

Critical Areas Report

June 15, 2021







5 Mile Fill Site King County, Washington

Prepared for

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Prepared by

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Introduction

Ecological Land Services, Inc. (ELS) has completed this critical areas report for wetlands and aquatic areas on behalf of the applicant, Hos Bros Construction, Inc. (Hos Bros), for the 5 Mile Fill Site permit expansion. Hos Bros proposes to expand its existing mine, which is located immediately west of the study area. The proposal is to expand the existing operation to mine gravel and backfill with clean fill soil from excavation projects in the area. The existing operation has been an industrial mine and fill site since 1998. Hos Bros leases the existing mine site and will lease the expansion area from the Weyerhaeuser Company.

The 5 Mile Fill Site is in the Snohomish watershed (WRIA 7) and has been impacted by forestry land uses for decades. The study area is comprised of a portion of King County tax parcel no. 1424089001, within Section 14, Township 24 North, Range 8 East of the Willamette Meridian (Figure 1). This report describes six wetlands, one stream, and their buffers within the study area according to the applicable sections of the King County Code (KCC) Chapter 21A.24, Critical Areas.

Site Description

The approximately 257-acre study area and its surrounding properties are commercial forest land in the Snoqualmie Tree Farm. The study area ranges in elevation from a low of approximately 960 feet along its west boundary to a high of 1,040 feet along its north boundary. A stream (Tate Creek; Type N/F) is in a steep ravine in the eastern study area. The study area is currently undeveloped and lacks structures except for a network of infrequently used gravel roads.

The adjacent properties are used for commercial forestry and mining. The study area is bordered to the north by the Weyerhaeuser Main Line and commercial forest land; to the south and east by commercial forest land; and to the west by the existing 5 Mile Fill Site and commercial forest land (Figure 2).

WETLANDS

The wetlands in the study area are a mix of depressional and slope wetlands with emergent, scrub-shrub, and forested classes. Two large high quality wetlands and four smaller wetlands are within the study area. The wetlands provide moderate to high habitat functions.

STREAM

The stream, identified as Tate Creek, is a Type F (fish-bearing) stream with a short segment of Type N (non-fish bearing) in its upper reach. A natural barrier to fish passage exists in its upper reach and is identified by a sign (see water type break identified on Figure 2 and Photoplate 15). Upstream of the natural barrier, the stream channel has a lower gradient resulting in a less stable channel and a substrate that consists mostly of silt. The stream channel above the natural

barrier was dry in April 2021. Below the natural barrier, Tate Creek averages 15 feet wide between its ordinary high water marks, and ranges from 2- to 4-feet in depth. In this lower section, the stream channel comes more stable as the gradient increases and the substrate is mostly sand and gravel. Throughout the entire stream corridor, downed logs are abundant in and adjacent to the stream channel.

The riparian corridor is well vegetated with mature native coniferous trees and a dense native shrub layer along the stream channel. The herbaceous understory is sparse due to the heavy shade and where present, native ferns and mosses are common.

Critical Area Inventories

LOCAL CRITICAL AREAS INVENTORY

The King County critical areas inventory identifies a large wetland complex and Tate Creek within the study area (Figure 3; King County GIS 2017). Tate Creek is mapped as an unclassified stream.

NATIONAL WETLANDS INVENTORY

The National Wetlands Inventory (NWI) maps a large palustrine scrub-shrub, seasonally flooded wetland (PSSC) within the western study area and three other unclassified palustrine wetlands (Figure 4; USFWS 2020).

FOREST PRACTICES MAPPING

The Washington Department of Natural Resources maps Tate Creek as Type N in its upper reach above a water type break and Type F below the water type break (Figure 5; WDNR 2020).

SOIL SURVEY

The Natural Resource Conservation Service (NRCS 2019) maps the soils within the study area as described below (Table 1; Figure 6):

Table 1. Mapped Soils

Soil Series	Symbol	Percent Slope	Drainage Class	Landform	Landform Position	NRCS Hydric Designation ¹	Test Plots per Soil Series
Barneston gravelly ash coarse sandy loam	10	0 to 8	Somewhat excessively drained	Eskers, moraines, kames	Summit, shoulder	No	TPs B5 - B6; B9- B10; D1 - D2
Blethan gravelly loam	23	5 to 30	Well drained	Mountain slopes	Toeslope, backslope	No	
Mukilteo peat	140	0 to 1	Very poorly drained	Depressions	Not Listed	Yes	
Norma loam	158	0 to 3	Poorly drained	Depressions, drainageways	Not Listed	Yes	TPs-B3 - B4; B7-B8
Seattle muck	231	0 to 1	Very poorly drained	Till plains, valleys, depressions	Not Listed	Yes	TPs A1 - A8; C1 - C2

Soil Series	Symbol	Percent Slope	Drainage Class	Landform	Landform Position	NRCS Hydric Designation ¹	Test Plots per Soil Series
Tokul gravelly medial loam	254	0 to 8	Moderately well drained	Till plains, hillslopes	Toeslope	No	

¹ NRCS 2020

PRIORITY HABITATS AND SPECIES

The Washington Department of Fish and Wildlife identifies the following priority habitats and species within or near the study area (WDFW 2020a; Figure 7):

- Freshwater forested and scrub-shrub wetlands within the study area;
- Regular concentration of Roosevelt elk within the study area;
- Point location for fisher approximately 0.17 miles east of the study area;
- Ten Creek, with cutthroat, resident coastal cutthroat, and western toad, approximately 0.25 miles northwest of the study area; and
- Freshwater forested and scrub-shrub wetlands 0.40 to 1.0 miles southeast and southwest of the study area.

SalmonScape does not map fish species within the onsite portion of Tate Creek (WDFW 2020b; Figure 8). Resident cutthroat are mapped downstream and south of the study area.

Methods

ELS biologists conducted field visits on 24 February, 25 February, and 16 March 2020 and 5 June 2021 to delineate the wetlands and stream within the study area, assess stream and wetland functions, and collect vegetation, soils, and hydrology data. The weather was cool and dry upon visitation and cool and wet during days preceding the field work. February 2020 had slightly higher than normal total precipitation (4.05 inches total or 0.42 inches above normal) and slightly above normal mean temperatures (+0.2° F) according to the National Weather Service preliminary climate data for the SeaTac Airport¹ (2020). March 2020 had slightly lower than normal total precipitation (3.17 inches total or -0.55 inches below normal) and slightly below normal mean temperatures (-1.7° F).

WETLANDS

Six wetlands, identified as wetlands A through F, were delineated within the study area with uniquely numbered pink *Wetland Delineation* flagging (Figure 2). We followed the Routine Determination Method² for delineating the wetland boundary according to the approved federal

¹ We recognize that the climate data will differ for the study area because it is east and higher elevation than Puget Sound, but accurate climate data for the area is difficult to locate and the trends presented for precipitation and temperature should be similar for the study area.

² Routine Determination Method examines vegetation, hydrology, and soils to determine if wetlands exist in a given area. By definition, wetlands are those areas that are inundated or saturated by surface or ground water at a

manual and appropriate regional supplements³. Wetlands are regulated as "Waters of the United States" by the U.S. Army Corps of Engineers (Corps), "Waters of the State" by the Washington State Department of Ecology (Ecology), and locally by *KCC Chapter 21A.24, Critical Areas*.

Vegetation, soil, and hydrology data were collected from 21 test plots within the study area to verify the presence and boundaries of the wetland (Figure 2; Appendix A). Test plot locations were recorded using a hand-held GPS capable of sub-meter accuracy. Soil colors in test plots were evaluated by hue, value, and chroma using the Munsell Soil Color Chart (Munsell 2000). Plant dominance was based on the 50/20 rule (Corps 2010).

STREAM

Tate Creek's ordinary high water mark (OHWM) was delineated following *WAC 222-16-030*. Consecutively numbered pink flagging, identified as OHWM 1 through 45, was placed along the stream's western OHWMs. We collected the OHWM flag locations using a hand-held GPS capable of sub-meter accuracy (Figure 2).

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 (40 CFR §230.3).

³ U.S. Army 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 (2010).

Results

We identified six wetlands, identified as Wetlands A through F, within the study area.

DEPRESSIONAL WETLANDS

Wetlands A and C

Two depressional wetlands, identified as Wetlands A and C, are in the western study area (Tables 2 and 3; Figure 2). Wetland A is a large bog complex that extends to the south; Wetland C is a small, associated wetland near the southeast boundary of Wetland A.

Table 2. Wetland A Summary

Feature	Description	
Critical Area	Wetland A - North Unit	
Area	12.8 acres (north unit)	
Ecology Rating	Category I	
Local Rating	Category I	
Habitat Score	8	
Local Buffer	300 feet	
HGM Classification	Depressional	
Cowardin Classification	PFOC, PSSC, PEMC	
Hydroperiod	Seasonally flooded or saturated only	inundated, occasionally flooded or inundated,
Dominant Vegetation	heterophylla, Malus fu	hensis, Populus balsamifera, Thuja plicata, Tsuga Isca, Rubus spectabilis, Spiraea douglasii, Carex arvifolium, Polystichum munitum, mosses
Soils Indicators	Histosol (A1), Histic Ep	pipedon (A2), & Loamy Mucky Mineral (F1)
Hydrology Indicators	Surface Water (A1), H (C1)	gh Water Table (A2), & Hydrogen Sulfide Odor

Table 3. Wetland C Summary

Feature	Description				
Critical Area	Wetland C				
Area	396 sq. ft.	NOVEMBER 1			
Ecology Rating	Category III				
Local Rating	Category III				
Habitat Score	6				
Local Buffer	150 feet				
HGM Classification	Depressional				
Cowardin Classification	PEMC				
Hydroperiod	Seasonally flooded or	inundated			
Dominant Vegetation	Lysichiton americanus, mosses				
Soils Indicators	Loamy Mucky Minera	(F1)			
Hydrology Indicators	Surface Water (A1)				

Vegetation

Wetland

Wetland A contains forested, scrub shrub, and emergent vegetation classes, whereas Wetland C is emergent only. The **tree stratum** of Wetland A is dominated by primarily facultative coniferous species: red alder (*Alnus rubra*, FAC), Sitka spruce (*Picea sitchensis*, FAC), black cottonwood (*Populus balsamifera*, FAC), western redcedar (*Thuja plicata*, FAC), and western hemlock (*Tsuga heterophylla*, FACU). The **shrub stratum** is comprised of facultative and facultative wetland species: western crabapple (*Malus fusca*, FACW), salmonberry (*Rubus spectabilis*, FAC), and Douglas spiraea (*Spiraea douglasii*, FACW). The **herbaceous stratum** is sparse due to the dense overstory but mosses are diverse and abundant on the ground surface.

Hydrophytic vegetation was met in the wetlands because over 50 percent of the dominant vegetation have obligate, facultative wetland, or facultative indicators (Appendix A).

