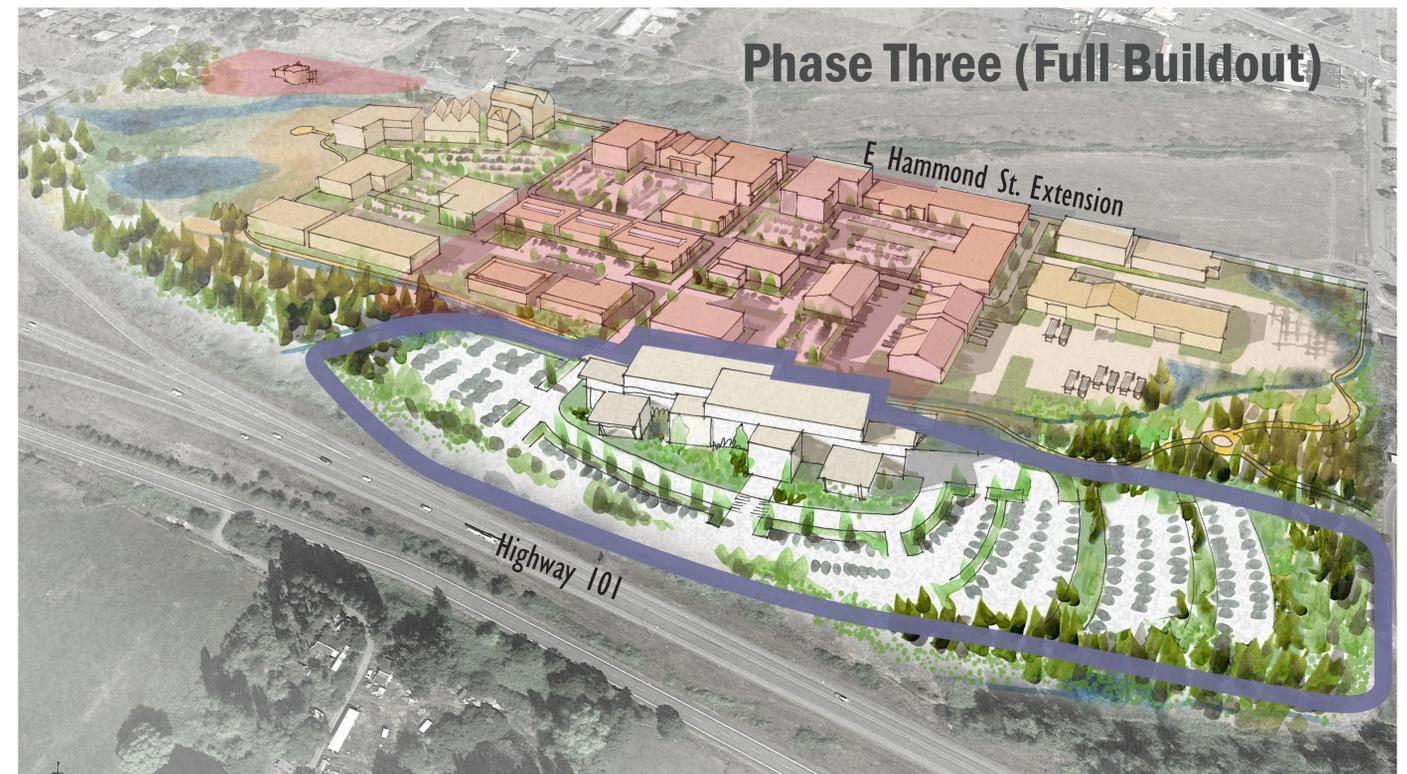
- ① Maximize Contiguous Open Space
- ② Preserve Garry Oak Savanna
- ③ Potential Civic/Community Use
- ④ East-West Public Trail Network
- ⑤ Locate Parking to Side/Rear of Building (When Possible)
- ⑥ Facade Variation Along Public Streets
- ⑦ Incorporate Parking Lot Landscaping
- ⑧ Variation in Building Materials
- ⑨ Provide Internal Pedestrian Circulation (Appropriate to Use)
- ⑩ Potential Office Development
- ⑪ Conceal Storage & Loading Areas From Public Street
- ⑫ Potential Light Industrial/Business Park
- ⑬ 50' Buffer Between Employment & Residential Uses
- ⑭ Signature High-Tech/Light Industrial Development
- ⑮ Pedestrian Scale Building Entry
- ⑯ Perimeter Landscape Buffer
- ⑰ Stormwater Facility

