

ATTACHMENT J: CRITICAL AREAS REPORT

Critical Areas Report

Goldeneye Energy Storage Project

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Prepared for:

GOLDFINCH ENERGY STORAGE, LLC

412 West 15th Street, 15th Floor

New York, New York 10011

Contact: Tommy Nelson

Prepared by:

DUDEK

605 NE 21st Avenue, Suite 200

Portland, Oregon 97232

Contact: Patricia Schuyler


Patricia Schuyler, MS

Biologist and Project Manager

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Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	alternating current
BFE	base flood elevation
CAO	Critical Areas Ordinance
DC	direct current
ELS	Ecological Land Services
FEMA	Federal Emergency Management Agency
FT	federally threatened
gen-tie	generation transmission
HCA	Habitat Conservation Area
IPaC	Information for Planning and Consultation
PHS	Priority Habitats and Species Program
PSE	Puget Sound Energy
SC	state candidate
SCC	Skagit County Code
SE	state endangered
SWPPP	stormwater pollution prevention plan
USFWS	U.S. Fish & Wildlife Service
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WNHP	Washington Natural Heritage Program

1 Introduction

The purpose of this critical areas report is to identify all critical areas that occur within the boundary of the proposed Goldeneye Energy Storage Project (project) site. Critical areas are defined in the Skagit County Critical Areas Ordinance (CAO) as wetlands, aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas (Skagit County Code [SCC] 14.24.010). SCC 14.24.080 requires that any land use activity that could impair the functions and values of critical areas or their buffers provide a critical areas assessment outlining the potential impacts to those areas. This report provides all the required discussions as outlined in SCC 14.24.080(4)(c). All federal, state, and local regulations applicable to the proposed project are summarized in Appendix A, Applicable Regulations.

This report will support project related permitting by providing information related to those special-status plant or wildlife species with a potential to occur within the project site and to also inform potential avoidance, minimization, and mitigation measures related to those species and their habitat.

1.1 Project Description

Goldfinch Energy Storage, LLC (the applicant), is currently proposing a utility-scale energy storage facility in Skagit County, Washington (the County). The project consists of a proposed 200 megawatt/800 megawatt-hour battery energy storage system located on private lands. The project will be composed of lithium-ion batteries installed in racks; inverters; medium-voltage transformers; switchgear; a collector substation; and other associated equipment to interconnect into the Sedro-Woolley Substation located just to the southeast of the project site (i.e., point of interconnection). The batteries will be installed either in containers or in purpose-built enclosures. The containers or enclosures will have battery storage racks, with relay and communications systems for automated monitoring and managing of the batteries to ensure design performance. A battery management system will be provided to control the charging/discharging of the batteries along with temperature monitoring and control of the individual battery cell temperature with an integrated cooling system. Batteries operate with direct current (DC) electricity that must be converted to alternating current (AC) for compatibility with the existing electric grid. Power inverters to convert between AC and DC, along with transformers to step up the voltage, will be included. The proposed project requires construction of a generation transmission (gen-tie) line to connect to the substation as well as a road from the substation to provide access to the gen-tie line during construction.

The proposed facility will provide a service to the regional electric grid by receiving energy (charging) from the Puget Sound Energy (PSE) electric transmission system, storing energy on site, and then later delivering energy (discharging) back to the point of interconnection. Following construction, the proposed use will not create emissions to air, will not require sanitary facilities, and will not require water except to maintain water-efficient and low-impact landscaping design along the project frontage.

1.2 Project Location

The proposed project site is located in Skagit County, Washington, southeast of Minkler Road, north of Hoehn Road, and west of rural lands bordered on the east by Minkler Road (Figure 1, Regional Location). The proposed project is located within Section 20 of Township 35 North, Range 5 East, Willamette Meridian in Skagit County, Washington. The project is proposed to interconnect to the Sedro-Woolley Substation, which is located to the south of the project

site (see Figure 2, Project Location). The project site totals 18.1 acres and includes the sites for both the battery energy storage system and the gen-tie line and associated access road.

2 Methods

2.1 Literature Review and Database Search

Prior to the field reconnaissance survey, a desktop-level literature review and database search were conducted using publicly available data obtained from federal, state, and local electronic repositories to identify on-site biological and aquatic resources. This review was used to identify special-status wildlife and/or plant species, as well as associated habitat, that occur, or that have the potential to occur, within the boundary of the proposed Goldeneye Energy Storage Project and in the vicinity. Species defined as “special-status wildlife species” in this report include endangered and threatened wildlife species recognized in the context of the Endangered Species Act; Birds of Conservation Concern designated by the U.S. Fish & Wildlife Service (USFWS); state endangered, threatened, proposed, and candidate species; species of concern; and state sensitive and priority species. Special-status plant species include federally listed and candidate plant species, as well as plant species that are listed in Washington state as endangered, threatened, or designated as sensitive by the Washington Natural Heritage Program (WNHP). The desktop-level literature review and database search specifically included a review of special-status plant and wildlife species, as well as aquatic resources, with the potential to occur on the project site.

Resources and search parameters used during the desktop-level evaluation included the following:

Aquatic Resources (Wetlands/Non-Wetland Waters)

- USFWS National Wetlands Inventory (USFWS 2023a)
- U.S. Geological Survey National Hydrography Dataset (USGS 2023a)
- Google Earth (2023)
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2023a)
- U.S. Department of Agriculture Natural Resources Conservation Service Hydric Soils (USDA 2023b)
- U.S. Geological Survey topographic maps (GIS database) (USGS 2023b)
- National Vegetation Classification System (NVCS 2021)

Special-Status Wildlife Species and Habitat

- List of Habitats and Species of Local Importance SCC 14.24.500 (4)
- National Oceanic and Atmospheric Administration Essential Fish Habitat (EFH) Mapper (NOAA 2023)
- USFWS Information for Planning and Consultation (IPaC) Trust Resource Report (USFWS 2023b)
- USFWS Birds of Conservation Concern (USFWS 2021)
- U.S. Geological Survey National Land Cover Database (USGS 2016)
- Washington State Department of Ecology vegetation and land cover data (DOE 2022)
- WDFW Priority Habitats and Species (PHS) List (WDFW 2008)
- WDFW PHS Web Portal (WDFW 2023a)

- WDFW Threatened and Endangered Species Profiles
- eBird (2021)

Special-Status Plant Species

- WNHP Rare Vascular and Nonvascular Species, County Lists (WNHP 2023)
- Washington Vascular Plant Species of Special Concern (WHNP 2019)
- WNHP Element Occurrence database (WDNR 2023a)
- Online Field Guide to the Rare Plants of Washington (WNHP 2021)

2.2 Agency Coordination

Dudek contacted the local Washington Department of Fish and Wildlife (WDFW) staff via email to discuss the potential for special-status species identified during the literature review and database search to occur within the project boundary (Waddell, pers. comm., 2024). The email confirmed Dudek's assessment of species with a potential to occur within project boundary and also provided survey recommendations and methods that will be utilized to determine presence/absence of these species.

2.3 Field Surveys

Dudek biologists conducted a general reconnaissance-level biological field survey of the battery storage site on March 9, 2022. A second reconnaissance-level survey was conducted on April 13, 2023, to review a slight change to the project site. The purpose of the field surveys was to review existing vegetation communities and land covers, including non-wetland waters and wetlands, identify plant or wildlife species occurring on site, and determine the likelihood of occurrence of any special-status plant or wildlife species. An aquatic resource delineation was conducted for the battery storage site in the spring of 2023 by Skagit Wetlands & Critical Area, LLC, with follow-up delineations conducted by Dudek in September and December of 2023 for the gen-tie line alignment and potential access road locations. In April 2024, Ecological Land Services (ELS) conducted a wetlands delineation along Minkler Road and at an alternative access road location.

Per the site review and discussions with WDFW staff, focused surveys for western toad (*Anaxyrus boreas*) have been conducted within the project site. To document presence/absence of western toads, ELS conducted two focused surveys in April 2024. Western toad surveys were conducted in the portion of Hansen Creek flowing through and adjacent to the project work area as well as any observed back channels or associated wetlands. Surveys involved visual detection of egg masses and/or tadpoles and adults by wading the length of the creek in the project site. Site visits were conducted approximately 1 week apart on April 11 and April 19, during varying weather conditions. In addition to the in-water surveys, an ELS biologist walked the east bank of Hansen Creek to survey for terrestrial adults. The full survey report is provided in Appendix B, Hansen Creek Western Toad Surveys.

3 Literature Review and Survey Results

3.1 Fish and Wildlife Habitat Assessment

Per their CAO, Skagit County maintains jurisdiction over designated fish and wildlife habitat conservation areas (HCAs) (SCC 14.24.500). The areas designated as HCAs in SCC 14.24.500 are recognized as vitally important for the preservation of special-status species.

Based on literature review, special-status wildlife species have a potential to occur on the project site. As such, a fish and wildlife habitat assessment is required according to SCC 14.24.520 and is provided in this section.

Each of the HCAs listed in SCC 14.24.500 and its occurrence within the project site is provided as follows:

- a) Areas with which endangered, threatened, and sensitive species have a primary association.
The proposed project is located adjacent to and includes a portion of Hansen Creek within its boundaries, which is designated as critical habitat for Chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*Oncorhynchus mykiss*) and is regulated as a shoreline of the state. Streams regulated as shorelines of the state (Washington Administrative Code [WAC] 173-18-310) or other fish-bearing streams that have known or potential use by anadromous or resident fish species are considered HCAs.
- b) Habitats and species of local importance that have been designated by the County at the time of application.
The project site does not have any mapped occurrences of County-designated habitat or species of local importance.
- c) All public and private tidelands suitable for shellfish harvest.
The proposed project site does not occur within or adjacent to tidelands.
- d) Kelp and eelgrass beds, herring and smelt spawning areas.
The proposed project site does not occur within or adjacent to kelp or eelgrass beds, herring and smelt spawning areas.
- e) Naturally occurring ponds under 20 acres with submerged aquatic beds that provide fish or wildlife habitat.
There are no naturally occurring ponds within the project site.
- f) Waters of the State as defined by WAC 222-16-030.
The project site does support waters of the state, as discussed in Section 3.3, Wetlands Site Assessment, and Section 3.4.1, Wetlands, of this report.
- g) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity.
The project site does not contain any features planted with game fish by a governmental or tribal entity.

- h) Areas with which anadromous fish species have a primary association.

The proposed project is located adjacent to and includes a portion of Hansen Creek within its boundaries. Hansen Creek is designated as critical habitat for Chinook salmon and steelhead and is regulated as a shoreline of the state. Streams regulated as shorelines of the state (WAC 173-18-310) or other fish-bearing streams that have known or potential use by anadromous or resident fish species are considered HCAs.

- i) State Natural Area Preserves and Natural Resource Conservation Areas.

The project site does not occur within or adjacent to any state natural area preserves or natural resource conservation areas.

- j) Other aquatic resource areas.

The project site contains 1.47 acres of wetlands that would be classified as other aquatic resources areas.

- k) State priority habitats and areas associated with State priority species as defined in WAC 365-190-080.

The project site contains both freshwater emergent wetland and freshwater forested/shrub wetland, which are identified as state priority habitats and areas associated with state priority species. Hansen Creek, a portion of which overlaps the project site, has known occurrences of several fish species listed as state PHS. In addition, the several bat species occurrences overlap with the project site. Section 3.1.2, Occurrence Data, provides additional details regarding these species.

- l) Areas of rare plant species and high quality ecosystems as identified by the Washington State Department of Natural Resources through the Natural Heritage Program in Chapter 79.70 RCW.

As discussed further in Section 3.2, Special-Status Plants, areas of special-status plant species and high-quality ecosystems as identified by the WDNR through the WNHP were not identified within the project site.

3.1.1 Potential Habitat

Review of PHS data within 1 mile of the proposed project identified freshwater emergent wetland and freshwater forested/shrub wetland, both of which occur within the project site. Vegetation community and land cover mapping is based on review of existing GAP Ecosystem vegetation data for the region (NVCS 2021). The vegetation communities and land cover type present within the project site include cultivated cropland, pasture and hay, temperate Pacific freshwater emergent marsh, north Pacific shrub swamp, and north Pacific lowland riparian forest and shrubland (Figure 3, Land Cover). National Hydrography Dataset and National Wetlands Inventory data show wetlands and one stream channel (Hansen Creek) mapped within the project site. Portions of Hansen Creek intersect with proposed battery storage site project boundary along the western edge and through the proposed gen-tie line alignment.

Topography on site is generally flat at an elevation of approximately 55 feet above mean sea level. Three soil map units are present within the review area: Sumas silt loam, Field silt loam, and Minkler silt loam (Figure 4, Soils). According to the Natural Resources Conservation Service, the Sumas silt loam consists of poorly drained soils formed in floodplains and deltas from alluvium (USDA 2023a). The unit is considered hydric. Field silt loam map unit consists of moderately well drained soils formed in alluvium and volcanic ash on floodplains with slopes from 0% to 3% (USDA 2023a). The unit has 10% hydric soils and is considered prime farmland if protected from flooding or not frequently flooded during the growing season. Minkler silt loam, which is moderately well drained and is not

considered hydric soil, occurs within the substation and access road. The land surrounding the substation perimeter is gravelly and appears to be partially filled for the construction of the substation.

The stretch of Hansen Creek that overlaps with the project site is designated critical habitat for Chinook salmon (Puget Sound Evolutionarily Significant Unit) and steelhead (Puget Sound Distinct Population Segment) (Figure 5, Special-Status Biological Resources). The project site is located within an area designated as Essential Fish Habitat (EFH) for the following species: Chinook salmon, coho salmon, and pink salmon (NOAA 2023) (Figure 5).

3.1.2 Occurrence Data

This section provides an overview of the database search conducted per Section 2.1, Literature Review and Database Search. The results of this search provided a list of special-status wildlife species that have the potential to occur within the project site. Appendix C, Special-Status Wildlife Species with a Potential to Occur within the Project Site, provides a table of the wildlife species with a potential to occur within the project site.

USFWS IPaC Database

The USFWS IPaC database (USFWS 2023b) was reviewed to determine the potential for special-status wildlife species to occur in the project site. Based on a review of the USFWS IPaC database search, there is a potential for North American wolverine (*Gulo gulo luscus*; federally proposed threatened, state candidate [SC]), marbled murrelet (*Brachyramphus marmoratus*; federally threatened [FT], state endangered [SE]), yellow-billed cuckoo (*Coccyzus americanus*; FT), bull trout (*Salvelinus confluentus*; FT, SC), Dolly Varden (*Salvelinus malma*; proposed similarity of appearance, FT, no state status), and monarch butterfly (*Danaus plexippus*; FC, SC) to occur on the project site (USFWS 2023b).

WDFW Databases

Two listed anadromous fish species have mapped presence in Hansen Creek: fall Chinook salmon (Puget Sound Evolutionarily Significant Unit; FT, no state status) and summer and winter steelhead (*Oncorhynchus mykiss*; Puget Sound Distinct Population Segment; FT, SC) (StreamNet 2021; WDFW 2023a). These species are also known to use Hansen Creek for migration, similar to bull trout and Dolly Varden.

The PHS web mapper was used to generate results within a 5-mile radius from the project site (WDFW 2023a). In addition to the special-status species (bull trout, Dolly Varden, Chinook salmon, and steelhead) discussed previously in this section, five other species have an observed range that overlaps with the project site. These include grizzly bear (*Ursus arctos horribilis*; FT, SE), gray wolf (*Canis lupus*; FE, SE), little brown bat (*Myotis lucifugus*; FE, SE), Townsend's big-eared bat (*Corynorhinus townsendii*; FE, FC), and Yuma myotis (bat species; *Myotis yumanensis*; FE, SE).

Several species are mapped within the State Wildlife Action Plan geographic information system (GIS) data to have observed species ranges within 5 miles of the project site (WDFW 2023b). These are shown on Figure 6, State Wildlife Action Plan – Observed Species Range. Listed and candidate species with observed ranges within 5 miles of the project site include Western toad (no federal status, SC), common loon (*Gavia immer*; no federal status, state sensitive), Townsend's big-eared bat, Oregon spotted frog (*Anaxyrus borealis*; FT, SE), golden eagle (*Aquila chrysaetos*; no federal status, state candidate), wolverine, spotted owl (*Strix occidentalis*), and Taylor's checkerspot butterfly (*Euphydryas editha taylori*; FE, SE) (USFWS 2023c).

3.1.3 Existing Conditions

Based on the site visits, the majority of the battery storage site is composed of pasture with herbaceous wetland vegetation in several depressions. There are deciduous trees and blackberries (*Rubus* sp.) along the edges of the property and at the southern end of the property, along with some riparian habitat associated with the on-site portion of Hansen Creek. The gen-tie line alignment and associated access road include areas graded to support the construction of the Sedro-Woolley Substation. There is an PSE transmission line easement that runs north/south over the proposed gen-tie line alignment. Portions of the proposed gen-tie line alignment located adjacent to the overall project site consist of agricultural lands. A wetland enhancement area owned and maintained by PSE is located along the southwest side of Hansen Creek within the gen-tie line alignment survey buffer. This area is planted with willow and rose species.

The proposed project site consists of active agricultural with some native vegetation along the perimeter of the project site, especially in the southeast corner. The trees present on site are primarily deciduous. Given the presence of forested habitat along the southern end of the project site and near Hansen Creek, which provides a corridor to the Skagit River, this portion of the site is considered moderate- to high-value habitat for nesting birds. Agricultural lands are known to be a source of foraging for wildlife, especially birds, and the trees present on site are a source of nesting habitat for birds. Ground-nesting birds are not expected to occur due to the active agricultural use of the majority of the project site and the disturbed areas associated with the substation.

A single stream was noted on site and/or in the project vicinity in the form of Hansen Creek. According to the delineation report prepared by Skagit Wetlands & Critical Areas, LLC, Hansen Creek flows along the western side of the property, with a defined OHWM as a distinct topographic break, typically of several feet along the traverse of this property, dropping down sharply to well defined stream channel, observed to an average of roughly 25 feet in width, composed in large part of a mix of silt bed and small gravel, with channery gravel banks in places. Hansen Creek is a shoreline of the state and falls under the jurisdiction of the Skagit County Shoreline Management Program and is about 1.6 miles upstream of the terminus with the Skagit River (Skagit Wetlands & Critical Areas, LLC, 2023). The riparian buffer associated with Hansen Creek is limited and at times consists of only blackberry brambles. Based on aerial review of the surrounding area, Hansen Creek is subject to development influence such as road overpasses and agriculture. Large woody debris was not observed within the portions of Hansen Creek reviewed for the proposed project. The proposed project occurs within the Federal Emergency Management Agency (FEMA) 100-year floodplain, Zone A, associated with the creek (FEMA 2021). Overall, the creek provides for fish movement to the Skagit River but it does not provide an adequate riparian buffer in its current state due to the lack of riparian vegetation and dominance of non-native vegetation, reducing the potential for this portion of Hansen Creek to provide shade and structure necessary to serve as high-value wildlife habitat.

Existing structures within the project site include a residence and an autobody workshop. The land within the main battery storage site is actively maintained, as are the areas under the PSE transmission line. Noise generated from the autobody shop as well as active farming is likely to preclude many special-status species from utilizing the project site and immediately surrounding area.

3.1.4 Special-Status Wildlife Summary

Based on a review of the existing literature, the results of the USFWS IPaC database search, and existing conditions within the project site, it has been determined that the proposed project site supports suitable habitat for four of the federally listed wildlife species that have a potential to occur in the project site. These species include Chinook salmon, steelhead, bull trout, and Dolly Varden (migration only).

The SCC 14.24.500(4) list of Habitats and Species of Local Importance was reviewed in concert with available habitat within the project site to determine the potential for species of local importance to occur within the project site. Of the nine species/habitats listed in SCC 14.24.500(4), one, Townsend's big-eared bat communal roosts, has a potential to occur within the project site. While the project site does contain suitable roosting habitat for special-status bats, as discussed in Section 3.1.2, review of the project site by biologists did not observe any signs of bats including urine/guano nor have bats been observed directly.

Western toad, a state candidate species, has a **moderate** potential to occur within the project site because it can occupy a wide range of habitats, including woodlands. Ponded wetlands also occur on site, which could support the species. Adults can move up to 4 kilometers (2.5 miles) in upland away from their natal stream after reproducing (Loeffler 1998). Therefore, there is a moderate likelihood that this species occupies the project site because Hansen Creek is adjacent to the project site and the Skagit River occurs within 2 miles of the site. However, focused surveys for this species were conducted in April 2024 and no western toads were observed. As summarized in Appendix C, no other state-listed species have a potential to occur within the project site.

3.2 Special-Status Plants

Based on the literature review and database search, no federally or state listed plant species, or other sensitive plants, were identified as having known occurrences (i.e., within 5 miles of the project site) or a potential to occur within the project site. Areas of special-status plant species and high-quality ecosystems as identified by the WDNR through the WNHP were not identified within the project site. A list of special-status species reviewed for their potential to occur is provided in Appendix D, Special-Status Plant Species with a Potential to Occur within the Project Site. No special-status plant species were observed during the reconnaissance-level biological field surveys that occurred in spring of 2022, 2023, and 2024. Although the site surveys occurred earlier than the blooming period for most of the special-status species listed in Appendix D, based on site conditions (maintained agricultural lands), necessary habitat for each species (i.e., vegetation communities, elevation ranges) and review of applicable databases, no special-status plant species are expected to occur within the project site and focused surveys are not necessary.

3.3 Wetlands Site Assessment

Per SCC 14.24.220, a wetland site assessment was conducted for the proposed project and the results of that assessment are summarized in this section. The full delineation reports prepared for the project are provided in Appendix E, Aquatic Resources Delineation Reports. The proposed project site, including the gen-tie line alignment, includes 1.47 acres of wetlands as well as a portion of Hansen Creek (Figure 7, Aquatic Resources Delineation Results). The wetlands identified within the boundaries of the project are summarized in Table 1. Within the energy storage site, all wetlands are categorized as depressionnal, with Wetland A being the most notable area as a depression excavated into the subsoil by Skagit County (per landowner), largely within the right-of-way. All other wetlands of the site are relatively shallow depressions found in a low swath that crosses the property from the

northwest to the southeast. The wetlands appear to be in present configuration after decades of heavy compaction due to livestock after initial drainage attempts prior, assumed in the late nineteenth or early twentieth century, which included ditching and likely subsurface tile installation.

Table 1. Wetlands within the Project Site

Feature Name	Cowardin Code ^a	HGM	DOE ^b	Skagit County ^c	Wetland Size (acres)	Buffer Width (feet) ^d
WET-A	PEM	Depressional	III	III	0.152	150
WET-B	PEM	Depressional	III	III	0.006	150
WET-C	PEM	Depressional	III	III	0.027	150
WET-D	PEM	Depressional	IV	IV	0.004	50
WET-E	PEM	Depressional	IV	IV	0.002	50
WET-F	PEM	Depressional	IV	IV	0.979	50
WET-G	PEM	Depressional	IV	IV	0.008	50
WET-H	PSS	Riverine	III	III	0.09	150
WET-I	PSS	Depressional	III	III	0.20	150
Wetlands Total					1.47	N/A

Notes: HGM = hydrogeomorphic classification; DOE = Washington State Department of Ecology; PEM = palustrine emergent; PSS = palustrine scrub-shrub; N/A = not applicable.

^a Pursuant to Cowardin et al. 1979 and USACE 2023.

^b Ecology rating (DOE 2023).

^c Skagit County follows the DOE rating systems (DOE 2023).

^d Skagit County wetland buffer width based on wetland category and high-intensity land use (Skagit County 2023).

Wetlands associated with the gen-tie line alignment include a riverine wetland associated with Hansen Creek and a wetland enhancement area adjacent to Hansen Creek. The riverine wetland (WET-H) is dominated by blackberry thickets. The wetland enhancement area (WET-I) has been planted with willow and rose species. ELS documented a wetland just outside of the proposed access road alignment (Figure 8, Critical Areas). This feature is a Washington State Department of Ecology Category III wetland and therefore a 150-foot buffer has been applied. Because the feature is not located within the project site, it is not included in Table 1.

The portion of Hansen Creek that overlaps with the proposed gen-tie line alignment is provided in Table 2. For the main battery storage site, only the extent of the ordinary highwater mark was documented to provide a point from which to establish the required buffer. Per the SCC, all streams that meet the criteria for Type S, F, and N waters as set forth in WAC 222-27 16-030 of the WDNR Water Typing System must implement the required buffer widths, which for Type S streams is 200 feet.

Table 2. Non-Wetland Waters within the Gen-Tie Line Review Area

Feature Name	WDNR Water Type	Portion within the Review Area	Skagit County Buffer Width
Hansen Creek	S	190 linear feet (0.08 acres)	200 feet

Source: WDNR 2023b.

Notes: gen-tie = generation transmission; WDNR = Washington State Department of Natural Resources; S = shorelines of the state.

3.4 Critical Areas Summary

Based on both desktop review and on-site surveys, the project site contains the following critical areas: wetlands, frequently flooded areas, and fish and wildlife habitat conservation areas as defined in SCC 14.24. Figure 8 shows all critical areas on site.

3.4.1 Wetlands

The 1.47 acres of wetlands delineated as described in Section 3.3, Wetlands Site Assessment, meet the definition of wetlands as outlined in Revised Code of Washington 36.70A.030(21) and SCC 14.24.200. Therefore, these wetlands are critical areas and impacts to these resources require mitigation per SCC 14.24.250. Section 3.3 of this report provides wetland classification and required buffer sizes.

3.4.2 Aquifer Recharge Areas

Aquifer recharge areas are areas determined to be critical in maintaining both groundwater quantity and quality. SCC 14.24 specifies regulatory requirements for development within these areas, including prohibited activities, site assessment requirements, and mitigation measures should they be required. Per SCC 14.24.310, there are two categories of aquifer recharge designations, Category I areas, which have been identified as areas that need protection, and Category II areas, which are all other areas outside of Category I. Category I aquifer recharge areas are shown on the aquifer recharge area map provided by Skagit County and according to this map, the project site is not located within any Category I aquifer recharge areas (Skagit County 2022). Under current conditions, the project site features impervious areas in the form of existing buildings and driveways. Groundwater was encountered at all explorations at a depth of 5 to 9 feet below ground level (Terra-Geo 2023). The project site does not contain any critical aquifer recharge areas and groundwater levels reflect the water surface elevation of Hansen Creek, with infiltration within project site contributing to some extent though not significantly. Therefore, the proposed project is not subject to the restrictions further outlined in the SCC nor is the project required to provide an aquifer recharge areas site assessment in accordance with SCC 14.24.330.

The identified flow-sensitive basins as documented in SCC 14.24.350(1)(a)(i) were reviewed and it was determined that the proposed project is within the Hansen Creek watershed drainage area, which is designated as a flow-sensitive basin. Flow-sensitive basins are defined in the SCC as “a watershed drainage area, designated under Chapter 14.24 SCC, where water withdrawals could adversely affect aquatic resources.” The proposed project will receive water from Skagit Public Utility District through an existing water line and will not require a well to provide water for project activities. Because the proposed project site is within a flow-sensitive basin, SCC 14.24.360 requires a limit of no more than 20% of the project area consist of impervious surfaces unless at least one of four identified conditions is met. The proposed project will meet two of these conditions because the project is serviced by a public water system, no wastewater will be disposed of on site, and a flood study has been prepared to demonstrate that the impervious surfaces will not adversely affect surface water infiltration and stream base flows. Because these conditions are met, the limit of 20% impervious surfaces does not apply.

3.4.3 Geologically Hazardous Areas

Geologically hazardous areas are addressed in SCC 14.24.400 and include areas that may not be suited to development due to their susceptibility to erosion, sliding, earthquake, or other geological events. These areas pose public health, safety, or environmental concerns. Skagit County has prepared a map identifying potential landslides and erosion areas (Skagit County 2022). Based on this initial review, the project site is not located within a known hazard area.

The project site conditions were evaluated for the presence of geologically critical areas as defined in Skagit County's critical areas code, specifically SCC 14.24.400-430 (Terra-Geo 2023). The following is a summary of the report:

- **Erosion Hazard Area:** The project site is not at risk for erosion hazards as none of the criteria listed within SCC 14.24.410(1) are applicable (including slopes greater than 30%, containing coastal beaches or bluffs, special areas identified by varying governing bodies, not susceptible to rapid stream incision and bank erosion, etc.). The project site slopes are less than 30% and the site's identified soils are not listed as erosion-prone according to the referenced SCC. The erosion potential of the on-site soils is "not rated" at the time of this assessment and no erosion of these materials was noted on site during several visits. However, the site's soils will be susceptible to erosion when exposed during construction. Proper implementation and maintenance of best management practices (BMPs) for erosion prevention and sedimentation control will adequately mitigate the erosion potential in the planned development area. Erosion protection measures as required by Skagit County will also be in place prior to and during grading activity on the site.
- **Landslide Hazard Area:** The project site does not contain any of the criteria listed in SCC 14.24.410 (2) for landslide hazard areas. These criteria include slopes greater than 15% that meet identified criteria, areas of previous failure, potentially unstable areas resulting from rapid stream incision, coastal bluffs, and other specific considerations identified in SCC 14.24.410(2). Accordingly, the site does not fall within a Landslide Hazard Area.
- **Seismic Hazard Area:** The project site is not within 0.25 miles of an active fault and is not at risk of tsunami or seiche hazards. However, the site is identified as moderately to highly susceptible to liquefaction due to seismic activity based on Skagit County's Liquefaction Susceptibility Map. To address this, seismic design will adhere to procedures outlined in the 2018 International Building Code (IBC). According to the IBC, structures on Site Class E sites, as per ASCE 7-16, must be designed to withstand earthquake motions. Anticipated liquefaction settlements within the project site are expected to be within acceptable limits (up to 4 inches). As a result, ground improvement techniques for liquefaction mitigation are not anticipated to be necessary for site development.
- **Volcanic Hazard Area:** The volcanic hazard risk at this site is considered negligible. As defined in SCC 14.24.410(4), a site assessment is not required for volcanic hazard areas unless other specific criteria apply.
- **Mine Hazard Area:** The WDNr Inactive and Abandoned Mines map identifies mines. A project is deemed in a mine hazard area if it falls within 200 feet of any current or historic mine operations flagged as geologically hazardous by the Administrative Official. However, the risk of mine hazards for the project site is minimal as there are no such features within 200 feet. Additionally, there are no listed inactive or abandoned mines in greater Skagit County, according to DNR (2024 as cited in Terra-Geo 2023).

3.4.4 Fish and Wildlife Habitat Conservation Areas

The proposed project contains five HCAs are identified in SCC 14.24.500: Areas with which endangered, threatened, and sensitive species have a primary association, (1)(a); waters of the state as defined by WAC 222-16-030 (1)(f); areas with which anadromous fish species have a primary association, (1)(h); other aquatic resources areas, (1)(j); and state priority habitats and areas associated with state priority species as defined in WAC 365-190-080 (1)(k).

3.4.5 Frequently Flooded Areas

Frequently flooded areas designations are defined in SCC 14.24.600 as “those areas identified as A, AO, AH, A1–10, A12, A14, A16, A18, A21–22, V1 and V4 zones on the official Flood Insurance Rate Map for Skagit County, as amended. Cumulatively these zones represent the floodway and 100-year floodplain.” The project involves construction within the sections of the project site designated as a FEMA-designated 100-year Zone A floodplain associated with Hansen Creek and a County-designated Special Flood Hazard Area. The Flood Study conducted for the project site determined the 100-year base flood elevation (BFE) to be 61.3 feet (Power Engineers 2024). The project must therefore comply with all standards presented under SCC Section 14.34.

4 Impacts

4.1 Wetlands and Associated Buffers

The proposed project is required to provide a gen-tie line to connect the energy storage site with the Sedro-Woolley Substation located just to the southern of the project site. The gen-tie line must cross over Hansen Creek to connect to the substation. An overhead connection is not feasible given the existing utilities. Therefore, the connection will be placed underground via directional drilling. Directional drilling avoids impacts to Hansen Creek and surrounding wetlands and buffers (Wetlands H and I) (0.29 acres). However, due to the position of the wetlands within the energy storage site, avoidance of these features is not feasible. Therefore, the remaining 1.18 acres of wetlands within the energy storage site will be permanently impacted (Figure 9, Project Impacts). The access road will overlap with a portion of the buffer associated with an off-site wetland (0.12-acre overlap).

SCC 14.24.240(2) allows for buffer averaging if the applicant can demonstrate the following:

- a) Averaging is necessary to accomplish the purpose of the proposal and no reasonable alternative is available; and

Due to the constraints, existing development and easements, complete buffer avoidance is not feasible. The access road has been placed in an area that will result in the least amount of impact to wetland buffers while also being located within available land. Other road alternatives were considered but would have resulted in significant impacts to cultural resources and therefore were eliminated from consideration.

- b) Averaging width will not adversely impact the wetland functions and values; and

The road will be used only for construction purposes and if the underground gen-tie line needs to be serviced. The overlapping portion of the buffers includes land that is degraded from past fill activity, the powerline corridor, and overall maintenance activities. Therefore, the placement of the road within the

off-site wetland buffer will not adversely affect the functions and values of the wetland and creek beyond current development pressures.

- c) The total area contained within the wetland buffer after averaging is no less than that contained within the standard buffer prior to averaging

The current buffer for the off-site wetland would not be decreased through averaging of the buffer because there is ample room to expand the buffer. As shown on Figure 9, the buffer area would remain the same after averaging.

- d) The buffer width shall not be reduced below 75% of the standard buffer width.

The wetland buffer width has been reduced by a maximum of 25 feet, which is 84% of the standard buffer width (150 feet).

Therefore, with the allowable buffer averaging, the proposed project would not have any impacts to required wetland buffers.

4.2 Frequently Flooded Areas

Per the FEMA Flood Insurance Rate Map Community Panel Number 530151 0255 D, revised September 29, 1989, the project site is located entirely within Zone A (Areas of 100-year flood; base elevations and flood hazard factors not determined). All development within the floodplain of Hansen Creek shall aim to conform to the standards within SCC Chapter 14.34, especially SCC 14.34.150 and 14.34.160(3), and International Code Council requirements to mitigate any flood-related risks and minimize impacts to the floodplain.

4.3 Fish and Wildlife Habitat Conservation Areas

Special-status fish species have the potential to occur within Hansen Creek; however, because the proposed project will utilize directional drilling to place the gen-tie line alignment underground, impacts to the creek are not expected. Any work taking place in Minkler Road will stay within the roadway and will not result in impacts to the creek. Figure 9 provides the location of the gen-tie line alignment where it will be placed underground, along with the points at which the line will be moved aboveground. Figure 9 also provides the location of the jack and bore easement and vault installation work area, both of which are temporary work areas.

The access road will overlap with the 200-foot Hansen Creek buffer (0.17 acres) (Figure 9). The 200-foot buffer for Hansen Creek in this area was developed using topography to map the extent of the OHWM. The portion of the road that will overlap the buffer is located within the PSE transmission line easement. Per SCC 14.24.540(5)(a), roads are an allowable use within HCA or buffers as long as the following conditions are met:

- (i) It is demonstrated to the Administrative Official that there are no alternative routes that can be reasonably used to achieve the proposed development; and

As explained in Section 4.1, Wetlands and Associated Buffers, several constraints have dictated the location of the road. Other alternatives were reviewed but would result in impacts to cultural resources.

- (ii) The activity will have minimum adverse impact to the fish and wildlife HCA; and

The road will be used only for construction purposes and if the underground gen-tie line needs to be serviced. The overlapping portion of the buffers includes land that is degraded from past fill activity, the powerline corridor, and overall maintenance activities. Therefore, the placement of the road within the buffer would not adversely impact Hansen Creek beyond current development pressures.

- (iii) The activity will not significantly degrade surface or groundwater; and

Construction and use of the road will not degrade surface or groundwater. The road will be minimally used and is located within a disturbed area.

- (iv) The intrusion into the fish and wildlife HCA and its buffers is fully mitigated.

The road will overlap with 0.17 acres of the Hansen Creek buffer. Mitigation for these impacts would be achieved through the creation of a 1.31-acre riparian enhancement buffer within the main battery storage site as further discussed in Section 5.5, Fish and Wildlife Habitat Conservation Areas.

5 Mitigation

5.1 Wetlands Mitigation

The preferred mitigation sequencing of first avoidance, then minimization, and finally compensation for unavoidable wetland impacts was taken into consideration during project design. Complete avoidance to wetlands and their associated buffer is not feasible due to the constraints of the project site and surrounding area, particularly regarding property ownership. Due to the necessity of proximity to the Sedro-Woolley Substation, this site was the only feasible option for this project. The applicant considered on-site compensatory mitigation for wetland impacts; however, due to the site design, there was not sufficient space available on site for mitigation that would be ecologically feasible and likely to succeed. Following guidance in the Federal Rule [33 CFR Part 332], the applicant explored the possibility of using a mitigation bank to compensate for impacts. There are two approved mitigation banks within Skagit County that currently have credits that could mitigate for project impacts: Skagit Valley Environmental Bank and Nookachamps Mitigation Bank. The goal of the mitigation plan is to fully compensate for all wetland impacts associated with this project through the purchase of mitigation credits at an agency-approved mitigation bank. Based on the mitigation ratios in the Skagit Environmental Bank mitigation banking instrument, the mitigation ratios are as follows: Category III wetlands require 1.0 credit per acre of impact and Category IV wetlands require 0.85 credits per acre of impact. Based on the impacts and mitigation ratios, the project applicant is required to purchase 1.03 bank credits, which will provide mitigation for the 1.18 acres of wetland impact.

5.2 Wetland Buffer Mitigation

The proposed project will permanently impact all wetlands within the storage site. Given the removal of the wetlands, there is no longer a requirement to assess impacts on any associated buffer. Therefore, buffer mitigation is not required for the on-site impacts. The access road would overlap with a small portion of a buffer for an off-site wetland. The placement of the road within this buffer would result in 0.12 acres of overlap. As discussed in Section 4.1, buffer averaging would eliminate impacts to the wetland buffers. Therefore, wetland buffer mitigation is not proposed.

5.3 Floodplain Mitigation

Per the Project Flood Study, the 100-year BFE was determined to be 61.3 feet. Per SCC 14.34.180 and to mitigate flooding-associated risks, the project site will be elevated through the placement of fill or elevated on piers so that the foundations of all electrical equipment are at a minimum of 1 foot above BFE. All project electrical equipment foundations have been designed to be a minimum of 1 foot above the BFE.

5.4 Fish and Wildlife Habitat Conservation Areas

The project site supports suitable habitat for nesting bird species. Nesting birds are protected under the federal Migratory Bird Treaty Act and compliance with these regulations is required. Project plans include the removal of vegetation considered suitable for nests. Additionally, indirect impacts to nesting birds from short-term construction-related noise could result in decreased reproductive success or abandonment of an area used for nesting if conducted during the nesting season (i.e., February through August). Implementation of the following Avoidance and Minimization Measure will help ensure that potential impacts to nesting birds are less than significant:

Vegetation removal and initial ground-disturbing activities should occur outside the nesting season, which generally occurs from February through August, to avoid potential impacts to nesting birds. This will ensure that no active nests are disturbed and that vegetation removal can proceed rapidly. If vegetation removal and initial ground-disturbing activities occur during the nesting season, all suitable habitat shall be thoroughly surveyed by a qualified biologist for the presence of nesting birds before commencement of clearing. If any active nests are detected, a buffer of at least 50 feet (250 feet for raptors) should be delineated, flagged, and avoided until the nesting cycle is complete, as determined by a qualified biologist.

To improve the buffer between the project and Hansen Creek and mitigate for impacts to 0.17 acres of the Hansen Creek buffer, riparian buffer enhancement will occur as a part of the proposed Conceptual Planting Plan provided in Appendix F. Demolition of the existing residence and associated structures that occur in and around the 200-foot buffer for the creek is required to construct the proposed project. The area adjacent to Hansen Creek but outside the 200-foot buffer will be revegetated with native plants per the conceptual planting plan provided as Appendix F to this report. The riparian buffer enhancement totals 1.31 acres. A diversity of native plants has been incorporated into the overall planting plan for the project to promote the continued use of the site by local wildlife in addition to being water-wise. Specific information regarding the species utilized within the buffer, as well as for the project as a whole, is provided in Appendix F. Therefore, the proposed project will result in the extension of the riparian corridor adjacent to Hansen Creek by restoring this area.