<u>Upland</u>

The upland vegetation in Wetland A and Wetland C's buffers within the study area is dominated by a **tree stratum** of Douglas-fir (*Pseudotsuga menziesii*, FACU), Sitka spruce, and western hemlock. The **shrub stratum** contains vine maple (*Acer circinatum*, FACU), salal (*Gaultheria* shallon, FACU), false azalea (*Rhododendron menziesii*, FACU), and salmonberry. The **herbaceous stratum** is dominated by sword fern (*Polystichum* munitum, FACU). Like the wetland, mosses are abundant in the upland buffer. Hydrophytic vegetation indicators were not met in uplands (Appendix A).

Soils

<u>Wetland</u>

Evaluated wetland soils are black or very dark brown (10YR 2/1 and 2/2) and are high in organic content. Soil textures in Wetland A included mucky sandy loam, mucky loam, muck, and peat. A thick duff layer up to approximately 4 inches deep was also present. Soils within Wetland C were predominantly gravelly mucky loam. No redoxomorphic features were observed within the soil profiles in either wetland. Most soil profiles were evaluated to a depth of at least 16 inches, although Wetland C's test pit had rocks and roots at 10 inches. The thick layer of organic material near the surface results in hydric soil indicators being met for Histosol (A1), Histic Epidedon (A2), and Loamy Mucky Mineral (F1; Appendix A). The wetland soils are consistent with the mapped soil type (Figure 6).

<u>Upland</u>

Evaluated upland soils adjacent to Wetland A were generally dark brown (7.5YR 3/4) to dark yellowish brown (10YR 3/6) in color with sandy loam, gravelly loam, loamy sand, and silty sand textures. No redoxomorphic features were observed in the upland test pits. All profiles were evaluated to a depth of 16 inches and none met indicators for hydric soils (Appendix A).

Hydrology

Wetland

Wetlands A and C are depressional wetlands that are primarily groundwater fed (Figure 2). A gravel road bisects the north unit of the Wetland A and partially disconnects the surface hydrological connection with the larger wetland unit to the south. A culvert is present but has high water marks on either side of the road that differ by more than 6 inches of elevation. Water infiltrates within Wetlands A and C. Wetland C's hydroperiod is saturated only. Wetland A's hydroperiods are:

- Seasonally flooded or inundated;
- Occasionally flooded or inundated; and

Saturated only.

Primary wetland hydrology indicators observed within Wetland A included surface water up to 12 inches (A1), high water table (A2), and hydrogen sulfide odor (C1; Appendix A). The presence and extent of the wetlands are consistent with the King County mapping (Figure 3) and are somewhat consistent with the NWI mapping (Figure 4).

<u>Upland</u>

The upland areas lacked positive wetland hydrological indicators and the evaluated soil profiles were dry (Appendix A).

Wetland F

Wetland F is a depressional wetland in the southwest study area (Table 4) that borders a forest road. The wetland, which is well outside of the permit area boundary, is summarized in the table below.

Table 4. Wetland F Summary

Feature	Description	
Critical Area	Wetland F	
Area	0.23 acres	A THE STATE OF THE
Ecology Rating	Category II	
Local Rating	Category II	
Habitat Score	6	
Local Buffer	300 feet	
HGM Classification	Depressional	
Cowardin Classification	PSSC	
Hydroperiod	Seasonally flooded or inunda	ted
Dominant Vegetation	Rubus spectabilis, Spiraea do	uglasii
Soils Indicators	Soils were not assessed as th permit boundary.	is wetland is well outside the proposed
Hydrology Indicators	Up to 6 inches of surface wat visits, therefore would meet	er was present at the time of the site Surface Water (A1)

SLOPE WETLANDS

Wetland B

Wetland B is a slope wetland in the north-central portion of the study area (Table 5).

Table 5. Wetland B Summary

Feature	Description	
Critical Area	Wetland B	
Area	6.05 acres	
Ecology Rating	Category II	
Local Rating	Category II	
Habitat Score	8	
Local Buffer	300 feet	
HGM Classification	Slope	
Cowardin Classification	PFOC, PSSC	
Hydroperiod	Seasonally flooded or stream in or adjacent	inundated, saturated only, permanently flowing to wetland
Dominant Vegetation	Rubus spectabilis, Care	alsamifera, Thuja plicata, Tsuga heterophylla, ex stipata, Lysichiton americanus, Oenanthe um munitum, Tolmiea menziesii
Soils Indicators	Histosol (A1), Histic Ep Depleted Matrix (F3)	ipedon (A2), Loamy Mucky Mineral (F1), &
Hydrology Indicators	Surface Water (A1), Hi	gh Water Table (A2), Saturation (A3)

Vegetation

<u>Wetland</u>

Wetland B contains forested and scrub-shrub vegetation classes. The **tree stratum** is dominated by primarily facultative coniferous species: red alder, black cottonwood, western redcedar, and western hemlock. The **shrub stratum** is dominated by salmonberry. The **herbaceous stratum** is dense in places and comprised of sawbeak sedge (*Carex stipata*, OBL), water parsley (*Oenanthe sarmentosa*, OBL), and piggy-back plant (*Tolmiea menziesii*, FAC). Sword fern is present on

hummocks. Hydrophytic vegetation was met because over 50 percent of the dominant vegetation have obligate, facultative wetland, or facultative indicators (Appendix A).

<u>Upland</u>

The upland vegetation in Wetland B's buffer is dominated by red alder, Douglas-fir, western hemlock, and western redcedar in the **tree stratum**. The **shrub stratum** contains vine maple, salmonberry, and red huckleberry (*Vaccinium parvifolium*, FACU). The **herbaceous stratum** is dominated by sword fern and deer fern (*Blechnum spicant*, FAC). Mosses are abundant and diverse in the forested upland. Hydrophytic vegetation indicators were not met in uplands (Appendix A).

Soils

<u>Wetland</u>

Evaluated wetland soils within Wetland B consisted of black to very dark brown (10YR 2/1 and 2/2) peat loams. The thick layer of organic material near the surface results in hydric soil indicators being met for Histosol (A1), Histic Epidedon (A2), and Loamy Mucky Mineral (F1; Appendix A). Test Plots (TP) B5 and B7 consisted of a black (10YR 2/1) organic soil overlying a mineral soil. The dark grey (10YR 4/1) clay loam mineral soil layer within TP-B5 began at 5 inches depth and contained approximately 5 percent brownish yellow (10YR 6/8) redoxomorphic concentrations within the matrix, thus meeting hydric soil indicator Depleted Matrix (F3). All profiles were evaluated to a depth of at least 16 inches (Appendix A). The wetland soils are somewhat consistent with the mapped soil type (Figure 6).

Upland

Evaluated upland soils adjacent to Wetland B generally consisted of dark brown (7.5 YR 3/4) silt loam or silty sandy loam with a duff layer ranging between 3 and 10 inches thick. Test Plot B4 consisted of very dark brown (10YR 2/2) silt loam. No redoxomorphic features were observed in the upland test pits. All profiles were evaluated to a depth of 16 inches and none met the indicators for hydric soils (Appendix A).

Hydrology

Wetland

Wetland B is a slope wetland and receives hydrology primarily from groundwater and some seeps on northwest boundary, which coincides with an area where bedrock and glacial till are close to the surface (Figure 2). Water infiltrates in low gradient areas and drains southeasterly into Tate Creek. The wetland hydroperiods are:

- Seasonally flooded or inundated;
- Saturated only; and
- Permanently flowing stream in or adjacent to the wetland.

Primary wetland hydrology indicators observed within wetland included surface water up to 12 inches (A1), high water table (A2), and saturation (A3; Appendix A). The presence and extent of the wetland is not consistent with the King County (Figure 3) or NWI mapping (Figure 4).

<u>Upland</u>

The upland areas lacked positive wetland hydrological indicators and the evaluated soil profiles were dry (Appendix A).

Wetland D

Wetland D is a slope wetland in the eastern study area, within the western buffer of Tate Creek (Table 6).

Table 6. Wetland D Summary

Feature	Description	
Critical Area	Wetland D	
Area	0.05 acres	
Ecology Rating	Category III	
Local Rating	Category III	
Habitat Score	7	
Local Buffer	150 feet	
HGM Classification	Slope	
Cowardin Classification	PFOC	
Hydroperiod	Seasonally flooded	or inundated
Dominant Vegetation	Picea sitchensis, Tsu menziesii, abundan	uga heterophylla, Acer circinatum, Tonlmiea t mosses
Soils Indicators	Histosol (A1) & Hist	ic Epipedon (A2),
Hydrology Indicators	Saturation (A3)	

Vegetation

Wetland

Wetland D contains a forested vegetation class. The **tree stratum** is dominated by Sitka spruce and western hemlock. The **shrub stratum** is dominated by vine maple (*Acer circinatum*, FAC). The **herbaceous stratum** is sparse due to the dense overstory, but like the other well shaded areas within the study area, mosses are abundant. Hydrophytic vegetation was met because 100 percent of the dominant vegetation have obligate, facultative wetland, or facultative indicators (Appendix A).

Upland

The upland vegetation in Wetland D's buffer is dominated by Douglas-fir and western hemlock in the **tree stratrum**. The **shrub stratum** is sparse and contains red huckleberry. The **herbaceous stratum** is dominated by sword fern and piggy-back plant. Mosses are abundant and diverse in the forested upland. Hydrophytic vegetation indicators were not met in uplands (Appendix A).

Soils

Wetland

Evaluated wetland soils within Wetland D consisted of black (10YR 2/1) peat loams. No redoximorphic features were observed within the profile. The thick layer of organic material near the surface results in hydric soil indicators being met for Histosol (A1) and Histic Epidedon (A2; Appendix A). All profiles were evaluated to a depth of at least 16 inches (Appendix A). The wetland soils are not consistent with the mapped soil type (Figure 6).

Upland

Evaluated upland soils adjacent to Wetland D consisted of dark brown (10YR 3/3) peat loam to a depth of 16 inches (Appendix A). No redoximorphic features were observed in the soil profile. All profiles were evaluated to a depth of 16 inches and none met the indicators for hydric soils (Appendix A).

Hydrology

Wetland

Wetland D is a slope wetland and receives hydrology from groundwater and seeps (Figure 2). Water infiltrates in low gradient areas and drains easterly into Tate Creek. Tate Creek is lower in elevation than the wetland and does not appear to contribute to the wetland hydrology. The wetland's hydroperiods are seasonally flooded or inundated and its primary wetland hydrology

indicator was saturation (A3; Appendix A). The presence and extent of the wetland is inconsistent with the King County (Figure 3) or NWI mapping (Figure 4).

<u>Upland</u>

The upland areas lacked positive wetland hydrological indicators and the evaluated soil profiles were dry (Appendix A).