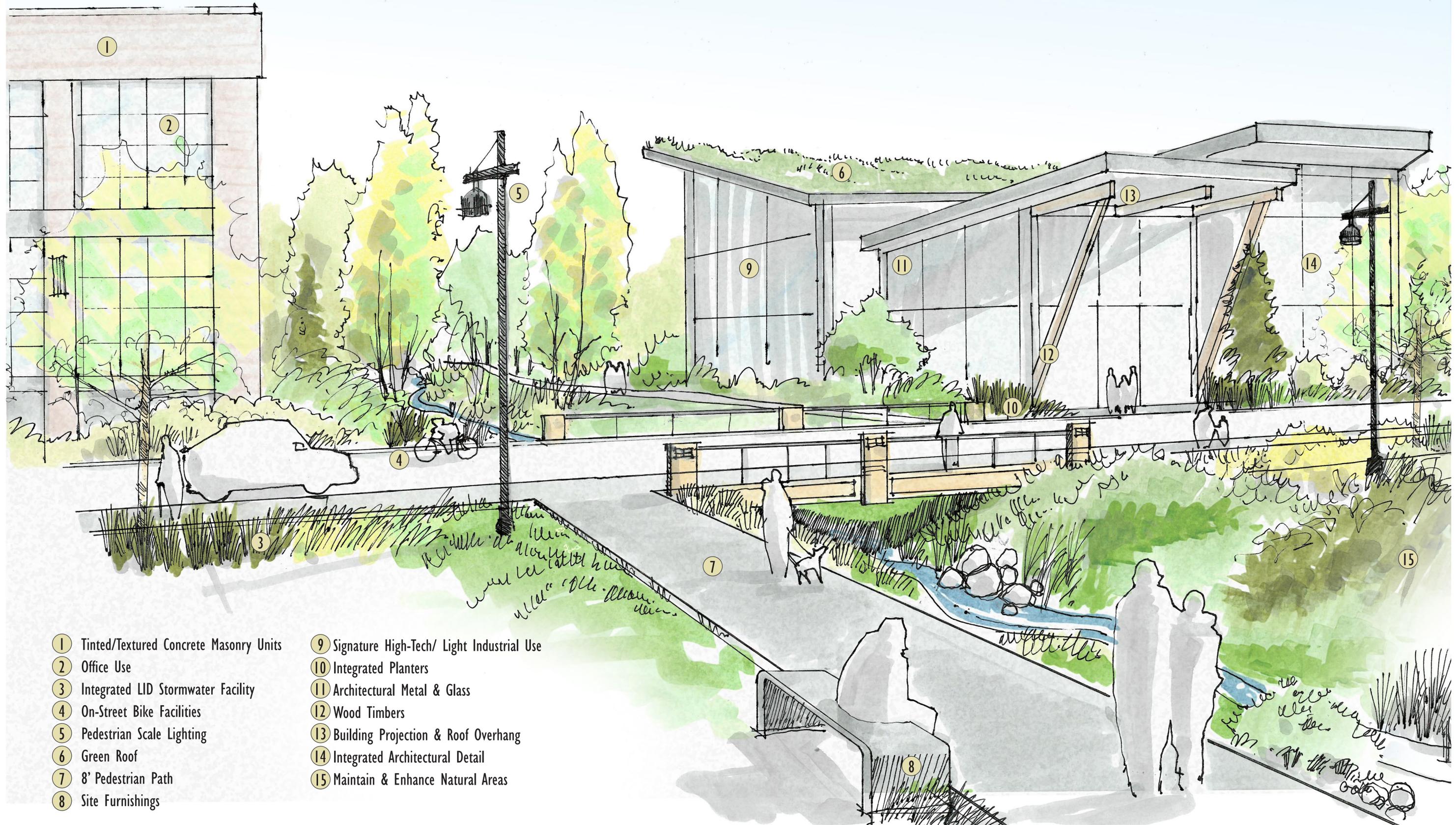


Phasing Legend

-  Phase One: Anticipated development between 0 and 10 years with a focus on multifamily housing (west) and light industrial uses (east).
-  Phase Two: Anticipated development between 10 and 15 years with a focus on office and commercial plus possible mixed use.
-  Phase Three (Full Buildout): Development including a signature high-tech/light industrial use and additional attached housing, anticipated 15 +/- years or earlier depending on marketing to a major high-tech employer.

Note: Anticipated phasing reflects current market conditions and sequencing of site infrastructure. Plan provides flexibility for adjusted phasing in response to changing or currently unforeseen opportunities.





- ① Tinted/Textured Concrete Masonry Units
- ② Office Use
- ③ Integrated LID Stormwater Facility
- ④ On-Street Bike Facilities
- ⑤ Pedestrian Scale Lighting
- ⑥ Green Roof
- ⑦ 8' Pedestrian Path
- ⑧ Site Furnishings
- ⑨ Signature High-Tech/ Light Industrial Use
- ⑩ Integrated Planters
- ⑪ Architectural Metal & Glass
- ⑫ Wood Timbers
- ⑬ Building Projection & Roof Overhang
- ⑭ Integrated Architectural Detail
- ⑮ Maintain & Enhance Natural Areas