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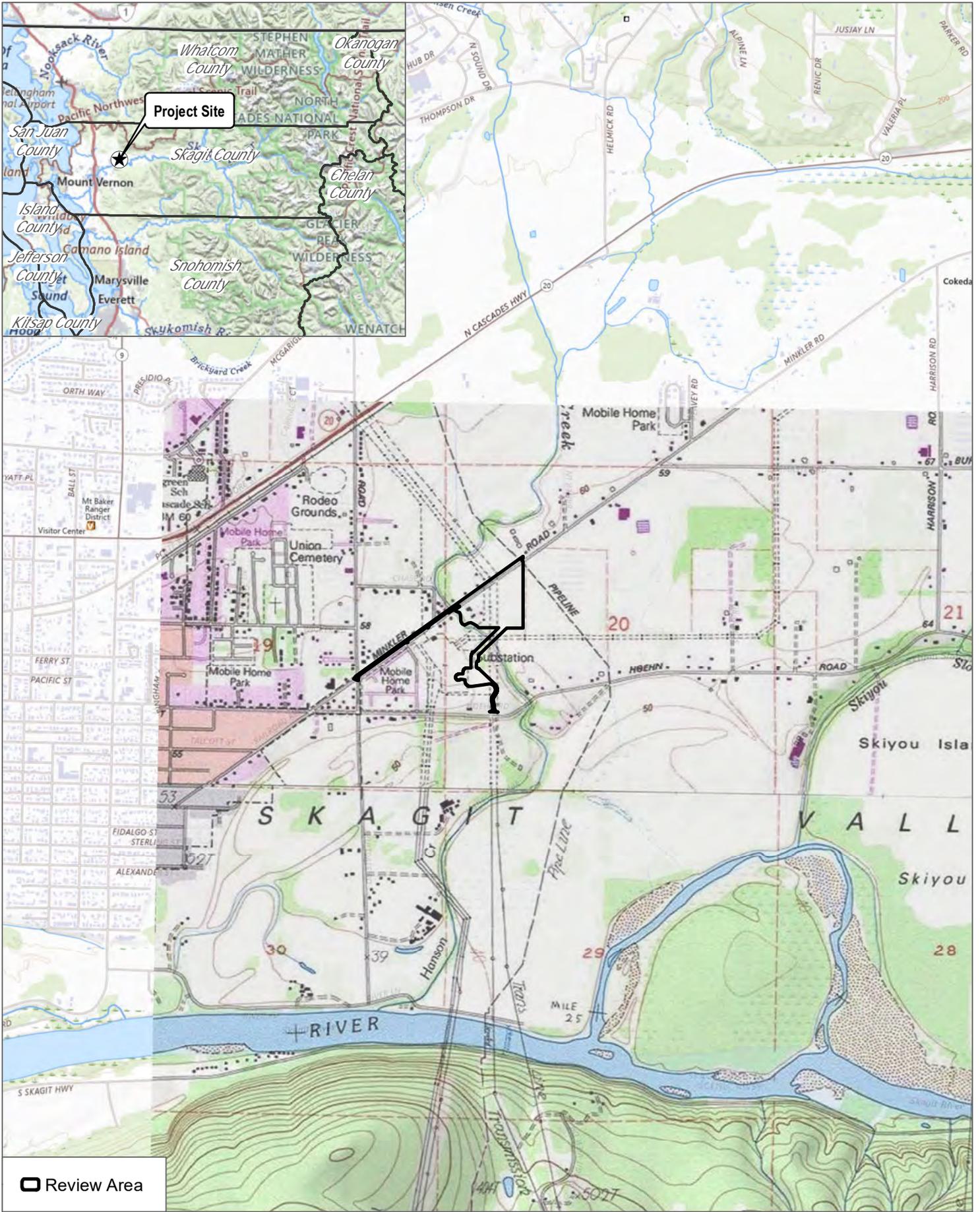
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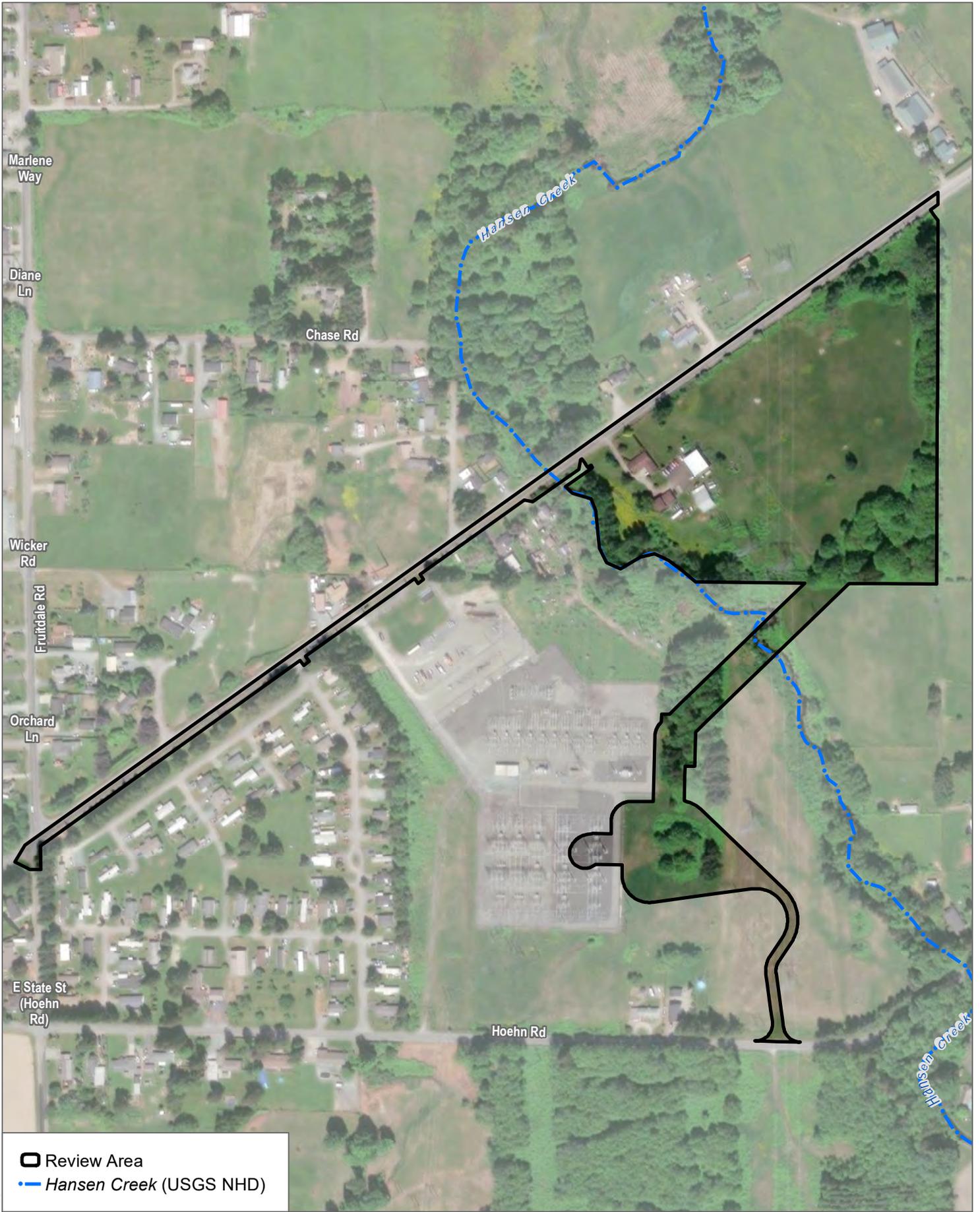
SOURCE: USGS 7.5 Minute Quadrangle Sedro-Woolley North Series
 Township 35N; Range 5E; Section 20



FIGURE 1

Regional Location

Critical Areas Report: Goldeneye Project



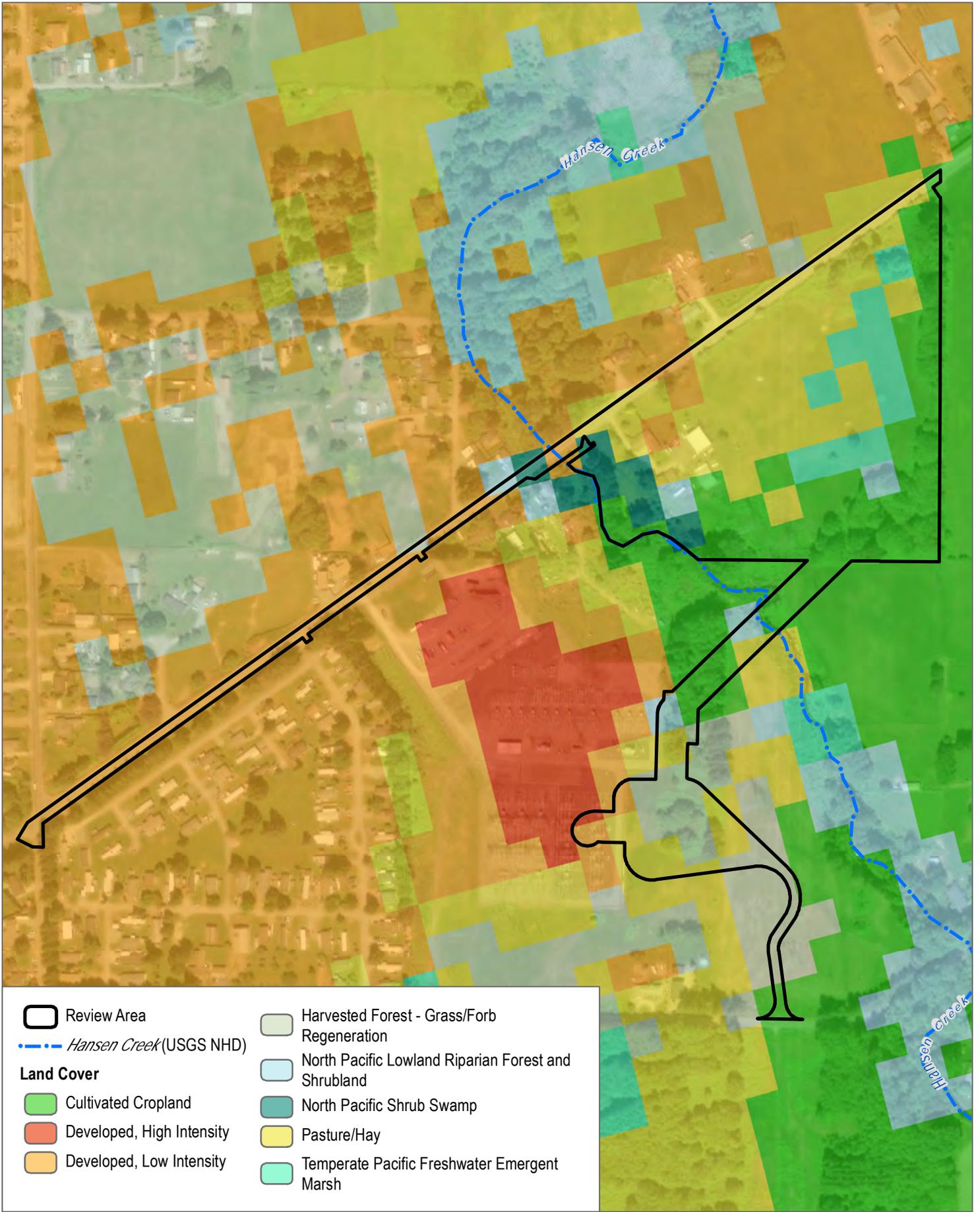
SOURCE: Esri World Imagery Basemap; WA DOT 2024; Skagit County 2024



FIGURE 2

Project Location

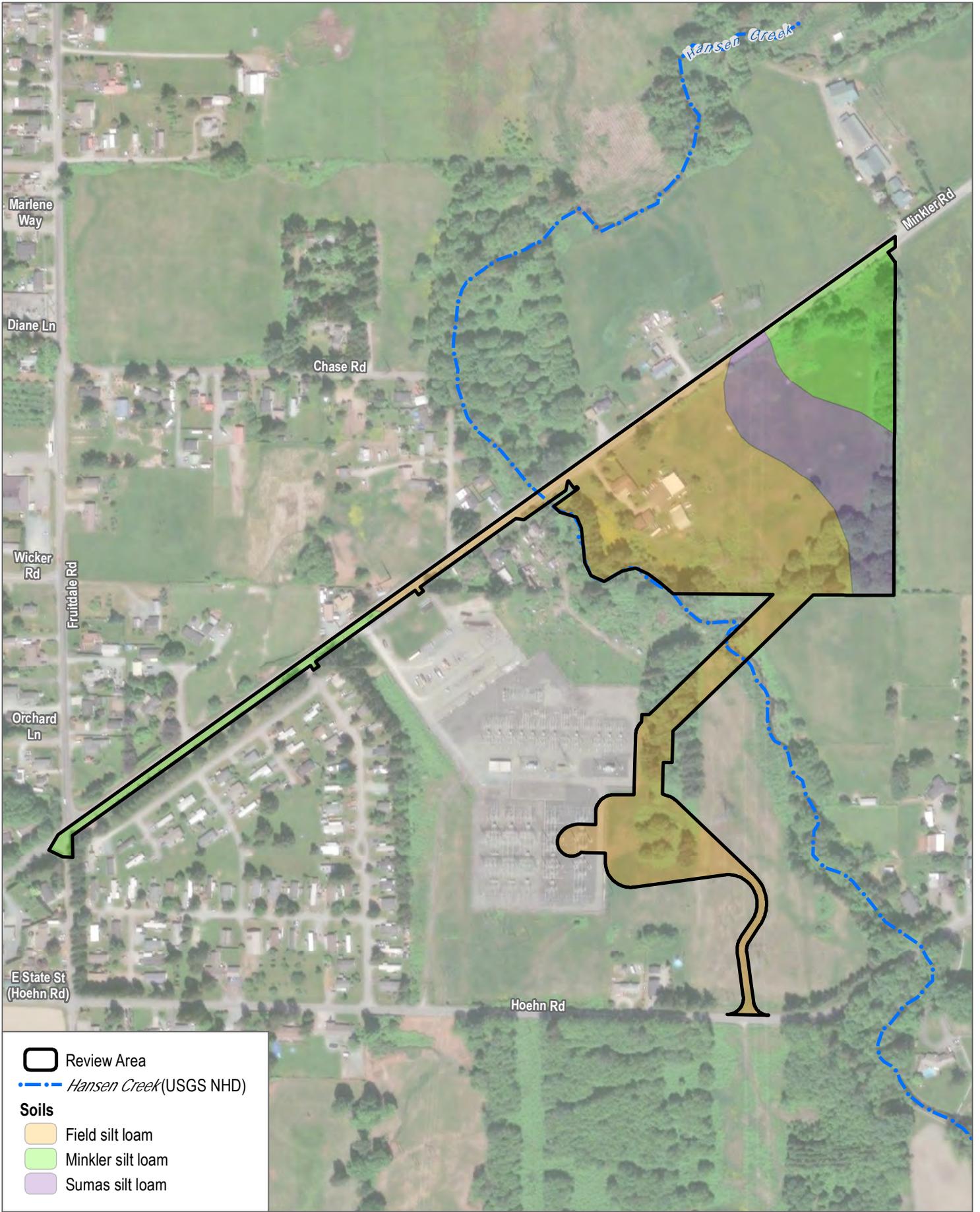
Critical Areas Report: Goldeneye Project



-  Review Area
 -  Hansen Creek (USGS NHD)
- Land Cover**
-  Cultivated Cropland
 -  Developed, High Intensity
 -  Developed, Low Intensity
 -  Harvested Forest - Grass/Forb Regeneration
 -  North Pacific Lowland Riparian Forest and Shrubland
 -  North Pacific Shrub Swamp
 -  Pasture/Hay
 -  Temperate Pacific Freshwater Emergent Marsh

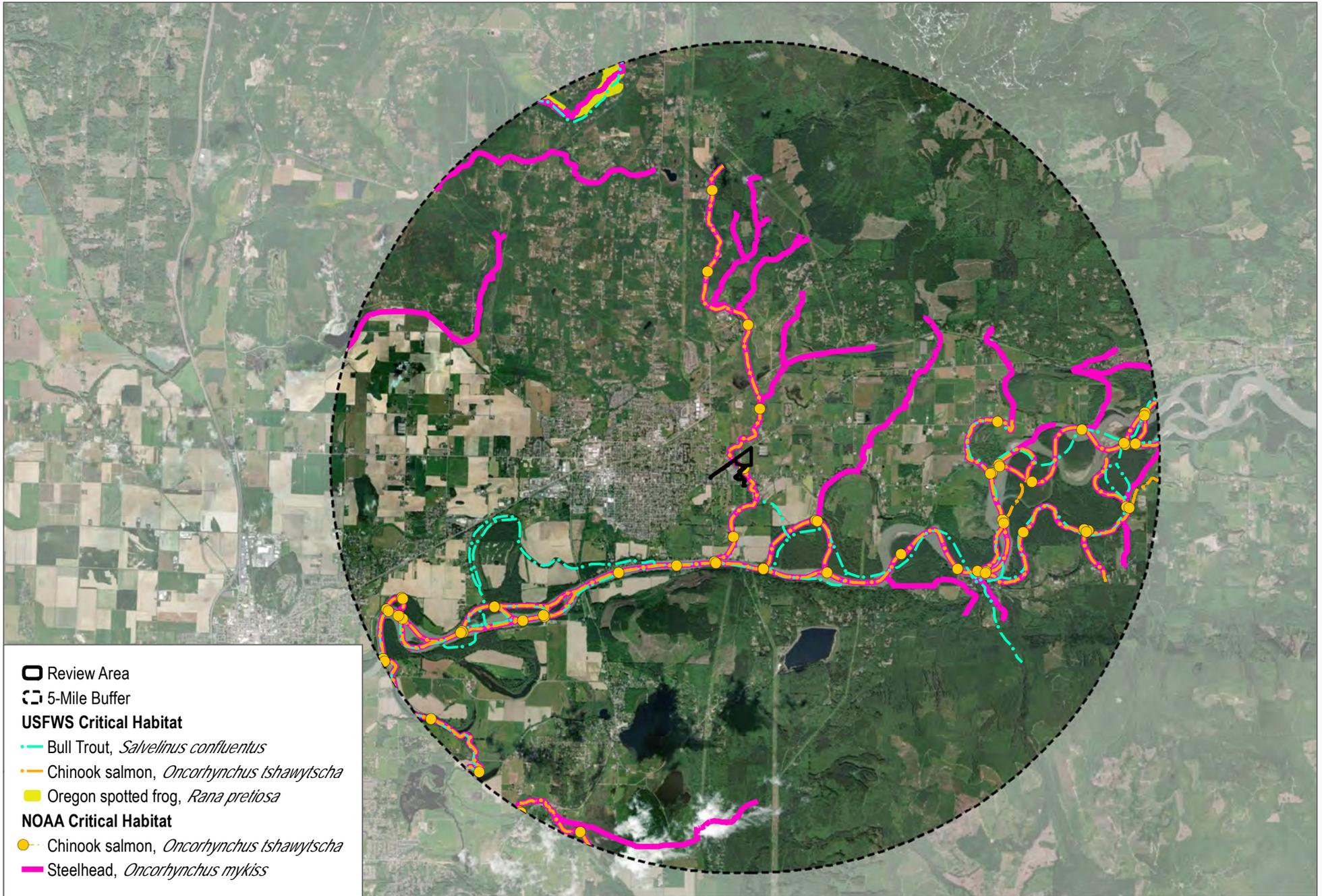
SOURCE: Esri World Imagery Basemap; USDA 2016

FIGURE 3
Land Cover



SOURCE: Esri World Imagery Basemap; Skagit County 2024; USDA SSURGO 2023

FIGURE 4
Soils



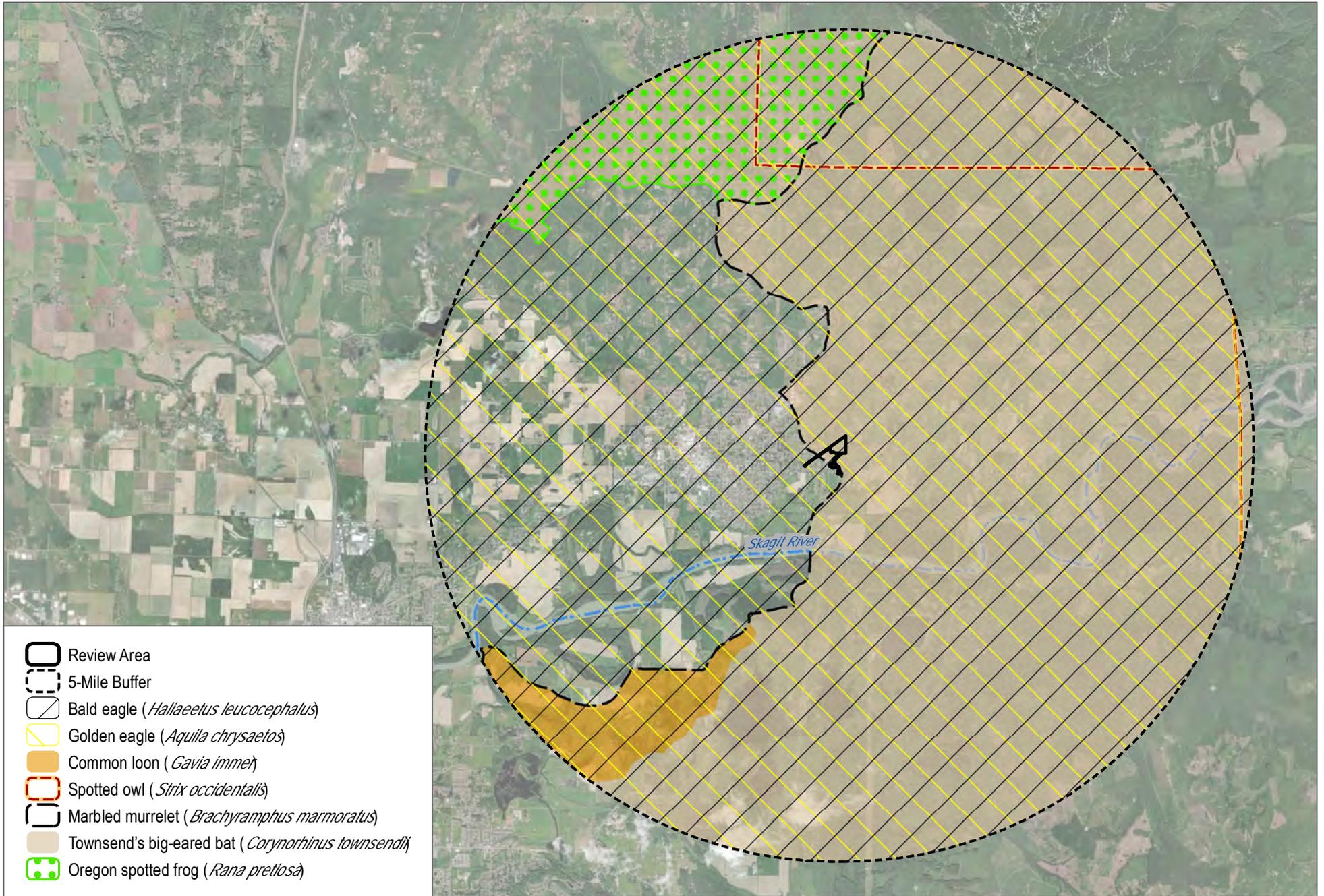
SOURCE: Maxar 2017; Skagit County 2021; USFWS 2022; NOAA 2022



FIGURE 5

Special-Status Biological Resources

Critical Areas Report: Goldeneye Project

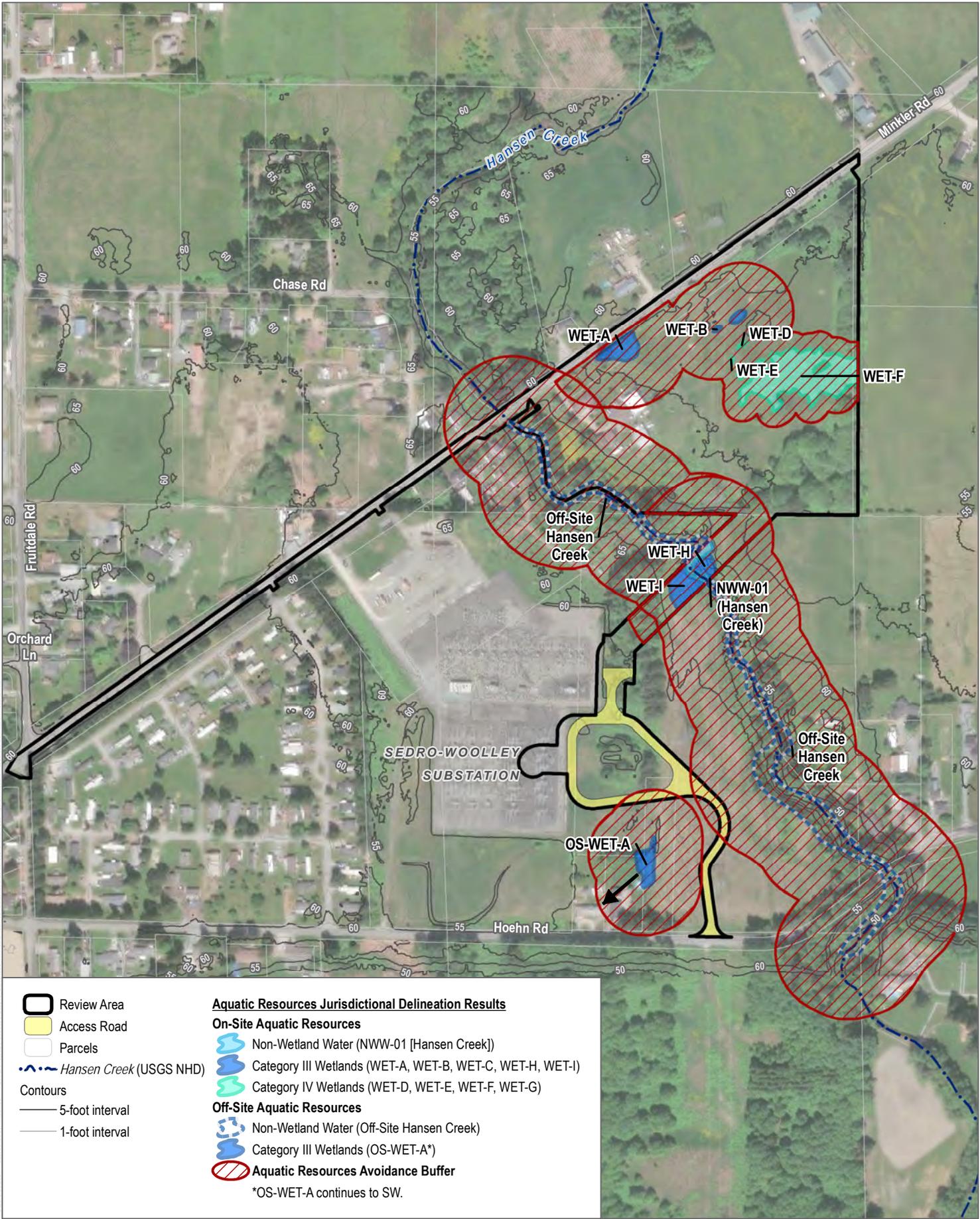


SOURCE: Maxar 2017; Skagit County 2021; WDFW 2023



FIGURE 6
 State Wildlife Action Plan - Observed Species Range

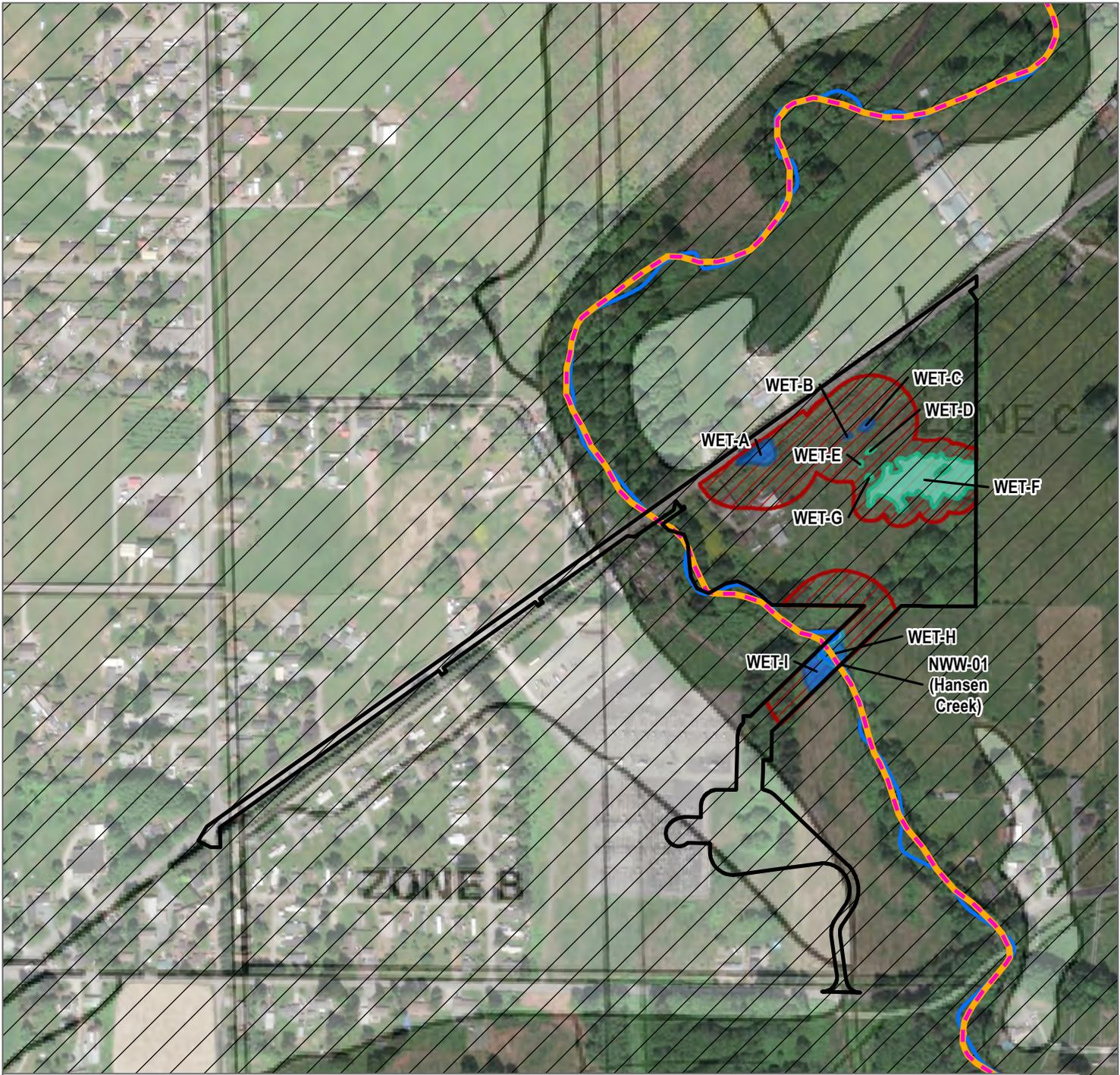
Critical Areas Report: Goldeneye Project



SOURCE: Esri World Imagery Basemap 2024; USGS NHD 2023; Skagitj County 2021



FIGURE 7
Aquatic Resources Delineation Results
 Critical Areas Report: Goldeneye Project



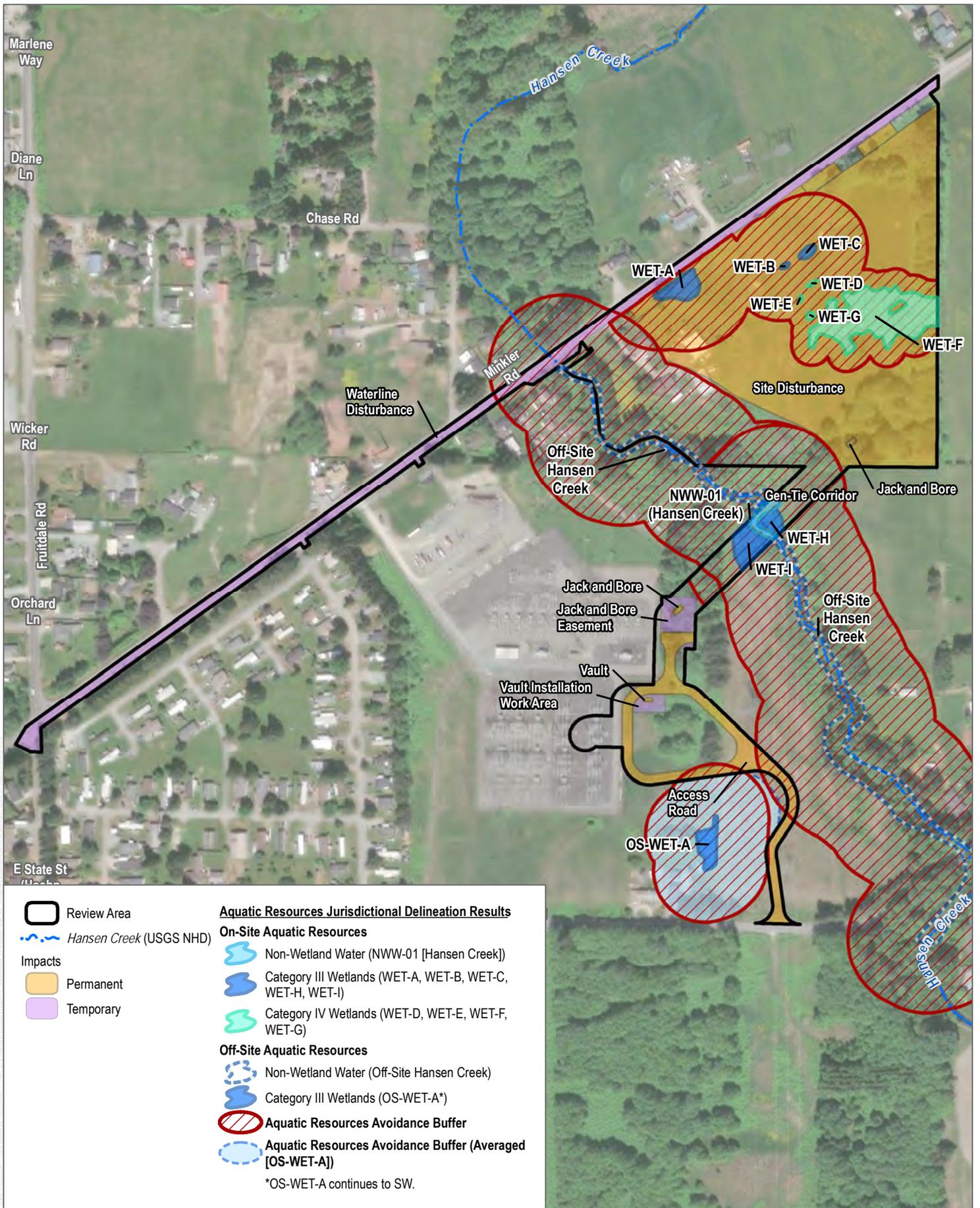
- Review Area
 - Hansen Creek (USGS NHD)
 - Hansen Creek - Ordinary High Water Mark (East)
 - Aquatic Resources Jurisdictional Delineation Results**
 - Non-Wetland Water (NWW-01 [Hansen Creek])
 - Category III Wetlands (WET-A, WET-B, WET-C, WET-H, WET-I)
 - Category IV Wetlands (WET-D, WET-E, WET-F, WET-G)
 - Aquatic Resources Avoidance Buffer
 - Essential Fish Habitat Areas - Salmon (Chinook, Coho, Pink)**
 - Essential Fish Habitat Areas - Salmon (Chinook, Coho, Pink)
 - Essential Fish Habitat (NOAA)**
 - Chinook Salmon Critical Habitat (*Oncorhynchus tshawytscha*)
 - Steelhead Critical Habitat (*Oncorhynchus mykiss*)
 - FEMA Flood Hazard**
 - Zone A - Areas of 100-Year flood hazard
 - Zone B - Areas between 100-500 year flood hazard
 - Zone C - Areas of minimal flood hazard
- *Project Boundary falls completely within Zone A

SOURCE: Maxar 2017; Skagit County 2021; NHD 2023; NOAA 2023; Skagit Wetlands & Critical Areas, LLC 2023; FEMA 2023

FIGURE 8

Critical Areas

Critical Areas Report: Goldeneye Project



SOURCE: Esri World Imagery Basemap 2024; USGS NHD 2023; Skagit County 2021

FIGURE 9

Project Impacts

Critical Areas Report: Goldeneye Project



Appendix A

Applicable Regulations

Federal

Federal Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 (Title 16, U.S. Code, Section 1531 et seq. [16 USC 1531 et seq.]), as amended, is administered by the U.S. Fish & Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. Under provisions of Section 9(a)(1)(B) of the ESA, it is unlawful to take any listed species. “Take” is defined in Section 3(19) of the ESA as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.”

As part of this regulatory act, the ESA provides for designation of critical habitat, defined in ESA Section 3(5)(A) as specific areas within the geographical range occupied by a species where physical or biological features “essential to the conservation of the species” are found and that “may require special management considerations or protection.” Critical habitat may also include areas outside the current geographical area occupied by the species that are nonetheless essential for the conservation of the species. When a species is proposed for listing as endangered or threatened under the ESA, the USFWS must consider whether there are areas of habitat believed to be essential to the species’ conservation.

Clean Water Act

Under Section 404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (USACE) regulates activities that involve a discharge of dredged or fill material, into waters of the United States, including wetlands. Any person or public agency proposing to discharge dredged or fill material into waters of the United States, including jurisdictional wetlands, must obtain a permit from the USACE. The term “wetlands” (a subset of waters of the United States) is defined in Title 33 of the Code of Federal Regulations, Section 328.3(b) (33 CFR 328 [b]) as “those 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.” In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the “ordinary high water mark,” which is defined in 33 CFR 328.3(e). Section 401 of the CWA regulatory authority is designated to the state department of environmental quality (the Washington State Department of Ecology [DOE]); see the Clean Water Act Section 401 subsection of this document.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the Migratory Bird Treaty Act, “take” is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (16 USC 703 et seq.). Additionally, Executive Order 13186, “Responsibilities of Federal Agencies to Protect Migratory Birds,” requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 Federal Register [FR] 3853–3856). The executive order requires federal agencies to work with the USFWS to develop a memorandum of understanding. The USFWS reviews actions that might affect these species.

Bald and Golden Eagle Protection Act

Bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are federally protected under the Bald and Golden Eagle Protection Act (BGEPA), passed in 1940 to protect bald eagle and amended in 1962 to include golden eagle (16 USC 668 et seq.). BGEPA prohibits the take, possession, sale, purchase, barter, offering to sell or purchase, export or import, or transport of bald eagles and golden eagles and their parts, eggs, or nests without a permit issued by the USFWS. The definition of “take” includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb. The definition of “disturb” has been further clarified by regulation as follows: “Disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior” (50 CFR 22.3).

BGEPA prohibits any form of possession or taking of both eagle species, imposes criminal and civil sanctions, and provides an enhanced penalty provision for subsequent offenses. Further, BGEPA provides for the forfeiture of anything used to acquire eagles in violation of the statute. The statute exempts from its prohibitions on possession the use of eagles or eagle parts for exhibition, scientific, or Native American religious uses.

In November 2009, the USFWS published the Final Eagle Permit Rule (74 FR 46836–46879), providing a mechanism to permit and allow for incidental (i.e., non-purposeful) take of bald and golden eagles pursuant to BGEPA (16 USC 668 et seq.). The previous year, 2008, the USFWS had adopted 50 CFR Part 22.11(a), which provides that a permit authorizing take under ESA Section 10 applies with equal force to take of golden eagles authorized under BGEPA. These regulations were followed by issuance of guidance documents for inventory and monitoring protocols and for avian protection plans (USFWS 2010). In January 2011, the USFWS released its Draft Eagle Conservation Plan Guidance aimed at clarifying expectations for acquiring take permits acquisition by wind power projects, consistent with the 2009 rule (USFWS 2011).

On December 16, 2016, the USFWS adopted additional regulations regarding incidental take of golden eagles and their nests (81 FR 91494 et seq.). Most of the new regulations address “programmatic eagle nonpurposeful take permits” such as those typically requested by members of the alternative energy industry, most notably wind farms. For example, the new regulations extend the duration of such permits from 5 years to 30 years. In addition, the new regulations modify the definition of the BGEPA “preservation standard” to mean “consistent with the goals of maintaining stable or increasing breeding populations in all eagle management units and the persistence of local populations throughout the service range of each species” (81 FR 91496–91497).

Magnuson-Stevens Act (Fishery Conservation and Management Act)

The Fishery Conservation and Management Act of 1976 was amended in 1996 and became known as the Magnuson-Stevens Act. The Magnuson-Stevens Act emphasizes the sustainability of the nation’s fisheries and creates a new habitat conservation approach. This approach focuses on conservation of habitat essential to the survival of specific fish species, called essential fish habitat (EFH). The project site lies entirely within EFH for Chinook salmon (*Oncorhynchus tshawytscha*), coho salmon (*Oncorhynchus kisutch*), and pink salmon (*Oncorhynchus gorbuscha*); potential aquatic habitat is limited to Hansen Creek.

State

Washington Department of Ecology

The following laws and regulations that may be applicable to the proposed project are overseen by the DOE.

Clean Water Act Section 401

Under Section 401 of the CWA, the DOE has the authority to manage aquatic resources and water quality, including stormwater and groundwater. As the clean water certifying agency, DOE has the authority in Washington state under Section 401 of the CWA to review and approve, approve with conditions, or deny proposed projects, actions, and activities directly affecting waters of the United States. Washington State defines waters of the state separately from the federal waters of the United States. If a project activity has the potential to impact waters of the state, including water quality, stormwater, and/or groundwater, then the project application must meet compliance requirements with the DOE under Section 401 of the CWA via a Water Quality Certification. Water Quality Certifications can be obtained through the Joint Aquatic Resources Permit Application (JARPA) process. Projects affecting waters of the state that do not fall under the federal jurisdiction are not subject to CWA Section 401 Water Quality Certification. However, they are still subject to applicable state water quality and environmental protection laws.

Note that the U.S. Environmental Protection Agency and tribal governments should use the National Pollutant Discharge Elimination System permit process to ensure water quality and to limit the quantity of wastewater and stormwater discharge into surface waters like rivers, lakes, and streams. The DOE prepares National Pollutant Discharge Elimination System permits for all non-federal discharges in the state, except those on federal and tribal lands.

Aquatic Resource Mitigation Act and Wetland Mitigation Banking Law

Applicants proposing to alter aquatic resources must go through mitigation sequencing to avoid and minimize impacts before determining whether compensatory mitigation is appropriate and what the permit requirements are. Aquatic resources mitigation and mitigation banking policies and statutes (Title 90 of Chapter 90.74 and 90.84 Revised Code of Washington [RCW]) is directed to the authority of the DOE (WSL 2021). If a project has the potential to permanently, temporarily, and/or indirectly impact aquatic resources, then mitigation planning and banking may be required to offset impacts. Mitigation requirements are achieved through the Washington State Environmental Policy Act (SEPA) process and in consultation with permitting agencies (e.g., the USACE, the DOE, and the Washington Department of Fish and Wildlife [WDFW]).

Shoreline Management Act

Pursuant to the Shoreline Management Act (SMA), DOE jurisdiction includes all land within 200 feet of the ordinary high water mark of a state shoreline and may be extended to include the entirety of an associated wetland and/or floodplain (Title 90 of Chapter 90.58 RCW; Washington Administrative Code [WAC] 173-27). Compliance with the SMA is generally achieved through local (i.e., county or city) agencies. Permitting for SMA compliance can also be achieved through the JARPA process.

State Water Pollution Control Act

Pursuant to the State Water Pollution Control Act (Title 90 of Chapter 90.48 RCW; WAC 173-200), the DOE has the jurisdiction to control and prevent the pollution of waters of the state, defined as including lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington. Compliance with the State Water Pollution Control Act is met through the CWA Section 401 permitting process; see Section 2.2.1.1, Clean Water Act Section 401.

State Environmental Policy Act

The SEPA process identifies and analyzes environmental impacts associated with governmental decisions. These decisions may be related to issuing permits for private projects, constructing public facilities, or adopting regulations, policies, and plans. The SEPA review process helps agency decision-makers, applicants, and the public understand how the entire proposal will affect the environment. SEPA can be used to modify or deny a proposal to avoid, reduce, or compensate for probable impacts. The DOE oversees the rules and guidance for the state and provides technical assistance to agencies, applicants, and citizens as they participate in the SEPA review process. The DOE can also act as the SEPA lead agency or co-lead agency for some proposals (DOE 2022).

Unless specifically exempted by statute or the state SEPA rules (WAC 197-11-800 through 197-11-890), a SEPA environmental review is required for all agency actions related to proposed projects, regardless of whether the applicant is from the private sector or public sector (DOE 2022).

Growth Management Act

The Growth Management Act (GMA) (Title 36 of Chapter 36.70A RCW) is a series of state statutes that requires fast-growing counties and cities to develop a comprehensive plan to manage their population growth (MRSC 2021). The GMA requires local governments to designate and protect critical areas (Chapter 36.70A RCW; WAC 365-196). These critical areas include the following:

- Wetlands
- Areas with a critical recharging effect on aquifers used for potable water
- Fish and wildlife habitat conservation areas
- Frequently flooded areas
- Geologically hazardous areas

Compliance with the GMA is generally achieved through the SEPA process and through local agency (i.e., county or city) permitting requisites (e.g., conditional use permit).

Washington Department of Fish and Wildlife

The applicable laws and regulations in the following sections are overseen by the WDFW.

Hydraulic Project Approval

The WDFW serves as the administering agency for the Hydraulic Project Approval permit for projects that use, divert, obstruct, or change the natural bed or flow of waters of the state pursuant to the State Hydraulic Code (Title 77 of

Chapter 77.55 RCW; WAC 220-110). Hydraulic Project Approval compliance can be achieved through the WDFW online Aquatic Protection Permitting System process. Permitting for Hydraulic Project Approval compliance can also be achieved in the JARPA process.

Priority Habitat and Species Program

The Priority Habitats and Species (PHS) Program is the WDFW's primary means of providing fish and wildlife information to the public. PHS is used by counties and cities to implement and update land use plans and development regulations under the GMA and SMA. The PHS is taken into consideration as developers and landowners consider ways to develop and conserve their property.

The Washington Administrative Code refers to the PHS Program in sections dealing with Critical Area Ordinances, Shoreline Master Programs, and the Essential Facilities Siting Evaluation Council. The state supreme court has held that PHS is a valid source of best available science for the GMA. However, there are no state-specific "PHS regulations." The mapping of a PHS species or a PHS Program management recommendation does not by itself create an obligation for a landowner or project. Depending on how a local government's development regulations are worded, the PHS Program and management recommendations may trigger the local government's regulatory authority. Using PHS to trigger local regulations is recommended by the WDFW, the DOE, and the Washington Department of Commerce. Other than GMA and SMA requirements, projects affecting priority habitats and species may be affected by regulatory requirements under the ESA, the Forest Practices Act, the hydraulics code (i.e., Hydraulic Project Approval permit), and/or game harvest regulations.

Washington Department of Natural Resources

The applicable laws and regulations in the following sections are overseen by the Washington Department of Natural Resources (WDNR).

Habitat Conservation Planning

Two habitat conservation plans' jurisdictions overlap the project site: the Washington State Trust Lands Habitat Conservation Plan and the Forest Practices Habitat Conservation Plan (WDNR 2021). This site falls within the North Puget Planning Unit and two priority habitats fall within the proposed project site: Hansen Creek and a freshwater emergent wetland. No other WDNR-managed lands, natural resource conservation areas, or natural area preserves covered by the habitat conservation plans overlap the project site.

Aquatic Lands Act

The Aquatic Lands Act (Chapter 79.105-79.140 RCW) gives the WDNR the responsibility to manage state-owned aquatic lands, including authorizing the use of these lands for activities, including for wetland mitigation projects. The WDNR works with other state agencies (e.g., the DOE, counties, and cities) to implement recommendations and land use regulations to protect aquatic lands. Any project on state aquatic lands may require authorization from the WDNR.

Local

Skagit County Comprehensive Plan

The project area is designated as “Agriculture-NRL” land use under the Skagit County Comprehensive Plan and is considered outside of the urban growth areas (Skagit County 2021). “Agricultural Resource Lands are those lands with soils, climate, topography, parcel size, and location characteristics that have long-term commercial significance for farming” (Skagit County 2021).

The GMA requires local governments to designate and protect the critical areas as discussed in Section 2.2.1.6, Growth Management Act (wetlands, aquifer recharge areas, frequently flooded areas, geologically hazardous areas, and fish and wildlife habitat conservation areas). The GMA also requires counties and cities to develop policies and regulations that are based on “best available science.” Policy 5A-1.1 of the Skagit County Comprehensive Plan outlines those resources that are considered “best available science” and should be used to identify, classify, and map critical areas. Goal 5A-5, and associated policies, of the Skagit County Comprehensive Plan outlines the various protection requirements for each critical area designation. Policies within Goal 5A-5 also identify mitigation measures and requirements for siting development within and adjacent to critical areas.

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Appendix B

Hansen Creek Western Toad Surveys



April 25, 2024

Dudek
Attention: Tony Vingiello
605 NE 21st Avenue
Portland, OR 97220
(503) 705-8553

Re: Hansen Creek Western Toad Surveys | Skagit County, Washington

Dear Tony,

Ecological Land Services, Inc. (ELS) has prepared this memo to describe the findings of two site visits to survey for Western toads (*Anaxyrus boreas*) at the request of the Washington Department of Fish and Wildlife (WDFW). Surveys occurred in Hansen Creek adjacent to a proposed project area on Skagit County Parcels P40030, P40046, and P40042, accessed from 25080 Minkler Road near Sedro Woolley, Washington.

Methodology

Western toad surveys were conducted in the portion of Hansen Creek flowing through and adjacent to the project work area as well as any observed back channels or associated wetlands (see attached map). Surveys involved visual detection of egg masses and/or tadpoles and adults by wading the length of the creek in the study area. Site visits were conducted approximately one week apart on April 11th and April 19th, during varying weather conditions (see datasheets). In addition to the in-water surveys, an ELS biologist walked the east bank of Hansen Creek to survey for terrestrial adults.

Site Conditions

The portion of Hansen Creek within the study area is generally swiftly moving, with a water depth ranging from six inches to four feet during the site visits. The stream bank varies from gently sloping, with exposed sandbars and overhanging vegetation, to areas of bare riprap and moderate incision. The northern portion of the surveyed stream area has overstory canopy cover provided by a thin strip of mature trees immediately adjacent to the stream. As the stream flows south, canopy cover decreases, and bank vegetation primarily consists of Himalayan blackberry (*Rubus armeniacus*) and reed canary grass (*Phalaris arundinacea*). The stream in the survey area primarily consisted of a single channel, with few areas where water velocities slowed to create eddies or pools. However, areas of overhanging or in-water vegetation were observed that could provide potential habitat for egg masses. Site conditions are shown in the attached photoplate.

Findings

There were no egg masses, tadpole/larvae, or adult Western toads observed during the surveys. It appears that the onsite habitat conditions, primarily swift moving water and a minimal amount of persistent, in-water vegetation, may not lend to preferred breeding habitat for Western toads. The attached datasheets further describe conditions during the surveys.

Dudek
April 25, 2024
Page 2

Please do not hesitate to reach out to me with any questions or comments at Coli@eco-land.com or (360) 431-4571.

Thank you,

A handwritten signature in blue ink, appearing to read "Coli Huffman". The signature is fluid and cursive, with a large initial "C" and "H".

Coli Huffman
Biologist

Enclosures:
Study Area Map
Photoplate 1
Survey Data Sheets

Hansen Creek Western Toad Surveys

Study Area

Legend

-  25080 Minkler Rd
-  Approx. Study Area

25080 Minkler Rd

Hansen Creek

Hansen Creek

Google Earth



600 ft



Photo 1 (above). View of channel conditions in the northern portion of the study area, just south of Minkler Road, facing downstream.

Photo 3 (below). View of channel conditions in approximately the mid-point of the study area, facing downstream.



Photo 2 (above). View of typical channel conditions in the northern portion of the study area, facing downstream.

Photo 4 (below). View of slower moving water and in-water vegetation in the southern extent of the study area, facing upstream.