Wetland E

Wetlands E is a slope wetland in the southwest study area and borders both sides of a forest road (Table 7). The wetland, which is well outside of the permit area boundary, is summarized in the table below.

Table 7. Wetland E Summary

Feature	Description
Critical Area	Wetland E
Area	0.25 acres (approx.)
Ecology Rating	Category III
Local Rating	Category III
Habitat Score	6
Local Buffer	150 feet
HGM Classification	Slope
Cowardin Classification	PSSC
Hydroperiod	Seasonally flooded or inundated
Dominant Vegetation	Rubus spectabilis, Spiraea douglasii, Cornus sericea, Equisetum sp., various grasses
Soils Indicators	Soils were not assessed as this wetland is well outside of the proposed permit boundary.
Hydrology Indicators	4 to 6 inches of surface water was present at the time of the site visits, therefore would meet Surface Water (A1)

STREAM

Tate Creek is a Type F stream with a short segment of Type N along its upper reach. The stream originates at the southeast boundary of Wetland B and flows to the Snoqualmie River (Table 8; Figure 2). During site visits in April and June 2021, we observed that the stream channel was dry above a natural fish passage barrier, identified by a *Last Fish* sign (Photoplate 15). Tate Creek drains into the Snoqualmie River approximately 3.75 miles south from the study area. No manmade structures are present along Tate Creek's channel within the study area.

Table 8. Tate Creek Summary

Feature	Description			
Critical Area	Tate Creek			
WDNR Type	N & F			
Local Type	Unclassified			
Local Buffer	65 feet for Type N & 165 for Type F			
Watershed	WRIA 7 (Snohomish)			
Substrate	Sand, silt, gravel			
Average Width	17 feet (approx)			
Channel Condition	Stable below natural barrier			
Gradient	0.02% (within study area)			
Fish Access	Fish access mapped in most of stream. Stream type break in upper reach was marked by a <i>Last Fish</i> sign. Channel is seasonally dry above the sign.			
Floodplain Connectivity	Below natural barrier, the stream is in stable channel within a steep ravine and has a narrow floodplain.			
Water Quality	Category I water on 303(d) list for segment of Tate Creek within study area.			
Riparian Conditions	Mature forested canopy and shrub layer. Abundant large woody material in and adjacent to the stream. High quality in-stream and riparian habitat conditions.			

Impact Assessment

Based on the hydrologic analysis submitted with this application, we do not anticipate impacts to critical areas within the study area because of the distance from the permit area boundary to the wetlands and stream, the flat hydraulic gradient, and proposed infiltration ponds that will control surface water runoff from the proposed project. Ground water has been monitored monthly since the early 2000s under the previous permit activity and it will continue to be monitored for the duration of the project activities. The hydrologic analysis submitted with this application assesses the surface and ground water impacts in more detail.

WETLANDS

The wetland buffer widths specified by KCC for high impact adjacent land uses will be implemented for full protection for all wetlands. Thus, for Wetlands A and B, 300-foot buffers will be established from their delineated boundaries (Figure 2). Wetlands C and F require 150-foot buffers but fall within the larger 300-foot buffer of Wetland A for even greater protection. For Wetlands D and E, 150-foot buffers will be established. Permanent signs will be installed to demarcate the wetland buffer boundaries from the proposed activity. Based on the hydrologic analysis and distance from the permit area, no impacts to wetlands are anticipated.

STREAMS

Tate Creek

A 165-foot buffer will be maintained between Tate Creek and the permit area boundary (Figure 2). Permanent signs will be installed to demarcate the stream buffer boundary from the proposed activity. King County staff commented on a beaver dam and potential flooding to North Fork Road in the pre-application meeting notes. The beaver dam is located on the outlet to McLeod Lake and not on the Tate Creek corridor. McLeod Lake is south of the study area and drains east toward Tate Creek about 0.35 south of the study area boundary; thus, there is no hydrological connection between Tate Creek and the beaver dam. Based on the hydrologic analysis and distance from the permit area, no impacts to Tate Creek are anticipated.

Ten Creek

Ten Creek is about 450 feet north of the proposed permit area boundary at its closest point. The Snoqualmie Forest Mainline also separates the stream from the permit area. Due to its location north of the permit area and the hydrologic analysis, no impacts to Ten Creek are anticipated.

Conclusions

We identified the following critical areas within the study area: six palustrine wetlands and Tate Creek (Table 9).

Table 9. Critical Areas Summary

Critical Area	Area	Ecology ¹ /County Rating ² ; WDNR ³ /County Type ⁴	Cowardin Classification ⁵	HGM Classification	Standard Buffer ⁶
Wetland A (North Unit)	12.8 acres	l	PFOC, PSSC, PEMC	Depressional	300 feet
Wetland B	6.05 acres	II	PFOC, PSSC	Slope	300 feet
Wetland C	396 sq. ft.	III	PEMC	Depressional	150 feet
Wetland D	0.05 acres	III	PFOC	Slope	150 feet
Wetland E	0.25 acres (approx.)	III	PSSC	Slope	150 feet
Wetland F	0.23 acres	II	PSSC	Depressional	150 feet
Tate Creek		Type N / F			65 / 165 feet

¹ Hruby 2014

WETLAND CATEGORIZATIONS AND BUFFERS

Wetland A

The north unit of Wetland A is an approximately 12.8-acre palustrine forested, scrub-shrub, and emergent wetland, which receives hydrology primarily from groundwater (Table 2). The wetland A rates as a Category I depressional wetland under Ecology's 2014 wetland rating system (Hruby 2014; Figures 9-10; Appendix B). According to the rating system, Wetland A has high indicators to improve water quality, reduce flooding and erosion, and provide important habitat. In particular, the wetland scored:

- High for improving water quality (8 out of 9 points);
- High for hydrologic functions (8 out of 9 points); and
- High for habitat functions (8 out of 9 points).

Under KCC, Wetland A classified as a Category I Bog (250-foot buffer for high impact land use) and a Category I wetland with a high habitat score (300-foot buffer for high impact land use). In

² KCC 21A.24.318

³ WAC 222-16-030

⁴ KCC 21A.24.355

⁵ Cowardin et al. 1979

⁶ KCC 21A.24.325.A.1 and KCC 21A.24.358

this case, the Category I wetland with a high habitat score provides the most protection, so it is applied. As a Category I wetland with a habitat score of 8 and high impact adjacent land use, Wetland A requires a 300-foot buffer for high habitat functions (*KCC 21A.24.325.A.1*).

Wetland B

Wetland B is an approximately 6.0-acre palustrine forested and scrub-shrub wetland, which receives hydrology primarily from groundwater and seeps (Table 4). The wetland rates as a Category II slope wetland under Ecology's 2014 wetland rating system (Hruby 2014; Figures 11-12; Appendix B). According to the rating system, Wetland B has moderate to high indicators to improve water quality, reduce flooding and erosion, and provide important habitat. In particular, the wetland scored:

- Moderate for improving water quality (6 out of 8 possible points for slope wetlands);
- Moderate for hydrologic functions (6 out of possible points for slope wetlands); and
- High for habitat functions (8 out of 9 points).

As a Category II wetland with a habitat score of 8 and high impact adjacent land use, Wetland B requires a 300-foot buffer for high habitat functions (*KCC 21A.24.325.A.1*).

Wetland C

Wetland C is a small, approximately 396 square foot palustrine emergent wetland off the east boundary of Wetland A. Like Wetland A, Wetland C receives hydrology primarily from groundwater (Table 3). The wetland rates as a Category III depressional wetland under Ecology's 2014 wetland rating system (Hruby 2014; Figures 9-10; Appendix B). According to the rating system, Wetland C has moderate indicators to improve water quality, reduce flooding and erosion, and provide important habitat. In particular, the wetland scored:

- Moderate for improving water quality (7 out of 9 points);
- Moderate for hydrologic functions (6 out of 9 points); and
- Moderate for habitat functions (6 out of 9 points).

As a Category III wetland with a habitat score of 6 and high impact adjacent land use, Wetland C requires a 150-foot buffer for moderate habitat functions (*KCC 21A.24.325.A.1*).

Wetland D

Wetland D is an approximately 0.05-acre palustrine forested wetland, which receives hydrology primarily from groundwater and seeps (Table 5). The wetland rates as a Category III slope wetland under Ecology's 2014 wetland rating system (Hruby 2014; Figures 13-14; Appendix B). According to the rating system, Wetland D has low to moderate indicators to improve water quality, reduce flooding and erosion, and provide important habitat. In particular, the wetland scored:

- Low for improving water quality (5 out of 8 points);
- Low for hydrologic functions (5 out of 7 points); and
- Moderate for habitat functions (7 out of 9 points).

As a Category II wetland with a habitat score of 7 and high impact adjacent land use, Wetland D requires a 150-foot buffer for moderate habitat functions (KCC 21A.24.325.A.1).

Wetland E

Wetland E is an approximately 0.25-acre palustrine scrub-shrub wetland, which receives hydrology primarily from groundwater and seeps (Table 6). The wetland rates as a Category III slope wetland under Ecology's 2014 wetland rating system (Hruby 2014; Figures 15-16; Appendix B). According to the rating system, Wetland E has low to moderate indicators to improve water quality, reduce flooding and erosion, and provide important habitat. In particular, the wetland scored:

- Low for improving water quality (6 out of 8 possible points for slope wetlands);
- Low for hydrologic functions (7 out of 7 possible points for slope wetlands); and
- Moderate for habitat functions (6 out of 9 points).

As a Category II wetland with a habitat score of 6 and high impact adjacent land use, Wetland D requires a 150-foot buffer for moderate habitat functions (KCC 21A.24.325.A.1).

Wetland F

Wetland F is an approximately 0.23 acre palustrine scrub-shrub wetland that receives hydrology primarily from groundwater (Table 7). The wetland rates as a Category II depressional wetland under Ecology's 2014 wetland rating system (Hruby 2014; Figures 17-18; Appendix B). According to the rating system, Wetland F has moderate indicators to improve water quality, reduce flooding and erosion, and provide important habitat. In particular, the wetland scored:

- <u>High</u> for improving water quality (8 out of 9 points);
- Moderate for hydrologic functions (7 out of 9 points); and
- Moderate for habitat functions (6 out of 9 points).

As a Category II wetland with a habitat score of 6 and high impact adjacent land use, Wetland F requires a 150-foot buffer for moderate habitat functions (KCC 21A.24.325.A.1).

STREAM TYPING AND BUFFER

Tate Creek is a Type N/F water under the *Washington Administrative Code* (WAC) *222-16-030 Water Typing System*. The majority of the stream is mapped as Type F and requires a 165-foot buffer under *KCC 21A.24.358.C.* The small section at its upper-most reach is Type N and requires a 65-foot buffer.