1157 3rd Ave., Suite 220A
Longview, WA 98632
Phone: (360) 578-1371
Fax: (360) 414-9305

DATE: 4.25.24
DWN: CH
PRJ. MGR: CH

Photoplate 1
Site Photos
Hansen Creek Western Toad Surveys
Dudek
Skagit County, Washington

Date: 4/11/24
Start Time: 2:00pm
Rain: Showers

Location: Hansen Creek
End Time: 3:25pm
Air Temp: 47°F

Surveyor: C. Huffman
Weather: Overcast
Wind: Light

Time	Species	Life Stage	Location	Habitat	Notes
					No amphibians or egg masses observed

Date: 4/19/24
Start Time: 9:30am
Rain: No

Location: Hansen Creek
End Time: 10:35
Air Temp: 55°F

Surveyor: C. Huffman
Weather: Sunny/Clear
Wind: Little to none

Time	Species	Life Stage	Location	Habitat	Notes
					No amphibians or egg masses observed

Appendix C

Special-Status Wildlife Species
with a Potential to Occur within the Project Site

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
Amphibians					
<i>Anaxyrus boreas</i> ¹ western toad	None	C/SGCN/PS	Occurs in all nine Washington ecoregions: Northwest Coast, West Cascades, Puget Trough, North Cascades, Columbia Plateau, Okanogan, East Cascades, Canadian Rocky Mountains, and Blue Mountains.	Occurs in many terrestrial habitats including prairies, forests, canyon grasslands, and ponderosa pine-Oregon oak habitat. Aquatic breeding habitats are typically permanent and include features such as wetlands, ponds, lakes, reservoir coves, off-channel habitats of rivers, and river edges.	Potential to occur. Focused surveys for this species were conducted and no western toads were observed within the project site.
<i>Rana pretiosa</i> ² Oregon spotted frog	T	E/SGCN/PS	Occurs in the western area of the state. The historical range includes the Puget Trough Ecoregion in Whatcom, Skagit, and Thurston Counties, and southern extent of the Eastern Cascades Ecoregion in Skamania and Klickitat Counties. Current records are isolated to the following watersheds: Sumas River, South Fork Nooksack River, Samish River, upper Black River, lower Trout Lake Creek, and Outlet Creek drainage.	Highly aquatic species rarely found away from water. Populations occur in large, shallow wetland systems associated with a stream. Breeding habitat is seasonally flooded, shallow margins of wetlands. Aquatic features must remain aerobic and do not freeze for winter survival.	Low potential to occur. While Hansen Creek and the unnamed ditch are aquatic habitats, there are not appropriate wetland communities to support this species. This species is known to occur within the Puget Trough Ecoregion, and seven sightings have been recorded within 10 miles since 2007. ³

¹ WDFW 2024. "Western Toad (*Anaxyrus boreas*)." Accessed March 2024; WDFW 2009.

² WDFW 2024. "Oregon Spotted Frog (*Rana pretiosa*)." Accessed March 2024; WDFW 2009.

³ iNaturalist 2023a.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Rana luteiventris</i> ⁴ Columbia spotted frog	None	C/SGCN/PS	Occurs east of the Cascade Mountains in the following ecoregions: East Cascades, Okanogan, Canadian Rocky Mountains, Columbia Basin, and Blue Mountain.	Relatively aquatic and rarely found far from water. Can be found in still-water habitats, streams, and creeks. Breeding habitat includes seasonally flooded, shallow margins of wetlands, ponds, and lakes.	Not expected to occur as the project site is located outside of the range for this species.
Birds					
<i>Accipiter</i> ⁵ <i>gentilis</i> (nesting) northern goshawk	None	C/PS	Occur in all forested regions of Washington. About 50% of the documented breeding territories occur in the eastern Cascades, 27% in the western Cascades, 12% in other forested areas of northeast and southeast Washington, and 10% in the Olympic Peninsula. Less than 2% of recent breeding records have been recorded from southwest Washington (south of the Puget Sound and west to the coast).	Nests primarily in middle- and higher-elevation dense conifer forests; winters at lower elevations along coast, foothills, and northern deserts in riparian and pinyon-juniper woodland.	Not expected to occur due to lack of suitable habitat.
<i>Aechmophorus occidentalis</i> ⁶ western grebe	None	C/SGCN/PS	Western grebes breed at suitable water bodies across the western United States, southwestern Canada, and Mexico. Birds winter primarily along the Pacific Coast from Vancouver Island to central Mexico.	Rushy lakes, sloughs; in winter, bays, ocean. Summers mainly on freshwater lakes with large areas of both open water and marsh vegetation; rarely on tidal marshes. Winters mainly on sheltered bays or estuaries on coast, also on large freshwater lakes, rarely on rivers.	Not expected to occur as the project site is located outside of the known range for this species.

⁴ WDFW 2024. "Columbia Spotted Frog (*Rana luteiventris*)." Accessed March 2024; WDFW 2009.

⁵ WDFW 2024. "Northern Goshawk (*Accipiter gentilis*)." Accessed March 2024.

⁶ WDFW 2024. "Western Grebe (*Aechmophorus occidentalis*)." Accessed March 2024; Audubon Society 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			Most nesting in Washington occurs in Grant County, with single nesting sites also known from Adams, Spokane, Okanogan, Lincoln, and possibly Ferry Counties. Wintering birds are distributed throughout the Salish Sea, in embayments and nearshore waters along the outer coast, and in nearby freshwater lakes.		
<i>Aechmophorus clarkii</i> ⁷ Clark's grebe	None	C/SGCN/PS	Breed at suitable water bodies across the western United States, southern Alberta to southern Manitoba, and Mexico. The species winters primarily along the Pacific Coast from California to central Mexico. All known breeding localities in Washington occur in Grant County except for one location in Adams County. Distribution in the state is more widespread during migration, including western Washington where the species is casual from September to May. The wintering range of Washington breeders is unknown.	Occupy large freshwater lakes, reservoirs, and marshes during the summer breeding season and primarily coastal marine areas with relatively calm waters during the winter. Both types of habitats are used during spring and fall migration. Nesting areas typically contain at least several square kilometers of open water and areas of emergent vegetation.	Not expected to occur due to lack of suitable habitat. Project site is located outside of known range for the species.

⁷ WDFW 2024. "Clark's Grebe (*Aechmophorus clarkii*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Anser caerulescens</i> ⁸ snow goose	None	None/PS	Those that nest on Wrangel Island (Russia) winter in and around Fraser and Skagit River deltas in British Columbia and Washington, respectively.	Tundra (summer), marshes, grain fields, ponds, bays. In summer on Arctic tundra usually within 5 miles of coast, near lakes or rivers. During migration and winter in coastal marshes, estuaries, freshwater marshes, agricultural country.	Not expected to occur due to lack of suitable habitat. Project site is located outside of known range for the species.
<i>Aquila chrysaetos</i> ⁹ (nesting and wintering) golden eagle	None/FP	C/SGCN/PS	Golden eagles have a broad distribution throughout the mountainous areas of the state, especially in eastern Washington. Washington breeding is limited primarily to the Okanogan highlands, rainshadows of the Olympics and Cascades, the Blue Mountains along the Snake and Grande Ronde Rivers, and the San Juan Islands. The resident population occurs at low densities in areas where suitable nest sites (cliffs and trees) are found in proximity to abundant prey.	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, and open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats. Associated with steep terrain.	Not expected to occur due to lack of suitable breeding/wintering habitat. Project site is located outside of known range for the species.
<i>Ardea herodias</i> (nesting colony) great blue heron ¹⁰	None	None/PS	Widespread and common throughout western United States throughout all seasons.	Nests in large trees or snags; forages in wetlands, water bodies, watercourses, and opportunistically in uplands, including pasture and croplands.	Not expected to occur due to lack of suitable habitat.

⁸ WDFW 2024. "Snow Goose (*Anser caerulescens*)." Accessed March 2024; Audubon Society 2024. NatureServe 2024.

⁹ WDFW 2024. "Golden Eagle (*Aquila chrysaetos*)." Accessed March 2024.

¹⁰ WDFW 2024. "Great Blue Heron (*Ardea herodias*)." Accessed March 2024; Audubon Society 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Brachyramphus marmoratus</i> marbled murrelet ¹¹	T	E/SGCN/PS	Marbled murrelets nest on large limbs high in old-growth coniferous canopies up to 55 miles from saltwater in Washington, tending to occur in higher concentrations nearer the water. During the breeding season, marbled murrelets have also been observed feeding on juvenile salmon in freshwater lakes.	Suitable nesting platforms are defined as at least 7 inches in diameter and a minimum of 50 feet above the ground in forests of 175 to 600 years of age, but nests have also been found in trees as young as 80 years with suitable platforms. Nesting season is considered to occur from April 1 to September 31 in Washington.	Not expected to occur due to lack of suitable habitat.
<i>Branta bernicla</i> ¹² western High Arctic brant	None	SGCN/PS	The western High Arctic brant is one of two stocks of brant that occur in Washington during winter, and it is not currently recognized as a distinct subspecies separate from black brant. They breed in Canada on the Parry Islands, located in Northwest Territories and Nunavut. Marking information indicates the north Puget Sound area is the major wintering area for this stock.	Nesting habitat includes the edges of saltmarshes in the low Arctic region; migratory habitats include shallow marine lakes; winter range includes intertidal mudflats in shallow marine waters with abundant eelgrass and/or green algae.	Not expected to occur due to lack of suitable habitat. Project site is located outside of known range for the species.
<i>Chaetura vauxi</i> ¹³ (nesting) Vaux's swift	None	PS	Breed from Southern Alaska to central California, inland to western Montana. Present in Washington as spring and autumn migrants and as summer residents. During	Late-stage conifer forest and mixed-conifer/deciduous forest; and occasionally buildings and chimneys.	Not expected to occur due to lack of suitable habitat.

¹¹ WDNR 2019; WFWO 2012.

¹² WDFW 2024. "Western Arctic Brant (*Branta bernicla*)." Accessed March 2024; Audubon Society 2024.

¹³ WDFW 2024. "Vaux's Swift (*Chaetura vauxi*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			breeding season, associated with old-growth and mature forests in western Washington, eastern Cascade, northeast Washington, and Blue Mountains.		
<i>Coccyzus americanus</i> yellow-billed cuckoo (Western Distinct Population Segment) ¹⁴	T	None	Yellow-billed cuckoo is considered extirpated from this area and Washington in general.	Nests in dense, wide riparian woodlands and forest with well-developed understories.	Not expected to occur because the species is considered extirpated from this area.
<i>Cygnus buccinator</i> ¹⁵ trumpeter swan	None/FP	None/PS	Originate from forested regions of Alaska and Canada's western Yukon, and northern British Columbia.	Winters in western part of state, mainly in Whatcom and Skagit Counties.	Not expected to occur due to lack of suitable habitat.
<i>Cygnus columbianus</i> ¹⁶ tundra swan	None/FP	None/PS	More than 1,000 trumpeter and tundra swans overwinter in Whatcom County alone. The birds arrive generally in late October and stay in northwestern Washington over the winter before beginning their northward migration in April to their breeding sites.	Tundra swans use a variety of large lakes and smaller wetlands, especially where submersed aquatic vegetation is plentiful. During fall and winter, flocks will also feed and loaf in agricultural fields.	Not expected to occur due to lack of suitable habitat.
<i>Gavia immer</i> ¹⁷ (nesting) common loon	None	S/SGCN/PS	Breeding habitat mainly in remote areas in northern tier of the state. In winter, nearshore marine habitat and	In winter, marine and estuarine coastal areas, sometimes larger inland lakes reservoirs and rivers. Breeding habitat is freshwater lakes and reservoirs.	Not expected to occur. This species may occur within the study area at

¹⁴ Wiles and Kalasz 2017; Halterman et al. 2016.

¹⁵ WDFW 2024. "Trumpeter Swan (*Cygnus buccinator*)."
Accessed March 2024.

¹⁶ WDFW 2024. "Tundra Swan (*Cygnus columbianus*)."
Accessed March 2024; USFWS 2024.

¹⁷ WDFW 2024. "Common Loon (*Gavia immer*)."
Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			larger freshwater bodies of western Washington.		the Skagit River during the winter, but as there is no useful breeding or overwintering habitat within the project site, this species is unlikely to be present.
<i>Histrionicus histrionicus</i> ¹⁸ (nesting) harlequin duck	None	SGCN/PS	Range is on both coasts, north from New Jersey and San Francisco. Surveys in 1996 documented approximately 400 breeding pairs of harlequin duck on Washington streams, primarily in the Cascade and Olympic mountain ranges. An average of approximately 3,000 harlequins wintered on Puget Sound during 2012 to 2014, a reduction of 15% since 1994 to 1996.	The harlequin duck is found on fast-flowing streams in riparian, subalpine, and coastal habitats during the breeding season.	Not expected to occur due to lack of suitable habitat.
<i>Pelecanus erythrorhynchos</i> ¹⁹ American white pelican	None	S/SGCN/PS	Very local breeders in Western Washington and a rare visitor on the eastern side. Known breeding colony of 2,500 to 3,000 pairs on Columbia River's Badger Island in Walla Walla County, just southeast of Kennewick/Tri-Cities. Overwinter from central	Nest on isolated ephemeral or permanent islands in freshwater systems relatively free from human disturbance and mammalian predators. Foraging areas may be 30 miles or more from breeding sites and include the shallows of lakes, rivers, and marshes.	Not expected to occur due to lack of suitable habitat.

¹⁸ WDFW 2024. "Harlequin Duck (*Histrionicus histrionicus*)." Accessed March 2024.

¹⁹ WDFW 2024. "American White Pelican (*Pelecanus erythrorhynchos*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			California to southern Arizona, Mexico, and northern Central America, and from Texas to Florida.		
<i>Phoebastria albatrus</i> ²⁰ short-tailed albatross	E	C/SGCN/PS	Rare Washington visitor; edge of continental shelves from Alaskan gulf to southern California.	They are ocean surface feeders, relying primarily on squid, flying fish, fish eggs, and crustaceans.	Not expected to occur due to lack of suitable habitat.
<i>Picoides arcticus</i> ²¹ black-backed woodpecker	None	C/PS	Boreal forests of North America. In Washington, found on eastern slope of the Cascade Mountains and in coniferous forests of Okanogan Highland, Selkirk, and the Blue Mountains.	Mature and old-growth lodgepole pine, ponderosa pine, and mixed-conifer forests with standing dead trees. Burned and insect-infested stands.	Not expected to occur due to lack of suitable habitat.
<i>Podiceps grisegena</i> ²² red-necked grebe	None	SGCN/PS	Overwinters along the Pacific Coast from Alaska to southern California. In western Washington, it is a fairly common migrant and winter visitor; it rarely occurs in summer in marine waters and on freshwater lakes west of the Cascades. East of the Cascades, the red-necked grebe is a local, fairly common breeder in northeastern Washington, but is a rare to uncommon winter visitor.	Nest on freshwater lakes, reservoirs, and sloughs where marsh vegetation is present and overwinter in marine bays, estuaries, and protected shorelines. By May, they have usually arrived at their breeding sites where they remain until fall. Nesting occurs on shallow, freshwater lakes, as well as shallow protected marsh areas and secluded bays of larger lakes.	Not expected to occur due to lack of suitable habitat.

²⁰ WDFW 2024. "Short-tailed Albatross (*Phoebastria albatrus*)." Accessed March 2024.

²¹ WDFW 2024. "Black-backed Woodpecker (*Picoides arcticus*)." Accessed March 2024.

²² WDFW 2024. "Red-necked grebe (*Podiceps grisegena*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Poocetes gramineus affinis</i> ²³ (wintering) Oregon vesper sparrow	None	E/SGCN/PS	Breeding range is Western Washington, western Oregon, and northwestern California. Overwinters from central California to northwestern Baja California. It is now mainly limited in Washington to remnant prairies and grasslands in Pierce and Thurston Counties, with smaller numbers on islands in the lower Columbia River and grasslands on San Juan Island; a few may still breed in eastern Clallam County and near Shelton (Mason County). Approximately 90% of the population occurs in the south Puget lowlands, predominantly on Joint Base Lewis-McChord.	Dry, open landscapes with moderately short and structurally diverse grass/forb cover and sparsely vegetated areas. Grassland, shrub-steppe, agriculture.	Not expected to occur due to lack of suitable habitat. Species range is severely restricted.
<i>Strix occidentalis caurina</i> ²⁴ northern spotted owl	T	E/SGCN/PS	Coniferous forests in western Washington and east slope of the Cascade Range.	Mid- and late-seral coniferous forests from sea level up to 5,000 feet above mean sea level. Habitat characteristics include high canopy closure, complex canopy structure, and large decaying trees/snags. Preys on northern flying squirrels, bushy-tailed woodrats, snowshoes hares, and other small mammals.	Not expected to occur due to lack of suitable habitat.

²³ WDFW 2024. "Oregon Vesper Sparrow (*Poocetes gramineus affinis*)." Accessed March 2024.

²⁴ WDFW 2024. "Northern Spotted Owl (*Strix occidentalis caurina*)." Accessed March 2024; Audubon Society 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
Mammals					
<i>Canis lupus</i> ²⁵ grey wolf	E	E/SGCN/PS	A wolf pack with pups was confirmed in July 2008 in western Okanogan and northern Chelan Counties and represented the first fully documented breeding by wolves in the state since the 1930s. Since then, the state's wolf population has increased at an average rate of 28% every year, and many other wolf packs have been confirmed.	In the northwestern states and western Canada, wolves are most common in relatively flat forested areas, rolling hills, or open spaces such as river valleys and basins, where prey animals are easier to chase and catch. Wolf populations fare best in areas away from humans and their activities. These tend to be remote, relatively unpopulated areas with extensive public lands, few roads, and few or no livestock.	Not expected to occur due to lack of suitable habitat.
<i>Corynorhinus townsendii</i> ²⁶ Townsend's big-eared bat	None	SGCN/PS	This species occurs from southern British Columbia southward through most of the western United States to central Mexico. Documented records exist for most counties in Washington but are lacking for the southern Columbia Basin and Blue Mountains.	In Washington, Townsend's big-eared bats are found in westside lowland conifer-hardwood forest, ponderosa pine forest and woodlands, mixed highland conifer forest, eastside mixed conifer forest, shrub-steppe, and both eastside and westside riparian forest/wetlands and open fields. Roosts in open areas of caves, abandoned mines, or other subterranean features.	As this species is mapped with a masked polygon, and roosting habitat features are present in the study area and adjacent to the site, there is a moderate likelihood of this species occurring within the study area. However, no signs of bats have been observed within the project

²⁵ WDFW 2024. "Grey Wolf (*Canis lupus*)." Accessed March 2024.

²⁶ WDFW 2024. "Townsend's Big-eared Bat (*Corynorhinus townsendii*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
					site; therefore, this species is not expected to be present.
<i>Eschrichtius robustus</i> Eastern North Pacific (ENP) Stock ²⁷ gray whale	E	S	Year-round distribution of the ENP stock extends from the Bering and Chukchi Seas southward to Baja California, Sonora, and Sinaloa in Mexico. A few individuals visit Puget Sound annually and are locally referred to as “Sounders.” A small subpopulation of the ENP stock, known as the Pacific Coast Feeding Group, numbers about 243 whales and summers between southeastern Alaska and northern California, including Washington.	Gray whales feed in shallow continental shelf waters and at offshore banks, where “benthic” (bottom-dwelling) invertebrate communities are concentrated.	Not expected to occur due to lack of suitable habitat.
<i>Lynx canadensis</i> ²⁸ lynx	T	E/SGCN/PS	Canada lynx once occurred throughout the northern counties of Washington, but they are now largely restricted to a single area that encompasses western Okanogan, northern Chelan, and eastern Whatcom and Skagit Counties.	Lynx occupy subalpine and boreal coniferous forests that have substantial accumulations of snow during the late fall, winter, and early spring. In Washington, lynx habitat includes Engelmann spruce, lodgepole pine, and subalpine fir forests higher than 4,600 feet in elevation.	Not expected to occur due to lack of suitable habitat.

²⁷ WDFW 2024. “Gray Whale (*Eschrichtius robustus*).” Accessed March 2024.

²⁸ WDFW 2024. “Lynx (*Lynx canadensis*).” Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Gulo gulo luscus</i> ²⁹ wolverine	T	C/SGCN/PS	Wolverines occur in the remote mountainous areas of the Cascades and in northeastern Washington. In the Cascade Range, wolverines occupy high-elevation landscapes from North Cascades National Park and Okanogan-Wenatchee National Forest south to Mount Adams on the Gifford Pinchot National Forest.	Wolverines commonly occur in boreal forest, taiga, and tundra ecosystems. In Washington, they occupy alpine and subalpine forest habitats.	Not expected to occur due to lack of suitable habitat.
<i>Martes caurina pop.</i> ³⁰ Pacific marten (coastal population)	None	SGCN/PS	The geographic range of the coastal population of Pacific martens in Washington historically included the Olympic Peninsula and the southwestern portion of the state (west of Interstate 5). Martens are not currently known to occupy the forested areas south of Olympic National Forest or those in southwestern Washington.	Historical accounts indicated that Pacific martens occupied lower elevation forested landscapes in the western coastal plain and foothills of the Olympic Peninsula. These landscapes were dominated by older coniferous forests and riparian forest habitats, but these areas were heavily logged in the early and mid-1900s.	Not expected to occur due to lack of suitable habitat.
<i>Myotis keenii</i> ³¹ Keen's myotis	None	C/SGCN/PS	This species has one of the smallest ranges of any North American bat, occurring in coastal areas from southeast Alaska to northwestern Washington, including the Olympic Peninsula and Puget	Keen's myotis is closely associated with low elevation, moist, mature coastal conifer forests during the active season and may move to hibernacula in mid-elevation caves for winter.	Not expected to occur due to lack of suitable habitat.

²⁹ WDFW 2024. "Wolverine (*Gulo gulo luscus*)." Accessed March 2024.

³⁰ WDFW 2024. "Pacific marten (*Martes caurina*)." Accessed March 2024.

³¹ WDFW 2024. "Keen's Myotis (*Myotis keenii*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			Sound. Abundance in Washington is unknown, but it is assumed to be rare. Trend is unknown.	Summer roosts are in tree cavities, snags, rock crevices, small caves, and buildings. The few documented maternity sites have been found in caves and trees.	
<i>Orcinus orca</i> ³² orca (killer whale)	E/MMPA	E	Killer whales are distributed nearly worldwide. In Washington, they occur in most of the state’s marine waters. Only small portions of both transient and offshore populations normally occur in Washington at any one time.	Occupy pelagic and coastal (including inland marine) waters. Southern resident and transient killer whales spend more time in coastal areas, where their preferred prey is typically found. The Southern resident population feeds primarily on Chinook salmon, chum salmon to a lesser extent, and occasionally other fish. Transient animals feed on seals and other marine mammals. Offshore animals primarily feed on sharks and other fish.	Not expected to occur due to lack of suitable habitat.
<i>Oreamnos</i> ³³ <i>americanus</i> mountain goat	None	PS	Between 2,400 and 3,200 mountain goats are estimated to live in Washington. Mountain goats are native to the Cascade Range and can be found from the Canadian border on the north to the Oregon border on the south. A few mountain goats inhabit the Blue Mountains of southeastern Washington where they have probably colonized from reintroductions in Oregon. Mountain goats are	Mountain goats live in alpine and subalpine environments. In the high-altitude environments, sometimes above 13,000 feet, they are the largest mammal. The high elevation protects mountain goats from predators. In the summer, they stay above the tree line and migrate to lower elevations in the winter.	Not expected to occur due to lack of suitable habitat.

³² WDFW 2024. “Orca (*Orcinus orca*).” Accessed March 2024.

³³ WDFW 2024. “Mountain Goat (*Oreamnos americanus*).” Accessed March 2024; National Forest Foundation 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			not native to the Olympic Peninsula; these goats descended from introductions in the 1920s (WDFW 2024).		
<i>Pekania pennanti</i> fisher	None	E/SGCN/PS	Fishers occur only in the boreal and temperate forests of North America. They once occurred throughout the forested areas of western and northeastern Washington, and may have also occupied southeastern Washington; however, they were eliminated from the state by the mid-1900s, mainly as a result of over-trapping. In total, 279 fishers from British Columbia and Alberta were reintroduced to forests across the Washington Cascades and Olympic Peninsula from 2008 through 2021.	Coniferous and mixed coniferous-deciduous forests. Tend to avoid areas without substantial tree cover (e.g., clear-cuts, grasslands, agricultural fields), areas with significant human activity, and developed areas. Low to mid-elevation forest landscapes, which tend to be dominated by forests with mid-sized to large-diameter trees. Associated moderate to high canopy closure and the presence of large woody structures such as cavity trees, snags, and logs commonly used as rest sites and den sites.	Not expected to occur due to lack of suitable habitat.
<i>Phoca vitulina</i> ³⁴ harbor seal	MMPA	PS	Temperate coastal habitats along the northern coasts of North America, Europe, and Asia. They occur on the East and West Coasts of the United States. Found all along the West Coast of North America, from Baja California, Mexico, to the Bering Sea. They have	Temperate coastal habitats. Harbor seals haul out (rest) on rocks, reefs, beaches, and drifting glacial ice when they are not traveling and/or foraging at sea.	Not expected to occur due to lack of suitable habitat.

³⁴ NOAA 2024. "Harbor Seal." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
			long been considered non-migratory and typically stay within 15 to 31 miles of their natal area, but tracking data have shown they sometimes travel 62 to 486 miles from their tagging location, often to exploit seasonally available food or give birth to pups.		
<i>Phocoenoides dalli</i> ³⁵ Dall's porpoise	MMPA	PS	Occur throughout the coastal and pelagic waters of the North Pacific Ocean. Commonly found in the Gulf of Alaska, Bering Sea, Okhotsk Sea, and Sea of Japan. In the eastern North Pacific Ocean, they can be found from around the United States/Mexico border (Baja California, 32° North) to the Bering Sea, in the central North Pacific Ocean (above 41° North), and in the western North Pacific from central Japan (35° North) to the Okhotsk Sea. In the Bering Sea, Dall's porpoises occur in higher abundance near the shelf break. They are commonly seen in inshore waters of Washington, British Columbia, and Alaska.	Temperate to boreal waters more than 600 feet deep and with temperatures between 36°F and 63°F. They can be found in offshore, inshore, and nearshore oceanic waters, between 30° North and 62° North.	Not expected to occur due to lack of suitable habitat.

³⁵ NOAA 2024. "Dall's Porpoise." Accessed March 2024.

<i>Scientific Name</i> Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Phocoena phocoena</i> ³⁶ harbor porpoise	MMPA	C/PS	In Washington, harbor seal populations have made a comeback in Puget Sound. The results of Washington Department of Fish and Wildlife aerial surveys, over a period of two decades, documented both increasing trends followed by stabilization of the harbor porpoise in the waters of the Strait of Juan de Fuca and Puget Sound, as well as their expansion into the previously abandoned waters of the Puget Sound and the waters of the Eastern Strait of Georgia.	Harbor porpoises are mostly found in coastal waters, including bays and estuaries. Harbor porpoises are relatively solitary, often seen alone or in groups of a few individuals.	Not expected to occur due to lack of suitable habitat.
<i>Ursus arctos</i> ³⁷ grizzly bear	T	E	Grizzly bears once occurred in most of Washington but are now restricted to northeast Washington's Selkirk Mountains ecosystem and are occasionally documented in remote areas near the northern border of eastern Washington.	Found mostly in arctic tundra, alpine tundra, and subalpine mountain forests, but once occurred in a wider variety of habitats, including open prairie, brushlands, riparian woodlands, and semi-desert scrub. Most populations require huge areas of habitat remote from most human activity. Common only where food is abundant and concentrated (salmon runs, caribou calving grounds, etc.). Hibernation dens are usually on steep,	Not expected to occur due to lack of suitable habitat and the project site is outside of the range for this species.

³⁶ WDFW 2024. "Harbor Porpoise (*Phocoena phocoena*)." Accessed March 2024.

³⁷ WDFW 2024. "Grizzly Bear (*Ursus arctos*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
				north-facing slopes where snow accumulates.	
<i>Vulpes vulpes cascadenis</i> ³⁸ Cascade red fox	None	E	The Cascade red fox is known to occupy the high elevation habitats of southern Cascades. Based on surveys and observations since 2005, there are concentrations of recent verifiable detections in the vicinity of Mt. Adams, Indian Heaven Wilderness Area, Goat Rocks Wilderness Area, and Mt. Rainier National Park. Survey efforts in the North Cascades have not detected any populations of Cascade red foxes; however, a single Cascade red fox was detected near Stevens Pass in 2018. Overall population size and trend are unknown.	Occurs only in alpine and subalpine habitats in montane environments of the Cascade Range in Washington. Subalpine meadows, parklands, and open forests are primary habitats. The species avoids wet, dense forests of the westside Cascades and tends to prefer the open, drier subalpine forests on the east side of the Cascade crest.	Not expected to occur due to lack of suitable habitat.
Fish					
<i>Lampetra ayresii</i> ³⁹ river lamprey	None	C	Widespread across range along the West Coast of United States and Canada.	Anadromous but typically found in larger rivers in lower elevations. Not well researched or understood.	Not expected to occur due to lack of suitable habitat.
<i>Oncorhynchus kisutch</i> pop. 1 ⁴⁰ coho salmon (Lower Columbia River	T	None	Found in the Puget Sound in Washington.	Requires cold, clean, year-round water. Spawning habitat includes small coastal streams and tributaries of larger rivers.	Not expected to occur due to lack of suitable habitat.

³⁸ WDFW 2024. "Cascade Red Fox (*Vulpes vulpes cascadenis*)." Accessed March 2024.

³⁹ WDFW 2024. "River Lamprey (*Lampetra ayresii*)." Accessed March 2024; University of California 2024.

⁴⁰ WDFW 2024. "Coho Salmon (*Oncorhynchus kisutch*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
Evolutionarily Significant Unit)					
<i>Oncorhynchus mykiss</i> ⁴¹ steelhead (All Distinct Population Segment)	T	C/SGCN/PS	Found in rivers in western Washington.	Anadromous. Breeds in cold clear rivers, streams, and lakes.	Potential to occur in Hansen Creek.
<i>Oncorhynchus tshawytscha</i> ⁴² Chinook salmon (All Evolutionarily Significant Unit)	T	SGCN/PS	Spawns on both sides of the Cascade Range.	Anadromous. Typically breeds in large rivers with high water flow but sometimes smaller streams with sufficient water flow.	Potential to occur in Hansen Creek.
<i>Salvelinus confluentus</i> ⁴³ bull trout/Dolly Varden	T	C/SGCN/PS	Can be found in several rivers, lakes, and reservoirs throughout Washington State, including in Lake Shannon in Skagit County.	Bull trout prefer cold, well-oxygenated water.	Potential to occur in Hansen Creek.
<i>Sebastes pinniger</i> ⁴⁴ canary rockfish	T	None	Found from the Gulf of Alaska to northern Baja California.	Adults are found at water depths 80 to 200 meters (262 to 656 feet) but have been found up to 838 meters (2,749 feet). Juveniles can be found in shallower water depths.	Not expected to occur due to lack of suitable habitat.
Invertebrates					
<i>Agonum belleri</i> ⁴⁵ Beller's ground beetle	None	C/SGCN/PS	Restricted range and distribution in Washington in the Puget Sound lowlands (King, Kitsap, Mason, Skagit, Snohomish, and Thurston Counties).	Habitat specialist at low to mid-elevation (less than 3,280 feet) in Puget Trough <i>Sphagnum</i> bogs. This niche habitat is peat-forming wetlands dominated by <i>Sphagnum</i> genus mosses.	Not expected to occur due to lack of suitable habitat.

⁴¹ WDFW 2024. "Steelhead (*Oncorhynchus mykiss*)." Accessed March 2024.

⁴² WDFW 2024. "Chinook Salmon (*Oncorhynchus tshawytscha*)." Accessed March 2024.

⁴³ WDFW 2024. "Bull Trout (*Salvelinus confluentus*)." Accessed March 2024.

⁴⁴ WDFW 2024. "Canary Rockfish (*Sebastes pinniger*)." Accessed March 2024.

⁴⁵ WDFW 2024. "Beller's Ground Beetle (*Agonum belleri*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Argynnis zerene bremnerii</i> ⁴⁶ valley silverspot	None	C/SGCN/PS	Found in the south Puget Sound region. Limited research to determine the extent of the range throughout Washington.	Habitat is restricted to native grasslands, montane meadows, low-elevation, short stature grasslands. Relies on plant species belonging to the genus <i>Viola</i> as hostplants.	Not expected to occur due to lack of suitable habitat.
<i>Bombus occidentalis</i> ⁴⁷ western bumble bee	C	C/SGCN/PS	Historically widespread in large geographic areas in the western United States and Canada. The current range in Washington is reduced to small populations in remote subalpine and montane sites.	Habitat with rich floral resources in the nesting season. Flowers are selected based on structure and bee's tongue length. Overwintering and nesting habitat is above- and belowground habitats such as logs, stumps, abandoned rodent burrows, and ground-nesting bird nests. However, bumble bees do not require native vegetation.	Potential to occur within the project site. However, the site is periodically mowed, thus reducing the potential to sustain habitat for the species.
<i>Callophrys johnsoni</i> ⁴⁸ Johnson's hairstreak	None	C/SGCN/PS	Isolated populations in western Washington. Documented occurrences in Jefferson, Lewis, Mason, Pierce, Skamania, and Snohomish Counties.	This species depends on western dwarf mistletoe (<i>Arceuthobium campylopodum</i>), a plant that parasitizes old-growth western hemlock trees. Western hemlock occurs in low to middle elevations and Johnson's hairstreak has been found at 100 to 2,500 feet in elevation.	Not expected to occur due to lack of suitable habitat.
<i>Danaus plexippus</i> ⁴⁹ monarch butterfly	C	C/SGCN	Found throughout the United States. In Washington, found east of the Cascades where milkweed occurs. Monarchs migrating south often congregate along large rivers (Columbia and Snake Rivers).	Wind-protected tree groves with nectar sources and nearby water sources.	Not expected to occur as the site is outside of known populations and migration corridors.

⁴⁶ WDFW 2024. "Valley Silverspot (*Argynnis zerene bremnerii*)." Accessed March 2024.

⁴⁷ WDFW 2024. "Western Bumble Bee (*Bombus occidentalis*)." Accessed March 2024.

⁴⁸ WDFW 2024. "Johnson's Hairstreak (*Callophrys johnsoni*)." Accessed March 2024.

⁴⁹ WDFW 2024. "Monarch Butterfly (*Danaus plexippus*)." Accessed March 2024.

Scientific Name Common Name	Status		Range	Habitat Requirements	Potential to Occur
	Federal	State			
<i>Euphydryas editha taylori</i> ⁵⁰ Taylor's checkerspot butterfly	E	E	Taylor's checkerspot is a Pacific Northwest endemic butterfly that is restricted to several small populations in Washington. This species is limited to 11 populations in Washington, the nearest of which is in the Puget Sound islands. In addition, iNaturalist shows no observations north of Tacoma and none on the Puget Sound islands.	Taylor's checkerspot relies on members of Scrophulariaceae, or the figwort family of plants, and is found in open prairie and grassland habitat.	Not expected to occur as this site is outside of the range of this species.
<i>Haliotis kamtschatkana</i> ⁵¹ pinto (northern) abalone	None	E/SGCN/PS	Found from Baja California, Mexico, to Alaska.	The only abalone species found in Washington in water depths 9 to 60 feet in complex rocky reef habitat. Their distribution in relatively shallow water makes them vulnerable to harvest.	Not expected to occur due to lack of suitable habitat.

Status Legend

State and Federal

C = Candidate

E = Endangered

FP =

MMPA = Marine Mammal Protection Act

S = Sensitive

T = Threatened

State Specific

SGCN = Species of Greatest Conservation Need under the State Wildlife Action Plan (SWAP)

PS = Priority Species under the State Priority Habitat and Species Program (PHS)

⁵⁰ WDFW 2024; USFWS 2023; iNaturalist 2023b.

⁵¹ WDFW 2024. "Pinto Abalone (*Haliotis kamtschatkana*)."
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Appendix D
Special-Status Plant Species
with a Potential to Occur within the Project Site

APPENDIX D / SPECIAL-STATUS PLANT SPECIES WITH A POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State)	Ecological Systems and Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	Potential to Occur
<i>Agrostis mertensii</i>	northern bentgrass	None/Sensitive	RM Alpine Bedrock & Scree; RM Alpine Dwarf-Shrubland, Fell-Field, & Turf/perennial herb/July-Aug/7,200-7,650	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Brodiaea rosea</i> ssp. <i>rosea</i>	Harvest brodiaea	None/Sensitive	NP Serpentine Barren; WV Upland Prairie & Savanna/perennial herb/May-July(Sep)/440-5,710	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Carex pauciflora</i>	Few-flowered sedge	None/Sensitive	NP Bog & Fen/perennial herb/May-Sep/250-4,550	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Castilleja levisecta</i>	golden paintbrush	Threatened (proposed delist)/Threatened	WV Upland Prairie & Savanna/perennial herb/April-July/10-300	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Erythronium revolutum</i>	Coast fawn-lily	None/Sensitive	NP Hypermaritime Western Red-Cedar-Western Hemlock Forest; NP Lowland Riparian Forest & Shrubland; NP Seasonal Sitka Spruce Forest/perennial herb/April-May/100-600	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Fritillaria camschatcensis</i>	Kamchatka fritillary	None/Sensitive	NP Bog & Fen; NP Intertidal Freshwater Wetland; TP Subalpine-Montane Wet Meadow/perennial bulbiferous herb/May-July/0-3,000	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Hypericum majus</i>	large St. Johns'-wort	None/Sensitive	NA Arid West Emergent Marsh; RM Subalpine-Montane Fen; TP Freshwater	This species is not expected to occur within the project site due to lack of suitable habitat.

APPENDIX D / SPECIAL-STATUS PLANT SPECIES WITH A POTENTIAL TO OCCUR ON THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State)	Ecological Systems and Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	Potential to Occur
			Emergent Marsh/perennial herb/ July–September/50–2,340	
<i>Impatiens noli-tangere</i>	Boreal jewelweed	None/Sensitive	NP Lowland Riparian Forest & Shrubland/annual herb/July–Sep/ (No elevation data)	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Leptosiphon minimus</i>	true babystars	None/Threatened	NP Herbaceous Bald & Bluff; WV Upland Prairie & Savanna/annual herb/ May–June/0–1,640	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Lobelia dortmanna</i>	water lobelia	None/Sensitive	TP Freshwater Aquatic Bed/submerged aquatic perennial/June–Aug/5–1,000	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Montia diffusa</i>	Branched montia	None/Sensitive	NP Dry Douglas-fir Forest & Woodland; NRM Ponderosa Pine Woodland & Savanna/annual herb/April–July/ 850–2,900	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Nuttallanthus canadensis</i>	old field blue toadflax	None/Sensitive	WV Upland Prairie & Savanna/annual herb/May–June/(No elevation data)	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Nuttallanthus texanus</i>	Texas blue toadflax	None/Sensitive	WV Upland Prairie & Savanna/annual herb/Apr–June/16–200	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Packeria macounii</i>	Puget groundsel	None/Sensitive	NP Herbaceous Bald & Bluff; WV Upland Prairie & Savanna/perennial herb/ May–Jul/1,310–4,600	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Plectritis brachystemon</i>	short-spurred plectritis	None/Sensitive	NP Herbaceous Bald & Bluff; WV Upland Prairie & Savanna/annual herb/ April–June/0–6,300	This species is not expected to occur within the project site due to lack of suitable habitat.

Scientific Name	Common Name	Status (Federal/State)	Ecological Systems and Primary Habitat Associations/Life Form/Blooming Period/Elevation Range (feet)	Potential to Occur
<i>Potamogeton obtusifolius</i>	Blunt-leaved pondweed	None/Sensitive	TP Freshwater Aquatic Bed/aquatic perennial herb/June–August/100–513	This species is not expected to occur within the project site due to lack of suitable habitat. The project site occurs outside of the elevation range for this species.
<i>Ranunculus californicus</i>	California buttercup	None/Sensitive	NP Hypermaritime Shrub & Herbaceous Headland; WV Upland Prairie & Savanna/perennial herb/May–June/10–50	This species is not expected to occur within the project site due to lack of suitable habitat.
<i>Salix sessilifolia</i>	soft-leaved willow	None/Sensitive	NP Intertidal Freshwater Wetland; NP Lowland Riparian Forest & Shrubland; TP Freshwater Mudflat/perennial deciduous shrub or tree/May–June/0–660	This species is not expected to occur within the project site due to lack of suitable habitat.

Ecological Systems as provided in the WDNR Natural Heritage Program

NA = North American
 NP = North Pacific
 NRM = Northern Rocky Mountain
 RM = Rocky Mountain
 TP = Temperate Pacific
 WV = Willamette Valley

Appendix E

Aquatic Resources Delineation Reports

May 3, 2024

Tommy Nelson
Goldfinch Energy Storage, LLC
412 West 15th Street, 15th Floor
New York, New York 10011

Subject: Wetlands Assessment for the Goldeneye Energy Storage Project, Skagit County, Washington

Dear Tommy Nelson:

This letter report provides a summary of the wetlands identified within the boundaries of the proposed Goldeneye Energy Storage Project (project) as required by Skagit County Code Section 14.24, Critical Areas Ordinance. This summary provides the information required for items b through e of the Critical Area Checklist. An overview of the wetlands identified within the entire project area is provided in Attachment A, Critical Areas Overview Map – Wetlands. The two reports utilized for the creation of this summary map are provided in Attachments B and C.

A Wetland and Stream Delineation Report for the project was completed by Skagit Wetlands & Critical Areas, LLC, in April 2023. At the time of the delineation, the interconnection to the substation from the energy storage site was not yet known and the delineation focused on the 14.14-acre primary energy storage site located at 25080 Minkler Road. Once the generation transmission (gen-tie) line location was solidified, the gen-tie line and associated construction access road were reviewed for the potential to support jurisdictional aquatic resources. The formal aquatic resources delineation for these project components was conducted by Dudek in September and December 2023 and supplemented by Ecological Land Services in Paril 2024. As such, the complete aquatic resources delineation for the proposed project is presented in two separate wetland and stream delineations reports: one prepared by Skagit Wetlands & Critical Areas, LLC, for the storage site and one prepared by Dudek for Minkler Road, the gen-tie line alignment and associated access road. Both reports are provided in this submittal and will be utilized for the Joint Aquatic Resources Permit Application package and Critical Areas Assessment.

In summary, the proposed project area, including the gen-tie line alignment, includes 1.47 acres of wetlands as well as a portion of Hansen Creek. The wetlands identified within the boundaries of the project are summarized in Table 1. The portion of Hansen Creek that overlaps with the proposed gen-tie line alignment is provided in Table 2. For the main energy storage site, only the extent of the ordinary highwater mark was documented to provide a point from which to establish the required buffer.

Table 1. Wetlands within the Proposed Goldeneye Energy Storage Project Site

Feature Name	Ecology Rating	Skagit County Rating	Wetland Size (Acres)	Buffer Width (Feet)
WET-A	III	III	0.152	150
WET-B	III	III	0.006	150
WET-C	III	III	0.027	150

Table 1. Wetlands within the Proposed Goldeneye Energy Storage Project Site

Feature Name	Ecology Rating	Skagit County Rating	Wetland Size (Acres)	Buffer Width (Feet)
WET-D	IV	IV	0.004	50
WET-E	IV	IV	0.002	50
WET-F	IV	IV	0.979	50
WET-G	IV	IV	0.008	50
WET-H	III	III	0.09	150
WET-I	III	III	0.20	150
Wetlands Total			1.47	N/A

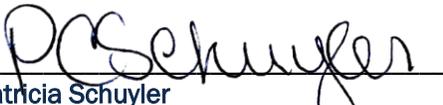
Note: N/A = not applicable.

Table 2. Non-Wetland Waters within the Review Area

Feature Name	DNR Water Type	Portion within the Review Area	Skagit County Buffer Width
Hansen Creek	S	190 linear feet (0.08 acres)	200 feet

Note: WDNR = Washington State Department of Natural Resources; S = shorelines of the state.

Sincerely,

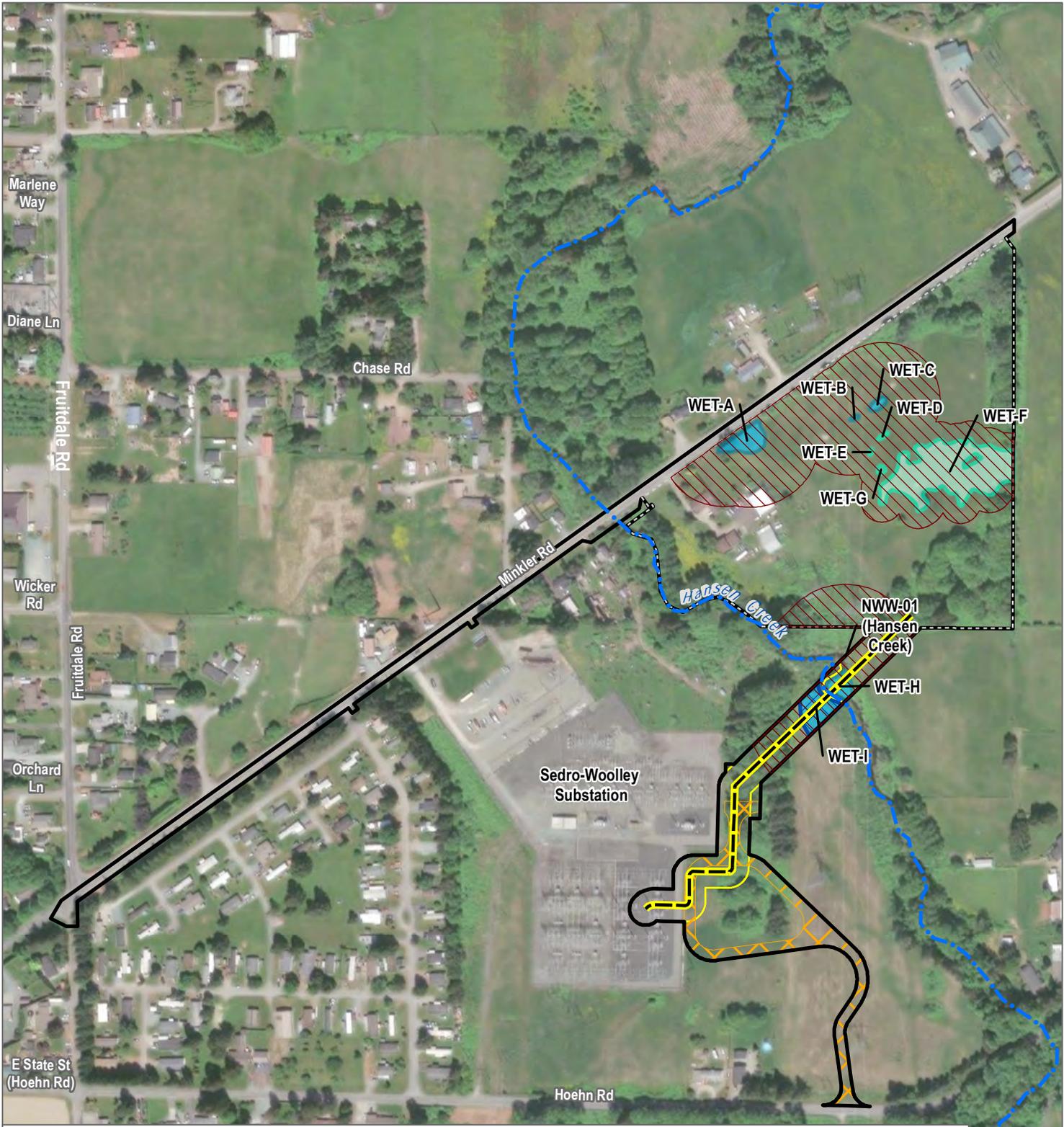

 Patricia Schuyler
 Environmental Project Manager

Att.: A. Critical Areas Overview Map
 B. Wetland and Stream Delineation Report, Skagit Wetlands & Critical Areas, LLC
 C. Aquatic Resources Delineation Report, Dudek

cc: Tony Vingjello, Dudek
 Brad Cole, Dudek

Attachment A

Critical Areas Overview Map



Study Area	Hansen Creek (USGS NHD)
BESS Site Location - Surveyed by Skagit Wetlands & Critical Areas, LLC.	Aquatic Resources Delineation Results
Proposed Access	Category III Wetlands (WET-A, WET-B, WET-C, WET-H, WET-I)
Gen-Tie Alignment - Surveyed by Dudek	Category IV Wetlands (WET-D, WET-E, WET-F, WET-G)
Gen-Tie Alignment	Wetland Enhancement Area (WET-I)
	Wetland Avoidance Areas

SOURCE: Maxar 2017; Skagit County 2021; Skagit Wetlands & Critical Areas, LLC. 2023; USGS NHD 2024

Attachment B

Wetland and Stream Delineation Report,
Skagit Wetlands & Critical Areas, LLC

WETLAND AND STREAM DELINEATION REPORT

**Skagit County, Washington
P40030**

**Skagit Wetlands & Critical Areas, LLC
22031 Grip Road
Sedro Woolley, WA 98284**

May 2023

WETLAND AND STREAM DELINEATION REPORT

25080 Minkler Road Development

May 2023

Prepared By:

Matt Mahaffie, Ecologist
360-391-9571
skagitwetlands@hotmail.com

Project Proponent/Engineer:

Dudek – Portland
605 NE 21st Ave
Ste. 200
Portland, OR 97232
971-930-1700

Executive Summary

During the early growing season of 2023, Skagit Wetlands & Critical Areas staff conducted a wetland delineation exercise on a 14.14 acre property just east of the City of Sedro Woolley. Numerous wetlands were identified along the eastern side of the property while Hansen Creek flowed along the west. In anticipation of an industrial scale battery energy storage project that is anticipated to encumber most of the subject property, a delineation of the site wetlands and ordinary high water mark of Hansen Creek was conducted. This delineation is for permitting purposes to identify such critical area boundaries as well as applicable wetland ratings and local jurisdiction buffer assignment. A complete assessment (wetland as well as fish and wildlife habitat conservation area) will be forthcoming with this document as the baseline for impact and mitigation identification.

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Acronyms and Abbreviations

BA	Biological Assessment
DNR	Washington Department of Natural Resources
Ecology	Washington State Department of Ecology
EEM	estuarine emergent
ESA	endangered species act
GIS	geographic information system
GNSS	global navigation satellite system
HGM	hydrogeomorphic wetland classification
HTL	high tide line
LRR	land resource area
LWD	large woody debris
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OHWM	ordinary high water mark
PEM	palustrine emergent
PFO	palustrine forested
PHS	priority habits and species
PSS	palustrine scrub-shrub
ROW	right of way
SCC	Skagit County Code
TES	threatened, endangered, and sensitive species
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
W	wetland
WMVC	Western Mountains, Valleys, and Coast (regional supplement to the USACE wetland delineation manual)
WDFW	Washington State Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation
WRIA	water resource inventory area

1. Introduction

This report was prepared in preparation of a proposed battery storage project that is anticipated to impact the whole of the property to an extent allowable by Skagit County. Complete project impacts and mitigation schema are not known at the time of this writing with an anticipation of County conditions and coordination.

The purpose of this report is to identify and describe wetlands, streams, and jurisdictional waters occurring within the project. This report helps the applicant:

- Avoid and minimize impacts to wetlands and other waters during the project design process and construction.
- Document wetland and stream boundary determinations for review by regulatory authorities.
- Provide background information for wetland mitigation reports should impacts be unavoidable.

This report provides supporting documentation for potential federal, state, and local permit applications.

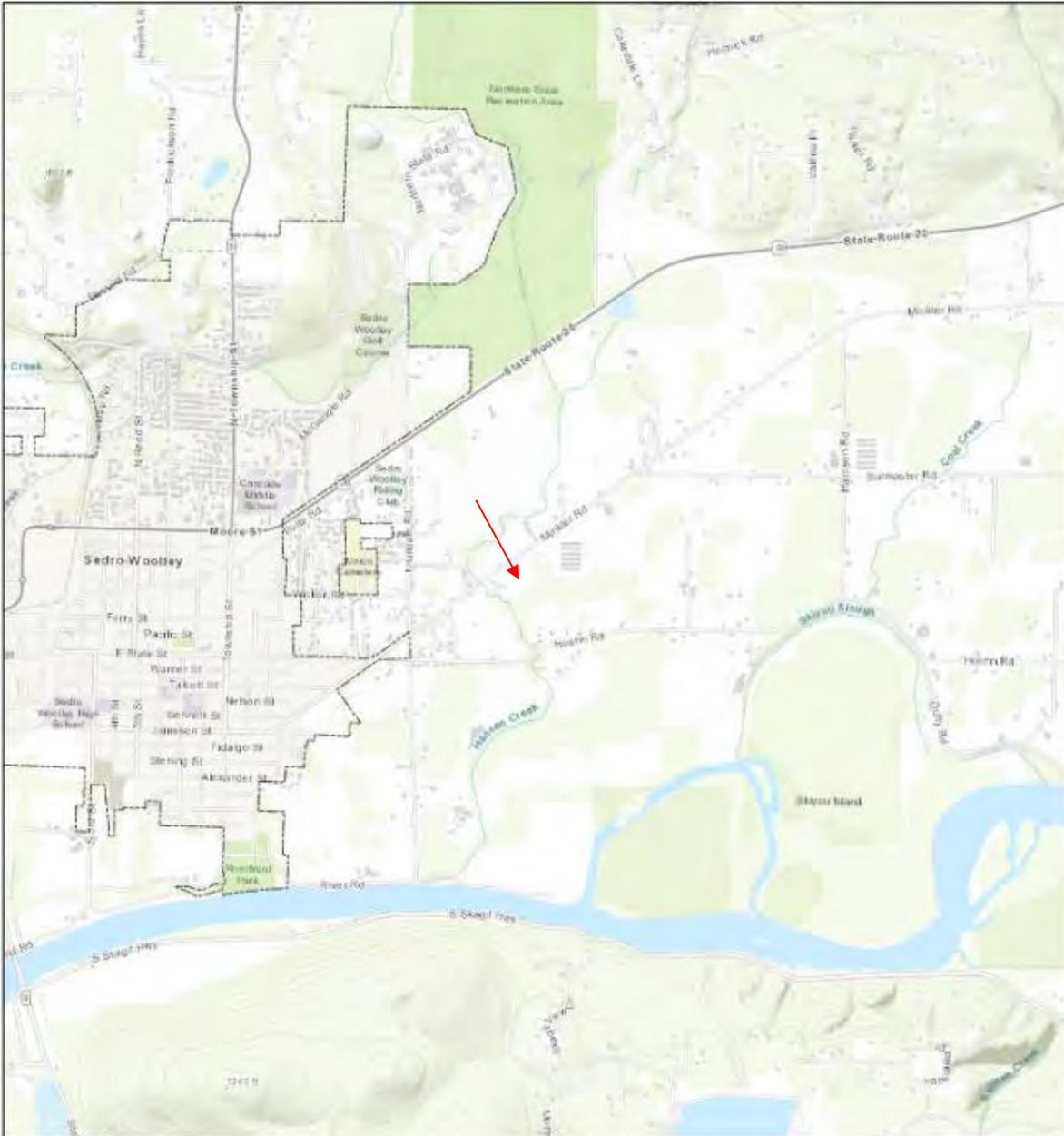
All waters identified in this report are assumed to be under US Army Corps of Engineers (USACE) jurisdiction unless otherwise noted.

2. Proposed Project

2.1. Project Location

The subject property is a level 14.14 acre property found just east of the jurisdictional boundary of the City of Sedro Woolley in unincorporated Skagit County. This area is in the mid-section of what is known locally as the Skagit Valley, and is found on the valley floor on relic floodplain of the Skagit River in what is an area of historic farmland. All surrounding properties to the north, east, and south are agricultural properties, with such use extending for quite some distance. To the west the landscape transitions rapidly to a more urban regime entering the City of Sedro Woolley.

Vicinity Map

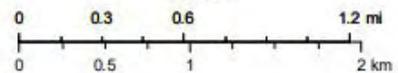


May 10, 2023

1:36,112

Legend

- County Boundary
- City Limits



Data Accuracy Warning: All GIS data was created from available public records and existing map sources. Map features have been adjusted to achieve a best-fit registration. While great care was taken in this process, maps from different sources rarely agree as to the precise location of geographic features. Map discrepancies can be as great as 300 feet.

2.2. Project Purpose and Description

The proposal for this property is to be a redevelopment of the site to a battery storage facility. The property is one of few that is within the requisite distance of the nearby power substation and transmission lines to work for such a purpose. Such a proposal will necessitate significant spatial improvements to the site, likely leading to impacting of property wetlands; all or in part. The delineation of the site wetlands is the preliminary step in identifying those impacts.

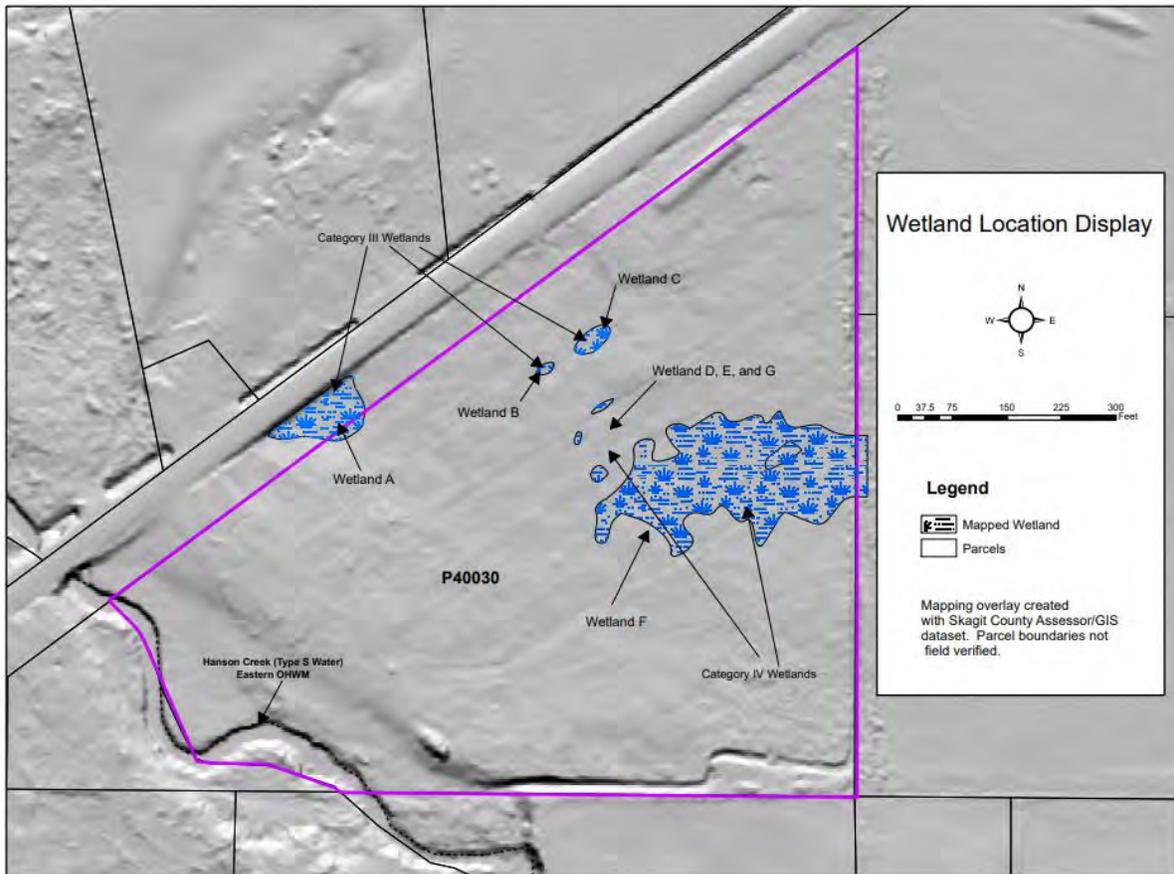
2.3. Study Area

A home site is currently present on the property in the northwest corner with two homes and several outbuildings surrounded by fields. The home site is the highest location on the property, sloping down slightly to the east and south, and a bit more noticeably to the west to a narrow floodplain that houses the regionally significant Hansen Creek.

Outside of the fringes of the property where overgrown fence lines have become shrub banks, the property is almost fully mown pasture grass, and has been for a time estimated to be in excess of 100 years. The only exception besides the fence lines is a narrow riparian buffer along Hansen Creek and a small, treed area in the southeast corner of the property.

The property is bound on the east and south sides by a relic drainage ditch that flows south along the eastern boundary and then east along the southern before emptying into Hansen Creek. Several smaller wetlands are found in the eastern portion of the property, with one larger one emptying into this ditch. Relic drain tile infrastructure is also assumed to be present as indicated in historical aerial photographs as well as LIDAR imagery draining west to east into the ditch. Outside of the aforementioned areas, a final wetland was noted just north of the home site in a large, excavated depression mostly within the right-of-way of Minkler Road

Study area showing wetland and stream locations.



3. Methods

The following data sources were reviewed for information on precipitation, topography, drainage patterns, soils, vegetation, and potential or known wetlands and streams in the project vicinity:

- Natural Resources Conservation Service (NRCS) Climate Data for Skagit County, Station Sedro Woolley, Washington (NRCS 2023).
- U.S. Geological Survey (USGS) topographic maps (USGS 2023)
- National Wetlands Inventory (NWI) maps.
- Skagit County permitting and recorded documents.
- NRCS, Soil Survey of Skagit County Washington and Washington State Hydric Soils (NRCS 2023) (Appendix A-2).
- Aerial photographs, Skagit County (Appendix A-3).
- LIDAR imagery, WA DNR.

Scientific plant names in this report are from the USACE National Wetland Plant List, version

3.4 (USACE 2018).

Wetlands, stream, and aquatic resources assessment fieldwork was completed:

- Between March 1, 2023, and May 4, 2023.
- By Skagit Wetlands & Critical Areas wetland biologist Matt Mahaffie.
- While walking the extent of the study area thoroughly throughout the early growing season consistently in all precipitation patterns.

Wetland and stream delineation and report preparation follows industry standard guidelines.

3.1. Wetland Delineation, Classification, and Buffers

Wetlands were delineated using routine methods described in:

- Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987).
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (WMVC Regional Supplement) USACE 2010).

Wetland boundaries were delineated based on on-site observations of vegetation, soils, and hydrology in conjunction with background information listed above. Wetland boundaries were flagged by Skagit Wetlands and subsequently surveyed by Dudek. Two of the wetlands in the study area extend beyond the project property boundary.

Wetlands were classified using the U.S. Fish and Wildlife Service (USFWS) classification system (Cowardin) and the hydrogeomorphic classification system (HGM) (Brinson 1993). Wetlands were rated using the Washington State Wetland Rating System for Western Washington: 2014 Update (Hruby 2014) per Skagit County requirements.

Skagit County wetland buffers were applied to the wetlands in the project. Buffer widths range from 50 to 150 feet depending on wetland rating and intensity of land use impacts. Buffers were applied based on high intensity land use in anticipation of the proposal.

3.2. Stream Delineation, Classification, and Buffers

The ordinary high water mark (OHWM) of the site stream (Hansen Creek) was delineated using guidance for OHWM identification as put forth by the Washington State Department of Ecology. OHWM was set for western side only for this exercise.

Fish presence was determined based on available Skagit County and WDFW data (WDFW 2023).

Skagit County stream buffers (Skagit County 2023) were applied to streams in the project, in conjunction with Washington State Department of Natural Resources (DNR) Forest Practices Rules, water type classifications (DNR 2023). The buffer width of the singular stream onsite is 200ft (Skagit County 2023).

3.3. Wetland and Stream Boundary Documentation

Boundaries of wetlands were documented using industry standard naming conventions with flagging on woody vegetation if applicable or pin flagging within field areas. Stream boundaries were field collected only (not flagged). Wetland sample point locations and boundaries of wetlands and streams were marked with alphanumeric characters on flags as well. The portions of boundaries occurring within the study area were subsequently collected using a Trimble R2 Global Navigation Satellite System (GNSS) Receiver mapping grade unit by Dudek (wetlands) and via Thales MobileMapper by Skagit Wetlands (stream).

3.4. Species and Habitats of Interest

A separate Fish & Wildlife Habitat Conservation Area Assessment and/or Biological Assessment will address impacts to Endangered Species Act (ESA) federally listed threatened or endangered wildlife species and proposed and designated critical habitat if applicable. This report does not include such information regarding potential ESA species and habitat, Washington State threatened, endangered, or sensitive species, and habitats of interest that may occur in the project, with the exception of the presence of Hansen Creek.

4. Existing Conditions

4.1. Precipitation and Growing Season

4.1.1. Precipitation

The Regional Delineation Supplement Version 2.0 recommends using methods described in Chapter 19 in Engineering Field Handbook (NRCS 2015) to determine if precipitation occurring in the three full months prior to the site visit was normal, drier than normal, or wetter than normal. Actual rainfall is compared to the normal range of the 30-year average. When considering the three prior months as a whole, somewhat drier than normal precipitation conditions were present prior to *beginning* field work. 1 of the three months prior to field work were within the normal range with 1 of the three months of field work/hydrology monitoring.

All levels of precipitation were recorded in the ten days preceding field work in the numerous site visits designed to capture such variation.

4.1.2. Growing Season

Field work was conducted by design to encompass the full of the early growing season; from the very beginning of March through the start of May, with a secondary reference outside of the growing season in early January of 2023. Growing season was noted to begin in beginning of March via direct observation of vegetative growth.

4.2. Wetlands

4.2.1. Overview

All wetlands of the site are depressional; Wetland “A” being the most notable area as a depression excavated into the subsoil by Skagit County (per landowner), largely within the ROW. All other wetlands of the site are relatively shallow depressions found in a low swath that crosses the property from the northwest to the southeast. The wetlands appear to be in present configuration after decades of heavy compaction due to livestock after initial drainage attempts prior, assumed in the late 19th or early 20th century which included ditching and likely subsurface tile installation. The wetlands are summarized individually below in Table 1. Delineation data sheets (Appendix B), wetland rating forms (Appendix C) are provided in Appendices.

Table 1. Wetlands within the project area (including County ROW).

Wetland ^a	Wetland Classification				Wetland Size (acre)	Buffer Width (feet) ^e
	Cowardin ^b	HGM	Ecology ^c	Local Jurisdiction ^d		
A	PEM	Depressional	III	III	.152	150
B	PEM	Depressional	III	III	.006 / 285sf	150
C	PEM	Depressional	III	III	.027 / 1193sf	150
D	PEM	Depressional	IV	IV	.004 / 211sf	50
E	PEM	Depressional	IV	IV	.002 / 123sf	50
F	PEM	Depressional	IV	IV	.979	50
G	PEM	Depressional	IV	IV	.008 / 369sf	50
Total					1.178 acres	

^a Wetland identifier

^b NWI Class based on vegetation: PFO = palustrine forested, PSS = palustrine scrub-shrub, PEM = palustrine emergent (Cowardin et al. 1979).

^c Ecology rating (Hruby 2014)

^e Skagit County wetland buffer width based on wetland category and high intensity land use (Skagit County 2023).

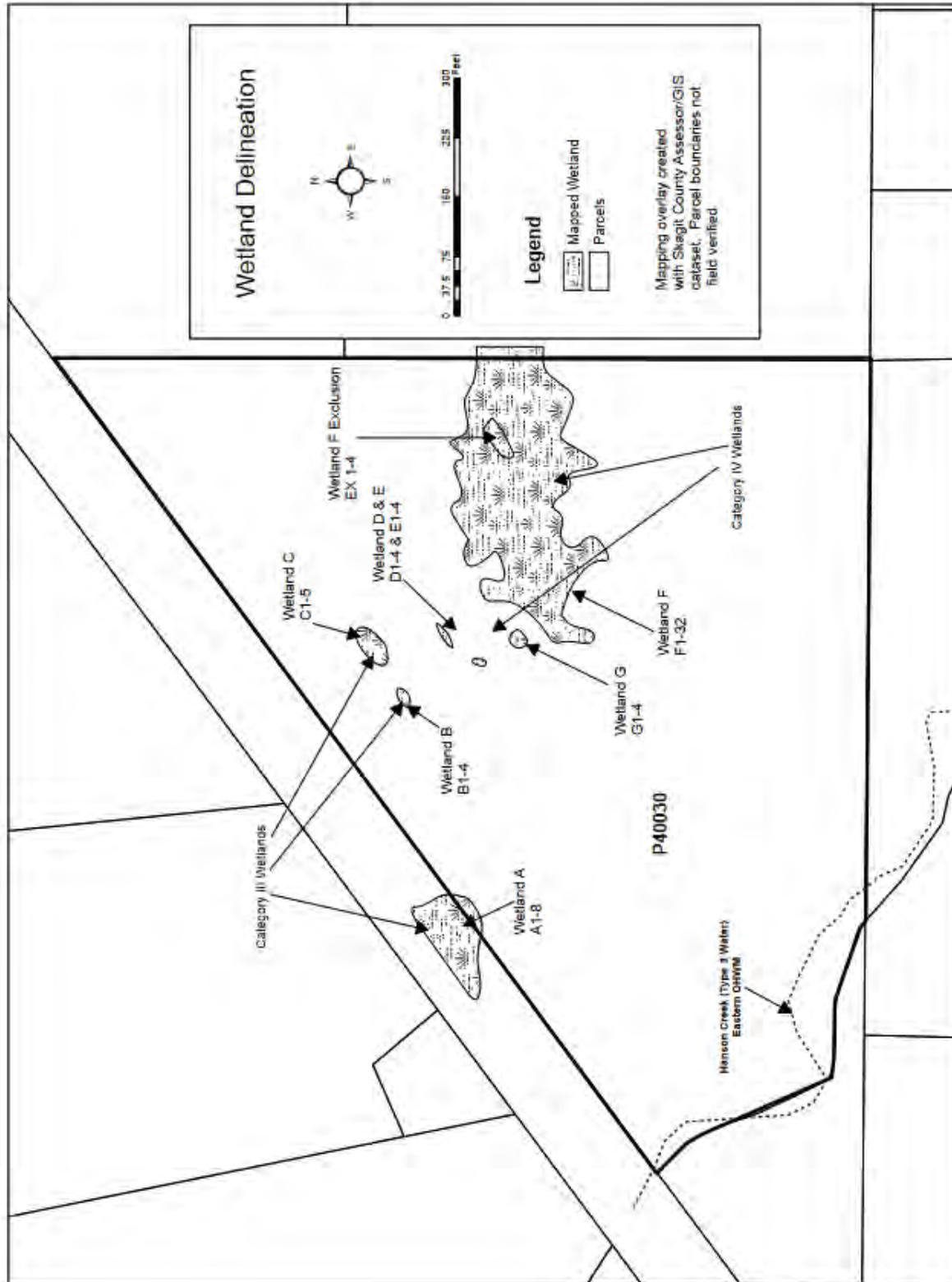


Figure 3. Wetland boundaries.

4.2.2. Vegetation

Wetland vegetation was that typical of a mown field in the main, with the exception of around the property perimeter where a shrubby separation from neighboring properties was noted. For the most part, grass was mown and non-identified, but as typical determined to be a relic pasture seed mix; such are typically FAC-FACU. For purposes of delineation, FAC was assumed for all non-id grass species. Notable populations of other identified species within the wetlands were made, however. This includes dominant populations of the following:

Phalaris arundinacea, Reed canary grass, FACW
Juncus effuses, Soft rush FACW
Carex obnupta, Slough sedge, OBL
Agrostis stolonifera, Creeping bentgrass, FAC
Ranunculus repens, Creeping buttercup, FAC
Ranunculus acris, Meadow buttercup, FACW
Alopecurus pratensis, Meadow foxtail, FACW
Agrostis stolonifera, Creeping bentgrass, FAC
Equisetum arvense, Common Horsetail, FAC
Spirea douglasii, Hardhack, FACW
Juncus effuses, Soft rush FACW
Populus trichocarpa, Black cottonwood, FAC

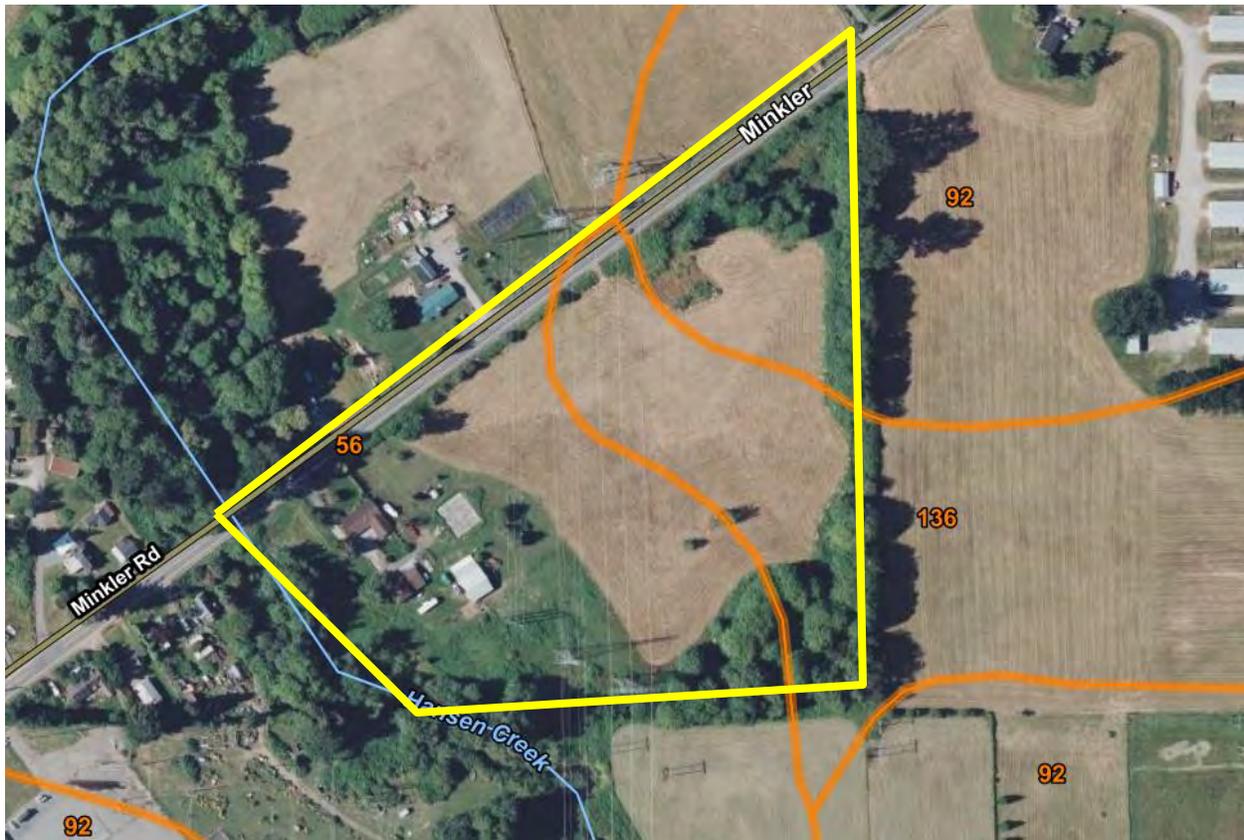
The upland portions of the property were also largely non-identified lawn or field grasses, but notable populations of the following were observed within the mown grassy areas or in more natural fringes around the cleared areas.

Taraxacum officinale, Common dandelion, FACU
Trifolium pratense, Red clover, FACU
Hypochaeris radicata, Spotted cat's ear, FACU
Alnus rubra, Red Alder, FAC
Equisetum arvense, Common Horsetail, FAC
Spirea douglasii, Hardhack, FACW
Rubus discolor, Himalayan blackberry FAC
Symphoricarpos albus, Snowberry, FACU
Sambucus racemosa, Red elderberry, FACU
Plantago major, Common plantain, FACU
Rubus spectabilis, Salmonberry, FAC



Figure 4. Photo of field vegetation typical to wetland in the study area with *Phalaris arundinacea* dominating the wettest of depressions within the wetland areas.

4.2.3. Soils



56 – Field silt loam
92 – Minkler silt loam
136 – Sumas silt loam

The northernmost soils of the property are mapped as by the USDA Soil Survey of Skagit County as #92 Minkler silt loam, confirmed quite well during the onsite visits by multiple soil test pits and soil probes as Minkler throughout the higher flat area in the northeast corner of the property. Minkler silt loam is a moderately well drained soil formed in alluvial and lacustrine material. The A horizon to 12 inches is a dark grayish brown (2.5Y 4/2) silt loam. The B horizon to 15 inches is an olive gray (5Y 5/2) silt loam with many brown mottles. The C horizon is a mixture of gray very fine sand or sandy loam, or in the case of several soil probes onsite, alluvial gravel. It is a mesic Aquic Xerochrept in hydrologic group D and is not considered hydric. This is the soil and area that houses the existing large onsite septic system drainfield.

The slightly but noticeably lower middle portion of the property has been mapped as #136 Sumas silt loam. Sumas silt loam is a poorly drained soil formed in alluvium and found in flood plains. The A horizon to 6 inches is a dark grayish brown silt loam at a 10YR 3/2 turning to a silty clay loam to 13 inches with gray 5Y 5/1 mottles. The B horizon from 13 to 16 inches is a gray silt loam at 10YR 6/1. The C horizon is a loamy sand from 16 inches down to a coarse sand at 30 inches. Sumas is an Aeric Fluvaquents in Hydrologic group D, and is considered hydric. As mapped, the Sumas soil series encompassed the site wetlands closely.

The final soil series of the site is #136 of the Soil Survey of Skagit County, Field silt loam. Field silt loam is a deep, moderately well drain soil on flood plains, formed in recent alluvium with an admixture of

volcanic ash. A typical profile has an Ap horizon to 13 inches of dark brown silt loam at 10YR 4/3 followed by a C horizon to 21 inches of olive 5Y 5/3 silt loam. Field is a mesic Aquic Xerofluvent in hydrologic group C and is not considered hydric. Field is the soil on the western side of the property around the home site and was observed to carry no hydric inclusions with the exception of Wetland “A” where the soil profile was noted as not natural and having significant signs of past clearing and excavation (charcoal, mixed profiles at various depths).

With the exception of Wetland “A”, all wetlands of the site appear to be formed in the mapped Sumas soils. The mapped area, while not precise, closely corresponds to a low swath across the property, and whether inside or out of the wetlands, the soils in the area were noted to largely meet (or near to meet) hydric criteria, and are reflective of the historical drainage of the area (hydric indicators but lacking hydrology). The areas around and within the wetlands were also noted to be largely well compacted in the upper horizon, apparent reflection upon years of intense density pasturage for livestock noted for many years prior to present ownership.



Figure 5: Photo of wetland soil.

4.2.4. Hydrology

Hydrology was the dominant criteria utilized on this site to delineate the wetlands where the property as largely encumbered by potential facultative vegetation as well as a mix of hydric and relic hydric soils with little well defined topography. Hydrology was observed throughout the early growing season from beginning of March to May. December to February precipitation was noted to be slightly below normal, but notably recharged to the surface or nearly so by the end

of February throughout the suspected/potential wetland areas. Observations continued as needed throughout the spring and observations of the site during and after significant precipitation events was made to assist in making the wetland boundary. Much of the area as previously noted was heavily compacted; water would stay at the surface and be slow to infiltrate, but by and large no water table was observed adjacent to the delineated wetland boundary edge, but a progression of slow infiltration that met the minimum time/depth requirements as directly observed.

Hydrology sources and indicators used for determination vary from wetland to wetland on this property. Individually, this is summarized as follows:

Wetland A: This historic excavation of this depression appears to have been dug into the water table common to this area within the Skagit Valley (8-10ft seasonally), and is expressed as such during the wet season. As such, the contributing basin is the Skagit Basin as a whole. Additions to the hydrology include some runoff from Minkler Road assumed, direct precipitation, and shallow groundwater infiltration from the area around that slopes in this direction. Hydrology indicators for positive wetland determination were noted as shallow inundation, high water table, saturation, visible water driven demarcation on vegetation pattern/growth. Hydrology was the prime determining factor in delineated boundary.

Wetlands B/C/D/E/G: These are small wetlands in shallow, well defined closed depressions. Hydrology sources include direct precipitation along with infiltration from surrounding higher areas. These wetlands were largely episaturated, with no water table below ~12 inches on average. The wetlands were noted within an area of heavy ungulate use for years, and like much of the area the surface of the soils is heavily compacted, holding precipitation at the surface for longer periods than would be normal. Hydrology indicators for positive wetland determination were noted as shallow inundation, saturation, visible water driven demarcation on vegetation pattern/growth.

Wetland F: This is the largest wetland of the site but is similar to the smaller surrounding wetlands with largely episaturation over compacted soils. All contributing hydrology applies, but also does drainage into the wetland area from the ditch along the eastern side of the property. This drainage ditch, dug to drain the area has become much more sluggish in moving water out, causing water coming down the ditch from the north to spill into what is now the wetland area during times of high precipitation before drain better on the south/outlet side. Hydrology indicators for positive wetland determination were noted as shallow inundation, saturation, and visible water driven demarcation on vegetation pattern/growth. Hydrology was the prime determining factor in delineated boundary with extensive weekly observation of the area to determine the boundary. Indicator F3, Depleted Matrix, was the most common indicator used for determination, but not inclusive.

4.2.5. Wetland Buffers

By and large, the wetland buffer areas of all site wetlands is as the wetlands, mown field grass. Only along the property boundaries would any of the wetland buffer vegetation vary with areas of shrub banks along the fence lines with a few scattered smaller trees.



Figure 6: Photo of typical buffer in the study area (overlooking Wetland F and associated buffer).

Wetland (and stream) buffers have been preliminarily applied for planning purposes; 150ft for the Category III wetlands and 50ft for the Category IV utilizing an anticipated high land use classification pursuant to SCC 14.24.230(a) and SCC 14.24.530(c) for waterways as shown in Figure 7 (below).

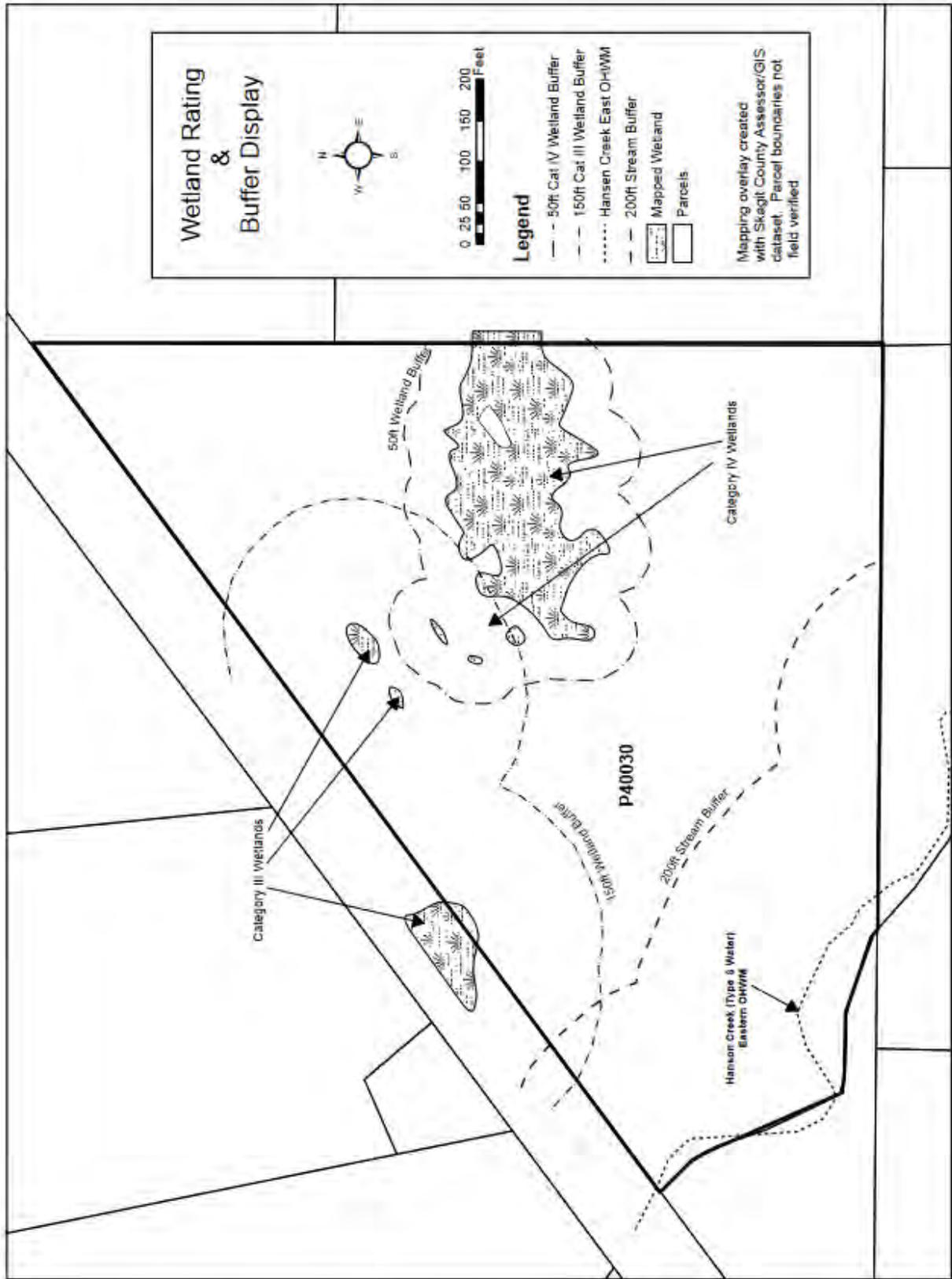


Figure 7. Wetland & stream buffer display.

4.3. Streams

A single stream was noted onsite and/or in the project vicinity in the form of Hansen Creek. Hansen Creek flows along the western side of the property, with a defined OHWM as a distinct topographic break, typically of several feet along the traverse of this property, dropping down sharply to well defined stream channel, observed to average roughly 25ft in width, comprised in large part of a mix of silt bed and small gravel, with channery gravel banks in places. Hansen Creek is a shoreline of the State and falls under the jurisdiction of the Skagit County Shoreline Management Program and is about 1.6 miles upstream of the terminus with the Skagit River.

This segment of Hansen Creek has areas of designated floodplain/frequently flooded area associated with the creek. Such area was not mapped separately for purposes of this delineation but was noted to appear to fall fully within the regulated buffer of the creek.

Table 2. Streams within the project area.

Stream Name	DNR Water Type^a	Skagit County^b Buffer Width (feet)
Hansen Creek	S	200ft

^a DNR Water Types: Type S = shorelines of the state, Type F = fish bearing or with physical criteria to support potential fish use, Type Np = non-fish bearing perennial, Type Ns = non-fish bearing seasonal (WDNR 2023)

^b Skagit County buffers applied (Skagit County 2023)

Hansen Creek has noted salmonid presence. Any proposed work within 225ft of the creek or its associated flood hazard area will require a dedicated Fish & Wildlife Habitat Conservation Area Assessment prepared to Skagit County Code and meet ESA reporting requirements.

5. Recommendations

This report represents the field demarcation findings for wetland and stream locations on the subject property only, along with their present designations, whether it be via wetland rating or stream type. The reporting herein does not represent a complete wetland assessment nor fish and wildlife habitat conservation area assessment as necessary for development of this property per Skagit County Code, but a planning tool to assist in project design and preliminary planning for potential critical area impacts.

A complete Wetland Assessment and Fish & Wildlife Habitat Conservation Area Assessment will be required prior to any permit approval with the local jurisdiction, to include assessment of the designated floodplain on the property per ESA/FEMA BiOP requirements. It is recommended that such a document be developed in conjunction with development proposal and preliminary feedback from Skagit County as well as the Washington State Department of Ecology and the United States Army Corps of Engineers, if applicable.

6. Limitations

This wetland delineation is based upon physical circumstances that are described in manuals and publications utilized by Federal, State, and Local agencies. The wetland delineation methodology used in this report is consistent with the routine on-site determination method prescribed by the 1987 Corps of Engineers Wetland Delineation Manual and by the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coasts Regional Supplement and represents the best professional judgement of preparer. No guarantees are given that the delineation will concur precisely with those performed by agencies with jurisdiction or by other qualified professionals. This report is provided for the use of the specified recipient only and is not intended for use by other parties or purposes.