PRIORITY HABITAT AND SPECIES

According to the Washington Department of Fish and Wildlife's Priority Habitats and Species (PHS) Report (WDFW 2020a), Tate Creek is identified within the study area (Figure 7). The other mapped occurrences (freshwater wetlands, fish, Oregon toad, fisher) on the PHS report and SalmonScape (WDFW 2020b; Figure 8) are well outside of the study area. Refer the *Wildlife Assessment* in Appendix C.

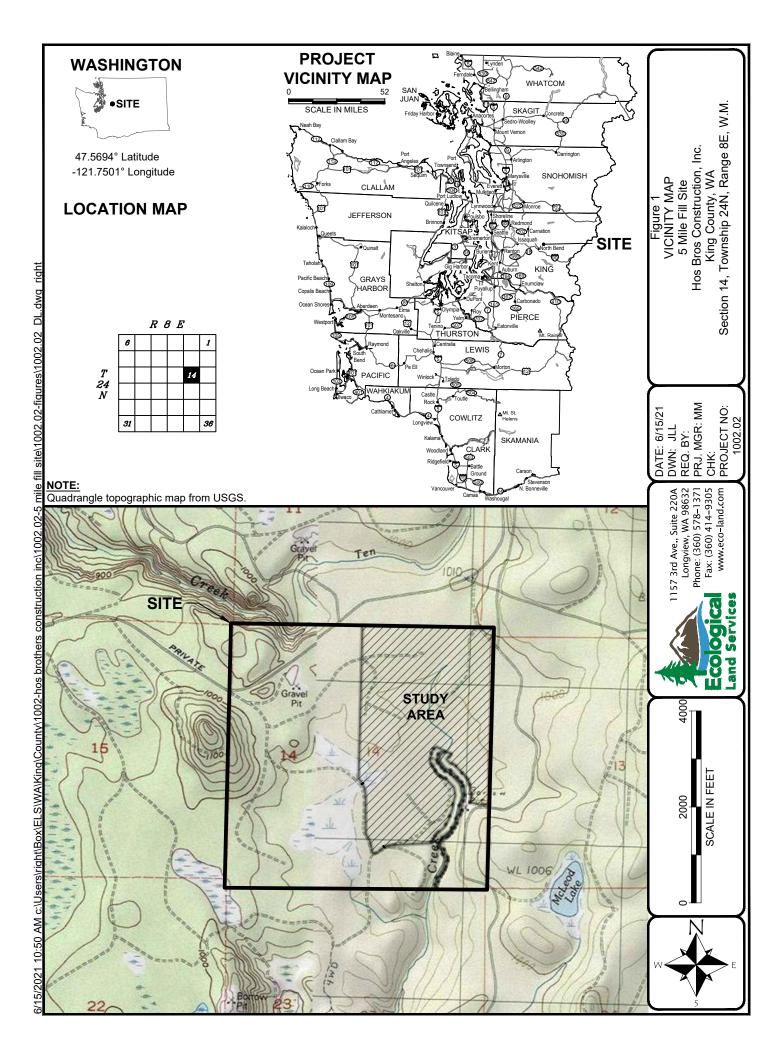
Limitations

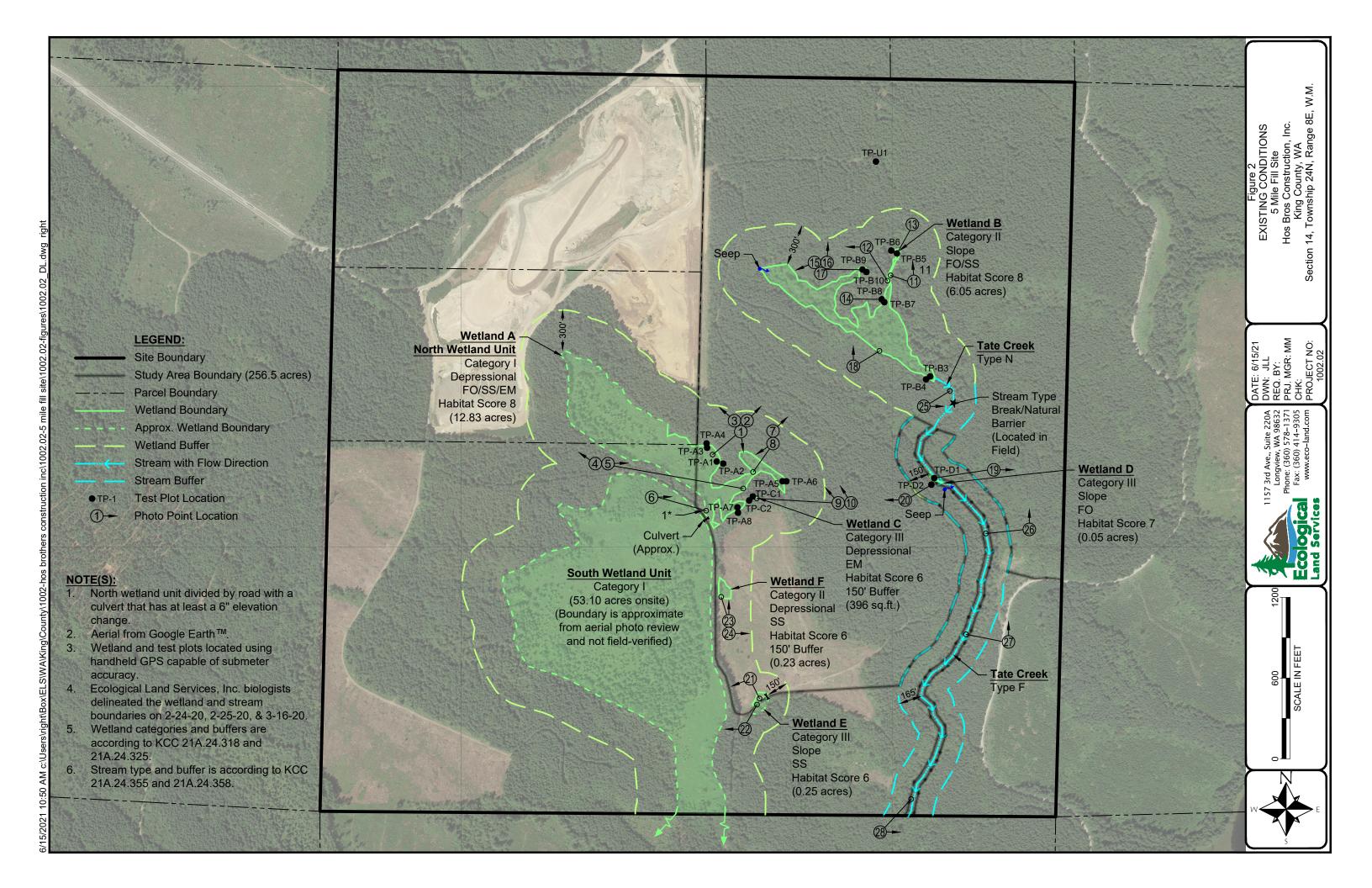
ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