7. References

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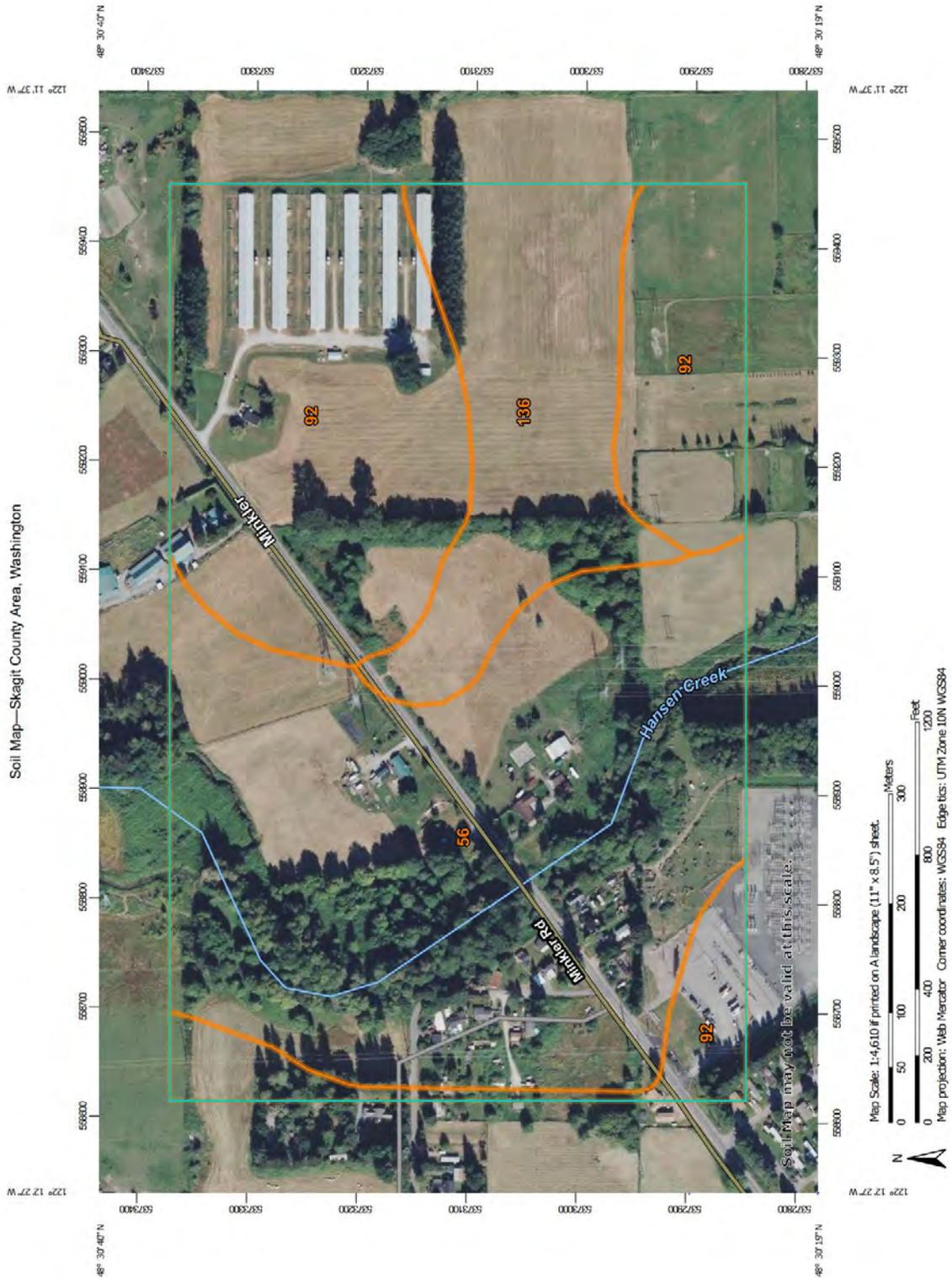
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Appendix A. Background Information

Appendix A includes the following sub-appendices:

- A-1 Soil Survey Map
- A-2 National Wetland Inventory Map
- A-3 Aerial photograph, Skagit County GIS 2020 Image
- A-4 WA DNR Stream Type Designation

Appendix A-1. NRCS Soil Survey Map



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

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

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot

Water Features

- Streams and Canals

Transportation

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

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

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

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

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.sc.egov.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Skagit County Area, Washington
 Survey Area Date: Version 22, Sep 8, 2022

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

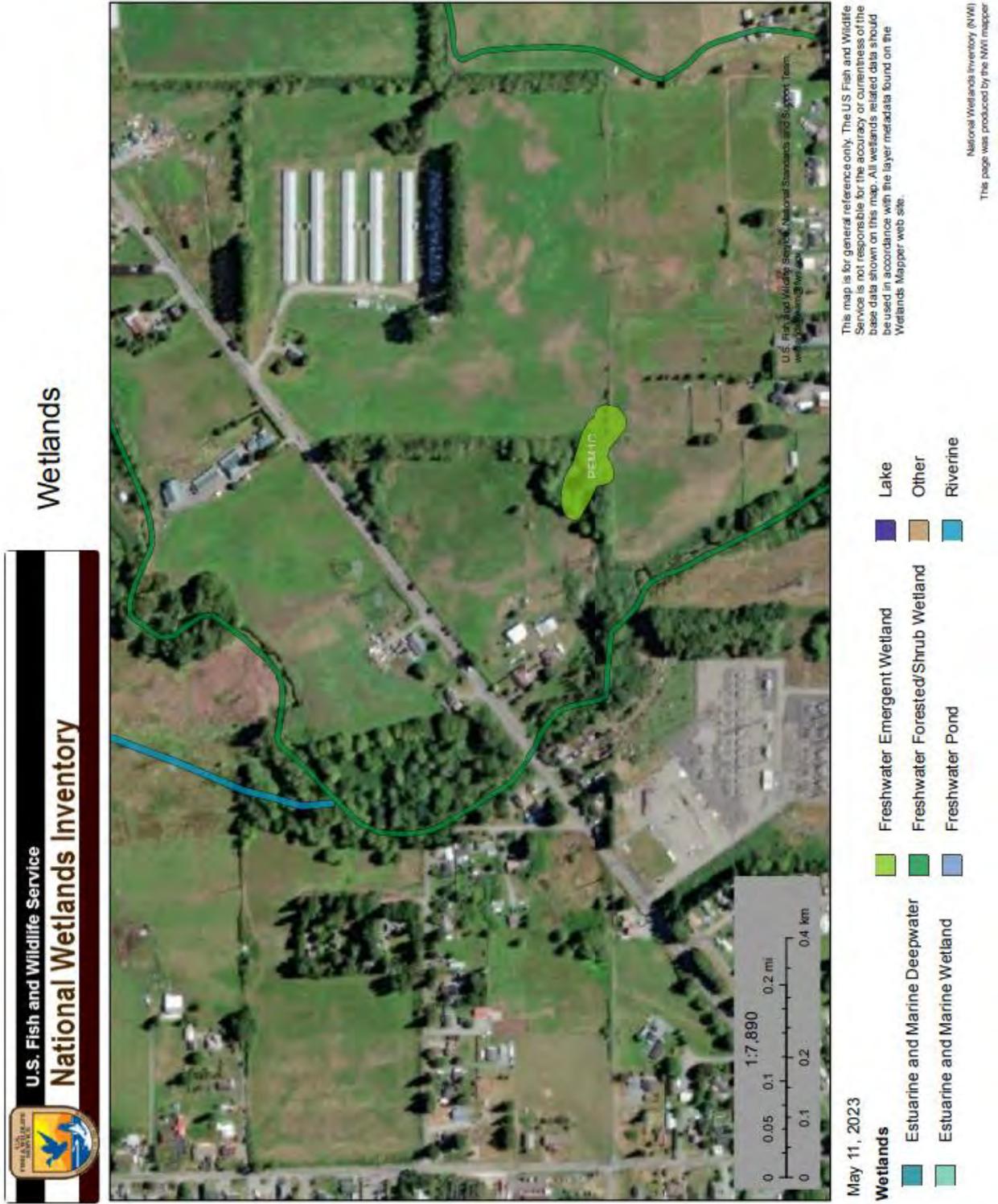
Date(s) aerial images were photographed: Jul 25, 2020—Jul 28, 2020

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
56	Field silt loam	51.3	46.9%
92	Minkler silt loam	40.9	37.4%
136	Sumas silt loam	17.1	15.7%
Totals for Area of Interest		109.3	100.0%

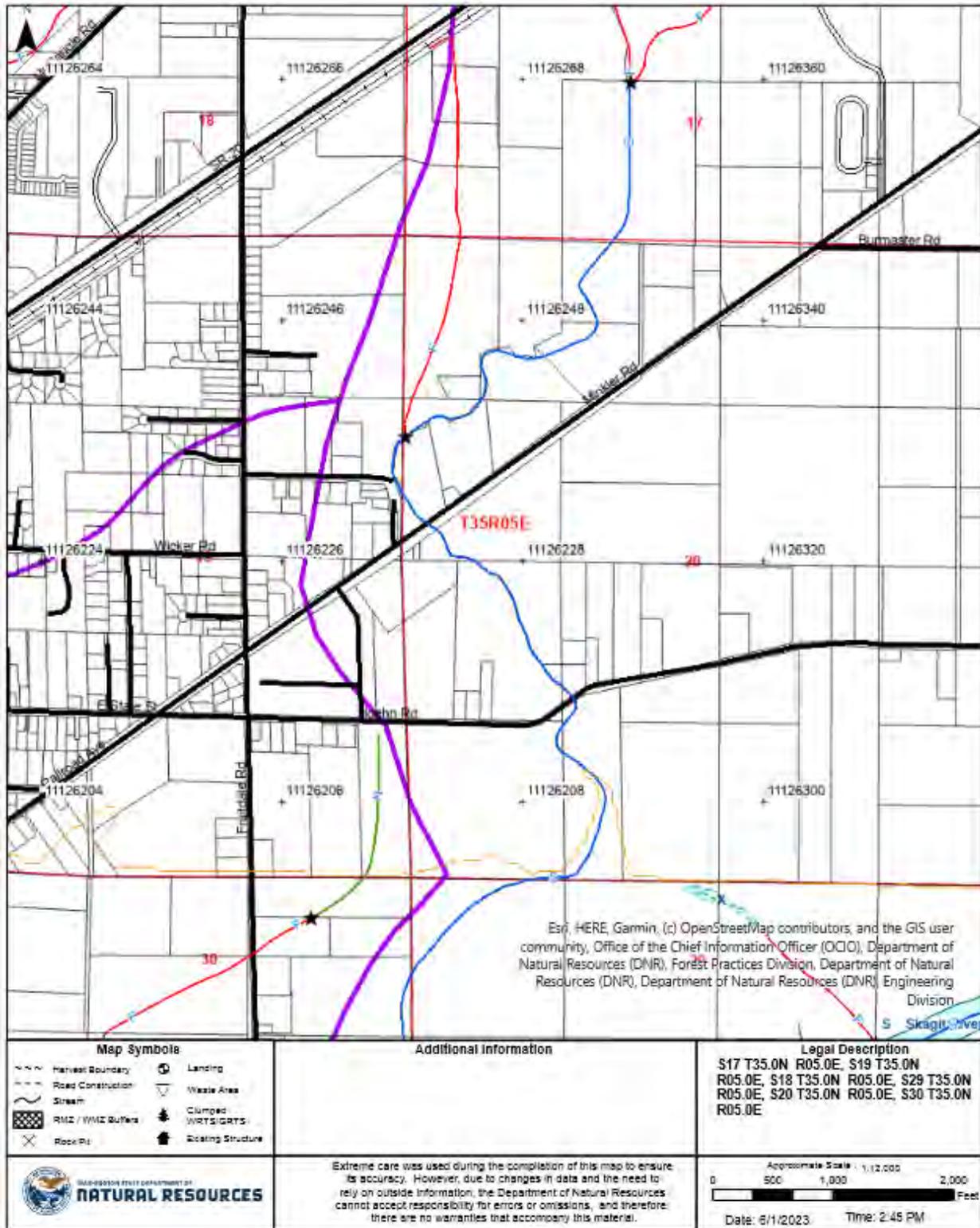
Appendix A-2. National Wetland Inventory Map



Appendix A-3. Aerial Photograph of Study Area, Skagit County GIS



A-4 WA DNR Stream Type Designation



Legend

★ Water Type Breaks (FP)	← Abandoned	Subject to Inundation
⊕ Map Registration Tics	← Orphaned	Glacier / Snowfield
40 ft. Contours	— Paved Road	Wet Area
— Type S	== Unpaved Road/Surface Unknown	Open Saltwater
— Type F	□ County Tax Parcels	Artificial Feature
— Type N, Np, Ns	□ County Boundaries	SOSEA Boundaries
— U, unknown	□ Tribal Cultural Resource Contacts	WRIA Boundaries
X, non-typed per WAC 222-16	□ Fire Shutdown Zones	WAUs
— Trail	□ Other Impoundments	Public Land Survey Sections
— Railroad	Open Freshwater	Public Land Survey Townships
— Railroad Grade		

Appendix B. Wetland Delineation Data Sheets

Appendix B includes the following sample point data sheets:

DP1-DP8

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skaqll Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DP1
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): a Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: Paired point with DP2 @ WL flag A4. Upland side ~5'. Sampling point held as control for site visits March - May 2023 hydrology observations.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>4</u> (A)
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>100</u> (A/B)
4. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	* Total Cover			
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: <u> </u> Multiply by: <u> </u>	
2. _____	_____	_____	_____	OBL species	x1 = <u> </u>
3. _____	_____	_____	_____	FACW species	x2 = <u> </u>
4. _____	_____	_____	_____	FAC species	x3 = <u> </u>
5. _____	_____	_____	_____	FACU species	x4 = <u> </u>
50% = _____, 20% = _____	_____	* Total Cover		UPL species	x5 = <u> </u>
Herb Stratum (Plot size: 3R)				Column Totals:	<u> </u> (A) <u> </u> (B)
1. <u>RARE</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index = B/A = <u> </u>	
2. <u>PHAR</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>		
3. <u>PLLA</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>		
4. <u>RAAC</u>	<u>5</u>	<u>no</u>	<u>FACW</u>		
5. <u>Mixed mown lawn/field grass, non-id</u>	<u>80</u>	<u>n/a*</u>	<u>FAC</u>		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% = _____, 20% = _____	<u>100</u>	* Total Cover			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Indicators:	
1. _____	_____	_____	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
2. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
50% = _____, 20% = _____	_____	* Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
% Bare Ground in Herb Stratum <u>0</u>				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
Remarks:				<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Project Site: Grinder

Sampling Point: DP1

SOIL

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	2.5Y3/2	100					loam	
10-14	2.5Y3/2	100	10YR4/6	5	c	pl	sl	
14+	2.5Y3/2	60	10YR4/6	10	c	pl/m		
	5Y5/2	40	10YR4/6	10	c	pl/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"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> 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 Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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"/> High Water Table (A2)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Surface Soil Cracks (B6)	<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 Stresses Plants (D1) (LRR A)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)	<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 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 <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>13-14</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____										Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																												
Remarks: Observation through early growing season indicated fluctuating water table 13-14'.																												

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skagot Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DP2
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): 4 Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: <u>Paired point with DP1 @ WL flag A4. Wetland side ~5'. Sampling point held as control for site visits March - May 2023 hydrology observations.</u>			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	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. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	* Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15'</u>)	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	* Total Cover		
Herb Stratum (Plot size: <u>3'R</u>)	_____	_____	_____	Hydrophytic Vegetation Indicators: <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! <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) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>BARE</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
2. <u>PHAR</u>	<u>90</u>	<u>yes</u>	<u>FACW</u>	
3. <u>JUEF</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	
4. <u>EAAC</u>	<u>5</u>	_____	_____	
5. <u>Mixed mown lawn/field grass, non-id</u>	<u>30</u>	_____	_____	
6. <u>ALPR</u>	<u>10</u>	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50% = _____, 20% = _____	<u>100</u>	* Total Cover		
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	* Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

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

Project Site: 25080 Minkler Road City/Country: Sedro Woolley/Skaqit Sampling Date: April 1, 2023
 Applicant/Owner: John Grider State: WA Sampling Point: DP3
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Paired point with DP4 @ WL C. Wetland side -4'. Sampling point held as control for site visits March - May 2023 hydrology observations. Representative of WL B and C, two small wetlands separated by shallow rise. Point in defined depression.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30r)	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> (AB)
4. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	<u>Total % Cover of:</u>	<u>Multiply by:</u>
2. _____	_____	_____	_____	OBL species _____	x1 = _____
3. _____	_____	_____	_____	FACW species _____	x2 = _____
4. _____	_____	_____	_____	FAC species _____	x3 = _____
5. _____	_____	_____	_____	FACU species _____	x4 = _____
6. _____	_____	_____	_____	LPL species _____	x5 = _____
7. _____	_____	_____	_____	Column Totals: _____ (A)	_____ (B)
8. _____	_____	_____	_____	Prevalence Index = B/A = _____	
9. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
10. _____	_____	_____	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
11. _____	_____	_____	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is >50%	
50% = _____, 20% = _____	<u>90</u>	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is <=3.0 ¹	
Herb Stratum (Plot size: 30r)				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
1. <u>R4RE</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>	<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹	
2. <u>AGST</u>	<u>20</u>	<u>yes</u>	<u>FACW</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
3. <u>JUEF</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
2. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
% Bare Ground in Herb Stratum <u>10</u>					
Remarks:					

Project Site: Grinder

SOIL								Sampling Point: <u>DP3</u>
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		
0-4	10YR4/2	100					loam	
4-12	2.5Y5/2	100	10YR4/6	10	ε	pl	sl	
12+	2.5Y5/1	60	10YR4/6	30	ε	pl/m	sl	
¹ Type: C= Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains;					² Location: PL=Pore Lining, M=Matrix			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)				Indicators for Problematic Hydric Soils³:				
<input type="checkbox"/> Histosol (A1)				<input type="checkbox"/> Sandy Redox (S6)				
<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 checked="" 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)				
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.								
Restrictive Layer (if present): Type: _____ Depth (inches): _____						Hydric Soils Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: _____								

HYDROLOGY			
Wetland Hydrology Indicators:			
Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Water-Stained Leaves (B9)	
<input checked="" type="checkbox"/> High Water Table (A2)	(except MLRA 1, 2, 4A, and 4B)	(MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>±5</u> Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks: Observation through early growing season indicated fluctuating water table 4-6" average, with times of surface inundation in small depression. Roughly 8" elevation loss DP3			

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skagit Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DP4
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): a Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: Paired point with DP3 @ WL C. upland side ~10'. Sampling point held as control for site visits March - May 2023 hydrology observations. Representative of WL B and C, two small wetlands separated by shallow rise. Point above defined depression.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30'</u>)	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. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15'</u>)					
1. _____	_____	_____	_____	Prevalence Index worksheet:	
2. _____	_____	_____	_____		Total % Cover of _____ Multiply by: _____
3. _____	_____	_____	_____	OBL species _____ x1 = _____	
4. _____	_____	_____	_____	FACW species _____ x2 = _____	
5. _____	_____	_____	_____	FAC species _____ x3 = _____	
50% = _____, 20% = _____	_____	= Total Cover		FACU species _____ x4 = _____	
Herb Stratum (Plot size: <u>3'R</u>)					
1. <u>BARE</u>	<u>10</u>	<u>yes</u>	<u>FAC</u>	UPL species _____ x5 = _____	
2. <u>Mown grass non id</u>	<u>95</u>	<u>yes</u>	<u>FAC</u>	Column Totals: _____ (A) _____ (B)	
3. _____	_____	_____	_____	Prevalence Index = B/A = _____	
4. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
5. _____	_____	_____	_____		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
6. _____	_____	_____	_____		<input checked="" type="checkbox"/> 2 - Dominance Test is >50%
7. _____	_____	_____	_____		<input type="checkbox"/> 3 - Prevalence Index is <3.0 ¹
8. _____	_____	_____	_____		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9. _____	_____	_____	_____		<input type="checkbox"/> 5 - Wetland Non-Vascular Plants ¹
10. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
11. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
50% = _____, 20% = _____	<u>90</u>	= Total Cover			
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		Hydrophytic Vegetation Present?
2. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
50% = _____, 20% = _____	_____	= Total Cover			
% Bare Ground in Herb Stratum <u>10</u>					
Remarks:					

Project Site: Grinder

Sampling Point: DP4

SOIL

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	10YR3/2	100	—	—	—	—	loam	—
8-11	10YR3/2	100	10YR4/6	2	c	pl	sl	—
11+	2.5Y5/2	60	10YR4/6	40	c	p/m	sl	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—

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"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 2 cm Muck (A10)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Depleted Dark Surface (F7)				
	<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 Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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)	<input type="checkbox"/> Water-Stained Leaves (B9)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> (except MLRA 1, 2, 4A, and 4B)	<input type="checkbox"/> (MLRA 1, 2, 4A, and 4B)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available.	
Remarks: Observation through early growing season indicated fluctuating water table 13-14" average, with times of surface inundation in small depression. Roughly 8" elevation gain dp3	

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skaqil Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DP5
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): g Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Paired point with DP6 @ WL D. upland side ~10'. Sampling point held as control for site visits March - May 2023 hydrology observations. Representative of WL D and E, two small wetlands. Point above defined depression.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30r)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: _____ (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
50% = _____, 20% = _____	_____	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				OBL species _____ x1 = _____
1. _____	_____	_____	_____	FACW species _____ x2 = _____
2. _____	_____	_____	_____	FAC species _____ x3 = _____
3. _____	_____	_____	_____	FACU species _____ x4 = _____
4. _____	_____	_____	_____	UPL species _____ x5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
50% = _____, 20% = _____	_____	= Total Cover		Prevalence Index = B/A = _____
Herb Stratum (Plot size: 3R)				Hydrophytic Vegetation Indicators: <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' <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 checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. _____	_____	_____	_____	
2. <u>Mown grass, non-id</u>	<u>95</u>	<u>yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50% = _____, 20% = _____	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>grasses mown, non-id. FAC average (see report)</u>				

Project Site: Grinder

Sampling Point: dp5

SOIL

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		
0-12	10YR3/1	100					loam	
12-14+	10YR3/1	60	10YR4/6	3	c	pl	sl	
12-14+	2.5Y5/2	40	10YR4/6	10	c	pl/m	sl	

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 Soils³:	
<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): _____	
Remarks:	

Hydric Soils Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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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)	<input type="checkbox"/> Water-Stained Leaves (B9)	
<input type="checkbox"/> High Water Table (A2)	(except MLRA 1, 2, 4A, and 4B)	(MLRA 1, 2, 4A, and 4B)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Stunted or Stresses Plants (D1) (LRR A)	<input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Frost-Heave Hummocks (D7)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			

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

Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Observation through early growing season indicated fluctuating water table 13-14" average, with times of surface inundation in small depression adjacent. Roughly 8" elevation gain dp6

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skagit Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DP6
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): foodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): a Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Paired point with DP6 @ WL D, wetland side -4". Sampling point held as control for site visits March - May 2023 hydrology observations. Representative of WL D and E, two small wetlands. Point within defined depression.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	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. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x1 = _____
3. _____	_____	_____	_____	FACW species _____	x2 = _____
4. _____	_____	_____	_____	FAC species _____	x3 = _____
5. _____	_____	_____	_____	FACU species _____	x4 = _____
50% = _____, 20% = _____	_____	= Total Cover		UPL species _____	x5 = _____
Herb Stratum (Plot size: 3'R)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: _____ (A)	_____ (B)
1. <u>JUEF</u>	<u>JUEF</u>	_____	_____	Prevalence Index = B/A = _____	
2. <u>RARE</u>	<u>60</u>	<u>yes</u>	<u>FAC</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% = _____, 20% = _____	<u>65</u>	= Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
50% = _____, 20% = _____	<u>35</u>	= Total Cover			
% Bare Ground in Herb Stratum _____					
Hydrophytic Vegetation Indicators: <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) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.					
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>					
Remarks:					

Project Site: Grinder

SOIL

Sampling Point: DP6

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	10YR4/1	100					loam	
8-12	2.5Y5/1	100	10YR4/6	53	ε	pl	sl	
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

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 (TP2)
<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 checked="" 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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):
 Type: _____
 Depth (inches): _____

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

Field Observations:

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

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

Remarks: Observation through early growing season indicated fluctuating water table but periods greater than two weeks above 12" average, with times of surface inundation in small depression adjacent. Roughly 8" elevation loss dp8

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skagit Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DP8
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): a Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks: Paired point with DP7 @ WL F. wetland side ~4 from flag f13. Sampling point held as control for site visits March - May 2023 hydrology observations. Representative of WL F/G.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC:	<u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100</u> (A/B)
4. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
Sapling/Shrub Stratum (Plot size: 15')	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of:	Multiply by:
2. _____	_____	_____	_____	OBL species _____	x1 = _____
3. _____	_____	_____	_____	FACW species _____	x2 = _____
4. _____	_____	_____	_____	FAC species _____	x3 = _____
5. _____	_____	_____	_____	FACU species _____	x4 = _____
50% = _____, 20% = _____	_____	= Total Cover		UPL species _____	x5 = _____
Herb Stratum (Plot size: 3'R)	Absolute % Cover	Dominant Species?	Indicator Status	Column Totals: _____ (A)	_____ (B)
1. <u>BARE</u>	<u>20</u>	<u>yes</u>	<u>FAC</u>	Prevalence Index = B/A = _____	
2. <u>Mown grass, non-id</u>	<u>80</u>	<u>yes</u>	<u>FAC</u>		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
9. _____	_____	_____	_____		
10. _____	_____	_____	_____		
11. _____	_____	_____	_____		
50% = _____, 20% = _____	<u>100</u>	= Total Cover			
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
50% = _____, 20% = _____	_____	= Total Cover			
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Project Site: Grinder

SOIL

Sampling Point: DP7

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		
0-9	10YR4/2	100					sl	
9-12	2.5Y5/2	10	10YR4/6	3	c	m	sl	
12-14+	2.5Y5/1	100	10YR4/6	20	c	m	sl	

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 checked="" 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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Redox Depressions (F8)	

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soils Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (2 or more required)

Field Observations:

Surface Water Present? Yes No Depth (inches): 1

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

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: Observation through early growing season indicated fluctuating water table 3-4" average, with times of surface inundation. Roughly 8" elevation loss dp8

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

Project Site: 25080 Minkler Road City/County: Sedro Woolley/Skagit Sampling Date: April 1, 2023
 Applicant/Owner: John Grinder State: WA Sampling Point: DPB
 Investigator(s): M. Mahaffie Section, Township, Range: 20/35/05
 Landform (hillslope, terrace, etc.): floodplain valley Local relief (concave, convex, none): concave Slope (%): 5
 Subregion (LRR): a Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Sumas silt loam/Minkler/Field silt loam border NWI classification: none
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (if no, explain in Remarks.)
 Are Vegetation , 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 <input type="checkbox"/> No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Wetland Hydrology Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>		
Remarks: Paired point with DPT @ WL D. upland side -5' from flag f13. Sampling point held as control for site visits March -May 2023 hydrology observations. Representative of WL F/G. Point above defined depression.			

VEGETATION – Use scientific names of plants

Tree Stratum (Plot size: <u>30r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (AB)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x1 = _____ FACW species _____ x2 = _____ FAC species _____ x3 = _____ FACU species _____ x4 = _____ UPL species _____ x5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
Herb Stratum (Plot size: <u>2R</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Indicators: <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 checked="" type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Mown grass, non-id</u>	<u>95</u>	<u>yes</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
50% = _____, 20% = _____	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
50% = _____, 20% = _____	_____	= Total Cover		
% Bare Ground in Herb Stratum <u>0</u>				
Remarks: <u>Mown grass, non-id. FAC avg, see report.</u>				
Hydrophytic Vegetation Present?				Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Appendix C. Wetland Rating Summaries and Figures

Appendix C includes wetland rating forms and all required figures for each wetland.

Wetland name or number

RATING SUMMARY – Western Washington

Name of wetland (or ID #): 25080 Minkler, Wetland A Date of site visit: Apr-23

Rated by M. Mahaffie Trained by Ecology? Yes No Date of training Sep-15

HGM Class used for rating Depressional & Flats Wetland has multiple HGM classes? Yes No

NOTE: Form is not complete with out the figures requested (figures can be combined).
 Source of base aerial photo/map Skagit County, Google Earth, WA DNR LIDAR Port

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
- X Category III - Total score = 16 - 19
- Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	M	M	L	
Landscape Potential	M	M	L	
Value	H	H	L	
Score Based on Ratings	7	7	3	17

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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

Wetland name or number

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

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 another figure</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<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

HGM Classification of Wetland in Western Washington

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

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

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

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

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

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

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

3. Does the entire wetland unit **meet all** of the following criteria?

- The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;
 At least 30% of the open water area is deeper than 6.6 ft (2 m).

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

4. Does the entire wetland unit **meet all** of the following criteria?

- The wetland is on a slope (*slope can be very gradual*),
 The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks.
 The water leaves the wetland **without being impounded**.

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

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

5. Does the entire wetland unit **meet all** of the following criteria?

- The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,
 The overbank flooding occurs at least once every 2 years.

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

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

Wetland name or number

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

NO - go to 7

YES - The wetland class is **Depressional**

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

NO - go to 8

YES - The wetland class is **Depressional**

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland name or number

Wetland name or number

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. <u>Characteristics of surface water outflows from the wetland:</u>		
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet).	points = 3	3
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.	points = 2	
<input checked="" type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 1	
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. <u>Characteristics and distribution of persistent plants</u> (Emergent, Scrub-shrub, and/or Forested Cowardin classes):		
Wetland has persistent, ungrazed, plants > 95% of area	points = 5	1
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	
D 1.4. <u>Characteristics of seasonal ponding or inundation:</u>		
<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	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	
Total for D 1		8

Rating of Site Potential If score is: 12 - 16 = H 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	0
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	Yes = 1 No = 0	0
Total for D 2		1

Rating of Landscape Potential If score is: 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	1
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	0
Total for D 3		2

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

Wetland name or number

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	3
Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet	points = 5	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> 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.		
<input type="checkbox"/> 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	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
Total for D 4		
Rating of Site Potential If score is: <input type="checkbox"/> 12 - 16 = H <input checked="" type="checkbox"/> 6 - 11 = M <input type="checkbox"/> 0 - 5 = L Record the rating on the first page		
D 5.0. Does the landscape have the potential to support hydrologic function of the site?		
D 5.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	0
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		2
Rating of Landscape Potential If score is: <input type="checkbox"/> 3 = H <input checked="" type="checkbox"/> 1 or 2 = M <input type="checkbox"/> 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	2	
<ul style="list-style-type: none"> <input type="checkbox"/> Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 <input type="checkbox"/> Surface flooding problems are in a sub-basin farther down-gradient. points = 1 		
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. points = 1		
<input type="checkbox"/> 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		
<input type="checkbox"/> 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

Wetland name or number

Total for D 6	Add the points in the boxes above	2
Rating of Value If score is: <input checked="" type="checkbox"/> 2 - 4 = H <input type="checkbox"/> 1 = M <input checked="" type="checkbox"/> 0 = L <i>Record the rating on the first page</i>		

Wetland name or number

<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></p> <ul style="list-style-type: none"> <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</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>) 		2
<p>Total for H 1 Add the points in the boxes above</p>		6
<p>Rating of Site Potential If Score is: <input type="checkbox"/> 15 - 18 = H <input type="checkbox"/> 7 - 14 = M <input checked="" type="checkbox"/> 0 - 6 = L Record the rating on the first page</p>		

<p>H 2.0. Does the landscape have the potential to support the habitat function of the site?</p>		
<p>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). Calculate: 0 % undisturbed habitat + _____ 26 % moderate & low intensity land uses / 2) = 13%</p> <p>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</p>		1
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: 2 % undisturbed habitat + _____ 26 % moderate & low intensity land uses / 2) = 15%</p> <p>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</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 1km Polygon is high intensity points = 0</p>		-2
<p>Total for H 2 Add the points in the boxes above</p>		0
<p>Rating of Landscape Potential If Score is: <input type="checkbox"/> 4 - 6 = H <input checked="" type="checkbox"/> 1 - 3 = M <input type="checkbox"/> < 1 = L Record the rating on the first page</p>		

<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></p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> <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 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 <p>Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1 Site does not meet any of the criteria above points = 0</p>		0

Wetland name or number

Rating of Value If Score is: 2 = H 1 = M 0 = L

Record the rating on the first page

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

Wetland name or number

RATING SUMMARY – Western Washington

Name of wetland (or ID #): 25080 Minkler, Wetland B & C Date of site visit: Apr-23

Rated by M. Mahaffie Trained by Ecology? Yes No Date of training Sep-15

HGM Class used for rating Depressional & Flats Wetland has multiple HGM classes? Yes No

NOTE: Form is not complete with out the figures requested (figures can be combined).
 Source of base aerial photo/map Skagit County, Google Earth, WA DNR LIDAR Port

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
- X** Category III - Total score = 16 - 19
- Category IV - Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>List appropriate rating (H, M, L)</i>				
Site Potential	M	M	L	
Landscape Potential	M	M	L	
Value	H	H	L	Total
Score Based on Ratings	7	7	3	17

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	
Wetland of High Conservation Value	
Bog	
Mature Forest	
Old Growth Forest	
Coastal Lagoon	
Interdunal	
None of the above	X

Wetland name or number

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

Riverine Wetlands

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

Lake Fringe Wetlands

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

Slope Wetlands

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

Wetland name or number

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

NO - go to 7

YES - The wetland class is **Depressional**

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

NO - go to 8

YES - The wetland class is **Depressional**

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

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

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

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

NOTES and FIELD OBSERVATIONS:

Wetland B & C are two close together wetlands that are separated by a shallow rise.

Wetland name or number

Wetland name or number

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	3
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet.	points = 2	
<input type="checkbox"/> Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 1	
<input type="checkbox"/> Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch.	points = 1	
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	0
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	
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	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	
Total for D 1		7
Rating of Site Potential If score is: <input type="checkbox"/> 12 - 16 = H <input checked="" type="checkbox"/> 6 - 11 = M <input type="checkbox"/> 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	0
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants?	Yes = 1 No = 0	0
D 2.3. Are there septic systems within 250 ft of the wetland?	Yes = 1 No = 0	1
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?	Yes = 1 No = 0	0
Total for D 2		1
Rating of Landscape Potential If score is: <input type="checkbox"/> 3 or 4 = H <input checked="" type="checkbox"/> 1 or 2 = M <input type="checkbox"/> 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	1
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	0
Total for D 3		2
Rating of Value If score is: <input checked="" type="checkbox"/> 2 - 4 = H <input type="checkbox"/> 1 = M <input type="checkbox"/> 0 = L Record the rating on the first page		

Wetland name or number

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	
<input checked="" type="checkbox"/> Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet	points = 3	
<input type="checkbox"/> 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.		
<input type="checkbox"/> 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	
<input type="checkbox"/> Entire wetland is in the Flats class	points = 5	
Total for D 4		7
Rating of Site Potential If score is: <input type="checkbox"/> 12 - 16 = H <input checked="" type="checkbox"/> 6 - 11 = M <input type="checkbox"/> 0 - 5 = L Record the rating on the first page		
D 5.0. Does the landscape have the potential to support hydrologic function of the site?		
D 5.1. Does the wetland unit receive stormwater discharges?	Yes = 1 No = 0	0
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	0
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		1
Rating of Landscape Potential If score is: <input type="checkbox"/> 3 = H <input checked="" type="checkbox"/> 1 or 2 = M <input type="checkbox"/> 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		2
<ul style="list-style-type: none"> <input type="checkbox"/> • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 <input type="checkbox"/> • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 		
<input type="checkbox"/> Flooding from groundwater is an issue in the sub-basin. points = 1		
<input type="checkbox"/> 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		
<input type="checkbox"/> 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

Wetland name or number

Total for D 6	Add the points in the boxes above	2
Rating of Value If score is: <input checked="" type="checkbox"/> 2 - 4 = H <input type="checkbox"/> 1 = M <input type="checkbox"/> 0 = L		

Record the rating on the first page

Wetland name or number

<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></p> <ul style="list-style-type: none"> <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</i>) <input type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata) 	2
<p>Total for H 1 Add the points in the boxes above</p>	4
<p>Rating of Site Potential If Score is: <input type="checkbox"/> 15 - 18 = H <input type="checkbox"/> 7 - 14 = M <input checked="" type="checkbox"/> 0 - 6 = L Record the rating on the first page</p>	

<p>H 2.0. Does the landscape have the potential to support the habitat function of the site?</p>	
<p>H 2.1 Accessible habitat (include <i>only habitat that directly abuts wetland unit</i>). Calculate: 0 % undisturbed habitat + _____ 26 % moderate & low intensity land uses / 2) = 13%</p> <p>If total accessible habitat is:</p> <ul style="list-style-type: none"> > 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 	1
<p>H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: 2 % undisturbed habitat + _____ 26 % moderate & low intensity land uses / 2) = 15%</p> <ul style="list-style-type: none"> 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
<p>H 2.3 Land use intensity in 1 km Polygon: If</p> <ul style="list-style-type: none"> > 50% of 1 km Polygon is high intensity land use points = (-2) ≤ 50% of 1km Polygon is high intensity points = 0 	-2
<p>Total for H 2 Add the points in the boxes above</p>	0
<p>Rating of Landscape Potential If Score is: <input type="checkbox"/> 4 - 6 = H <input checked="" type="checkbox"/> 1 - 3 = M <input type="checkbox"/> < 1 = L Record the rating on the first page</p>	

<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? Choose only the highest score that applies to the wetland being rated.</p> <p>Site meets ANY of the following criteria: points = 2</p> <ul style="list-style-type: none"> <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 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 <p>Site has 1 or 2 priority habitats (listed on next page) with in 100m points = 1</p> <p>Site does not meet any of the criteria above points = 0</p>	0

Wetland name or number

Rating of Value If Score is: 2 = H 1 = M 0 = L

Record the rating on the first page

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.

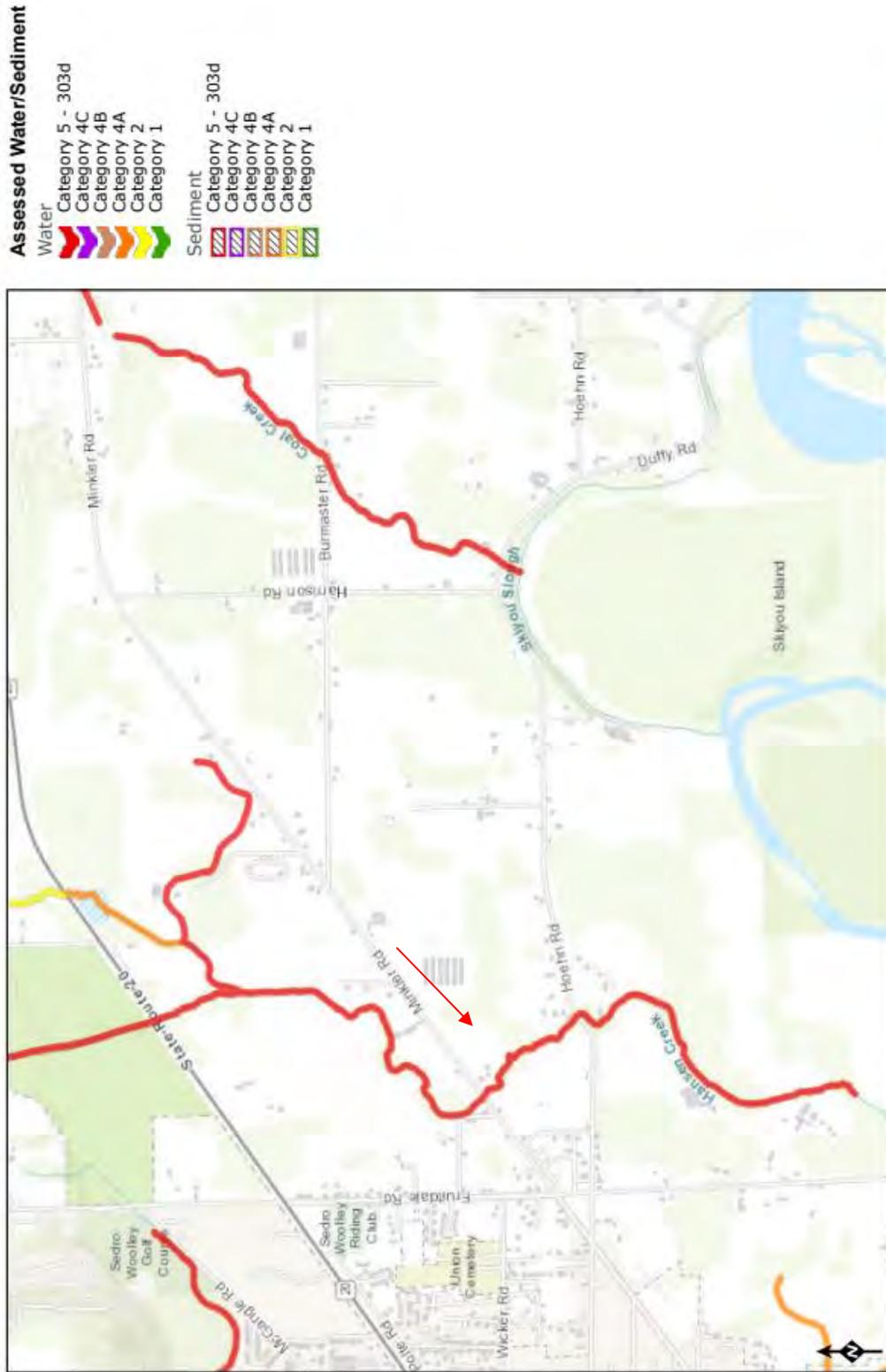
- Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report).
- Herbaceous Balds:** Variable size patches of grass 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.
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- 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

Wetland name or number
are addressed elsewhere.

April 25, 2023

303d

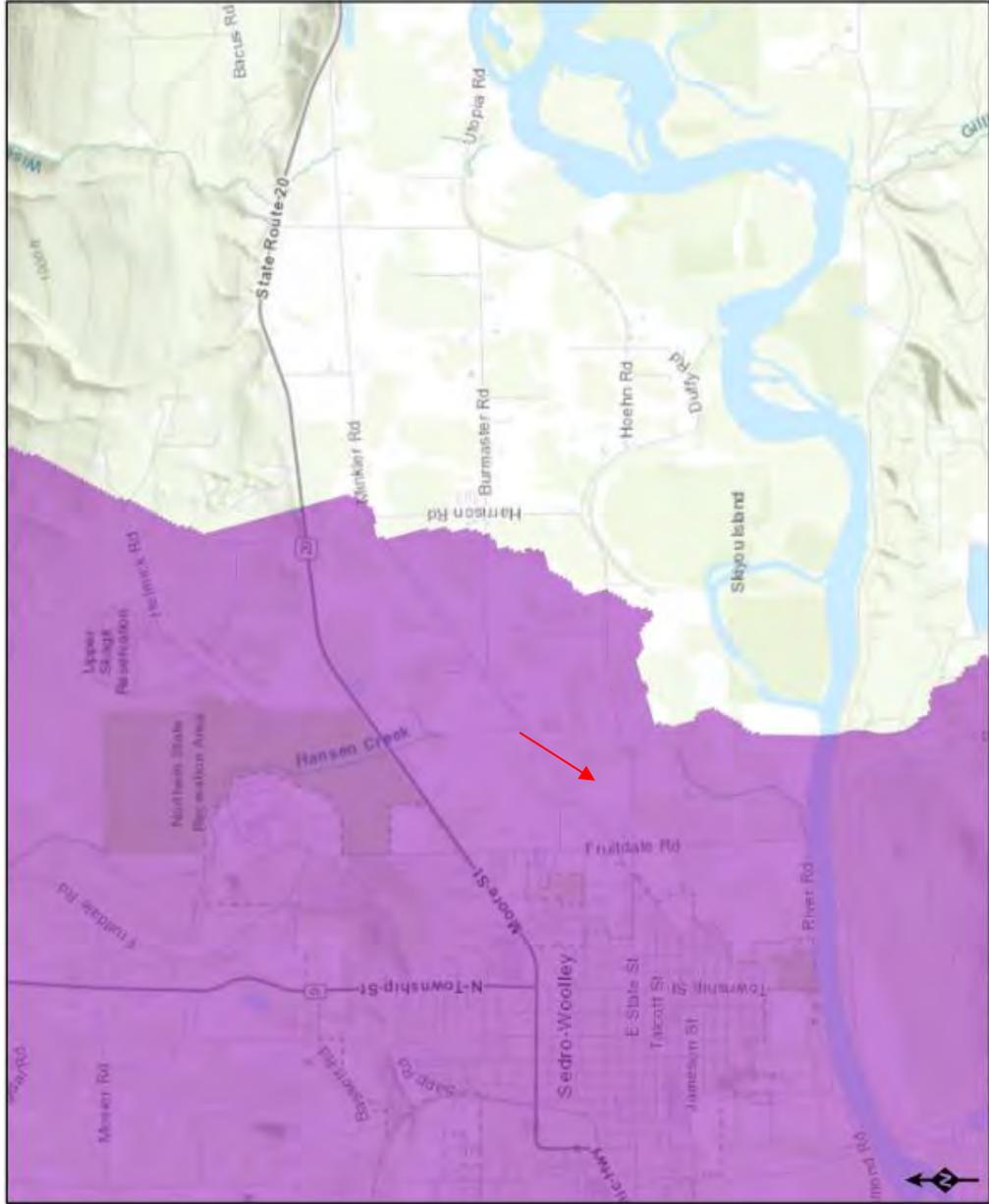


Esri, NASA, NGA, USGS, FEMA
Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,
FAO, NPS, NRCAN, GeoBasis, IGN, Kadaster NL, Ordnance Survey, Esri

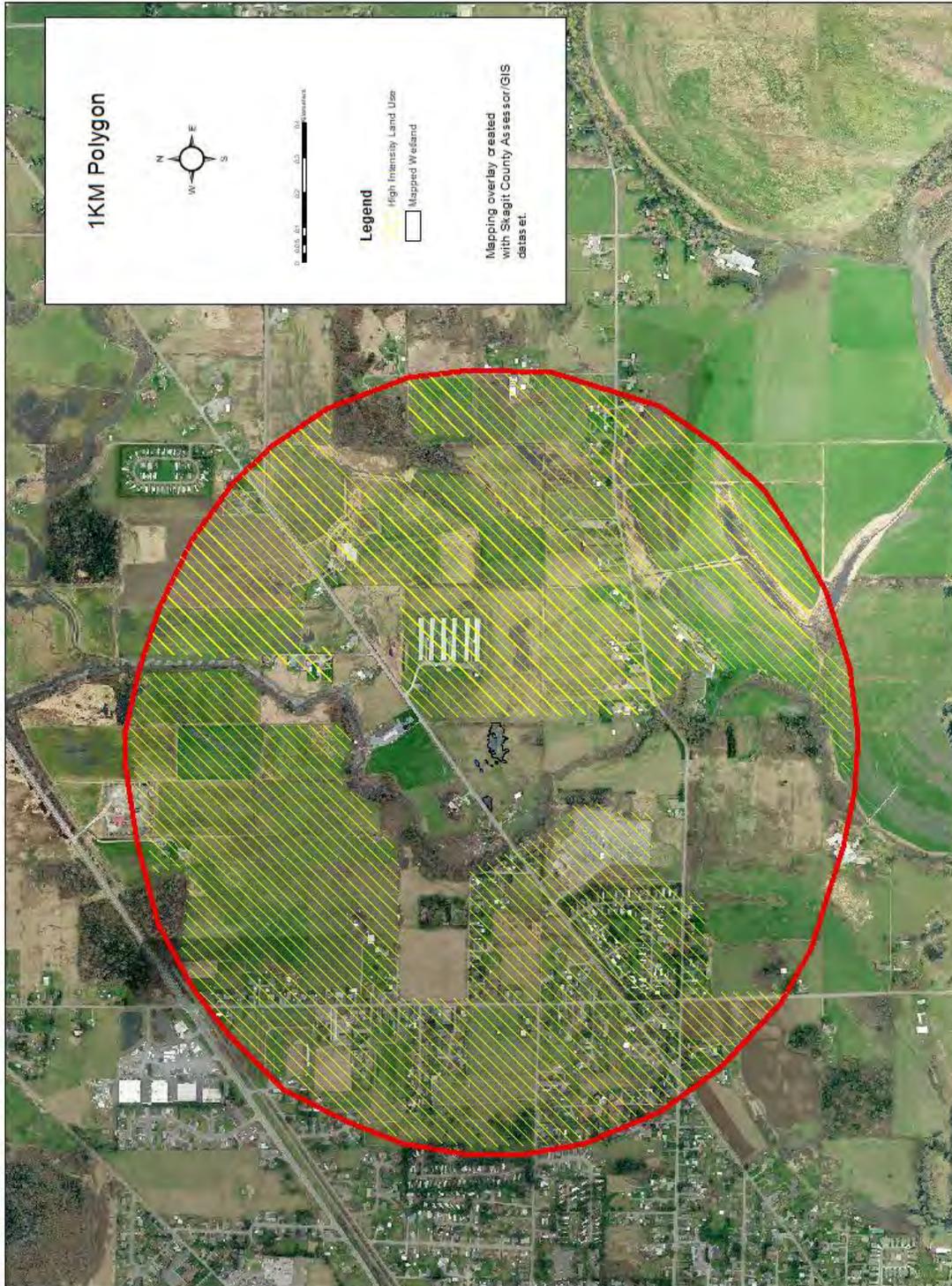
April 25, 2023

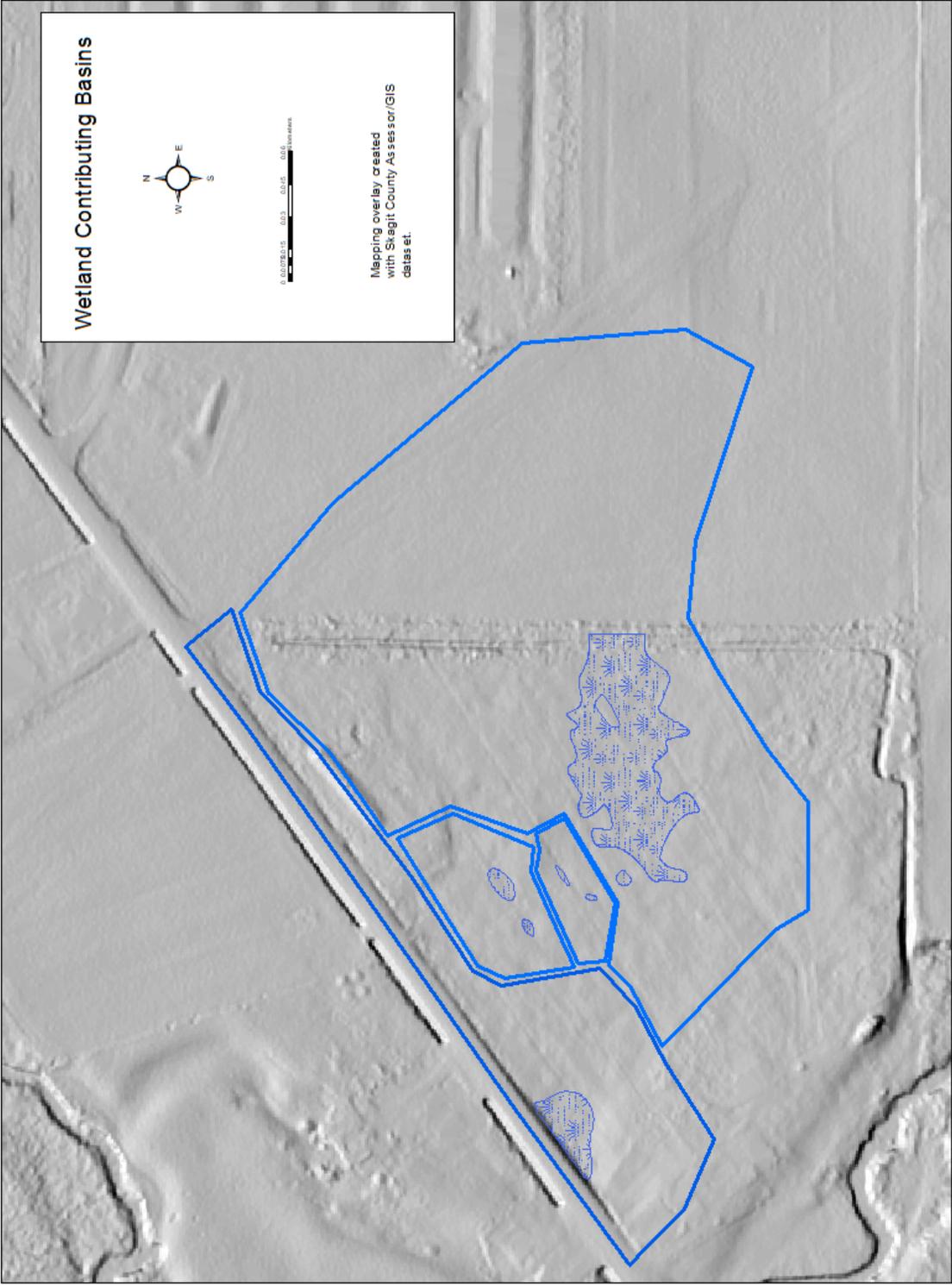
TMDL

WQ Improvement Projects
Approved
In Development



Esri, NASA, NOAA, USGS, FEMA
Sources: Esri HERE, Garmin, Intermap, Inrament P Corp., GEBCO, USGS,
FAO, NPS, NRCAN, GeoBlink, IGN, Kadaster NL, Ordnance Survey, Esri





Attachment C

Aquatic Resources Delineation Report, Dudek

Aquatic Resources Delineation Report

Goldeneye Energy Storage Project

MAY 2024

Prepared for:

GOLDFINCH ENERGY STORAGE, LLC

412 West 15th Street, 15th Floor

New York, New York 10011

Contact: *Tommy Nelson*

Prepared by:

DUDEK

605 NE 21st Avenue

Portland, Oregon 97232

Contact: *Patricia Schuyler*



Patricia Schuyler

Environmental Project Manager

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- A Wetland Determination Data Forms
- B Antecedent Precipitation Tool Output
- C Wetland Rating Summary Forms

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
APT	Antecedent Precipitation Tool
ARC	antecedent runoff condition
ARDR	Aquatic Resources Delineation Report
DOE	Department of Ecology
gen-tie	generation transmission
PDSI	Palmer Drought Severity Index
USACE	U.S. Army Corps of Engineers

1 Introduction

This report presents the results of the jurisdictional aquatic resources delineation conducted by Dudek staff for the Goldeneye Energy Storage Project (project) in the City of Sedro-Woolley in unincorporated Skagit County, Washington. The delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (33 USC 1344), waters of the state potentially subject to the regulatory jurisdiction of the Washington State Department of Ecology (DOE) pursuant to Section 401 of the Clean Water Act, and Skagit County per the Skagit County Shoreline Management Program (Title 90 of Chapter 90.58 RCW; WAC 173-27) (collectively defined as jurisdictional aquatic resources). This Aquatic Resources Delineation Report (ARDR) was prepared in accordance with the USACE Components of a Complete Wetland Delineation Report (USACE 2011) as well as the Checklist & Sample Outline for a Delineation Report (Appendix H of DOE et al. 2006).

1.1 Disclaimer Statement

This ARDR presents Dudek’s best effort to quantify the extent of aquatic resources potentially regulated by the USACE, DOE, and Skagit County (i.e., regulatory agencies) within the identified review area using current regulations, written policies, and guidance from these regulatory agencies. The potential jurisdictional boundaries described in this ARDR are subject to verification by the regulatory agencies. Only the regulatory agencies can make a final determination on whether the features present are subject to regulation by each respective agency.

1.2 Contact Information

Contact information for the project applicant and agent are provided in Table 1.

Table 1. Contact Information

Project Applicant	Tommy Nelson	Agent	Dudek
Contact Name	Goldfinch Energy Storage LLC	Contact Name	Patricia Schuyler
Address	412 West 15th Street, 15th Floor, New York, New York 10011	Address	605 NE 21st Avenue, Portland, Oregon 97232
Phone	646.864.4951	Phone	760.479.4264
Email	tnelson@tenaska.com	Email	pschuyler@dudek.com

1.3 Delineation Purpose

The aquatic resource delineation was conducted in support of the proposed project, which is described in Section 2 of this ARDR. Specifically, this ARDR discusses the identified resources within the generation transmission (gen-tie) line corridor as well as the access road necessary for construction of the gen-tie line. Skagit Wetlands & Critical Areas, LLC, conducted a delineation for the approximately 14.14-acre main storage site located on private lands (Parcel Identification Number P40030). The results of this delineation are presented in the report prepared by Skagit Wetlands & Critical Areas, LLC (2023) and are incorporated in this ARDR as necessary. However, this ARDR

focuses only on the gen-tie line alignment and access road necessary for project construction (see Project Description provided in Section 2).

2 Project Description

Goldfinch Energy Storage, LLC (the applicant), is currently proposing a utility-scale energy storage facility in Skagit County, Washington (the County). The project consists of a proposed 200 megawatt/800 megawatt-hour battery energy storage system located on private lands. The project will be composed of lithium-ion batteries installed in racks, inverters, medium-voltage transformers, switchgear, a collector substation, and other associated equipment to interconnect into the Sedro-Woolley Substation located just to the south of the project site (i.e., point of interconnection). The batteries will be installed either in containers or in purpose-built enclosures designed for aesthetic compatibility with the surrounding area. The containers or enclosures will have battery storage racks, with relay and communications systems for automated monitoring and managing of the batteries to ensure design performance. A battery management system will be provided to control the charging/discharging of the batteries, along with temperature monitoring and control of the individual battery cell temperature with an integrated cooling system. Batteries operate with direct current (DC) electricity that must be converted to alternating current (AC) for compatibility with the existing electric grid. Power inverters to convert between AC and DC, along with transformers to step up the voltage, will be included. The proposed project requires construction of a gen-tie line to connect to the substation as well as a road from the substation to provide access to the gen-tie line during construction.

The proposed facility will provide a service to the regional electric grid by receiving energy (charging) from the Puget Sound Energy electric transmission system, storing energy on site, and then later delivering energy (discharging) back to the point of interconnection. Following construction, the proposed use will not create emissions to air, will not require sanitary facilities, and will not require water except to maintain water-efficient and low-impact landscaping design along the project frontage.

3 Project Location

The proposed project site is located in Skagit County, Washington, southeast of Minkler Road, north of Hoehn Road, and west of rural lands bordered on the east by Minkler Road (Figure 1, Project Location). The project site is located in Section 20 of Township 35 North, Range 5 East, Willamette Meridian in Skagit County, Washington. The project is proposed to interconnect to the Sedro-Woolley Substation, which is located to the south of the project site. The total area reviewed for aquatic resources totals 21.04 acres and includes the sites for both the energy storage system, portions of Minkler Road along with the gen-tie line and associated access road. The portion of the review area assessed in this ARDR includes the gen-tie alignment and associated access road (see Figure 2, Review Area). The review area includes a 15-foot buffer around the proposed access road as well as a 100-foot buffer around the proposed gen-tie line alignment.

As described in the ARDR for the main storage site, this area is in the mid-section of what is known locally as the Skagit Valley. The location is on the valley floor on relic floodplain of the Skagit River in an area of historic farmland (Skagit Wetlands & Critical Areas, LLC, 2023). The entire project area is surrounded by agricultural and residential properties in all directions, with the exception of the substation.

4 Methods

4.1 Pre-Field Methods

Prior to conducting the aquatic resources delineation, a literature review was conducted to evaluate the environmental setting of the proposed gen-tie line alignment and associated access road and identify potential aquatic resources that may be present within the review area. Topographical data was reviewed in conjunction with aerials, both current and historical, to determine the potential presence of aquatic resource. The review included the following:

- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (USFWS 2023)
- U.S. Geological Survey National Hydrography Dataset (USGS 2023)
- Google Earth (2023)
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2023a)
- U.S. Department of Agriculture Natural Resources Conservation Service Hydric Soils (USDA 2023b)
- U.S. Geological Survey topographic maps (USGS 2023)

4.2 Aquatic Resources Delineation Methods

The aquatic resources delineation for the gen-tie line alignment and original access road location was conducted by Dudek biologist Tony Vingiello on September 26 and 27 and December 19, 2023. Ecological Land Services (ELS) conducted an additional delineation for an alternative access road location as well as along Mikler Road. The review area is shown on Figure 2. The aquatic resources delineations were conducted in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0) (Western Mountains, Valleys, and Coast Regional Supplement; USACE 2010). Wetland Determination Forms were completed for certain points within drainages or vegetation communities where a predominance of hydrophytic vegetation was present, and hydrology, vegetation, and soils were assessed to determine whether USACE three-parameter wetlands were present. All data forms are provided in Appendix A (Wetland Determination Forms). Wetlands were classified using the USFWS Cowardin classification system (Cowardin et al. 1979) and the hydrogeomorphic classification system (USACE 1993). Wetlands were rated using the Washington State Wetland Rating System for Western Washington: 2014 Update Version 2.0 (DOE 2023).

The ordinary high-water mark of the portion of Hansen Creek within the review area was delineated according to DOE guidance. Aquatic resources boundaries were mapped in the field using Esri Collector on a mobile device.

Skagit County wetland buffers were applied to wetlands identified during the delineation. Buffer widths can vary from 50 to 150 feet, depending on wetland rating and intensity of land use impacts. Buffers were applied based on high-intensity land use in anticipation of the proposed project.

5 Existing Conditions

5.1 Soils and Terrain

Topography on site is generally flat, at an elevation of approximately 55 feet above mean sea level. Three soil map units are present in the review area: Sumas silt loam, Field silt loam and Minkler silt loam (Figure 3, Soils). According to the U.S. Department of Agriculture, Natural Resources Conservation Service, the Sumas silt loam consists of poorly drained soils formed in flood plains and deltas from alluvium (USDA 2024a). The unit is considered hydric. Field silt loam map unit consists of moderately well-drained soils formed in alluvium and volcanic ash on floodplains with slopes from 0% to 3% (USDA 2023a). The unit has 10% hydric soils and is considered prime farmland if protected from flooding or not frequently flooded during the growing season. Minkler silt loam occurs within the substation and access road. The land surrounding the substation perimeter is gravelly and appears to be partially filled for the construction of the substation.

5.2 Hydrology

The review area lies within the Finney Creek–Skagit River Watershed, Water Resource Inventory Area 3 (DOE 2024). The site lies within two 12-digit Hydrologic Unit Code subwatersheds: the Hansen Creek–Skagit River Subwatershed and the Skagit River Subwatershed (Figure 4, Wetland Inventories). Both subwatersheds flow into the Skagit River, which drains to Skagit Bay, which is part of Puget Sound.

On the National Wetland Inventory online mapper, one feature occurs within the review area: Hansen Creek (USFWS 2023) (Figure 4). Hansen Creek is mapped as a seasonally flooded freshwater forested/shrub wetland (PFOC). This description is consistent with the riparian corridor along Hansen Creek, which is a mix of forest and shrub in the immediate vicinity of the project site. However, Hansen Creek itself is an intermittent lower-order stream. In the National Hydrography Dataset, Hansen Creek is labeled as a perennial stream (USGS 2023). This is inconsistent with observations made in the field that Hansen Creek is an intermittent stream with seasonal flows. The DOE modeled wetlands inventory identifies an area of potentially disturbed wetland along the eastern bank of Hansen Creek (Figure 4). This is consistent with field investigations of the review area.

5.3 Vegetation

The following indicator categories (which denote the likelihood of a species occurring in wetlands) are applied to individual plant species (USACE 2022):

- **OBL** (obligate wetland) – Almost always occur in wetlands
- **FACW** (facultative wetland) – Usually occur in wetlands, but may occur in non-wetlands
- **FAC** (facultative) – Occur in wetlands and non-wetlands
- **FACU** (facultative upland) – Usually occur in non-wetlands, but may occur in wetlands
- **UPL** (obligate upland) – Almost never occur in wetlands
- **NI** (no indicator) – Status not yet determined; treated as UPL

The review area consists of the following dominant communities: disturbed or maintained grasses and forbs; bigleaf maple–Douglas-fir (*Acer macrophyllum*, FACU; *Pseudotsuga menziesii*, FACU) forest; planted Nootka rose (*Rosa nutkana*; FAC) scrub–shrub wetland enhancement area; and Himalayan blackberry (*Rubus armeniacus*). Shrubs including osoberry (*Oemleria cerasiformis*), salmonberry (*Rubus spectabilis*), Himalayan blackberry, and trailing blackberry (*Rubus ursinus*) surround the borders of the property. Mature trees occur in the southeast, southwest, east, and northwest edges of the property, including willow species (*Salix* spp.), red alder (*Alnus rubra*), and Douglas-fir.

5.4 Review Area Alterations, Current and Past Land Use

The review area includes areas graded to support the construction of the Sedro-Woolley Substation. There is a Bonneville Power Administration transmission line easement that runs north–south across the proposed gen-tie line alignment. Portions of the proposed gen-tie line alignment located adjacent to the overall project site is composed of agricultural lands. The floodplain of Hansen Creek has been subject to development pressure. Multiple restoration projects occur along the creek. Portions of wetland enhancement area are located within the review area and are discussed further in Section 6, Aquatic Resources Narrative.

5.5 Precipitation Data and Analysis

The USACE-developed Antecedent Precipitation Tool (APT) was used to assess whether the delineation dates occurred in a drier, average, or wetter than normal period (USACE 2024). To determine what constitutes a “typical year,” the USACE developed the APT. The information generated by the APT can help to determine whether normal hydrologic and/or climatic conditions were present during the site visit, and to assist with completing the Wetland Determination Data Form.

The APT provides three climatological parameters: Palmer Drought Severity Index (PDSI), season, and antecedent precipitation condition. The PDSI is a standardized index calculated on a monthly basis, with PDSI value outputs ranging from –4 (extreme drought) to +4 (very wet) (NOAA 2024) to assess drought conditions (i.e., PDSI class). The APT determines wet vs. dry season based on related procedures provided in the applicable USACE Regional Supplement for the review area (in this case, the Western Mountains, Valleys, and Coast Regional Supplement [USACE 2010]). If the antecedent runoff condition (ARC) score is less than 10, then the antecedent precipitation condition is classified as drier than normal; if the ARC score is 10 to 14, then conditions are normal; if the ARC score is greater than 14, then conditions are wetter than normal (USACE 2024).

Table 2 summarizes the key data extrapolated from the APT output: estimated drought conditions (PDSI class), wet or dry season determination, ARC score, and antecedent precipitation condition. Based on the APT output provided in Appendix B and summarized in Table 2, the precipitation and climatic conditions for the review area were normal during the time of the delineations.

Table 2. Antecedent Precipitation Tool Data for the Review Area

Main Field Survey Date	PDSI Class	Season	ARC Score	Antecedent Precipitation Condition
9/26/2023	Severe drought	Dry season	10	Normal
12/19/2023	Moderate drought	Wet season	11	Normal

4/19/2024	Moderate drought	Wet season	12	Normal
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Notes: PDSI = Palmer Drought Severity Index; ARC = antecedent runoff condition.

Additionally, according to the U.S. Department of Agriculture’s Agricultural Applied Climate Information System (USDA 2024), the area around the review area received 36.33 inches of rain in 2023.

5.6 Priority Habitats and Species

The Priority Habitats and Species web mapper was used to generate results within a 5-mile radius from the project site (WDFW 2023). Four fish species have an observed range overlapping the entire project area: bull trout (*Salvelinus confluentus*), Dolly Varden (*Salvelinus malma*; proposed similarity of appearance), fall Chinook salmon (Puget Sound Evolutionarily Significant Unit [ESU]), and summer and winter steelhead (*Oncorhynchus mykiss*; Puget Sound Distinct Population Segment [DPS]). Five terrestrial species have an observed range that overlaps with the study area: grizzly bear (*Ursus arctos horribilis*), gray wolf (*Canis lupus*), little brown bat (*Myotis lucifugus*), Townsend’s big-eared bat (*Corynorhinus townsendii*), and Yuma myotis (*Myotis yumanensis*).

Based on initial review of the site, the four fish species have a potential to occur within Hansen Creek and the two bat species have a potential to utilize structures and riparian habitat associated with Hansen Creek. A full analysis of potential for these species to occur within the project site and associated impacts will be documented in the Critical Areas Assessment.

6 Aquatic Resources Narrative

Table 3 provides a detailed summary of wetlands delineated within the review area, including the Cowardin type (Cowardin et al. 1979; USACE 2023); Cowardin and hydrogeomorphic classification, DOE rating, local jurisdiction rating, the size of the wetland, and the associated buffer width. The Wetland Rating Summary forms for wetlands within the review area are provided in Appendix C. Table 4 provides a summary of the non-wetland waters within the review area. The locations of all delineated aquatic resources are provided on Figure 5A-C, Aquatic Resources Delineation Results. Wetlands were not observed within the proposed access route. Wetland sampling points utilized to collect data, as documented on the Wetland Determination Data Forms (Appendix A) for the review area, are also shown on Figure 5C. Photos of the potential aquatic features delineated within the review area are included as an attachment to the Wetland Determination Data Forms (Appendix A). Pursuant to Skagit County Code 14.24.230(1) and 14.24.530(2) for waterways (Skagit County 2023), both wetland and stream buffers have been designated for each feature to facilitate planning purposes (Tables 3 and 4).

Table 3. Wetlands within the Review Area

Feature Name	Cowardin Code ^a	HGM	DOE Rating ^b	Skagit County ^c	Wetland Size (acres)	Buffer Width (feet) ^d
WET-H	PSS	Riverine	III	III	0.09	150
WET-I	PSS	Depressional	III	III	0.20	150
Wetlands Total					0.29	N/A

Notes: HGM = hydrogeomorphic classification; WET = Wetland; PSS = palustrine scrub-shrub; N/A = not applicable.

^a Pursuant to Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al. 1979) and USACE Cowardin Codes for ORM Data Entry (USACE 2023).

^b DOE rating (DOE 2023).

- c Skagit County follows the DOE rating systems (DOE 2023).
- d Skagit County wetland buffer width based on wetland category and high-intensity land use (Skagit County 2023).

Table 4. Non-Wetland Waters within the Review Area

Feature Name	WDNR Water Type	Portion within the Review Area	Skagit County Buffer Width	303(d) Listed (parameters)
Hansen Creek	S	190 linear feet (0.08 acres)	200 feet	Dissolved oxygen

Source: WDNR 2023.

Notes: WDNR = Washington State Department of Natural Resources; S = shorelines of the state.

6.1 WET-H

Wetlands associated with Hansen Creek were observed within the gen-tie line alignment. The wetland, identified as WET-H on Figure 5C, comprises 0.09 acres within the gen-tie line alignment. Wetland sampling points were taken within the floodplain bench and just upslope of the bench to determine the boundary of the wetland within the review area. The wetland is dominated by Himalayan blackberry, with no other plant species present. Hydric soils were determined to be present; however, only one secondary indicator for hydrology was observed. Given the proximity of the feature to Hansen Creek – i.e., its geomorphic position – and the fact that this area is 2 feet lower in elevation than the wetland restoration site across the creek, wetland hydrology is assumed to be present in the wet/growing season.

6.2 WET-I

A wetland enhancement area is marked with a sign and a partial fence on the southwest side of Hansen Creek (Figure 5C; WET-I). Because this is a wetland enhancement area, no sampling points were taken with the boundary of the restoration site. However, given the proximity to Hansen Creek, and the apparent creation of wetlands, the portion of the wetland enhancement area that occurs within the gen-tie line alignment will be treated as a wetland for the purposes of this ARDR. WET-1 comprises 0.20 acres within the gen-tie line alignment and consists of planted willow and rose species.

6.3 Hansen Creek

Hansen Creek is an intermittent lower-order stream that drains south through the northeastern end of the project site. Approximately 190 linear feet (0.08 acres) of the stream occur within the review area. The creek banks are steeply incised, with overhanging banks and roots in places. The substrate consists of silty sand with gravel on the surface. Several islands of reed canary grass (*Phalaris arundinacea*) occur within the stream channel. Dense Himalayan blackberry and willow species line the top of the banks and create a riparian corridor. Fewer than five pieces of large woody debris with a diameter greater than 4 inches and more than 6 feet long were observed.

Two beaver dams were observed within the Hansen Creek, each ponding water. Recent evidence of North American beaver (*Castor canadensis*) or common muskrat (*Ondatra zibethicus*) was not observed, but potential denning habitat was present. Water was not otherwise flowing through the creek, although there were ponded areas in the

thalwegs and pools up to 6 inches deep.¹ As such, this creek can be called intermittent because it appears to stop flowing seasonally.

The following description of Hansen Creek is from the project ARDR (Skagit Wetlands & Critical Areas, LLC, 2023):

Hansen Creek is a shoreline of the State and falls under the jurisdiction of the Skagit County Shoreline Management Program and is about 1.6 miles upstream of the terminus with the Skagit River.

This segment of Hansen Creek has areas of designated floodplain/frequently flooded area associated with the creek. Such area was not mapped separately for purposes of this delineation but was noted to appear to fall fully within the regulated buffer of the creek. Hansen Creek has noted salmonid presence. Any proposed work within 225 ft of the creek or its associated flood hazard area will require a dedicated Fish & Wildlife [USFWS] Habitat Conservation Area Assessment prepared to Skagit County Code and meet ESA [Endangered Species Act] reporting requirements.

6.4 Other Features

An unnamed creek along the south and east edges of the project site does not have a significant hydrologic, biological, or chemical nexus to Hansen Creek and is therefore non-jurisdictional to USACE and DOE. ELS documented wetlands located outside and to the west of the proposed access route. Since this feature is located offsite, a discussion is not included in this report. Appropriate buffers will be applied and adhered in the appropriate impact analysis reporting.

7 Results and Conclusions

Based on the jurisdictional delineation and review of relevant information provided in this ARDR, 0.08 acres of non-wetland waters and 0.29 acres of wetlands potentially regulated by USACE and DOE were delineated within the review area. This ARDR can be used by the regulatory agencies to determine if they would regulate the features described herein.

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¹ The *thalweg* is the continuous line or curve of lowest elevation within a valley or watercourse.

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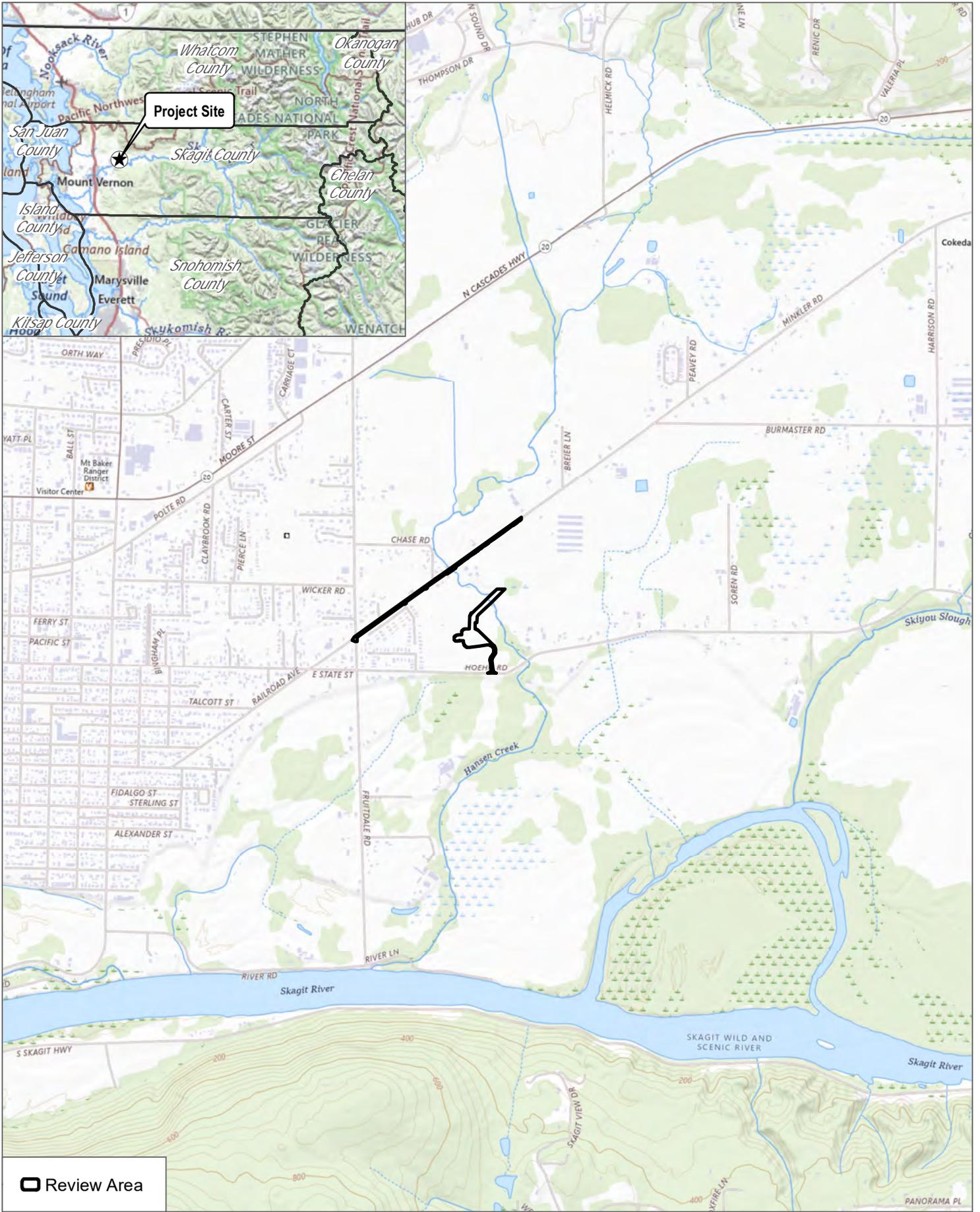
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SOURCE: USGS 7.5 Minute Quadrangle Sedro-Woolley North Series
 Township 35N; Range 5E; Section 20



FIGURE 1

Project Location

Aquatic Resources Delineation Report: Goldeneye Project



SOURCE: Maxar 2017; Skagit County 2021; USGS NHD 2024

FIGURE 2

Review Area

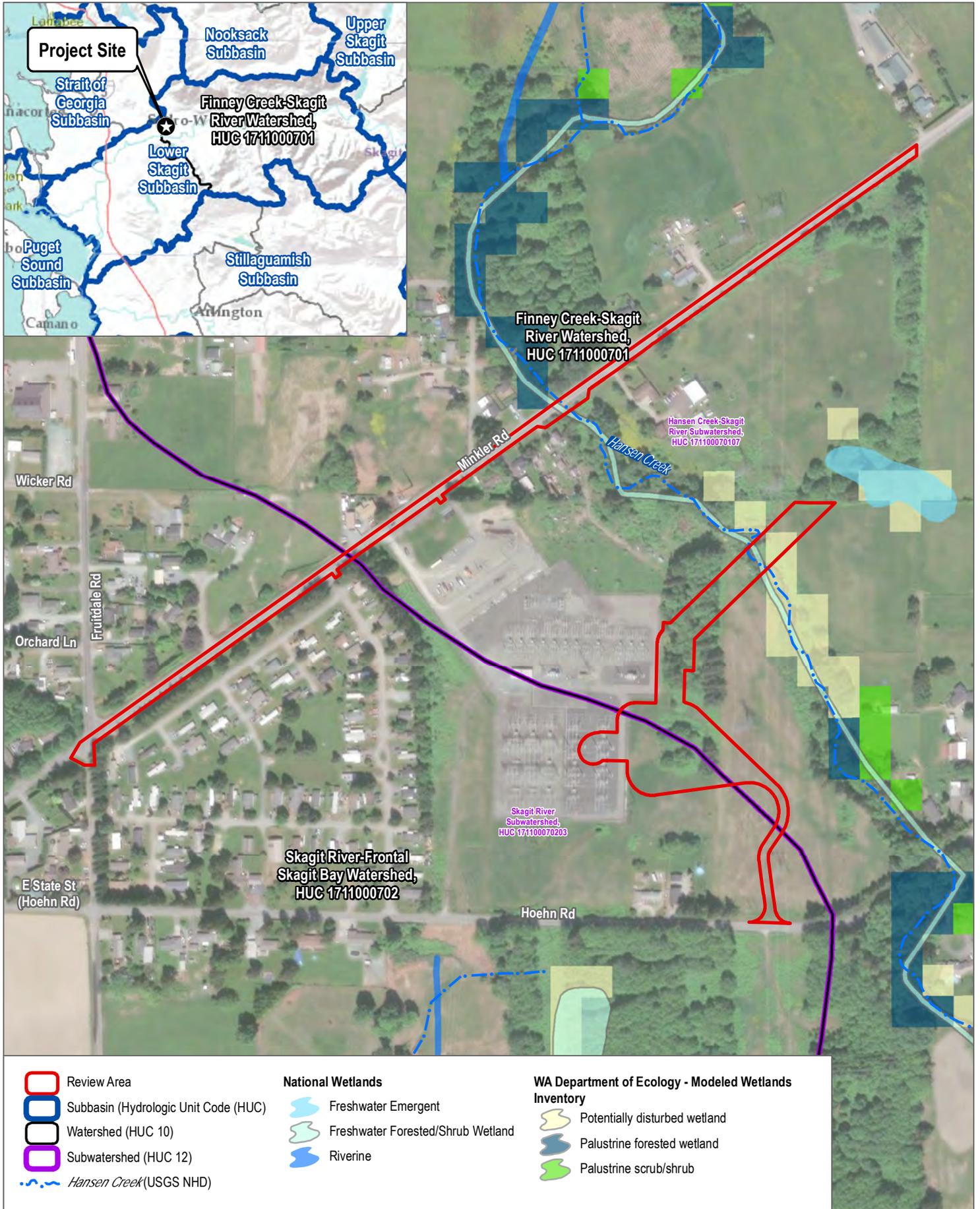




 Review Area	USDA SSURGO Soils
 <i>Hansen Creek</i> (USGS NHD)	 136, Sumas silt loam
 Predominantly Hydric Soil Unit	 56, Field silt loam
	 92, Minkler silt loam

SOURCE: Maxar 2017; Skagit County 2021; USDA SSURGO 2023

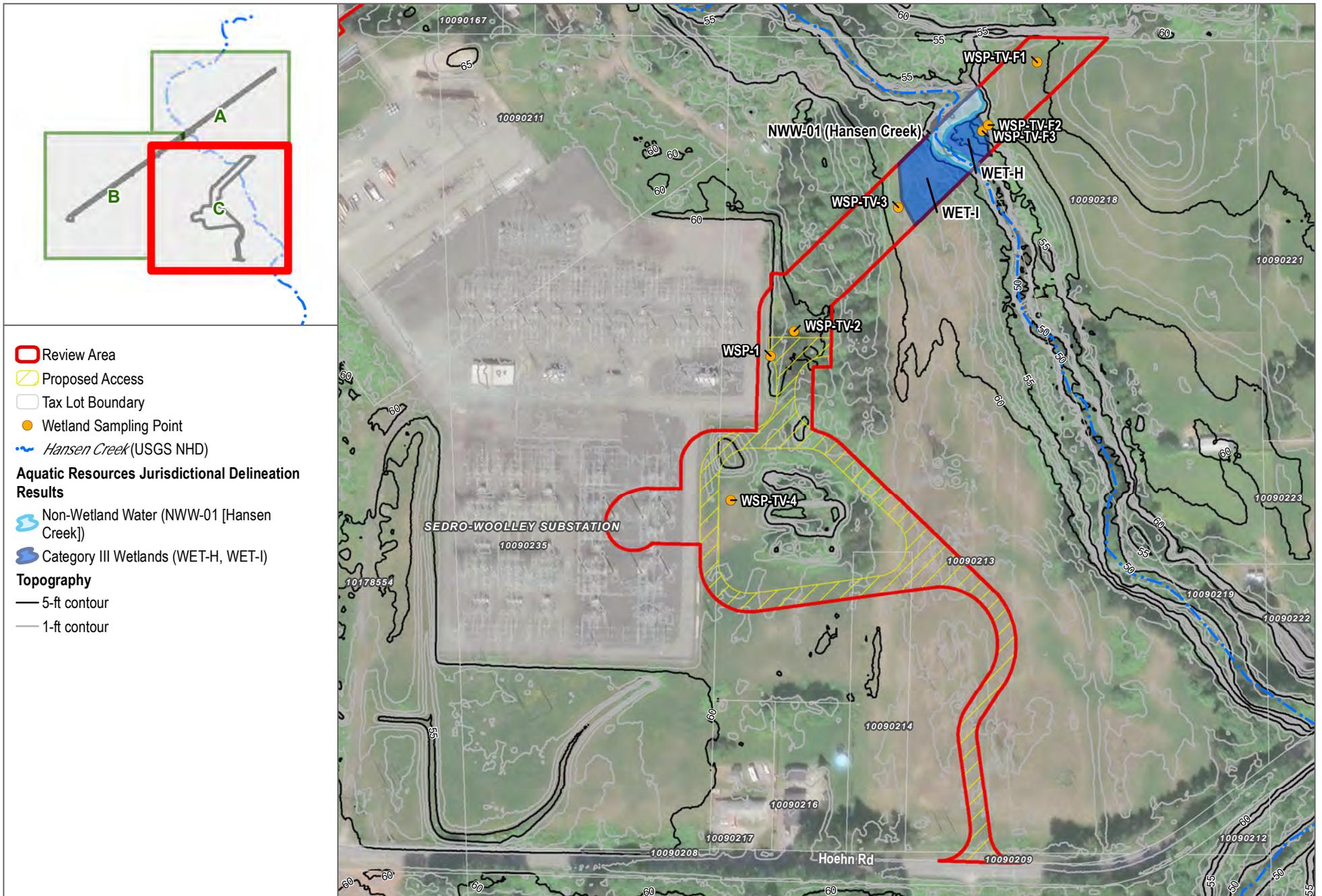
FIGURE 3
Soils



SOURCE: Esri World Imagery Basemap 2024; USFWS NWI 2023; WA Dept. of Ecology 2016; USGS NHD 2023

FIGURE 4

Wetland Inventories



SOURCE: Esri World Imagery Basemap 2024; USGS NHD 2023; Skagit County 2021

Appendix A

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Goldeneye gen-tie City/County: Sedro-Woolley/Skagit Sampling Date: 09/27/2023
 Applicant/Owner: Goldfinch LLC State: WA Sampling Point: WSP-TV-1
 Investigator(s): T. Vingiello Section, Township, Range: S20 T35N R5E
 Landform (hillslope, terrace, etc): Ditch Local relief (concave, convex, none): concave Slope (%): 1%
 Subregion (LRR): LRR A Lat: 48.50544033 Long: -122.2024075 Datum: _____
 Soil Map Unit Name: _____ 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 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 <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: Normal circumstances, ditch is mowed and blackberry has been cleared for construction of substation and associated culvert.					

VEGETATION - Use scientific names of plants.

<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 35%;"><u>Tree Stratum</u> (Plot size: <u>30-ft</u>)</td> <td style="width: 10%; text-align: center;">Absolute % Cover</td> <td style="width: 10%; text-align: center;">Dominant Species?</td> <td style="width: 10%; text-align: center;">Indicator Status</td> <td style="width: 35%;"></td> </tr> <tr> <td>1. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"><u>0</u></td> <td colspan="3" style="text-align: center;">= Total Cover</td> </tr> <tr> <td><u>Sapling/Shrub Stratum</u> (Plot size: <u>15-ft</u>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. <u>Rubus armeniacus / Himalayan blackberry</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">FAC</td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"><u>2</u></td> <td colspan="3" style="text-align: center;">= Total Cover</td> </tr> <tr> <td><u>Herb Stratum</u> (Plot size: <u>5-ft</u>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. <u>Ranunculus repens / Crowfoot, Creeping buttercup</u></td> <td style="text-align: center;"><u>40</u></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">FAC</td> <td></td> </tr> <tr> <td>2. <u>Glechoma hederacea / Ground ivy</u></td> <td style="text-align: center;"><u>40</u></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">FACU</td> <td></td> </tr> <tr> <td>3. <u>Taraxacum officinale / Red seeded dandelion, Common dan</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;">No</td> <td style="text-align: center;">FACU</td> <td></td> </tr> <tr> <td>4. <u>Rumex obtusifolius / Broadleaf dock, Bitter dock</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;">No</td> <td style="text-align: center;">FAC</td> <td></td> </tr> <tr> <td>5. <u>Poa palustris / Fowl bluegrass, Fowl blue grass</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;">No</td> <td style="text-align: center;">FAC</td> <td></td> </tr> <tr> <td>6. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>9. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>10. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>11. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"><u>86</u></td> <td colspan="3" style="text-align: center;">= Total Cover</td> </tr> <tr> <td><u>Woody Vine Stratum</u> (Plot size: <u>30-ft</u>)</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>1. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;"><u>0</u></td> <td colspan="3" style="text-align: center;">= Total Cover</td> </tr> <tr> <td>% Bare Ground in Herb Stratum <u>11</u></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	<u>Tree Stratum</u> (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status		1. _____					2. _____					3. _____					4. _____						<u>0</u>	= Total Cover			<u>Sapling/Shrub Stratum</u> (Plot size: <u>15-ft</u>)					1. <u>Rubus armeniacus / Himalayan blackberry</u>	<u>2</u>	Yes	FAC		2. _____					3. _____					4. _____					5. _____						<u>2</u>	= Total Cover			<u>Herb Stratum</u> (Plot size: <u>5-ft</u>)					1. <u>Ranunculus repens / Crowfoot, Creeping buttercup</u>	<u>40</u>	Yes	FAC		2. <u>Glechoma hederacea / Ground ivy</u>	<u>40</u>	Yes	FACU		3. <u>Taraxacum officinale / Red seeded dandelion, Common dan</u>	<u>2</u>	No	FACU		4. <u>Rumex obtusifolius / Broadleaf dock, Bitter dock</u>	<u>2</u>	No	FAC		5. <u>Poa palustris / Fowl bluegrass, Fowl blue grass</u>	<u>2</u>	No	FAC		6. _____					7. _____					8. _____					9. _____					10. _____					11. _____						<u>86</u>	= Total Cover			<u>Woody Vine Stratum</u> (Plot size: <u>30-ft</u>)					1. _____					2. _____						<u>0</u>	= Total Cover			% Bare Ground in Herb Stratum <u>11</u>					<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>3</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)</p> <p>Prevalence Index worksheet:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; text-align: center;">Total % Cover of:</td> <td style="width: 10%;"></td> <td style="width: 10%; text-align: center;">Multiply by:</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 1 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 2 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>46</u></td> <td style="text-align: center;">x 3 =</td> <td style="text-align: center;"><u>138</u></td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>42</u></td> <td style="text-align: center;">x 4 =</td> <td style="text-align: center;"><u>168</u></td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>0</u></td> <td style="text-align: center;">x 5 =</td> <td style="text-align: center;"><u>0</u></td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>88</u></td> <td style="text-align: center;">(A)</td> <td style="text-align: center;"><u>306</u></td> <td style="text-align: center;">(B)</td> </tr> </table> <p style="text-align: center;">Prevalence Index = B/A = <u>3.48</u></p> <p>Hydrophytic Vegetation Indicators:</p> <p><u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index ≤3.0¹ <u> </u> 4 - Morphological Adaptations¹ (Provide supporting <u> </u> 5 - Wetland Non-Vascular Plants¹ <u> </u> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>	Total % Cover of:		Multiply by:			OBL species	<u>0</u>	x 1 =	<u>0</u>		FACW species	<u>0</u>	x 2 =	<u>0</u>		FAC species	<u>46</u>	x 3 =	<u>138</u>		FACU species	<u>42</u>	x 4 =	<u>168</u>		UPL species	<u>0</u>	x 5 =	<u>0</u>		Column Totals:	<u>88</u>	(A)	<u>306</u>	(B)
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Remarks: Upslope species include Poa bulbosa, Rumex crispus, Rubus armeniacus.																																																																																																																																																																																															

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Goldeneye gen-tie City/County: Skagit County Sampling Date: 09/27/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-2
 Investigator(s): T. Vingiello Section, Township, Range: S20 T35N R5E
 Landform (hillslope, terrace, etc): Terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: 48.5056085 Long: -122.20231333 Datum: _____
 Soil Map Unit Name: _____ 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 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:					

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30-ft</u>)																																
1. <u>Acer macrophyllum</u> / Bigleaf maple, Big-leaf maple	60	Yes	FACU	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>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40.0</u> (A/B)																												
2. <u>Alnus rubra</u> / Red alder	15	No	FAC																													
3. <u>Thuja plicata</u> / Western red cedar, Western red cedar, Canoe	10	No	FAC																													
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1. <u>Urtica dioica</u> / Stinging nettle	30	Yes	FAC	Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;"></td> <td style="width: 10%;">Total % Cover of:</td> <td style="width: 10%;">Multiply by:</td> <td style="width: 40%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td>x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">125</td> <td>x 3 =</td> <td style="text-align: center;">375</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">90</td> <td>x 4 =</td> <td style="text-align: center;">360</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">20</td> <td>x 5 =</td> <td style="text-align: center;">100</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">235</td> <td>(A)</td> <td style="text-align: center;">835 (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.55</u>		Total % Cover of:	Multiply by:		OBL species	0	x 1 =	0	FACW species	0	x 2 =	0	FAC species	125	x 3 =	375	FACU species	90	x 4 =	360	UPL species	20	x 5 =	100	Column Totals:	235	(A)	835 (B)
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2. <u>Arctium minus</u> / Common burdock	20	Yes	UPL																													
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Herb Stratum (Plot size: <u>5-ft</u>)																																
1. <u>Ranunculus repens</u> / Crowfoot, Creeping buttercup	60	Yes	FAC	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting ___ 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. <u>Festuca californica</u> / California fescue	30	Yes	FACU																													
3. <u>Agrostis capillaris</u> / Colonial bentgrass	10	No	FAC																													
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Remarks:

SOIL

Sampling Point: WSP-TV-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		
0-6	10YR 3/2	100		0				Gravels
6-16	10YR 3/2	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.)		Indicators for Problematic Hydric Soils³:
<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 <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (minimum of two 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"/> 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"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<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 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:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> 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, & Coast

Project/Site: Goldeneye gen-tie City/County: _____ Sampling Date: 09/27/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-3
 Investigator(s): T Vingiello Section, Township, Range: S20 T35N R5E
 Landform (hillslope, terrace, etc): terrace Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR): LRR A Lat: 48.50612133 Long: -122.20161883 Datum: _____
 Soil Map Unit Name: _____ 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 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 <u>X</u>	No _____	Is the Sampled Area within a Wetland?	Yes _____	No _____
Hydric Soil Present?	Yes _____	No <u>X</u>			
Wetland Hydrology Present?	Yes _____	No <u>X</u>			
Remarks: Adjacent to wetland enhancement area to NE, between WSP-TV-3 and Hansen Creek.					

VEGETATION - Use scientific names of plants.

<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Tree Stratum (Plot size: <u>30-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>2. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>3. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td colspan="2" style="text-align: right;">0 = Total Cover</td><td colspan="2"></td></tr> <tr> <th style="text-align: left;">Sapling/Shrub Stratum (Plot size: <u>15-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1. <i>Rubus armeniacus</i> / Himalayan blackberry</td><td style="text-align: center;">15</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FAC</td></tr> <tr><td>2. <i>Rosa nutkana</i> / Nootka rose</td><td style="text-align: center;">10</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FAC</td></tr> <tr><td>3. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td colspan="2" style="text-align: right;">25 = Total Cover</td><td colspan="2"></td></tr> <tr> <th style="text-align: left;">Herb Stratum (Plot size: <u>5-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1. <i>Agrostis capillaris</i> / Colonial bentgrass</td><td style="text-align: center;">95</td><td style="text-align: center;">Yes</td><td style="text-align: center;">FAC</td></tr> <tr><td>2. <i>Plantago lanceolata</i> / Ribwort, English plantain</td><td style="text-align: center;">7</td><td style="text-align: center;">No</td><td style="text-align: center;">FACU</td></tr> <tr><td>3. <i>Hypochaeris radicata</i> / Hairy cats ear, Rough cat's-ear</td><td style="text-align: center;">3</td><td style="text-align: center;">No</td><td style="text-align: center;">FACU</td></tr> <tr><td>4. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>5. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>6. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>7. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>8. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>9. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>10. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>11. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td colspan="2" style="text-align: right;">105 = Total Cover</td><td colspan="2"></td></tr> <tr> <th style="text-align: left;">Woody Vine Stratum (Plot size: <u>30-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr><td>1. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>2. _____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td colspan="2" style="text-align: right;">0 = Total Cover</td><td colspan="2"></td></tr> <tr> <td colspan="4">% Bare Ground in Herb Stratum _____</td> </tr> </table>	Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	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SOIL

Sampling Point: WSP-TV-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		
0-3	10YR 3/3	100					Silt Loam	Many fine roots
3-7	10YR 3/3	98	10YR 3/6	2	C	PL	Loam	
7-10	10YR 4/2	100		0			Silt	Not depleted matrix
10-16		100	10YR 4/3	0			Silt 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.)

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

Indicators for Problematic Hydric Soils³:

- 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 X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____
 Water Table Present? Yes _____ No X Depth (inches): _____
 Saturation Present? Yes _____ No X Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Goldeneye gen-tie City/County: Skagit County Sampling Date: 09/27/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-4
 Investigator(s): T Vingiello Section, Township, Range: S20 T35N R5E
 Landform (hillslope, terrace, etc): terrace Local relief (concave, convex, none): none Slope (%): <1
 Subregion (LRR): LRR A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: _____ NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, 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"/>			
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Remarks:					

VEGETATION - Use scientific names of plants.

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Indicator Status		1. _____					2. _____					3. _____					4. _____									0 = Total Cover						<u>Sapling/Shrub Stratum</u> (Plot size: <u>15-ft</u>)					1. _____					2. _____					3. _____					4. _____					5. _____									0 = Total Cover						<u>Herb Stratum</u> (Plot size: <u>5-ft</u>)					1. <u>Agrostis capillaris</u> / Colonial bentgrass	85	Yes	FAC		2. <u>Plantago lanceolata</u> / Ribwort, English plantain	15	No	FACU		3. _____					4. _____					5. _____					6. _____					7. _____					8. _____					9. _____					10. _____					11. _____									100 = Total Cover						<u>Woody Vine Stratum</u> (Plot size: <u>30-ft</u>)					1. _____					2. _____									0 = Total Cover						% Bare Ground in Herb Stratum	<u>0</u>				<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>1</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)</p> <hr/> <p>Prevalence Index worksheet:</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; text-align: center;">Total % Cover of:</td> <td style="width: 10%;"></td> <td style="width: 10%; text-align: center;">Multiply by:</td> <td style="width: 10%;"></td> <td style="width: 10%;"></td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td>x 2 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">85</td> <td>x 3 =</td> <td style="text-align: center;">255</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">15</td> <td>x 4 =</td> <td style="text-align: center;">60</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">100</td> <td>(A)</td> <td style="text-align: center;">315</td> <td>(B)</td> </tr> </table> <p style="text-align: right;">Prevalence Index = B/A = <u>3.15</u></p> <hr/> <p>Hydrophytic Vegetation Indicators:</p> <p><input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> 2 - Dominance Test is >50%</p> <p><input type="checkbox"/> 3 - Prevalence Index ≤3.0¹</p> <p><input type="checkbox"/> 4 - Morphological Adaptations¹ (Provide supporting</p> <p><input type="checkbox"/> 5 - Wetland Non-Vascular Plants¹</p> <p><input type="checkbox"/> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p><small>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</small></p> <hr/> <p>Hydrophytic Vegetation Present? Yes _____ No _____</p>	Total % Cover of:		Multiply by:			OBL species	0	x 1 =	0		FACW species	0	x 2 =	0		FAC species	85	x 3 =	255		FACU species	15	x 4 =	60		UPL species	0	x 5 =	0		Column Totals:	100	(A)	315	(B)
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Goldeneye Energy Project - Greenwell Site City/County: Sedro-Woolley/Skagit Sampling Date: 12/19/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-5
 Investigator(s): Tony Vingiello Section, Township, Range: T35N, R05E, Sec 20
 Landform (hillslope, terrace, etc): terrace Local relief (concave, convex, none): convex Slope (%): 2
 Subregion (LRR): A Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Field silt loam - 56 NWI classification: none

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 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 <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: In mowed area; low part of field.					