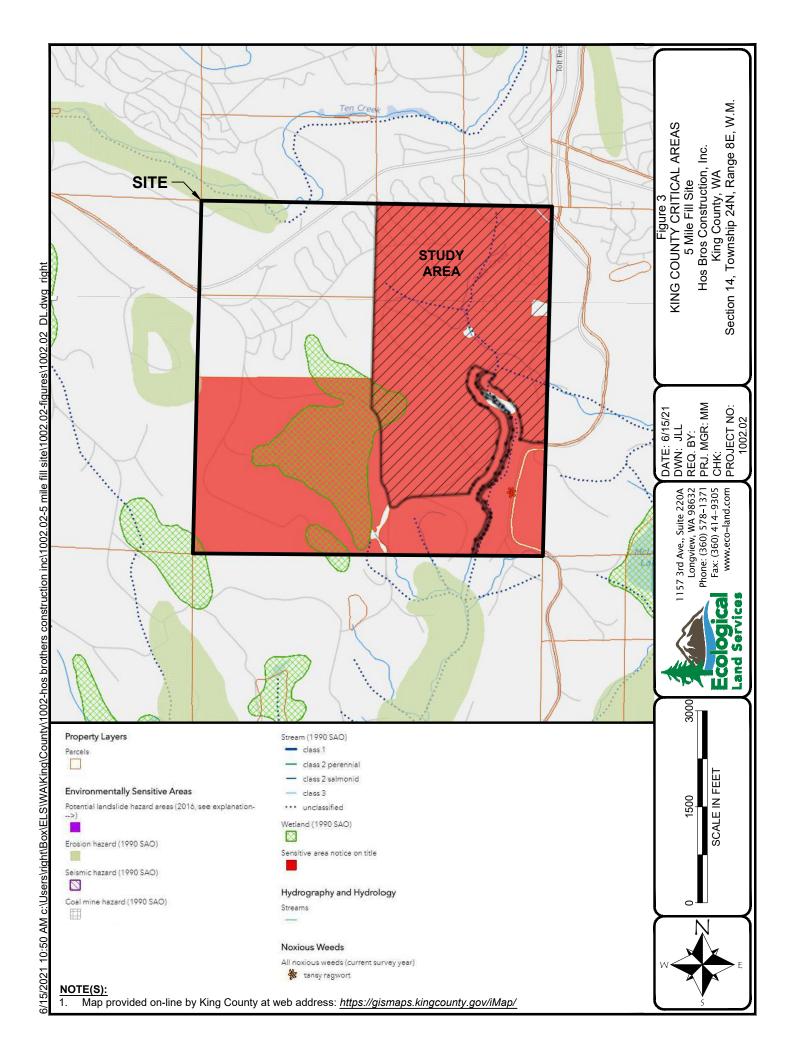
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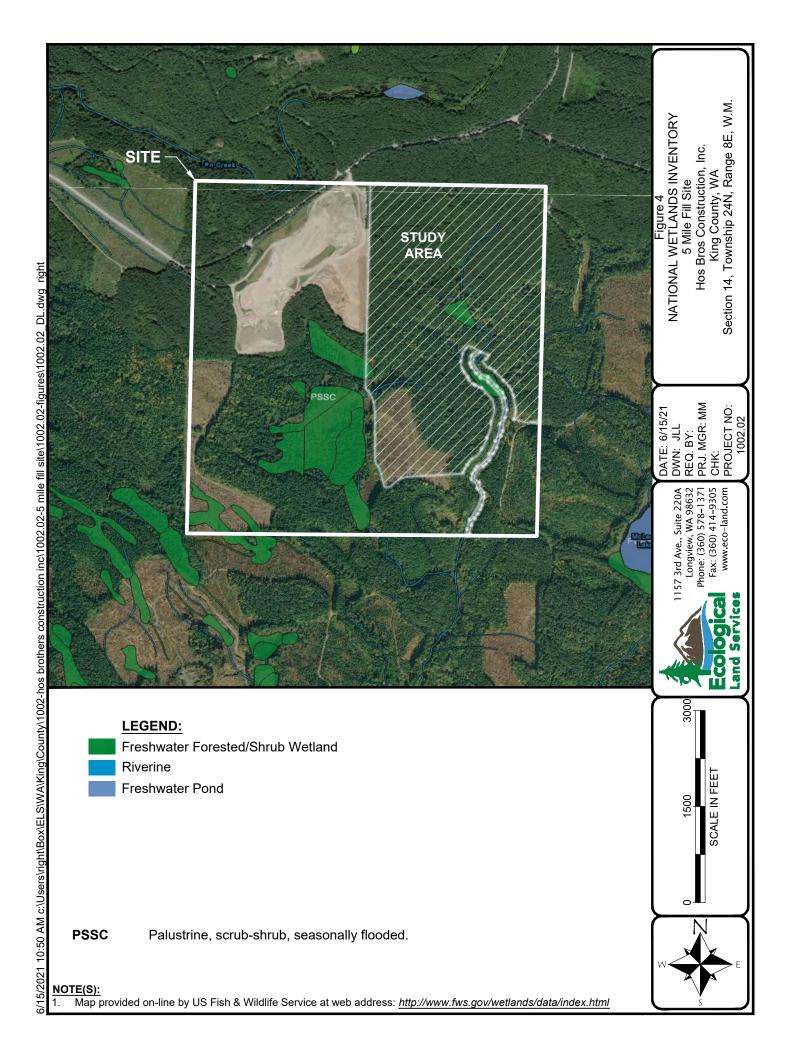
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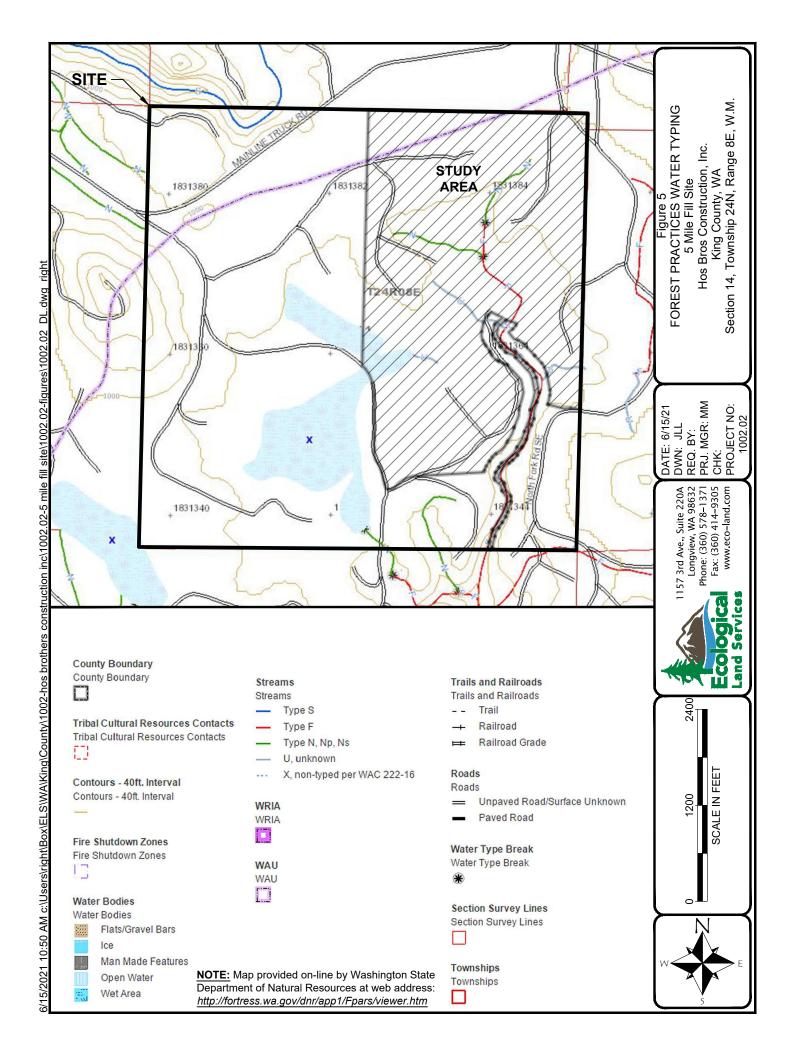
Figures & Photoplates

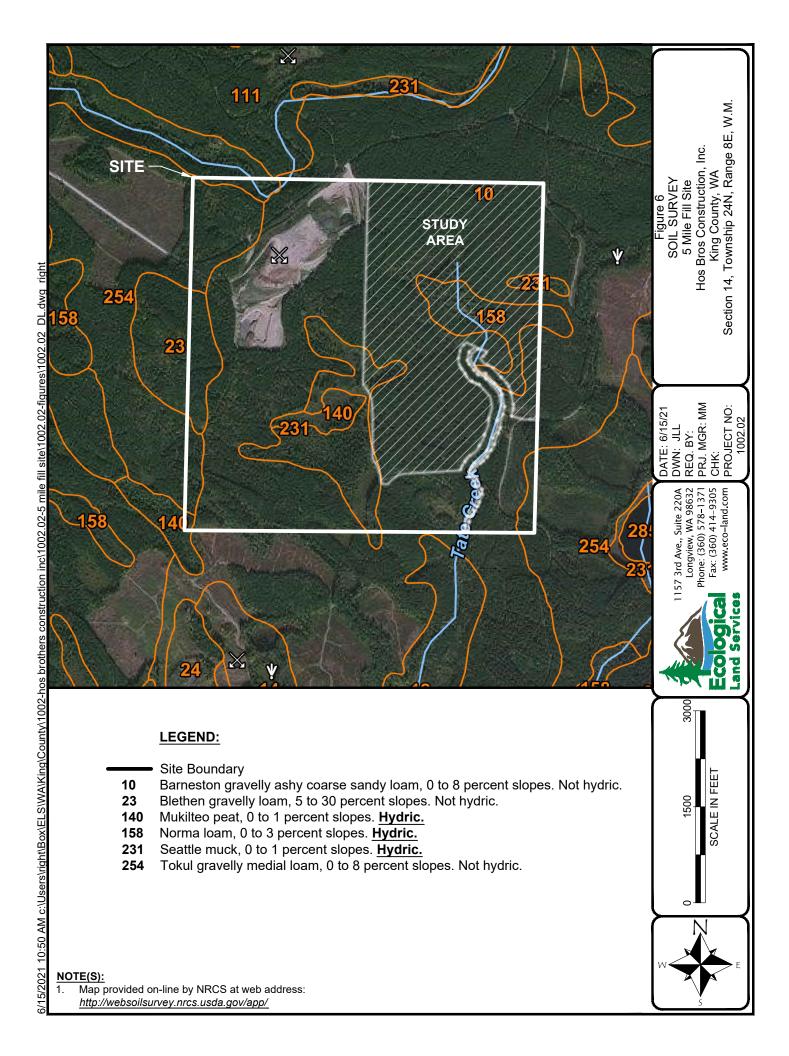


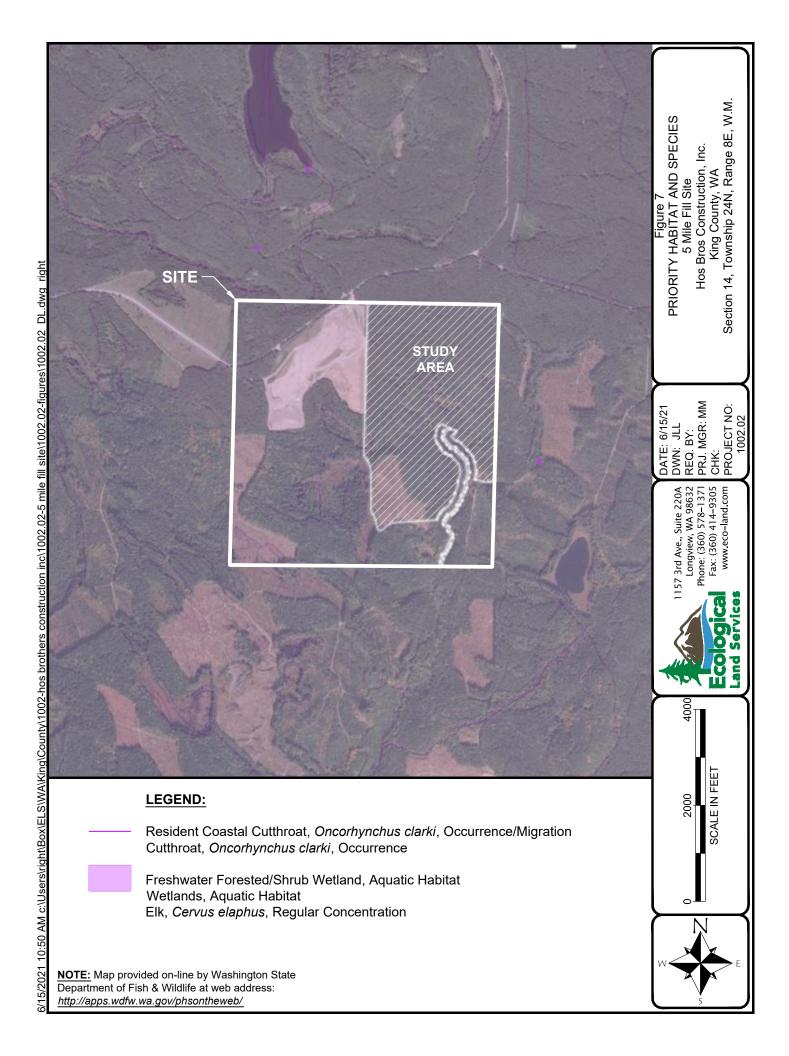


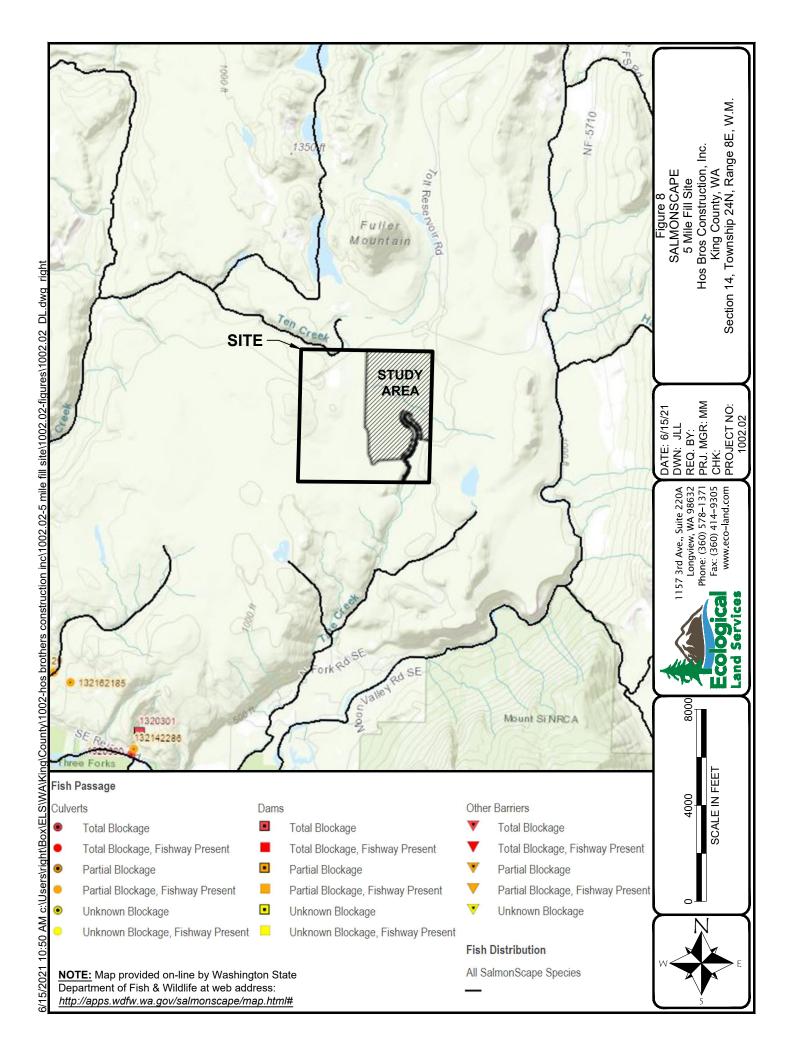


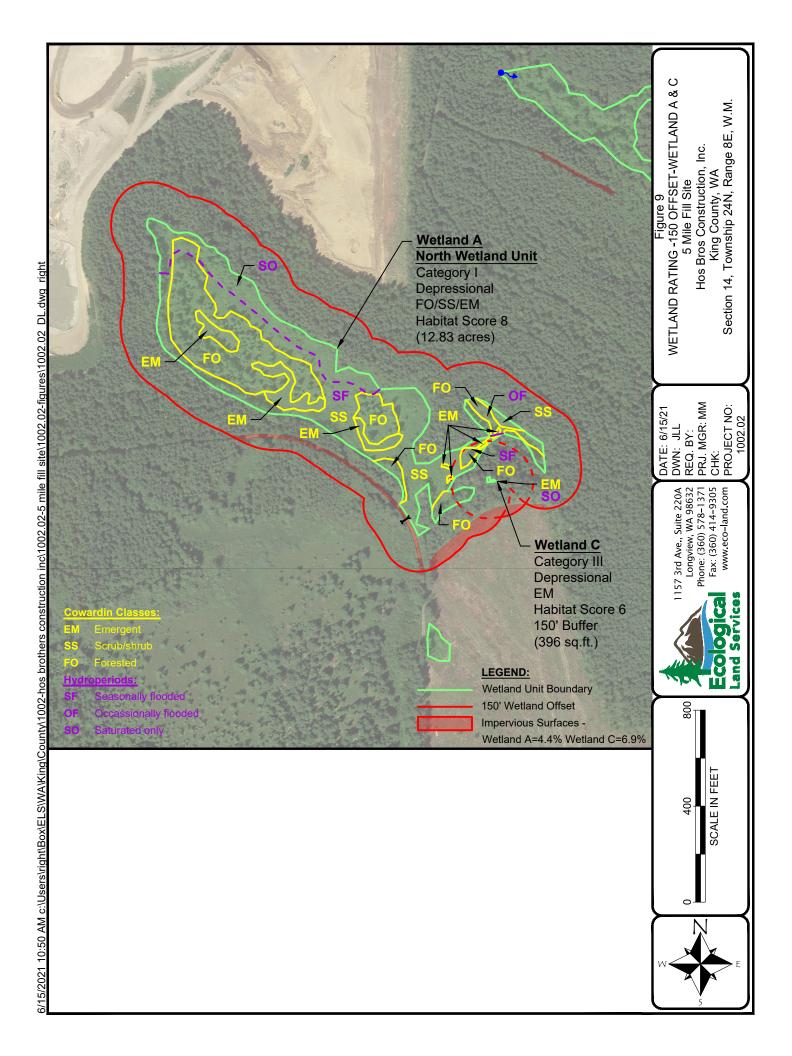


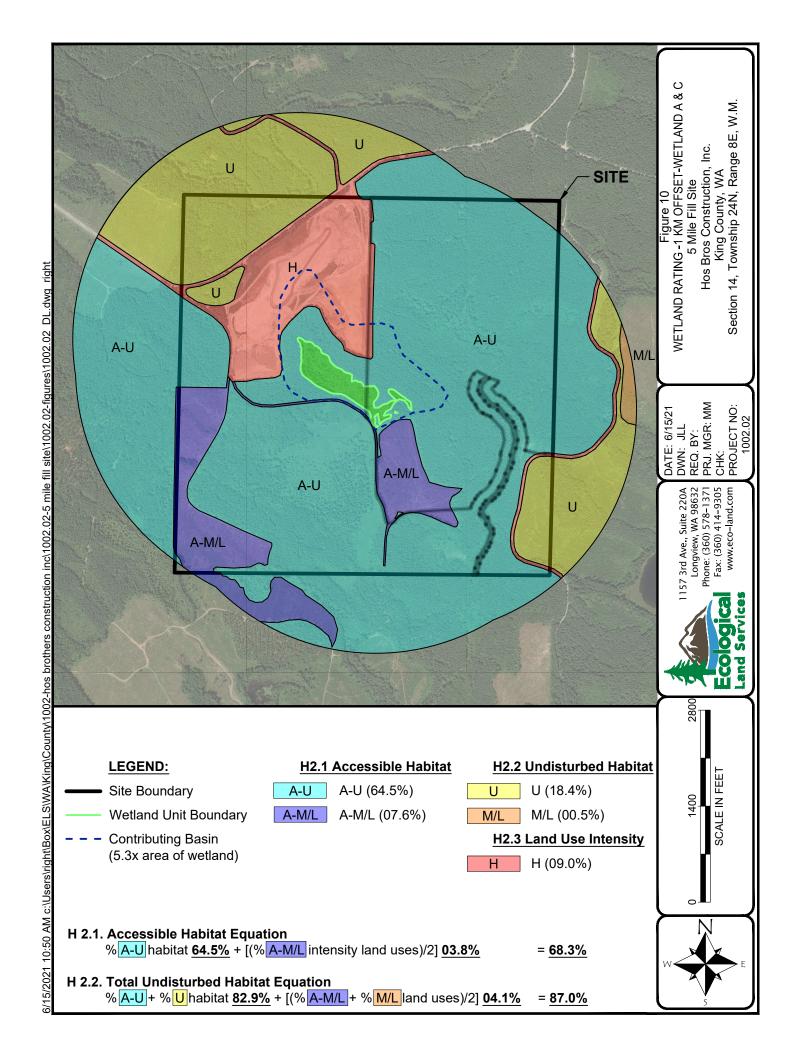


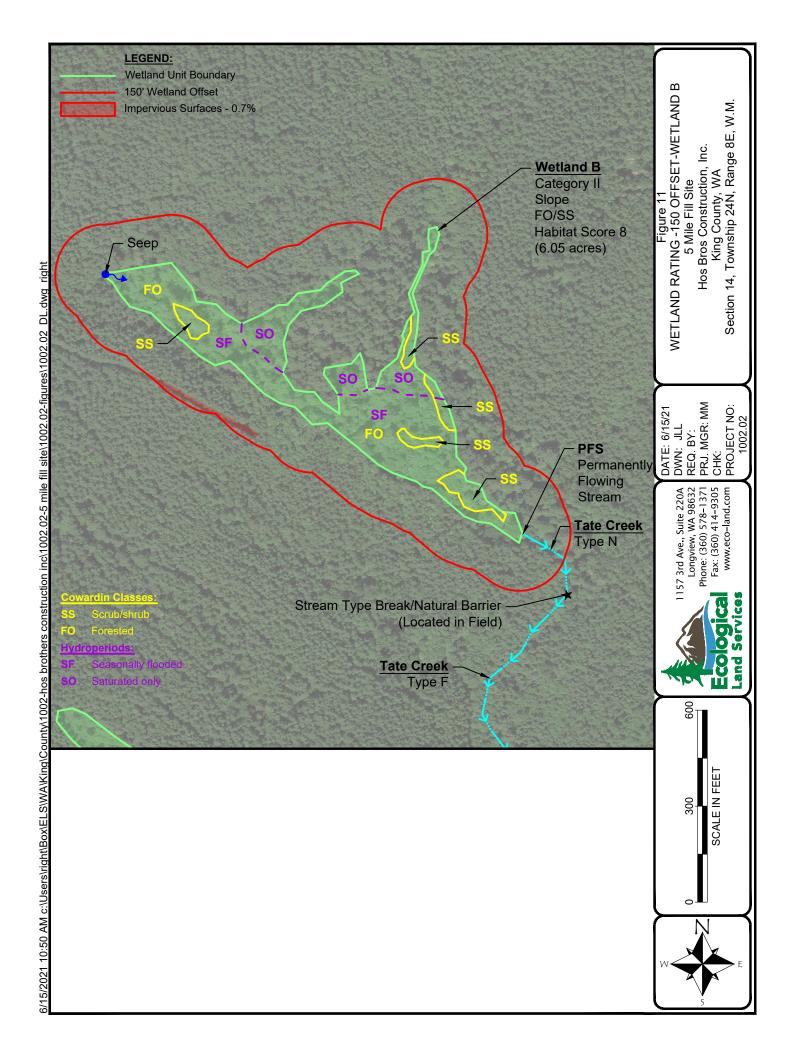


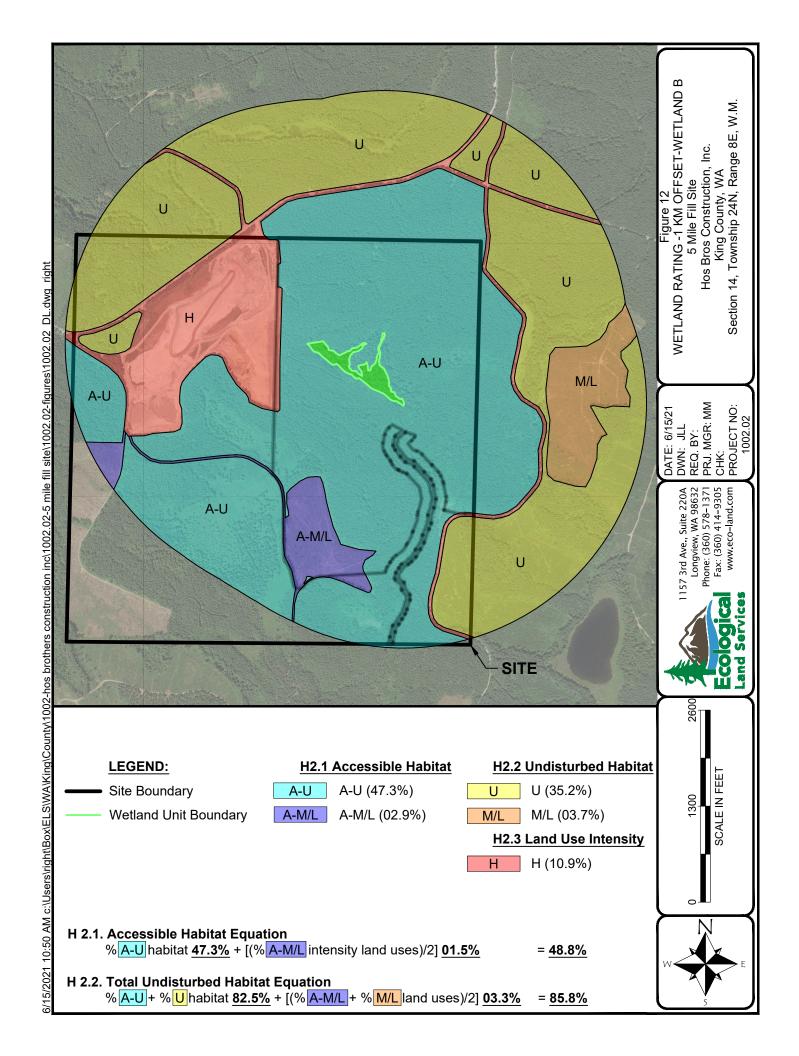


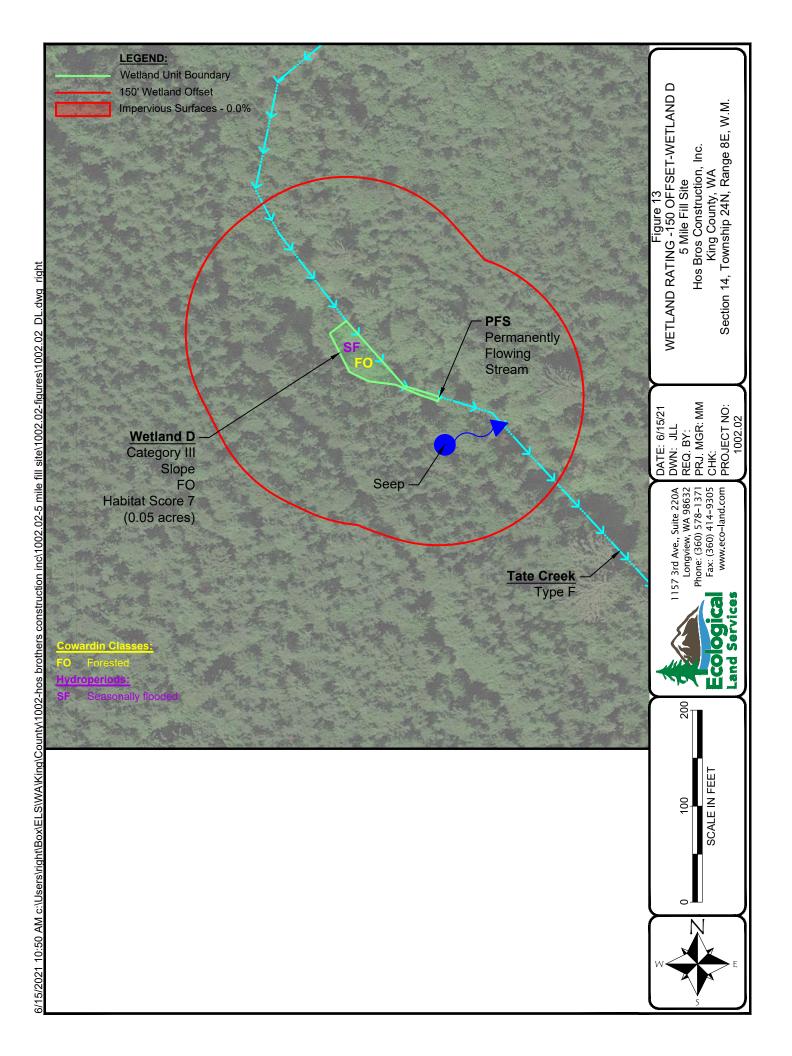


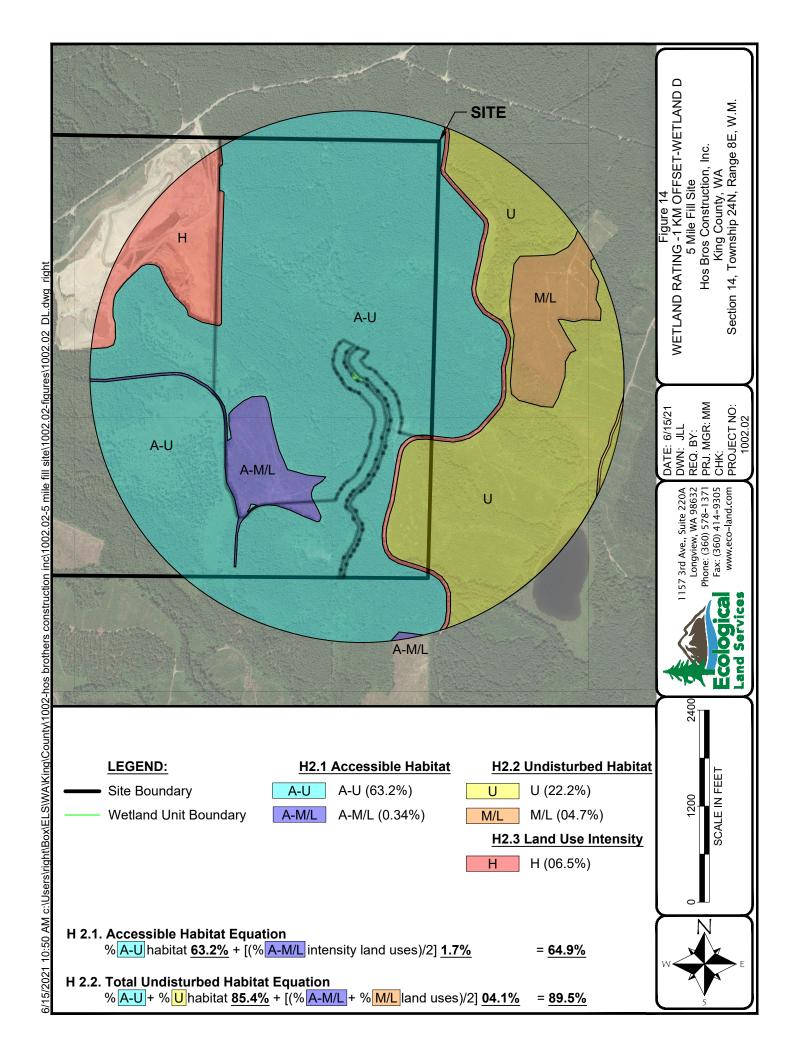


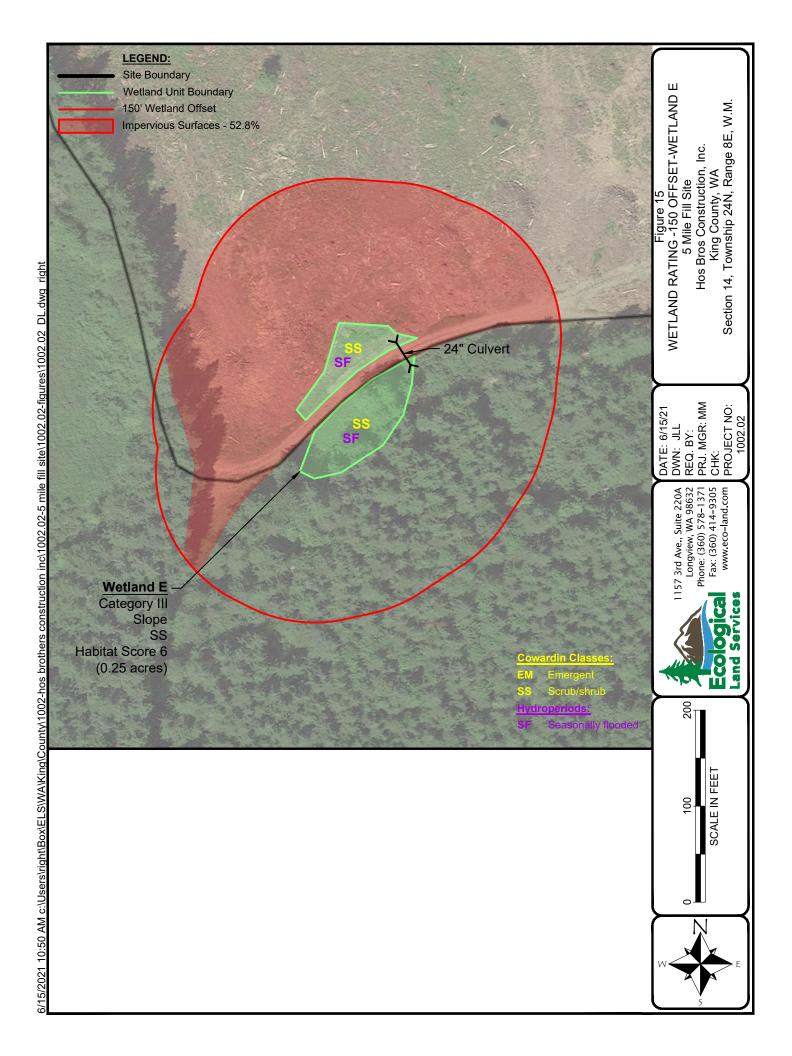


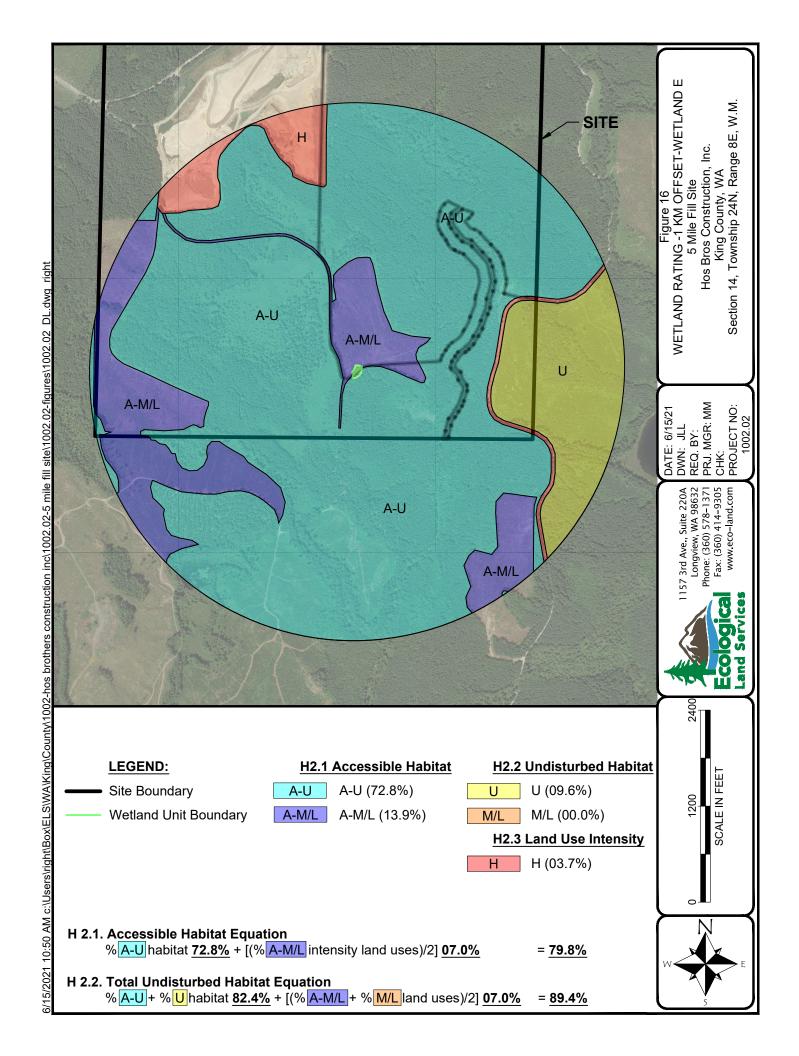


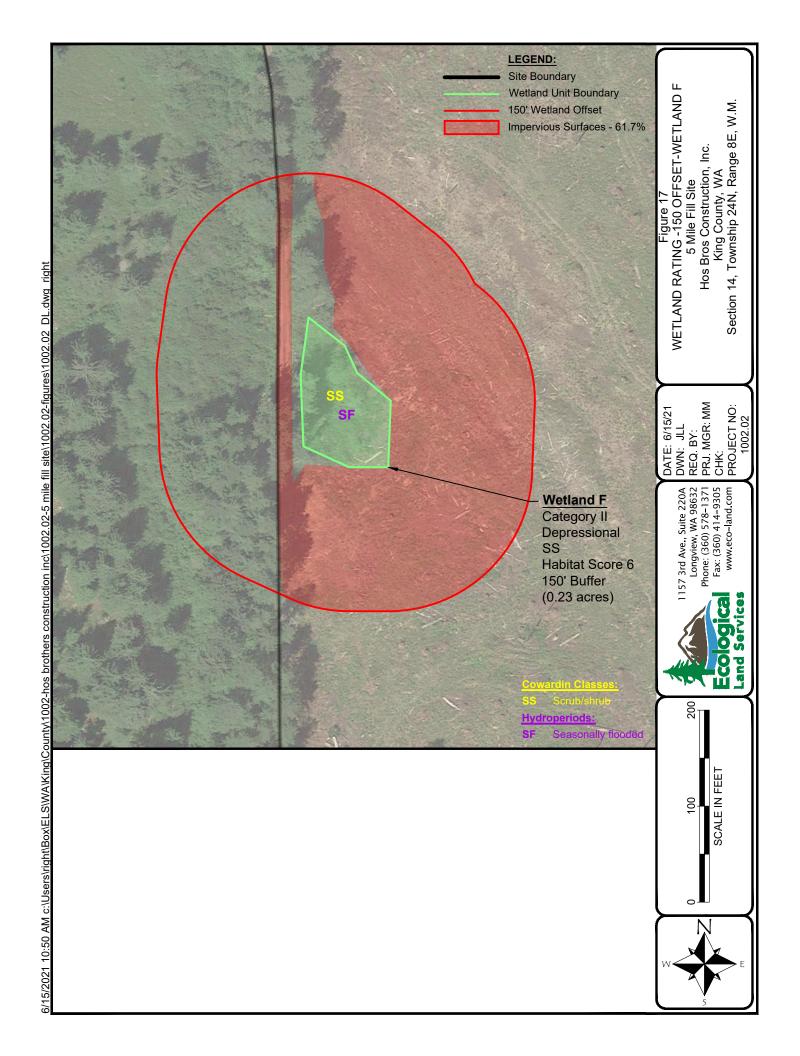


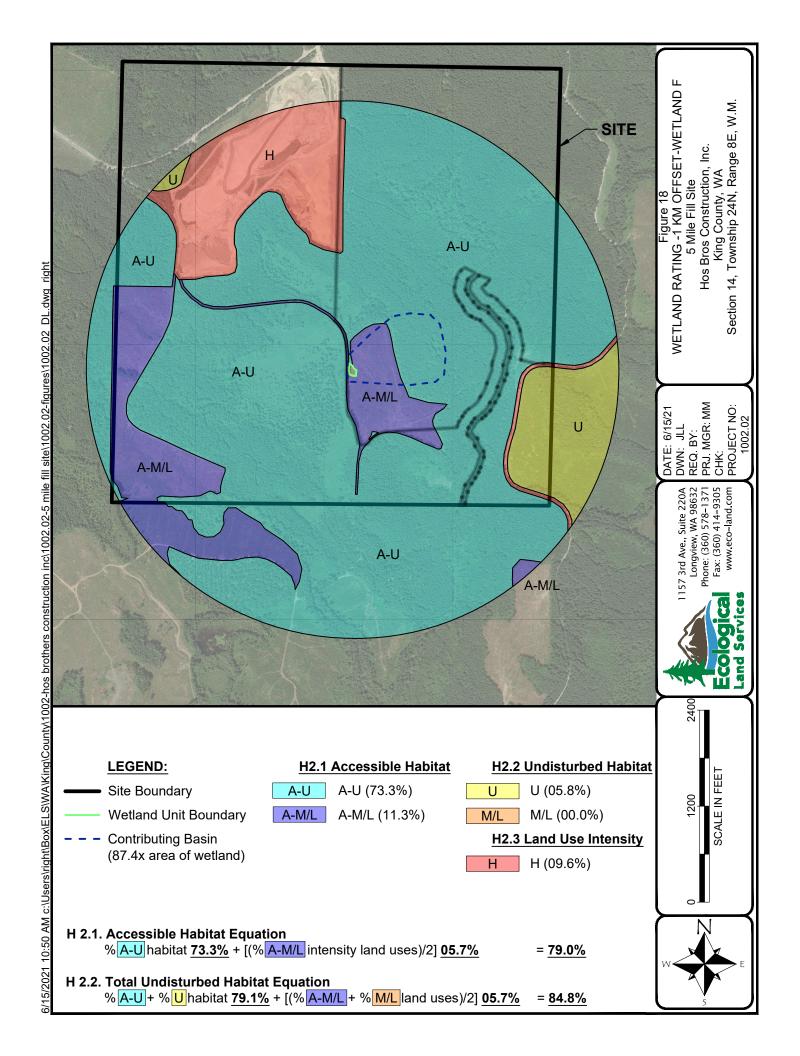














Water Quality Atlas Map - 303(d)

Orange - Category 4A waters Yellow - Category 2 waters Green - Category 1 waters





Water Quality Atlas Map - TDMLs

Purple - approved Yellow - in development



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DATE: 5/19/20 DWN: MKM PRJ. MGR: MKM PROJ #: 1002.02 Figure 19 WETLAND RATING-303(d) LISTED WATERS & TMDLs 5 Mìle Fill Site Hos Bros Construction, Inc. King County, Washington Section 14, Township 24N, Range 8E, W.M.



Above: **Photo 1.** View southwest from northeast boundary of Wetland A showing wetland inundation. *Below*: **Photo 2.** View northeast from northeast boundary of Wetland A showing upland buffer.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