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	0	_____	_____	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>100.0</u> (A/B)														
4. _____				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>100</u></td> <td>x 3 = <u>300</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>100</u></td> <td>x 5 = <u>500</u></td> </tr> <tr> <td>Column Totals: <u>200</u> (A)</td> <td><u>800</u> (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>100</u>	x 3 = <u>300</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>100</u>	x 5 = <u>500</u>	Column Totals: <u>200</u> (A)	<u>800</u> (B)
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Sapling/Shrub Stratum (Plot size: <u>15-ft</u>)																		
1. _____	100	_____	_____															
2. _____																		
3. _____																		
4. _____																		
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100 = Total Cover																		
Herb Stratum (Plot size: <u>5-ft</u>)																		
1. <u>Schedonorus arundinaceus / Tall false rye grass</u>	70	Yes	FAC															
2. <u>Agrostis capillaris / Colonial bentgrass</u>	20	Yes	FAC															
3. <u>Poa / Bluegrass</u>	10	No	FAC															
4. _____																		
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1. _____	0	_____	_____															
2. _____																		
0 = Total Cover																		
% Bare Ground in Herb Stratum _____																		
Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% ___ 3 - Prevalence Index ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting ___ 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.																		
Hydrophytic Vegetation Present? Yes _____ No _____																		

Remarks:

SOIL

Sampling Point: WSP-TV-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		
0-16		100		0				

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 Soils³:
<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 <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (minimum of two 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"/> 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"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
<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 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:	Wetland Hydrology Present? Yes _____ No <u>X</u>
Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____	
Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____	
Saturation Present? Yes _____ No <u>X</u> 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, & Coast

Project/Site: Goldeneye Energy Project - Greenwell Site City/County: Sedro-Woolley/Skagit Sampling Date: 12/19/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-F1
 Investigator(s): Tony Vingiello Section, Township, Range: T35N, R05E, Sec 20
 Landform (hillslope, terrace, etc): terrace Local relief (concave, convex, none): none Slope (%): < 3
 Subregion (LRR): A Lat: 48.506714 Long: -122.200844 Datum: _____
 Soil Map Unit Name: Field silt loam - 56 NWI classification: None

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 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 <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: Individual plot in flat mowed field south of ditch and east of Hansen Creek. Antecedent precipitation is normal.					

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	0			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>100.0</u> (A/B)	
4. _____					
			0 = Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15-ft</u>)				Prevalence Index worksheet:	
1. _____				Total % Cover of: _____ Multiply by: _____	
2. _____				OBL species <u>0</u> x 1 = <u>0</u>	
3. _____				FACW species <u>0</u> x 2 = <u>0</u>	
4. _____				FAC species <u>95</u> x 3 = <u>285</u>	
5. _____				FACU species <u>5</u> x 4 = <u>20</u>	
			0 = Total Cover	UPL species <u>0</u> x 5 = <u>0</u>	
				Column Totals: <u>100</u> (A) <u>305</u> (B)	
				Prevalence Index = B/A = <u>3.05</u>	
Herb Stratum (Plot size: <u>5-ft</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Poa</u> / Bluegrass	70	Yes	FAC	<u>1</u> - Rapid Test for Hydrophytic Vegetation	
2. <u>Schedonorus arundinaceus</u> / Tall false rye grass	25	Yes	FAC	<u>X</u> 2 - Dominance Test is >50%	
3. <u>Hypochaeris radicata</u> / Hairy cats ear, Rough cat's-ear	5	No	FACU	<u>3</u> - Prevalence Index ≤ 3.0 ¹	
4. _____				<u>4</u> - Morphological Adaptations ¹ (Provide supporting	
5. _____				<u>5</u> - Wetland Non-Vascular Plants ¹	
6. _____				<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
			100 = Total Cover		
Woody Vine Stratum (Plot size: <u>30-ft</u>)					
1. _____					
2. _____					
			0 = Total Cover		
% Bare Ground in Herb Stratum _____				Hydrophytic Vegetation Present? Yes <u>X</u> No _____	

Remarks:

SOIL

Sampling Point: WSP-TV-F1

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		
0-1	10YR 3/3	100		0			Silt Loam	Many fine roots
1-13	10YR 3/3	100		0			Silt Loam	
13-16	10YR 4/6	60	7.5YR 4/6	5	C	M	Silt Loam	mixed matrix
13-16	10YR 4/1	35		0				mixed matrix

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 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: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks: Redox features too deep to meet F6 or F8.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) (except 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)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) <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 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 <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Antecedent precipitation is normal and the drought index indicates moderate drought.

WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Goldeneye Energy Project - Greenwell Site City/County: Sedro-Woolley/Skagit Sampling Date: 12/19/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-F2
 Investigator(s): Tony Vingiello Section, Township, Range: T35N, R05E, Sec 20
 Landform (hillslope, terrace, etc): floodplain bench Local relief (concave, convex, none): concave Slope (%): 3
 Subregion (LRR): A Lat: 48.506648 Long: -122.198853 Datum: _____
 Soil Map Unit Name: Field silt loam - 56 NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation , 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: Plot is on floodplain bench above Hansen Creek approximately 4 feet lower in elevation than Plot WSP-TV-F3. Antecedent precipitation is normal.	

VEGETATION - Use scientific names of plants.

<table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Tree Stratum (Plot size: <u>30-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr> <td>1. _____</td> <td style="text-align: center;">0</td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">0</td> <td colspan="2" style="text-align: right;">= Total Cover</td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Sapling/Shrub Stratum (Plot size: <u>15-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr> <td>1. <u>Rubus armeniacus / Himalayan blackberry</u></td> <td style="text-align: center;">100</td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">FAC</td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">100</td> <td colspan="2" style="text-align: right;">= Total Cover</td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Herb Stratum (Plot size: <u>5-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr> <td>1. _____</td> <td style="text-align: center;">0</td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>3. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>4. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>5. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>6. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>7. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>8. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>9. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>10. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td>11. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">0</td> <td colspan="2" style="text-align: right;">= Total Cover</td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Woody Vine Stratum (Plot size: <u>30-ft</u>)</th> <th style="text-align: center;">Absolute % Cover</th> <th style="text-align: center;">Dominant Species?</th> <th style="text-align: center;">Indicator Status</th> </tr> <tr> <td>1. _____</td> <td style="text-align: center;">0</td> <td></td> <td></td> </tr> <tr> <td>2. _____</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">0</td> <td colspan="2" style="text-align: right;">= Total Cover</td> </tr> </table> <p>% Bare Ground in Herb Stratum _____</p>	Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	1. _____	0			2. _____				3. _____				4. _____					0	= Total Cover		Sapling/Shrub Stratum (Plot size: <u>15-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	1. <u>Rubus armeniacus / Himalayan blackberry</u>	100	Yes	FAC	2. _____				3. _____				4. _____				5. _____					100	= Total Cover		Herb Stratum (Plot size: <u>5-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	1. _____	0			2. _____				3. _____				4. _____				5. _____				6. _____				7. _____				8. _____				9. _____				10. _____				11. _____					0	= Total Cover		Woody Vine Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	1. _____	0			2. _____					0	= Total Cover		<p>Dominance Test worksheet:</p> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)
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WETLAND DETERMINATION DATA FORM - Western Mountains, Valleys, & Coast

Project/Site: Goldeneye Energy Project - Greenwell Site City/County: Sedro-Woolley/Skagit Sampling Date: 12/19/2023
 Applicant/Owner: Goldfinch Energy LLC State: WA Sampling Point: WSP-TV-F3
 Investigator(s): Tony Vingiello Section, Township, Range: T35N, R05E, Sec 20
 Landform (hillslope, terrace, etc): terrace Local relief (concave, convex, none): none Slope (%): < 3
 Subregion (LRR): A Lat: 48.506458 Long: -122.201061 Datum: _____
 Soil Map Unit Name: Field silt loam - 56 NWI classification: none

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 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 <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: Plot is paired with WSP-TV-F2. Antecedent precipitation is normal.					

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	0	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)																
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)																
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0</u> (A/B)																
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¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																				
Hydrophytic Vegetation Present? Yes _____ No _____																				

Remarks:

SOIL

Sampling Point: WSP-TV--F3

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 3/3	100		0			Sandy Loam	

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

<p>Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)</p> <p><input type="checkbox"/> Histosol (A1)</p> <p><input type="checkbox"/> Histic Epipedon (A2)</p> <p><input type="checkbox"/> Black Histic (A3)</p> <p><input type="checkbox"/> Hydrogen Sulfide (A4)</p> <p><input type="checkbox"/> Depleted Below Dark Surface (A11)</p> <p><input type="checkbox"/> Thick Dark Surface (A12)</p> <p><input type="checkbox"/> Sandy Mucky Mineral (S1)</p> <p><input type="checkbox"/> Sandy Gleyed Matrix (S4)</p>	<p><input type="checkbox"/> Sandy Redox (S5)</p> <p><input type="checkbox"/> Stripped Matrix (S6)</p> <p><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</p> <p><input type="checkbox"/> Loamy Gleyed Matrix (F2)</p> <p><input type="checkbox"/> Depleted Matrix (F3)</p> <p><input type="checkbox"/> Redox Dark Surface (F6)</p> <p><input type="checkbox"/> Depleted Dark Surface (F7)</p> <p><input type="checkbox"/> Redox Depressions (F8)</p>	<p>Indicators for Problematic Hydric Soils³:</p> <p><input type="checkbox"/> 2 cm Muck (A10)</p> <p><input type="checkbox"/> Red Parent Material (TF2)</p> <p><input type="checkbox"/> Very Shallow Dark Surface (TF12)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p> <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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<p>Restrictive Layer (if present):</p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p>Hydric Soil Present? Yes _____ No <u>X</u></p>
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Remarks:

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one required; check all that apply)</u></p> <p><input type="checkbox"/> Surface Water (A1)</p> <p><input type="checkbox"/> High Water Table (A2)</p> <p><input type="checkbox"/> Saturation (A3)</p> <p><input type="checkbox"/> Water Marks (B1)</p> <p><input type="checkbox"/> Sediment Deposits (B2)</p> <p><input type="checkbox"/> Drift Deposits (B3)</p> <p><input type="checkbox"/> Algal Mat or Crust (B4)</p> <p><input type="checkbox"/> Iron Deposits (B5)</p> <p><input type="checkbox"/> Surface Soil Cracks (B6)</p> <p><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</p> <p><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</p>		<p><u>Secondary Indicators (minimum of two required)</u></p> <p><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</p> <p><input type="checkbox"/> Salt Crust (B11)</p> <p><input type="checkbox"/> Aquatic Invertebrates (B13)</p> <p><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</p> <p><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</p> <p><input type="checkbox"/> Presence of Reduced Iron (C4)</p> <p><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</p> <p><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</p> <p><input type="checkbox"/> Other (Explain in Remarks)</p>
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<p>Field Observations:</p> <p>Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____</p> <p>Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____</p> <p>Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____</p> <p>(includes capillary fringe)</p>	<p>Wetland Hydrology Present? Yes _____ No <u>X</u></p>
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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: WA BESS Goldeneye City/County: Skagit County Sampling Date: 04/11/24
 Applicant/Owner: Dudek State: WA Sampling Point: TP-8
 Investigator(s): Huffman C. Section, Township, Range: S20 T35N R5E
 Landform (hillside, terrace, etc.): Floodplains Local relief (concave, convex, none): None Slope (%): 0-3
 Subregion (LRR): LRR A Lat: 48.5041709 Long: -122.2021193 Datum: NAD83
 Soil Map Unit Name: Field silt loam, 0 to 3 percent slopes NWI classification: None

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: TP-8 was located south of the proposed access road, and was sampled in upland.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____					Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 1 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____					
3. _____					
4. _____					
				=Total Cover	
Sapling/Shrub Stratum	(Plot size: <u>15 ft. radius</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. _____					
				=Total Cover	
Herb Stratum	(Plot size: <u>5 ft. radius</u>)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> 5 - Wetland Non-Vascular Plants ¹ <u> </u> 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>		100	Yes	FACW	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
11. _____					
		100		=Total Cover	
Woody Vine Stratum	(Plot size: <u>15 ft. radius</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. _____					
2. _____					
				=Total Cover	
% Bare Ground in Herb Stratum <u> 0 </u>					
Remarks:					

SOIL

Sampling Point: TP-8

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		
0-6	10YR 3/3						Loamy/Clayey	
6-12	2.5YR 3/3	94	7.5YR 4/6	6	C	M	Loamy/Clayey	Prominent redox concentrations
12-18	10YR 3/2	98	10YR 4/6	2	C	M	Loamy/Clayey	Prominent redox concentrations

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 (F21)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<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"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is 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 on 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 checked="" 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): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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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: WA BESS Goldeneye City/County: Skagit County Sampling Date: 04/11/24
 Applicant/Owner: Dudek State: WA Sampling Point: TP-9
 Investigator(s): Huffman, C. Section, Township, Range: S20 T35N R5E
 Landform (hillside, terrace, etc.): Floodplains Local relief (concave, convex, none): Concave Slope (%): 0-3
 Subregion (LRR): LRR A Lat: 48.5039367 Long: -122.201907 Datum: NAD83
 Soil Map Unit Name: Field silt loam, 0 to 3 percent slopes NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , 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"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: TP-9 was located southeast of TP-8, and was sampled in wetland.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____					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>100.0%</u> (A/B)
2. _____					
3. _____					
4. _____					
_____ =Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15 ft. radius</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. <u>Rubus armeniacus</u>		50	Yes	FAC	
2. <u>Rosa nutkana</u>		8	No	FAC	
3. _____					
4. _____					
_____ =Total Cover					
Herb Stratum	(Plot size: <u>5 ft. radius</u>)				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>Phalaris arundinacea</u>		100	Yes	FACW	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ =Total Cover					
Woody Vine Stratum	(Plot size: <u>15 ft. radius</u>)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. _____					
2. _____					
_____ =Total Cover					
% Bare Ground in Herb Stratum <u>0</u>					
Remarks:					

SOIL

Sampling Point: TP-9

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		
0-4	10YR 3/3						Loamy/Clayey	
4-16	10YR 4/2	92	10YR 4/6	8	C	M	Loamy/Clayey	Prominent redox concentrations

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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is 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 checked="" 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 on 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 checked="" 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): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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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: WA BESS Goldeneye City/County: Skagit County Sampling Date: 04/11/24
 Applicant/Owner: Dudek State: WA Sampling Point: TP-10
 Investigator(s): Huffman C. Section, Township, Range: S20 T35N R5E
 Landform (hillside, terrace, etc.): Floodplains Local relief (concave, convex, none): None Slope (%): 0-3
 Subregion (LRR): LRR A Lat: 48.5039571 Long: -122.2017097 Datum: NAD83
 Soil Map Unit Name: Field silt loam, 0 to 3 percent slopes NWI classification: None

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: TP-10 was located east of TP-9, and was sampled in upland.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Agrostis sp*</u>	70	Yes	FAC	
2. <u>Phalaris arundinacea</u>	10	No	FACW	
3. <u>Ranunculus repens</u>	10	No	FAC	
4. <u>Plantago lanceolata</u>	10	No	FACU	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
100 =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>15 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>0</u>				

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: 100.0% (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

X 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 X No

Remarks:
 *Agrostis species assumed to be FAC.

SOIL

Sampling Point: TP-10

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		
0-6	10YR 3/3						Loamy/Clayey	
6-14	10YR 4/3	96	10YR 4/6	94	C	M	Loamy/Clayey	Distinct redox concentrations
14-18	10YR 4/2	92	10YR 4/6	8	C	M	Sandy	Prominent redox concentrations

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 (F21)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<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"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
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Remarks:

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is 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 on 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): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
---	---

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: WA BESS Goldeneye City/County: Skagit County Sampling Date: 04/11/24
 Applicant/Owner: Dudek State: WA Sampling Point: TP-11
 Investigator(s): Huffman C. Section, Township, Range: S20 T35N R5E
 Landform (hillside, terrace, etc.): Floodplains Local relief (concave, convex, none): None Slope (%): 0-3
 Subregion (LRR): LRR A Lat: 48.5034601 Long: -122.2017652 Datum: NAD83
 Soil Map Unit Name: Field silt loam, 0 to 3 percent slopes NWI classification: None

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: TP-11 was located south of TP-12, and was sampled in upland.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Agrostis sp*</u>	50	Yes	FAC	
2. <u>Phalaris arundinacea</u>	45	Yes	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
95 =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>15 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
=Total Cover				
% Bare Ground in Herb Stratum <u>5</u>				

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (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

X 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 X No

Remarks:
 *Agrostis species assumed to be FAC. Moss present for 5% of ground cover.

SOIL

Sampling Point: TP-11

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	10YR 3/3						Loamy/Clayey	
8-16	10YR 4/3	95	10YR 4/6	5	C	M	Loamy/Clayey	Distinct redox concentrations

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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is 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 on 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 checked="" 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): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
---	---

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: WA BESS Goldeneye City/County: Skagit County Sampling Date: 04/11/24
 Applicant/Owner: Dudek State: WA Sampling Point: TP-12
 Investigator(s): Huffman C. Section, Township, Range: S20 T35N R5E
 Landform (hillside, terrace, etc.): Floodplains Local relief (concave, convex, none): Concave Slope (%): 0-3
 Subregion (LRR): LRR A Lat: 48.5037369 Long: -122.2018173 Datum: NAD83
 Soil Map Unit Name: Field silt loam, 0 to 3 percent slopes NWI classification: None

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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: TP-12 was located north of TP-11, and was sampled in wetland.	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30 ft. radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	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>100.0%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15 ft. radius</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. <u>Rubus armeniacus</u>	10	Yes	FAC	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	10	=Total Cover		
<u>Herb Stratum</u> (Plot size: <u>5 ft. radius</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.
1. <u>Phalaris arundinacea</u>	90	Yes	FACW	
2. <u>Juncus effusus</u>	10	No	FACW	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	100	=Total Cover		
<u>Woody Vine Stratum</u> (Plot size: <u>15 ft. radius</u>)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
	=Total Cover			
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				

SOIL

Sampling Point: TP-12

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		
0-3	10YR 3/3						Loamy/Clayey	
3-14	10YR 4/2	92	10YR 4/6	8	C	M	Loamy/Clayey	Prominent redox concentrations
14-16	10YR 4/1	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

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"/> 2 cm Muck (A10)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Red Parent Material (F21)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Very Shallow Dark Surface (F22)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	
<input type="checkbox"/> Thick Dark Surface (A12)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	
<input type="checkbox"/> Sandy Redox (S5)	
<input type="checkbox"/> Stripped Matrix (S6)	
<input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)	
<input type="checkbox"/> Loamy Gleyed Matrix (F2)	
<input checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one is 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 checked="" 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 on 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 checked="" 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): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>11</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	---

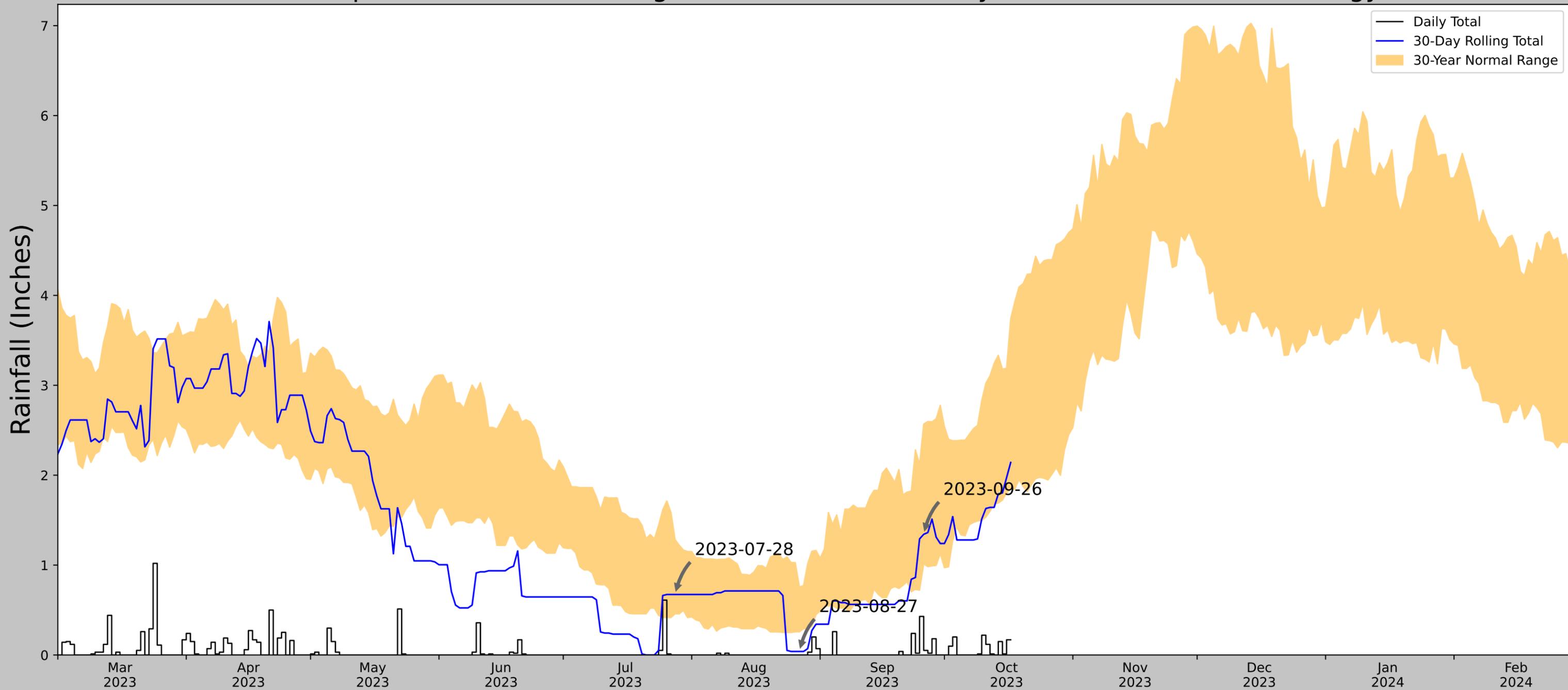
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix B

Antecedent Precipitation Tool Output

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	48.50545, -122.202405
Observation Date	2023-09-26
Elevation (ft)	58.676
Drought Index (PDSI)	Severe drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-09-26	1.012598	2.568504	1.34252	Normal	2	3	6
2023-08-27	0.25748	0.757874	0.03937	Dry	1	2	2
2023-07-28	0.457874	1.283465	0.673228	Normal	2	1	2
Result							Normal Conditions - 10



Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center



Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BELLINGHAM 3 SSW	48.7178, -122.5114	15.092	20.36	43.584	10.049	11322	90
BELLINGHAM 2.4 SW	48.7158, -122.499	104.987	0.582	89.895	0.314	25	0
BELLINGHAM KVOS	48.7422, -122.4725	299.869	2.446	284.777	1.797	1	0
BELLINGHAM INTL AP	48.7992, -122.5406	149.934	5.779	134.842	3.38	4	0
ANACORTES	48.5119, -122.6136	20.013	14.973	4.921	6.812	1	0

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	48.506508, -122.200344
Observation Date	2023-12-19
Elevation (ft)	57.658
Drought Index (PDSI)	Moderate drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-12-19	4.288189	7.259055	5.940945	Normal	2	3	6
2023-11-19	5.568898	7.501575	5.964567	Normal	2	2	4
2023-10-20	3.040158	5.038977	2.740158	Dry	1	1	1
Result							Normal Conditions - 11

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SEDRO-WOOLLEY	48.4958, -122.2355	51.837	1.771	5.821	0.807	11109	71
SEDRO-WOOLLEY 1.0 SSE	48.4941, -122.2286	61.024	0.337	9.187	0.155	0	19
SEDRO-WOOLLEY 5.1 E	48.5158, -122.125	73.163	5.244	21.326	2.472	5	0
MOUNT VERNON 0.6 N	48.4297, -122.3148	88.911	5.836	37.074	2.843	1	0
SEDRO-WOOLLEY 5.1 N	48.5816, -122.2358	201.115	5.928	149.278	3.553	26	0
BOW 1.6 SE	48.5438, -122.3757	98.097	7.223	46.26	3.584	21	0
MOUNT VERNON 2.3 E	48.4202, -122.2634	299.869	5.378	248.032	3.754	7	0
MT VERNON 3 WNW	48.4403, -122.3867	14.108	7.917	37.729	3.861	142	0
MOUNT VERNON 0.8 SW	48.413, -122.3249	179.134	7.036	127.297	4.062	10	0
MOUNT VERNON 3.4 W	48.4277, -122.3886	18.045	8.447	33.792	4.087	4	0
MOUNT VERNON 1.1 E	48.4202, -122.2909	392.06	5.808	340.223	4.59	5	0
ANACORTES	48.5119, -122.6136	20.013	17.345	31.824	8.357	21	0
BELLINGHAM 3 SSW	48.7178, -122.5114	15.092	19.853	36.745	9.663	1	0

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	48.505516, -122.202468
Observation Date	2024-04-19
Elevation (ft)	59.247
Drought Index (PDSI)	Moderate drought (2024-03)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-04-19	2.372047	3.222441	2.42126	Normal	2	3	6
2024-03-20	2.205118	4.006299	3.007874	Normal	2	2	4
2024-02-19	2.648425	4.261417	3.866142	Normal	2	1	2
Result							Normal Conditions - 12



Figures and tables made by the
Antecedent Precipitation Tool
Version 2.0

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center



Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BELLINGHAM 3 SSW	48.7178, -122.5114	15.092	20.354	44.155	10.058	11320	87
BELLINGHAM 2.4 SW	48.7158, -122.499	104.987	0.582	89.895	0.314	27	3
BELLINGHAM KVOS	48.7422, -122.4725	299.869	2.446	284.777	1.797	1	0
BELLINGHAM INTL AP	48.7992, -122.5406	149.934	5.779	134.842	3.38	3	0
ANACORTES	48.5119, -122.6136	20.013	14.973	4.921	6.812	1	0

Appendix C

Wetland Rating Summary Forms

Wetland name or number: WET-H

RATING SUMMARY - Western Washington

Name of wetland (or ID#): WET-H Date of site visit: 12/19/2023

Rated By: Patricia Schuyler Trained by Ecology? Yes [X] No [] Date of Training: 03/12/2021

HGM Class used for rating: Riverine

Wetland has multiple HGM classes? Yes [] No [X]

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

Source of base aerial photo/map: WATOR

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I - Total score = 23 - 27
- [] Category II - Total score = 20 - 22
- [X] 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	
Site Potential	M	M	L	
Landscape Potential	L	M	M	
Value	H	L	H	Total
Score Based on Ratings	6	5	6	17

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

Wetland name or number: WET-H

Maps and figures required to answer questions correctly for Western Washington

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	1
Hydroperiods	H 1.2	2
Ponded depressions	R 1.1	N/A
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	3
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	4
Width of unit vs. width of stream (<i>can be added to another figure</i>)	R 4.1	5
Map of the contributing basin	R 2.2, R 2.3, R 5.2	6
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	7
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	R 3.1	1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	R 3.2, R 3.3	1

Wetland name or number: WET-H

RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS

Water Quality Functions - Indicators that the site functions to improve water quality

R 1.0 Does the site have the potential to improve water quality?

R 1.1 What is the total area of surface depressions within the Riverine wetland that can trap sediments during a flooding event?

Depressions cover >75% area of wetland	points = 8	
Depressions cover >50% area of wetland	points = 4	
Depressions present but cover <50% area of wetland	points = 2	
No depressions present	points = 0	Score: 0

R 1.2 What is the structure of plants in the wetland?

Trees or shrubs cover >66% area of the wetland	points = 8	
Trees or shrubs cover 33% - 66% of the area of the wetland	points = 6	
Ungrazed, herbaceous plants cover (>6in high) >66% area of the wetland	points = 6	
Ungrazed, herbaceous plants cover (>6in high) 33%-66% of the area of the wetland	points = 3	
Trees, shrubs, and ungrazed herbaceous plants cover <33% area of the wetland	points = 0	Score: 8

Total for R 1: **8**

Rating of Site Potential

12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

R 2.0 Does the landscape have the potential to support the water quality function of the site?

R 2.1 Is the wetland within an incorporated city or within its UGA?

Yes	points = 2	
No	points = 0	Score: 0

R 2.2 Does the contributing basin to the wetland include a UGA or incorporated area?

Yes	points = 1	
No	points = 0	Score: 0

R 2.3 Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years?

Yes	points = 1	
No	points = 0	Score: 0

R 2.4 Is >10% of the area within 150ft of the wetland in land uses that generate pollutants?

Yes	points = 1	
No	points = 0	Score: 0

R 2.5 Are there other sources of pollutants coming into the wetland that are not listed in question R 2.1-R 2.4?

Yes	points = 1	
No	points = 0	Score: 0

R 2.6 What are the other sources of pollutants coming into the wetland?

Total for R 2: **0**

Rating of Landscape Potential

3-4 = H 1-2 = M 0 = L

Record the rating on the first page

Wetland name or number: WET-H

R 3.0 Is the water quality improvement provided by the site valuable to society?		
R 3.1 <u>Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi?</u>		
Yes	points = 1	
No	points = 0	Score: 1
R 3.2 <u>Is the wetland along a stream or river that has TMDL limits for nutrients, toxics, or pathogens?</u>		
Yes	points = 1	
No	points = 0	Score: 1
R 3.3 <u>Has the site been identified in a watershed or local plan as important for maintaining water quality?</u>		
Yes	points = 2	
No	points = 0	Score: 0
Total for R 3:		2

Rating of Value

2-4 = H 1 = M 0 = L

Record the rating on the first page

<u>RIVERINE AND FRESHWATER TIDAL FRINGE WETLANDS</u>		
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation		
R 4.0 Does the site have the potential to reduce flooding and erosion?		
R 4.1 <u>What are the characteristics of the overbank storage the wetland provides?</u>		
If the ratio is more than 20	points = 9	
If the ratio is 10-20	points = 6	
If the ratio is 5-<10	points = 4	
If the ratio is 1-<5	points = 2	
If the ratio is < 1	points = 1	Score: 2
R 4.2 <u>What are the characteristics of plants that slow down water velocities during floods?</u>		
Forest or shrubs cover >33% of the wetland area OR emergent plants cover >66% of the wetland area	points = 7	
Forest or shrubs cover >10% of the wetland area OR emergent plants cover >33% of the wetland area	points = 4	
Plants do not meet the above criteria	points = 0	Score: 7
Total for R 4:		9

Rating of Site Potential

12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

Wetland name or number: WET-H

R 5.0 Does the landscape have the potential to support the hydrologic functions of the site?		
R 5.1 <u>Is the stream or river adjacent to the wetland downcut?</u>		
Yes	points = 0	
No	points = 1	Score: 1
R 5.2 <u>Does the up-gradient watershed include a UGA or incorporated area?</u>		
Yes	points = 1	
No	points = 0	Score: 0
R 5.3 <u>Is the up-gradient stream or river controlled by dams?</u>		
Yes	points = 0	
No	points = 1	Score: 1
		Total for R 5:
		2

Rating of Landscape Potential 3 = H 1-2 = M 0 = L *Record the rating on the first page*

R 6.0 Are the hydrologic functions provided by the site valuable to society?		
R 6.1 <u>What is the distance to the nearest areas downstream that have flooding problems?</u>		
The sub-basin immediately down-gradient of the wetland has flooding problems	points = 2	
Surface flooding problems are in a sub-basin farther down-gradient	points = 1	
No flooding problems anywhere downstream	points = 0	Score: 0
R 6.2 <u>Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?</u>		
Yes	points = 2	
No	points = 0	Score: 0
		Total for R 6:
		0

Rating of Value 2-4 = H 1 = M 0 = L *Record the rating on the first page*

Wetland name or number: WET-H

HABITAT FUNCTIONS

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

H 1.0 Does the wetland have the potential to provide habitat for many species?**H 1.1** What is the structure of the plant community?

- Aquatic Bed
- Emergent
- Scrub-shrub
- Forested
- Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

4 structures or more	points = 4
3 structures	points = 2
2 structures	points = 1
1 structure	points = 0
No structures present	points = 0

Score: 0**H 1.2** What are the hydroperiods that meet the size thresholds in the wetland?

- Permanently flooded or inundated
- Seasonally flooded or inundated
- Occasionally flooded or inundated
- Saturated only
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland
- Freshwater Tidal wetland

4 or more types present	points = 3
3 types present or Lake Fringe / Freshwater Tidal Fringe	points = 2
2 types present	points = 1
1 type present	points = 0
None present	points = 0

Score: 0**H 1.3** What is the richness of the plant species in the wetland?

> 19 species	points = 2
5-19 species	points = 1
< 5 species	points = 0

Score: 0

Wetland name or number: WET-H

H 1.4 <u>What is the interspersions of habitats?</u>	
High	points = 3
Moderate	points = 2
Low	points = 1
None	points = 0
Score: 0	
H 1.5 <u>What are the special habitat features in the wetland?</u>	
<input type="checkbox"/> Large, downed, woody debris within the wetland (>4in diameter and 6ft long).	
<input type="checkbox"/> Standing snags (dbh >4in) within the wetland	
<input type="checkbox"/> Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)	
<input checked="" 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 (cut shrubs or trees that have not yet weathered where wood is exposed)	
<input type="checkbox"/> At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)	
<input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	
6 habitats selected	points = 6
5 habitats selected	points = 5
4 habitats selected	points = 4
3 habitats selected	points = 3
2 habitats selected	points = 2
1 habitat selected	points = 1
No habitats selected	points = 0
Score: 2	
Total for H 1: 2	

Rating of Site Potential

[] 15-18 = H [] 7-14 = M [X] 0-6 = L

Record the rating on the first page

H 2.0 Does the landscape have the potential to support habitat functions of the site?

H 2.1 <u>What is the percentage of accessible habitat within 1km of the wetland?</u>	
>33% of 1km Polygon	points = 3
20-33% of 1km Polygon	points = 2
10-19% of 1km Polygon	points = 1
<10% of 1km Polygon	points = 0
Score: 2	
H 2.2 <u>What is the percentage of total habitat in a 1km polygon around the wetland?</u>	
Total habitat is >50% of the Polygon	points = 3
Total habitat is 10-50% of the Polygon and in 1-3 patches	points = 2
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1
Total habitat is <10% of the Polygon	points = 0
Score: 0	

Wetland name or number: WET-H

H 2.3 What is the land use intensity in the 1km polygon?		
50% of the Polygon is high intensity land use	points = -2	
<50% of the Polygon is high intensity land use	points = 0	Score: 0
Total for H 2:		2

Rating of Landscape Potential

[] 4-6 = H [X] 1-3 = M [] 0 = 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?		
<input type="checkbox"/> Aspen Stands		
<input type="checkbox"/> Biodiversity Areas and Corridors		
<input type="checkbox"/> Herbaceous Balds		
<input type="checkbox"/> Old-growth/Mature Forests		
<input type="checkbox"/> Oregon White Oak		
<input type="checkbox"/> Riparian		
<input type="checkbox"/> Westside Prarie		
<input type="checkbox"/> Fresh Deepwater		
<input checked="" type="checkbox"/> Instream		
<input type="checkbox"/> Nearshore (Coastal, Open Coast, Puget Sound)		
<input type="checkbox"/> Caves		
<input type="checkbox"/> Cliffs		
<input type="checkbox"/> Snags and Logs		
<input type="checkbox"/> Talus		
The following criteria automatically score 2 points:		
<input checked="" type="checkbox"/> The wetland provides habitat for Threatened or Endangered species		
<input checked="" type="checkbox"/> The wetland is mapped as a location for an individual WDFW priority species		
<input type="checkbox"/> The wetland is a Wetland of High Conservation Value		
<input type="checkbox"/> The wetland has been categorized as an important habitat site in a local plan		
The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value	points = 2	
The site has 1 or 2 WDFW priority habitats within 100m	points = 1	
The site does not meet any of the criteria for societal value	points = 0	Score: 2
Total for H 3:		2

Rating of Value

[X] 2 = H [] 1 = M [] 0 = L

Record the rating on the first page

Wetland name or number: WET-H

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

- The dominant water regime is tidal
- The wetland is vegetated
- The water salinity is greater than 0.5 ppt

Yes - Go to SC 1.2

No - Not an Estuarine Wetland

**Result: Not an
Estuarine Wetland**

SC 1.2 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 Estuarine Wetland

No - Go to SC 1.3

Result:

SC 1.3 Is the wetland unit at least 1ac 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.
- At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland
- The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands.

Yes - Category I Estuarine Wetland

No - Category II Estuarine Wetland

Result:

SC 2.0 Wetlands of High Conservation Value

SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?

Yes - Category I Wetland of High Conservation Value

No - Go to SC 2.2

Result: Go to SC 2.2

SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

Yes - Category I Wetland of High Conservation Value

No - Not a Wetland of High Conservation Value

Result:

Wetland name or number: WET-H

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

Yes - Go to SC 3.3

No - Go to SC 3.2

Result: 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 - Not a Bog Wetland

Result:

SC 3.3 Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least 30% cover of plant species listed in the table provided in the instructions?

Yes - Category I Bog Wetland

No - Go to SC 3.4

Result:

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 combinations of species) listed in the table found in the instructions provide more than 30% of the cover under the canopy?

Yes - Category I Bog Wetland

No - Not a Bog Wetland

Result:

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

Old-growth forests

Mature forests

Yes - Category I Forested Wetland

No - Not a Forested Wetland

Result: Not a Forested Wetland

Wetland name or number: WET-H

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or rocks
- The depression 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 open water area (measured near the bottom)
- The lagoon retains some of its surface water at low tide during spring tides

Yes - Go to SC 5.2

No - Not a Coastal Lagoon Wetland

Result: Not a Coastal Lagoon Wetland

SC 5.2 Does the wetland meet all of the following three conditions?

- The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species).
- At least 75% of the landward edge of the wetland has a 100ft buffer of shrub, forest, or un-grazed or un-mowed grassland.
- the wetland is larger than 0.10ac (4350 sqft)

Yes - Category I Coastal Lagoon

No - Category II Coastal Lagoon

Result:

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

Yes - Go to SC 6.2

No - Not an Interdunal Wetland

Result: Not an Interdunal Wetland

SC 6.2 Is the wetland 1ac or larger in size, or a mosaic that is 1ac or larger in size?

Wetland is larger than 1ac in size - Go to SC 6.3

Wetland is a mosaic larger than 1ac is size - Category II Interdunal Wetland

No - Go to SC 6.4

Result:

SC 6.3 Does the wetland score 8 or 9 points for the habitat functions?

Yes - Category I Interdunal Wetland

No - Category II Interdunal Wetland

Result:

SC 6.4 Is the wetland unit between 0.1ac and 1ac, or in a mosaic of wetlands that is between 0.1ac and 1ac in size?

Yes - Category III Interdunal Wetland

No - Category IV Interdunal Wetland

Result:

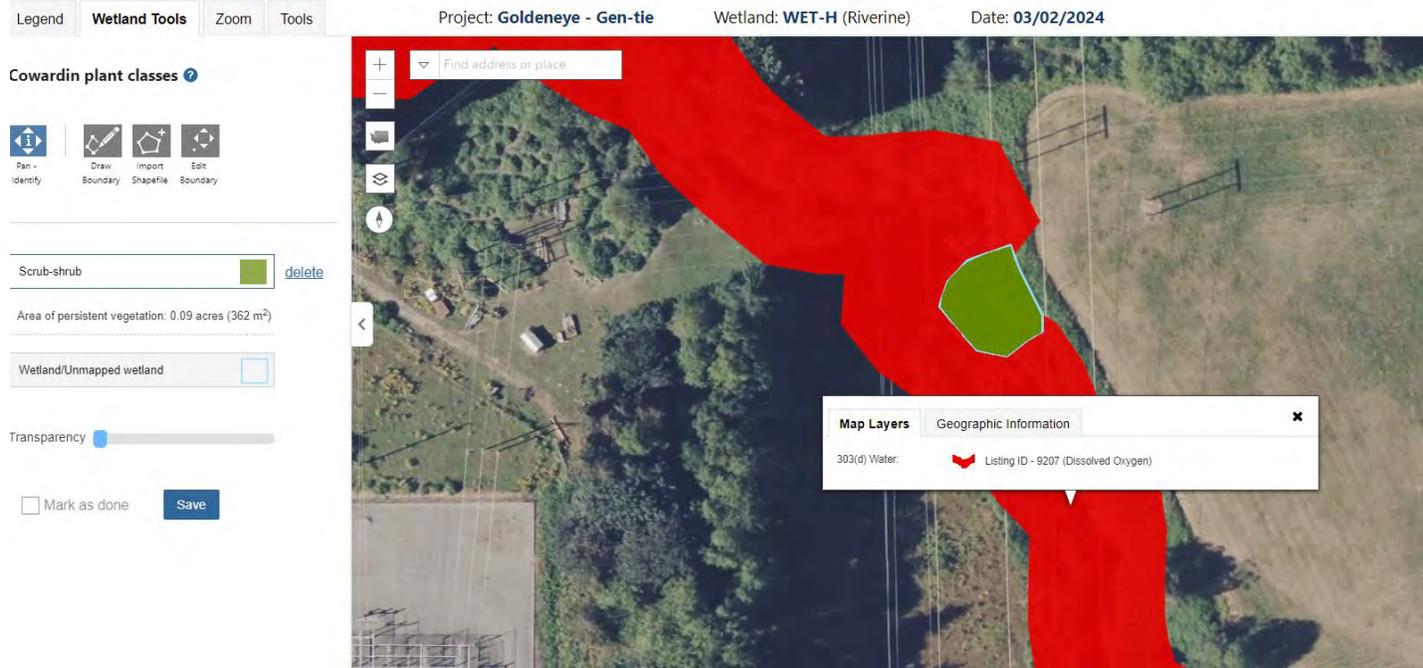
Wetland name or number: WET-H

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

**Final Category: Not
Applicable**

Figure 1: Cowardin Plant Class and 303(d) Listed Waters



Search Results - 14 Matched Listings							
Listing ID	AU ID	Medium	Parameter	Category	Waterbody Name	WRIA	WQ Improvement Project
View	6250	17110007000205_002_002	Habitat	Fish And Shellfish Habitat	4C	HANSEN CREEK	3-Lower Skagit-Samish
View	6262	17110007000933_001_001	Habitat	Fish And Shellfish Habitat	4C	HANSEN CREEK	3-Lower Skagit-Samish
View	6263	17110007000934_001_001	Habitat	Fish And Shellfish Habitat	4C	HANSEN CREEK	3-Lower Skagit-Samish
View	6416	17110007000205_002_002	Water	Temperature	5	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit River Tributaries Temperature TMDL
View	6426	17110007000917_002_002	Water	Temperature	4A	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit River Tributaries Temperature TMDL
View	7143	17110007000917_002_002	Water	Bacteria - Fecal coliform	4A	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit Basin Bacteria TMDL
View	7146	17110007000933_001_001	Water	Temperature	5	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit River Tributaries Temperature TMDL
View	9207	17110007000917_002_002	Water	Dissolved Oxygen	5	HANSEN CREEK	3-Lower Skagit-Samish
View	9208	17110007000917_002_002	Water	pH	2	HANSEN CREEK	3-Lower Skagit-Samish
View	46315	17110007000933_001_001	Water	Bacteria - Fecal coliform	4A	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit Basin Bacteria TMDL
View	47521	17110007000933_001_001	Water	Dissolved Oxygen	5	HANSEN CREEK	3-Lower Skagit-Samish
View	51084	17110007000933_001_001	Water	pH	2	HANSEN CREEK	3-Lower Skagit-Samish
View	94263	17110007000205_001_002	Water	Temperature	2	HANSEN CREEK	3-Lower Skagit-Samish
View	94387	17110007000204_001_001	Water	Temperature	2	HANSEN CREEK	3-Lower Skagit-Samish

Figure 2: Hydroperiods

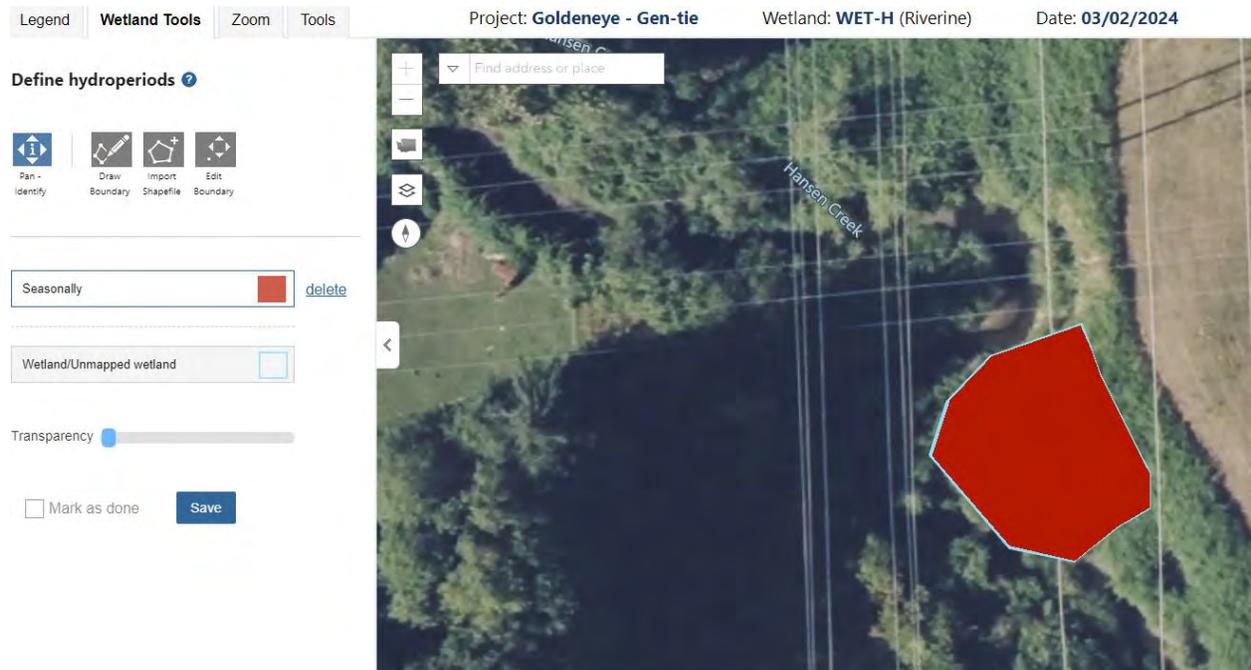


Figure 3: 150 foot Buffer

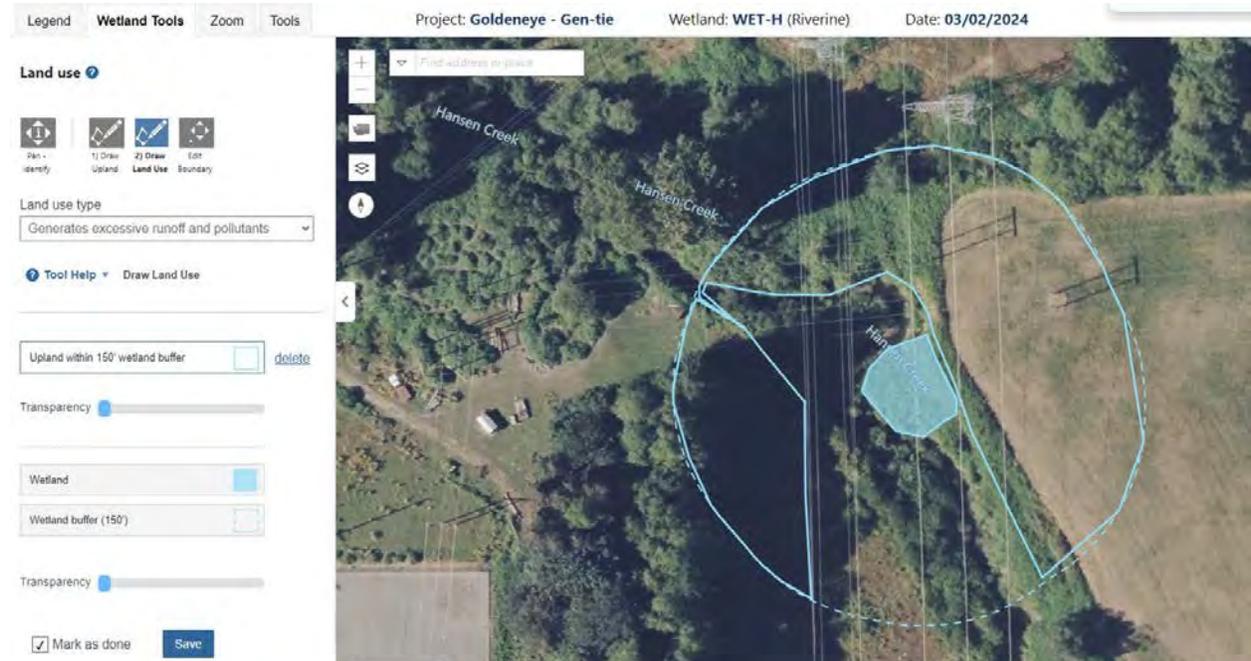


Figure 4: Plant Cover

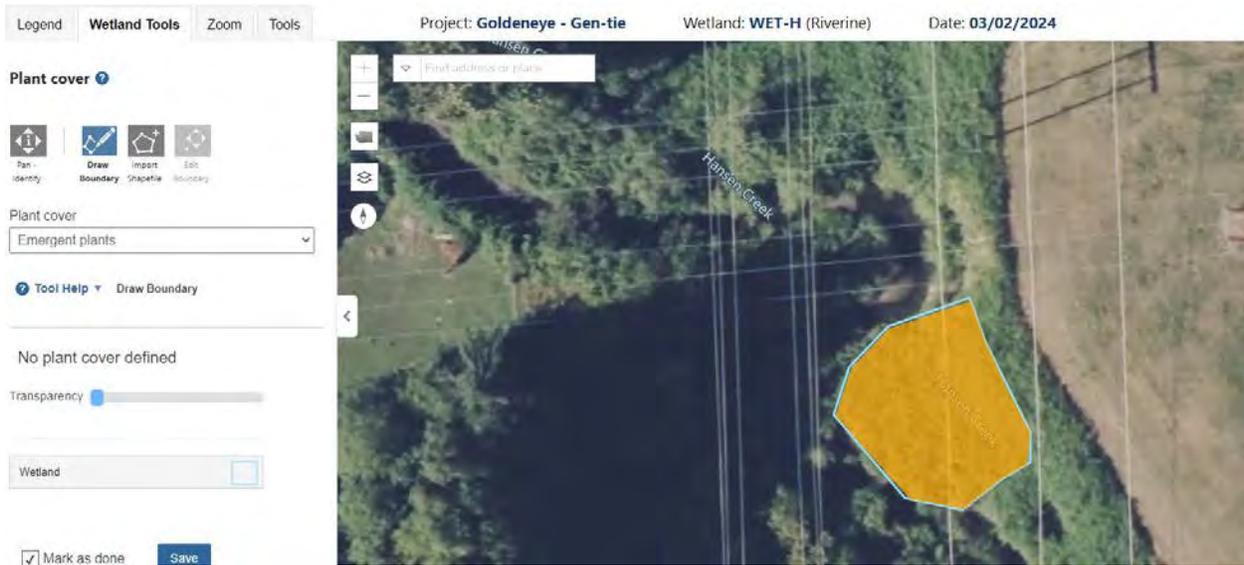


Figure 5: Widths

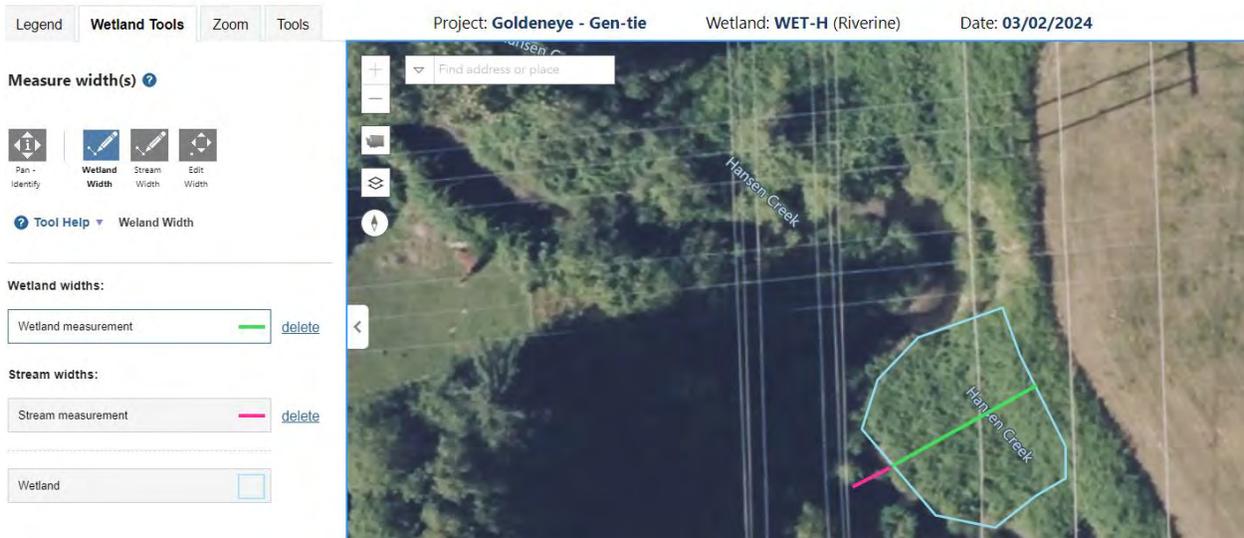


Figure 6: Map of Contributing Basin



Wetland name or number: WET-I

RATING SUMMARY - Western Washington

Name of wetland (or ID#): WET-I Date of site visit: 09/26/2023
 Rated By: Patricia Schuyler Trained by Ecology? Yes [X] No [] Date of Training: 03/12/2021
 HGM Class used for rating: Flats
 Wetland has multiple HGM classes? Yes [] No [X]

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

OVERALL WETLAND CATEGORY: [Category III] (based on functions [X] or special characteristics [])

1. Category of wetland based on FUNCTIONS

- [] Category I - Total score = 23 - 27
- [] Category II - Total score = 20 - 22
- [X] 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 6 = M,M,M
 8 = H,H,M 5 = H,L,L
 7 = H,H,L 5 = M,M,L
 7 = H,M,M 4 = M,L,L
 6 = H,M,L 3 = L,L,L

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Site Potential	M	M	L	
Landscape Potential	L	L	M	
Value	H	L	H	Total
Score Based on Ratings	6	4	6	16

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	
Wetland of High Conservation Value	
Bog	
Forested	
Coastal Lagoon	
Interdunal	
None of the above	Not Applicable

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	1
Hydroperiods	D 1.4, H 1.2	2
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	2
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	5
Map of the contributing basin	D 4.3, D 5.3	3
1km Polygon: Area that extends 1km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	4
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	1
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	1

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 What are the characteristics of surface water outflows from the wetland?

Wetland has an intermittently flowing, or highly constricted, outlet. points = 2 **Score: 2**

D 1.2 Is the soil 2 in. below the surface a true clay or organic soil?

None of the above points = 0 **Score: 0**

D 1.3 What are the characteristics and distribution of persistent plants?

Wetland has persistent, ungrazed, plants > 95% of area points = 5 **Score: 5**

D 1.4 What are the characteristics of seasonal ponding or inundation in the wetland area?

Area seasonally ponded is < 25% total area of wetland points = 0 **Score: 0**

Total for D 1: **7**

Rating of Site Potential

12-16 = H 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?

No points = 0 **Score: 0**

D 2.2 Is > 10% of the area within 150ft of the wetland in land uses that generate pollutants in surface runoff?

No points = 0 **Score: 0**

D 2.3 Are there septic systems within 250ft of the wetland?

No points = 0 **Score: 0**

Wetland name or number: WET-I

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? No	points = 0	Score: 0
D 2.5 What are the other sources of pollutants coming into the wetland?		
Total for D 2:		0

Rating of Landscape Potential 3-4 = H 1-2 = 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?		
D 3.2 Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes	points = 1	Score: 1
D 3.3 Has the site been identified in a watershed or local plan as important for maintaining water quality? Yes	points = 2	Score: 2
Total for D 3:		3

Rating of Value 2-4 = H 1 = M 0 = L *Record the rating on the first page*

<u>DEPRESSIONAL AND FLATS WETLANDS</u>		
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 What are the characteristics of surface water outflows from the wetland? Wetland has an intermittently flowing, or highly constricted, outlet.	points = 2	Score: 2
D 4.2 What is the depth of storage during the wet periods? Marks of ponding are less than 0.5ft (6in).	points = 0	Score: 0
D 4.3 What is the contribution of the wetland to storage in the watershed? The area of the basin is less than 10 times the area of the unit	points = 5	Score: 5
Total for D 4:		7

Rating of Site Potential 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 unit receive stormwater discharges? No	points = 0	Score: 0
D 5.2 Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? No	points = 0	Score: 0

Wetland name or number: WET-I

D 5.3 Is more than 25% of the contributing basin of the wetland covered with intensive human land uses?

No points = 0

Score: 0

Total for D 5: 0

Rating of Landscape Potential

[] 3 = H [] 1-2 = M [X] 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 Is the wetland in a landscape that has flooding problems?

There are no problems with flooding downstream of the wetland. points = 0

Score: 0

D 6.2 Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?

No points = 0

Score: 0

Total for D 6: 0

Rating of Value

[] 2-4 = H [] 1 = M [X] 0 = L

Record the rating on the first page

HABITAT FUNCTIONS

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

H 1.0 Does the wetland have the potential to provide habitat for many species?

H 1.1 What is the structure of the plant community?

- Aquatic Bed
- Emergent
- Scrub-shrub
- Forested
- Multiple strata within the Forested class (canopy, sub-canopy, shrubs, herbaceous, moss/ground cover)

1 structure points = 0

Score: 0

H 1.2 What are the hydroperiods that meet the size thresholds in the wetland?

- Permanently flooded or inundated
- Seasonally flooded or inundated
- Occasionally flooded or inundated
- Saturated only
- Permanently flowing stream or river in, or adjacent to, the wetland
- Seasonally flowing stream in, or adjacent to, the wetland
- Lake Fringe wetland
- Freshwater Tidal wetland

2 types present points = 1

Score: 1

H 1.3 What is the richness of the plant species in the wetland?

5-19 species points = 1

Score: 1

Wetland name or number: WET-I

H 1.4 <u>What is the interspersion of habitats?</u>		
Low	points = 1	Score: 1
H 1.5 <u>What are the special habitat features in the wetland?</u>		
<input type="checkbox"/> Large, downed, woody debris within the wetland (>4in diameter and 6ft long).		
<input type="checkbox"/> Standing snags (dbh >4in) within the wetland		
<input checked="" type="checkbox"/> Undercut banks are present for at least 6.6ft (2m) and/or overhanging plants extend at least 3.3ft (1m) over open water or a stream (or ditch) in, or contiguous with the wetland, for at least 33ft (10m)		
<input checked="" 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 (cut shrubs or trees that have not yet weathered where wood is exposed)		
<input type="checkbox"/> At least 0.25ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians)		
<input checked="" type="checkbox"/> Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)		
3 habitats selected	points = 3	Score: 3
Total for H 1:		6

Rating of Site Potential [] 15-18 = H [] 7-14 = M [X] 0-6 = L *Record the rating on the first page*

H 2.0 Does the landscape have the potential to support habitat functions of the site?		
H 2.1 <u>What is the percentage of accessible habitat within 1km of the wetland?</u>		
20-33% of 1km Polygon	points = 2	Score: 2
H 2.2 <u>What is the percentage of total habitat in a 1km polygon around the wetland?</u>		
Total habitat is 10-50% of the Polygon and in >3 patches	points = 1	Score: 1
H 2.3 <u>What is the land use intensity in the 1km polygon?</u>		
<50% of the Polygon is high intensity land use	points = 0	Score: 0
Total for H 2:		3

Rating of Landscape Potential [] 4-6 = H [X] 1-3 = M [] 0 = L *Record the rating on the first page*

Wetland name or number: WET-I

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?

- Aspen Stands
- Biodiversity Areas and Corridors
- Herbaceous Balds
- Old-growth/Mature Forests
- Oregon White Oak
- Riparian
- Westside Prarie
- Fresh Deepwater
- Instream
- Nearshore (Coastal, Open Coast, Puget Sound)
- Caves
- Cliffs
- Snags and Logs
- Talus

The following criteria automatically score 2 points:

- The wetland provides habitat for Threatened or Endangered species
- The wetland is mapped as a location for an individual WDFW priority species
- The wetland is a Wetland of High Conservation Value
- The wetland has been categorized as an important habitat site in a local plan

The wetland has 3 or more WDFW priority habitats within 100m, or meets the criteria for societal value

points = 2

Score: 2

Total for H 3:

2

Rating of Value

[X] 2 = H [] 1 = M [] 0 = L

Record the rating on the first page

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

SC 1.0 Estuarine Wetlands

SC 1.1 Does the wetland meet all of the following criteria for Estuarine wetlands?

- The dominant water regime is tidal
- The wetland is vegetated
- The water salinity is greater than 0.5 ppt

No - Not an Estuarine Wetland

Result: Not an Estuarine Wetland

Wetland name or number: WET-1

SC 2.0 Wetlands of High Conservation Value

SC 2.1 Does the wetland overlap with any known or historical rare plant or rare & high-quality ecosystem polygons on the WNHP Data Explorer?

No - Go to SC 2.2

Result: Go to SC 2.2

SC 2.2 Does the wetland have a rare plant species, rare plant community, or high-quality common plant community that may qualify the site as a WHCV?

No - Not a Wetland of High Conservation Value

Result: Not a Wetland of High Conservation Value

SC 3.0 Bogs

SC 3.1 Does an area within the wetland unit have organic soil horizons, either peats or mucks, that compose 16in or more of the first 32in of the soil profile?

No - Go to SC 3.2

Result: 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?

No - Not a Bog Wetland

Result: Not a Bog Wetland

SC 4.0 Forested Wetlands

SC 4.1 Does the wetland have at least 1 contiguous acre of forest that meets one of the following criteria?

- Old-growth forests
- Mature forests

No - Not a Forested Wetland

Result: Not a Forested Wetland

SC 5.0 Wetlands in Coastal Lagoons

SC 5.1 Coastal Lagoons: Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?

- The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from marine waters by sandbanks, gravel banks, shingle, or rocks
- The depression 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 open water area (measured near the bottom)
- The lagoon retains some of its surface water at low tide during spring tides

No - Not a Coastal Lagoon Wetland

Result: Not a Coastal Lagoon Wetland

Wetland name or number: WET-I

SC 6.0 Interdunal Wetlands

SC 6.1 Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership WBUO)?

No - Not an Interdunal Wetland

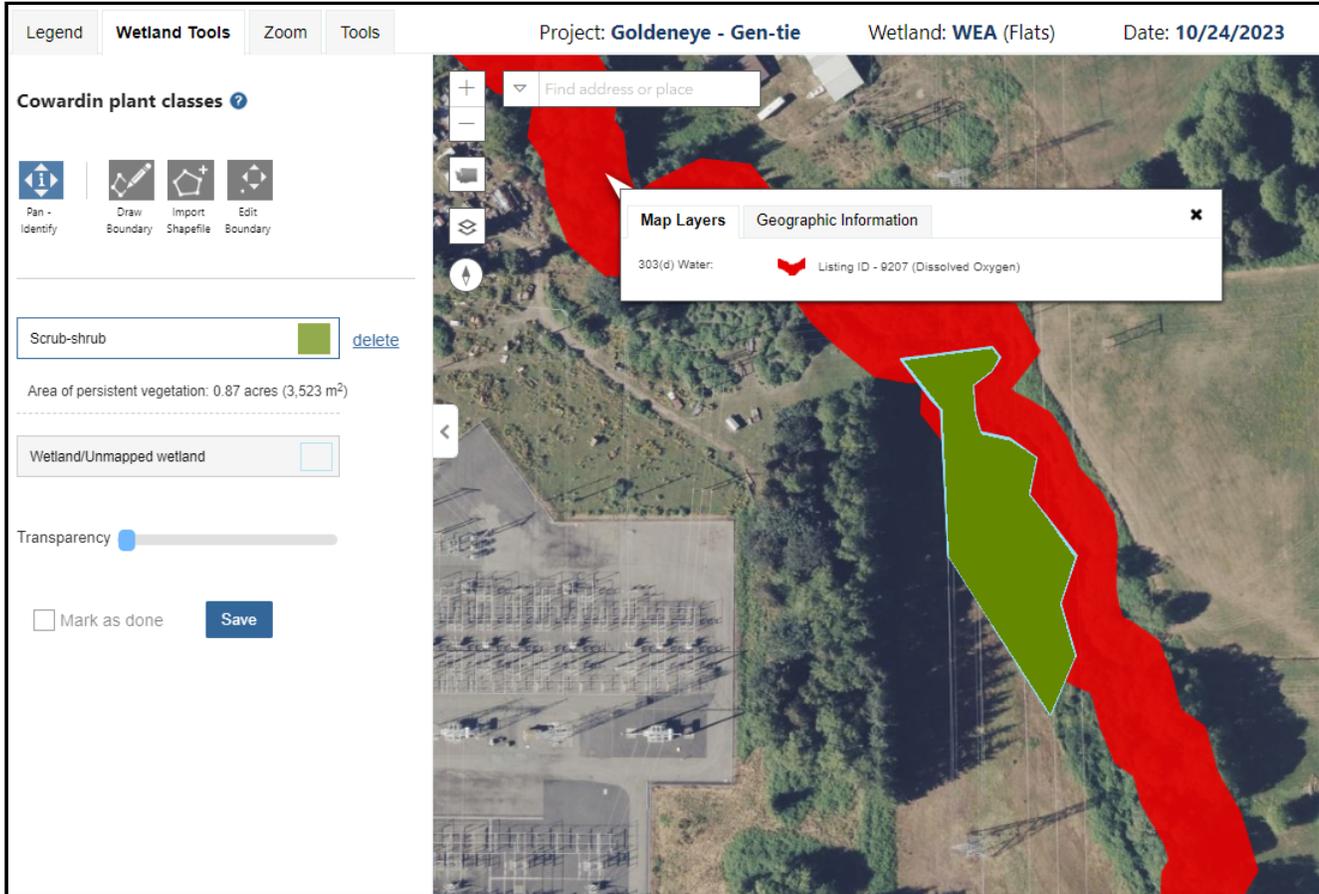
Result: Not an Interdunal Wetland

Category of wetland based on Special Characteristics

If you answered No for all types, enter "Not Applicable" on Summary Form

Final Category: Not Applicable

Figure 1.
Cowardin plant classes and 303(d) Listed Waters



Search Results - 14 Matched Listings							
Listing ID	AU ID	Medium	Parameter	Category	Waterbody Name	WRIA	WQ Improvement Project
View	6250	17110007000205_002_002	Habitat	Fish And Shellfish Habitat	4C	HANSEN CREEK	3-Lower Skagit-Samish
View	6262	17110007000933_001_001	Habitat	Fish And Shellfish Habitat	4C	HANSEN CREEK	3-Lower Skagit-Samish
View	6263	17110007000934_001_001	Habitat	Fish And Shellfish Habitat	4C	HANSEN CREEK	3-Lower Skagit-Samish
View	6416	17110007000205_002_002	Water	Temperature	5	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit River Tributaries Temperature TMDL
View	6426	17110007000917_002_002	Water	Temperature	4A	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit River Tributaries Temperature TMDL
View	7143	17110007000917_002_002	Water	Bacteria - Fecal coliform	4A	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit Basin Bacteria TMDL
View	7146	17110007000933_001_001	Water	Temperature	5	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit River Tributaries Temperature TMDL
View	9207	17110007000917_002_002	Water	Dissolved Oxygen	5	HANSEN CREEK	3-Lower Skagit-Samish
View	9208	17110007000917_002_002	Water	pH	2	HANSEN CREEK	3-Lower Skagit-Samish
View	46315	17110007000933_001_001	Water	Bacteria - Fecal coliform	4A	HANSEN CREEK	3-Lower Skagit-Samish Lower Skagit Basin Bacteria TMDL
View	47521	17110007000933_001_001	Water	Dissolved Oxygen	5	HANSEN CREEK	3-Lower Skagit-Samish
View	51084	17110007000933_001_001	Water	pH	2	HANSEN CREEK	3-Lower Skagit-Samish
View	94263	17110007000205_001_002	Water	Temperature	2	HANSEN CREEK	3-Lower Skagit-Samish
View	94387	17110007000204_001_001	Water	Temperature	2	HANSEN CREEK	3-Lower Skagit-Samish

Figure 2.
Hydroperiods and Location of Outlet

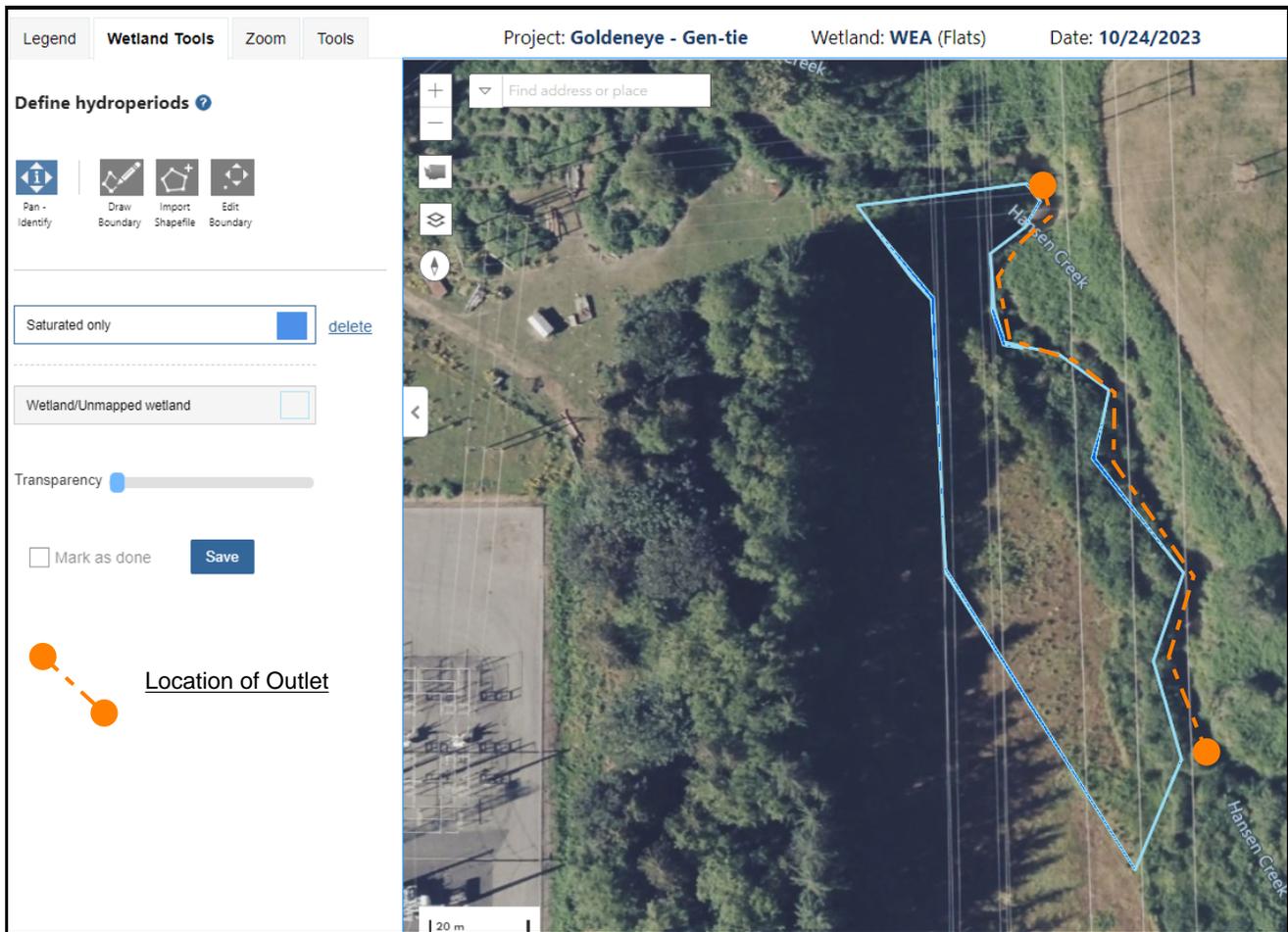


Figure 3.
Contributing Basin

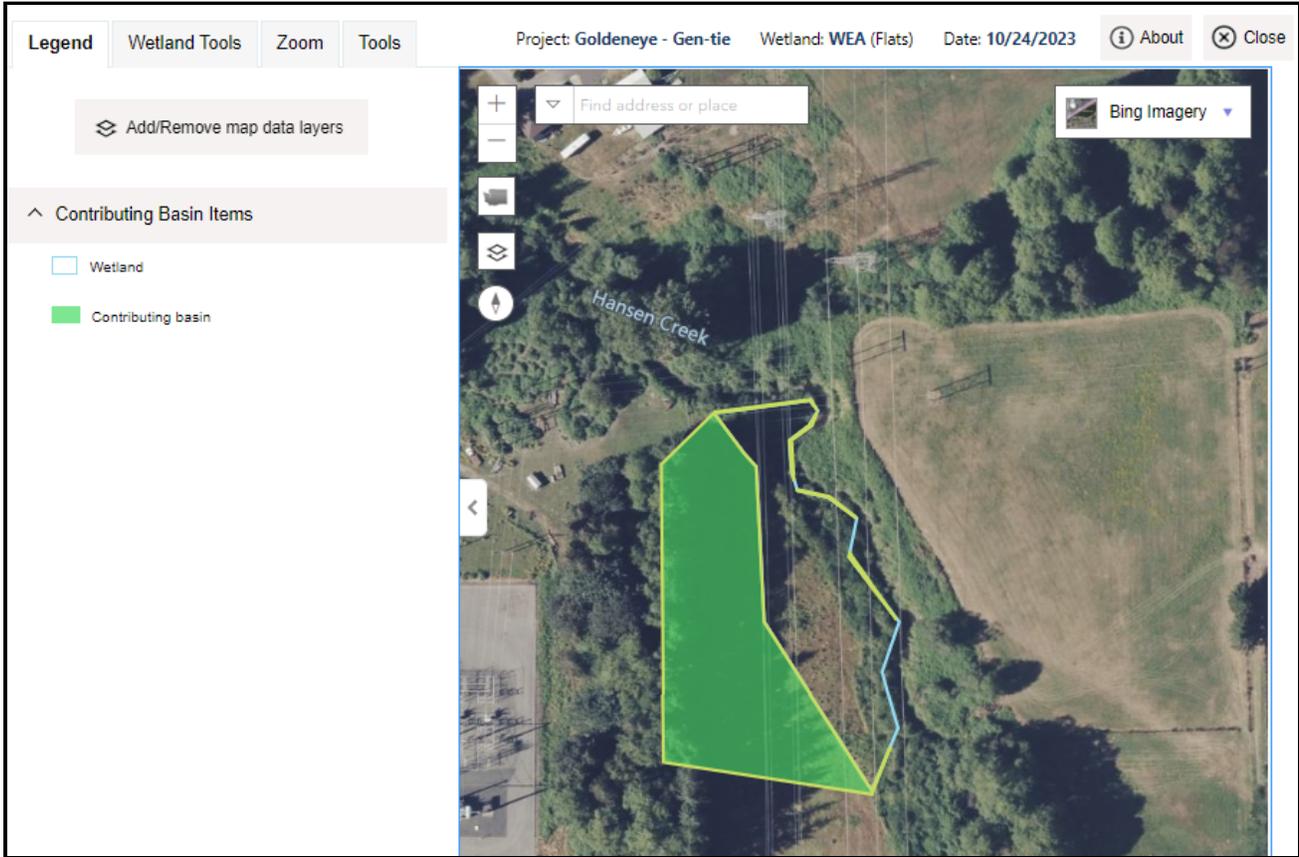


Figure 4.
Habitats

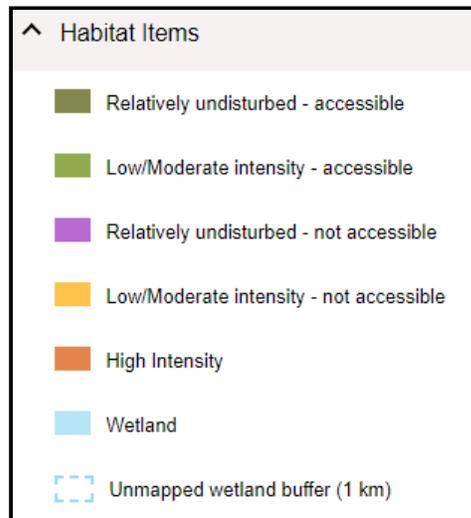
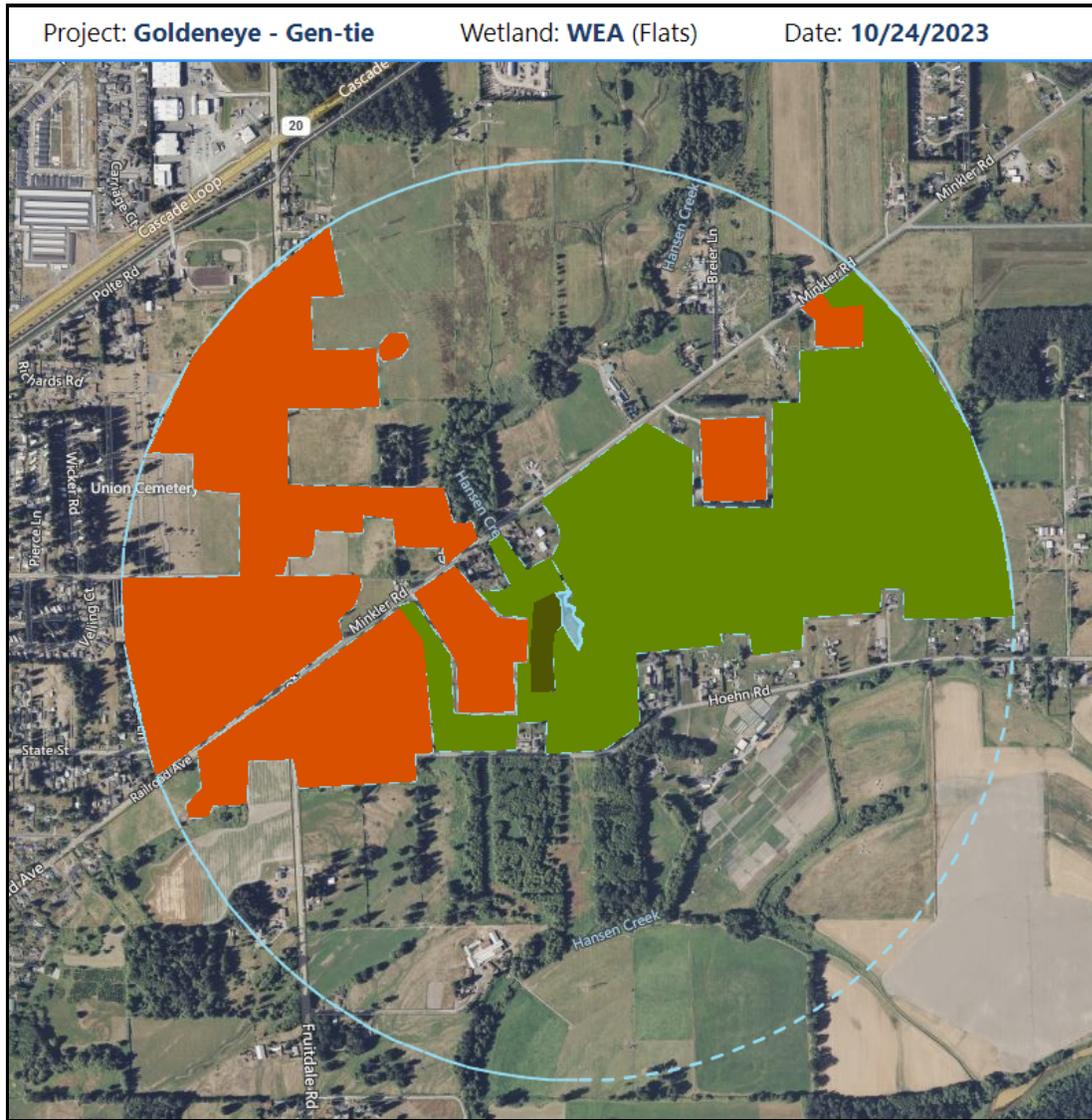


Figure 5.
Land Uses and 150' Buffer



Appendix F

Conceptual Planting Plan

PLANT SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	QTY	SIZE	MATURE HEIGHT	MATURE WIDTH
TREES					
	ACER CIRCINATUM / VINE MAPLE	64	15 GAL.	10 - ' ht.	10 - 15ft. w.
	ACER MACROPHYLLUM / BIG LEAF MAPLE	10	15 GAL.	40 - 65ft. ht.	40 - 65ft. w.
	ALNUS RUBRA / RED ALDER	39	15 GAL.	40 - 65ft. ht.	25 - 40ft. w.
	CERCOCARPUS LEDIFOLIUS / CURL-LEAF MOUNTAIN MAHOGANY	33	15 GAL.	10 - 15ft. ht.	6 - 10ft. w.
	CORNUS NUTTALLII / PACIFIC DOGWOOD	60	24" BOX	25 - 40ft. ht.	15 - 25ft. w.
	POPULUS TREMULOIDES / QUAKING ASPEN	26	15 GAL.	25 - 40ft. ht.	15 - 25ft. w.
	PSEUDOTSUGA MENZIESII / DOUGLAS FIR	25	15 GAL.	> 65ft. ht.	10 - 15ft. w.
	TAXUS BREVIFOLIA / PACIFIC YEWE	48	24" BOX	15 - 25ft. ht.	10 - 15ft. w.
	TSUGA HETEROPHYLLA / WESTERN HEMLOCK	9	15 GAL.	> 65ft. ht.	25 - 40ft. w.

SHRUBS & GROUND COVER SCHEDULE

SYMBOL	BOTANICAL / COMMON NAME	QTY	SIZE
SHRUBS			
	SLOPE STABILIZATION SHRUBS	173	
	GAULTHERIA SHALLON / SALAL	5 GAL.	
	MAHONIA NERVOSA / OREGON GRAPE	5 GAL.	
	ROSA NUTKANA / NOOTKA ROSE	5 GAL.	
	RUBUS SPECTABILIS / SALMONBERRY	5 GAL.	
	SALIX PURPUREA 'NANA' / DWARF PURPLE OSIER WILLOW	5 GAL.	

	POWERLINE-FRIENDLY / SCREENING SHRUBS	43,261 SF	
	CORNUS SERICEA / RED TWIG DOGWOOD	249	5 GAL.
	MAHONIA AQUIFOLIUM / OREGON GRAPE	899	5 GAL.
	PHILADELPHUS LEWISII / WILD MOCKORANGE	999	5 GAL.
	PHYSOCARPUS OPULIFOLIUS / NINEBARK	561	5 GAL.
	RIBES SANGUINEUM / RED FLOWERING CURRANT	848	5 GAL.
	SYMPHORICARPOS ALBUS / COMMON WHITE SNOWBERRY	749	5 GAL.
	VACCINIUM OVATUM / EVERGREEN HUCKLEBERRY	749	5 GAL.

	FIRE-RESISTANT GROUND COVER	39,775 SF	
	ARCTOSTAPHYLOS UVA-URSI / KINNIKINICK	6,201	5 GAL.
	CORNUS UNALASCHKENSIS / WESTERN BUNCHBERRY	3,674	1 GAL.
	MAHONIA REPENS / CREEPING OREGON GRAPE	2,067	1 GAL.

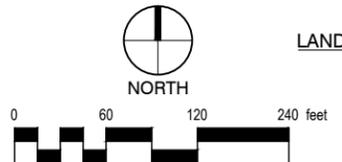
	SLOPE STABILIZATION SEED MIX	81,196 SF	
	AGROSTIS CAPILLARIS / COLONIAL BENTGRASS	SEED	
	ASTER SUBSPICATUS / DOUGLAS ASTER	SEED	
	CLARKIA AMOENA / FAREWELL TO SPRING	SEED	
	DESCHAMPSIA CESPITOSA / TUFTED HAIR GRASS	SEED	
	ELYMUS GLAUCUS / BLUE WILDRYE	SEED	
	ERIOPHYLLUM LANATUM / WOOLLY SUNFLOWER	SEED	
	FESTUCA IDAHOENSIS / IDAHO FESCUE	SEED	

	STORM WATER BASIN SEED MIX	104,996 SF	
	ACHLYS TRIPHYLLA / VANILLA LEAF	SEED	
	ADIANTUM ALEUTICUM / WESTERN MAIDENHAIR FERN	SEED	
	CAMASSIA QUAMASH / SMALL CAMAS	SEED	
	CORNUS UNALASCHKENSIS / WESTERN BUNCHBERRY	SEED	
	FRAGARIA CHILOENSIS / BEACH STRAWBERRY	SEED	
	JUNCUS EFFUSUS / SOFT RUSH	SEED	
	TRILLIUM OVATUM / COAST TRILLIUM	SEED	

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SEE SHEET L2 FOR LANDSCAPE NOTES AND EXAMPLE TREE PHOTOS.



PRELIMINARY DRAFT
NOT FOR CONSTRUCTION
March 7, 2024

REV	REVISIONS	DATE	DRN	DSGN	CKD	APPD
4	REVISED PER CLIENT COMMENTS	03/07/2024	MRT	MRT	JZ	BC
3	REVISED PER ENGINEER'S NEW SITE PLAN	02/20/2024	MRT	MRT	JZ	BC
2	REVISED PER ENGINEER'S NEW SITE PLAN	09/19/2023	MRT	MRT	JZ	BC
1	REVISED WETLAND BOUNDARY AND BUFFERS	05/09/2023	JZ	JZ	JZ	BC

DUDEK
1 SW COLUMBIA STREET, SUITE 1500
PORTLAND OREGON 97258
971.930.1712

GOLDENEYE ENERGY STORAGE, LLC
GOLDENEYE ENERGY STORAGE PROJECT
PRELIMINARY LANDSCAPE PLANS
CONCEPTUAL PLANTING PLAN

JOB NUMBER	REV
12655.18	△
DRAWING NUMBER	
L1	

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GENERAL NOTES

1. THE LANDSCAPE PLANS HAVE BEEN DESIGNED IN COMPLIANCE WITH SKAGIT COUNTY CODE CHAPTER 14.16, SECTION 830 - LANDSCAPING REQUIREMENTS.
2. THE LANDSCAPING WILL PROVIDE VISUAL SCREENS AND BARRIERS TO CREATE A PHYSICAL SEPARATION BETWEEN THE ENERGY STORAGE FACILITY AND THE ADJACENT LAND USES.
3. THE LANDSCAPING WILL PROVIDE INCREASED AREAS OF PERMEABLE SURFACES TO ALLOW FOR INFILTRATION OF SURFACE WATER INTO GROUND WATER RESOURCES AND A REDUCTION IN THE QUANTITY OF STORMWATER DISCHARGE WHILE PROMOTING WATER QUALITY.
4. DETAILED PLANTING AND IRRIGATION CONSTRUCTION PLANS AND SPECIFICATIONS ARE ANTICIPATED TO BE PREPARED AT A LATER DATE, BASED UPON THESE PRELIMINARY PLANS.

PLANTING NOTES

1. A DIVERSITY OF NATIVE-TO-THE-REGION PLANT SPECIES ARE INCORPORATED TO PROMOTE NATIVE WILDLIFE HABITAT AS WELL AS WATER USE EFFICIENCY THROUGH WATER BUDGETING AND EFFICIENT IRRIGATION.
2. A MIXTURE OF EVERGREEN AND DECIDUOUS TREES SHALL BE INTERSPERSED WITH LARGE SHRUBS AND GROUND COVER PLANTS. ON-CENTER SPACING SHALL BE APPROPRIATE FOR THE SPECIES TYPE AND TO ACHIEVE THE INTENT OF THE VISUAL SCREENS AND BARRIERS.
3. PLANT SELECTION IS INFORMED BY SKAGIT COUNTY'S NATIVE PLANT GUIDE. EXISTING VEGETATION AND SIGNIFICANT TREES SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE.
4. LOCAL GENETIC STOCK FOR ALL PLANT SPECIES IS PREFERRED.
5. ALL PLANTS WILL CONFORM TO AMERICAN ASSOCIATION OF NURSEYMEN (AAN) GRADES AND STANDARDS AS PUBLISHED IN THE "AMERICAN STANDARD FOR NURSERY STOCK" MANUAL.
6. THE ORGANIC CONTENT OF SOILS IN ANY LANDSCAPE AREA WILL BE AS NECESSARY TO PROVIDE ADEQUATE NUTRIENT AND MOISTURE-RETENTION LEVELS FOR THE ESTABLISHMENT OF PLANTINGS.
7. PLANTING AREAS WILL BE TOP-DRESSED WITH AT LEAST TWO INCHES OF WALK-ON-FIR BARK MULCH TO MINIMIZE EVAPORATION.
8. PLANTS HAVING SIMILAR WATER USE CHARACTERISTICS WILL BE GROUPED TOGETHER IN DISTINCT HYDROZONES.

MAINTENANCE NOTES

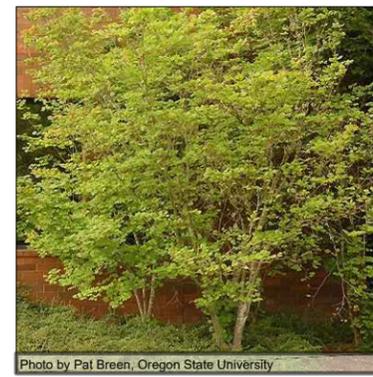
1. ALL LANDSCAPING WILL BE MAINTAINED FOR THE LIFE OF THE PROJECT.
2. ALL LANDSCAPE MATERIALS WILL BE PRUNED AND TRIMMED AS NECESSARY, BEGINNING NO EARLIER THAN ONE YEAR AFTER PLANTING, TO MAINTAIN A HEALTHY GROWING CONDITION OR TO PREVENT PRIMARY LIMB FAILURE.
3. WITH THE EXCEPTION OF DEAD, DISEASED OR DAMAGED TREES SPECIFICALLY RETAINED TO PROVIDE WILDLIFE HABITAT; OTHER DEAD, DISEASED, DAMAGED OR STOLEN PLANTINGS WILL BE REPLACED WITHIN THREE MONTHS OR DURING THE NEXT PLANTING SEASON IF THE LOSS DOES NOT OCCUR IN A PLANTING SEASON.
4. LANDSCAPE AREAS WILL BE MAINTAINED FREE OF TRASH.
5. IRRIGATION SYSTEMS WILL BE MAINTAINED AND INSPECTED PERIODICALLY TO ENSURE PROPER PERFORMANCE. REPLACEMENT OF COMPONENTS WILL BE OF ORIGINALLY SPECIFIED PARTS OR MATERIALS, OR THEIR EQUIVALENTS.

IRRIGATION NOTES

1. A WATER CONSERVING, BELOW GRADE, IRRIGATION SYSTEM WILL BE DESIGNED AND INSTALLED TO FACILITATE PLANT ESTABLISHMENT.
2. AN AUTOMATIC, ELECTRICALLY CONTROLLED IRRIGATION SYSTEM SHALL BE PROVIDED AS REQUIRED FOR PROPER IRRIGATION, DEVELOPMENT, AND MAINTENANCE OF THE VEGETATION IN A HEALTHY, DISEASE-RESISTANT CONDITION.
3. THE DESIGN OF THE SYSTEM SHALL PROVIDE ADEQUATE WATER FOR THE VEGETATION SELECTED.
4. DETAILED IRRIGATION DESIGN WILL CONSIDER SOIL TYPES AND INFILTRATION RATES, USE EFFICIENT IRRIGATION EQUIPMENT AND SCHEDULES, AND MINIMIZE OVERSPRAY AND RUNOFF.
5. IRRIGATION WATER WILL BE APPLIED IN A MANNER THAT WILL AVOID RUNOFF, LOW HEAD DRAINAGE, OVERSPRAY OR OTHER SIMILAR CONDITIONS WHERE WATER FLOWS ONTO ADJACENT PROPERTY, NON-IRRIGATED AREAS AND IMPERVIOUS SURFACES.
6. SYSTEMS WILL BE DESIGNED WITH THE MINIMUM AVERAGE IRRIGATION EFFICIENCY OF 0.625.
7. AN AUTOMATIC SHUTOFF OR OVERRIDE CAPABILITIES USING RAIN SHUTOFFS OR MOISTURE SENSORS WILL BE USED.
8. SYSTEMS WILL UTILIZE A CENTRAL CONTROL VALVE CONNECTED TO AN AUTOMATIC CONTROLLER.
9. TREES WILL BE IRRIGATED USING TREE ROOT ZONE WATERING SYSTEMS (2 UNITS PER TREE). SHRUB / GROUND COVER PLANTS WILL BE IRRIGATED USING BUBBLER NOZZLES (1 FOR EACH PLANT). TREE ROOT ZONE WATERING SYSTEMS WILL BE OPERATED ON SEPARATE VALVES FROM BUBBLER SYSTEMS.
10. SYSTEMS WILL MAKE PROVISIONS FOR WINTERIZATION BY PROVIDING MANUAL DRAINS OR A MEANS TO BLOW OUT LINES WITH PRESSURIZED AIR.
11. SEPARATE VALVES WILL BE USED TO IRRIGATE PLANTS WITH DIFFERING WATER NEEDS.
12. IF USED, SPRINKLER HEADS WITH CONSISTENT APPLICATION RATES WILL BE SELECTED FOR PROPER AREA COVERAGE, OPERATING PRESSURE, AND ADJUSTMENT CAPABILITY.

SEE SHEET L1 FOR CONCEPTUAL PLANTING PLAN.

PROPOSED TREE SPECIES - EXAMPLE IMAGES



OVERALL SITE PLAN PREPARED BY POWER ENGINEERS, INC. FOR A SPECIFIC PROJECT, TAKING INTO CONSIDERATION THE SPECIFIC AND UNIQUE REQUIREMENTS OF THE PROJECT. REUSE OF THIS DRAWING OR ANY INFORMATION CONTAINED IN THIS DRAWING FOR ANY PURPOSE IS PROHIBITED UNLESS WRITTEN PERMISSION FROM BOTH POWER AND POWER'S CLIENT IS GRANTED.

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