Section 14, Township 24N, Range 8E, W.M.



Above: Photo 3. View northwest from north boundary of Wetland A showing a wetland/upland interface.

Below: **Photo 4.** View northwest from southeast boundary of Wetland A showing area dominated by bog plants.



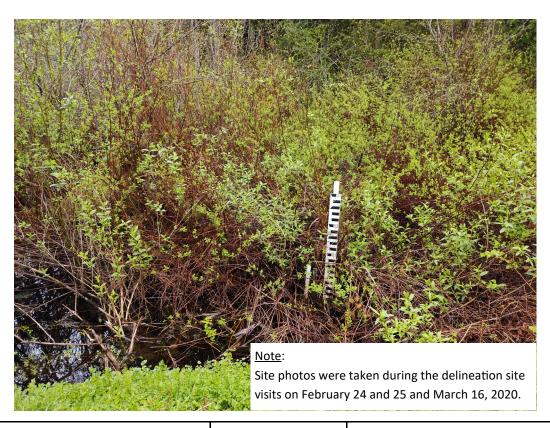


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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
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Above: Photo 5. View east from southeast boundary of Wetland A showing upland forested buffer.

Below: Photo 6. View east from south boundary of Wetland A showing a wetland monitoring gage.





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Photoplate 3
SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
Section 14, Township 24N, Range 8E, W.M.



Above: Photo 7. View northeast from north boundary of Wetland A showing interior of wetland.

Below: Photo 8. View southwest from north boundary of Wetland A showing wetland/upland interface.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
Section 14, Township 24N, Range 8E, W.M.



Above: Photo 9. View northwest from southeast boundary of Wetland C.

Below: Photo 10. View northwest from southeast boundary of Wetland C. Typical forested upland conditions are on outside of wetland. Wetland A is visible in the background.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
Section 14, Township 24N, Range 8E, W.M.



Above: Photo 11. View north from northern lobe of Wetland B showing scrub-shrub vegetation.

Below: Photo 12. View west from northern lobe of Wetland B showing forested upland buffer.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
Section 14, Township 24N, Range 8E, W.M.



Above: Photo 13. Closeup of wetland test plot B5 soils.

Below: Photo 14. Closeup of upland test plot B8 soils.



Site photos were taken during the delineation site visits on February 24 and 25 and March 16, 2020.



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SITE PHOTOS
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Above: Photo 15. View southwest showing Wetland B in the vicinity to TP-B9.

Below: Photo 16. View north from northern boundary of Wetland B showing forested upland buffer.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
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Above: Photo 17. Closeup view of wetland test plot B9 soils.

Below: Photo 18. View north showing scrub-shrub vegetation from southern boundary of Wetland B.



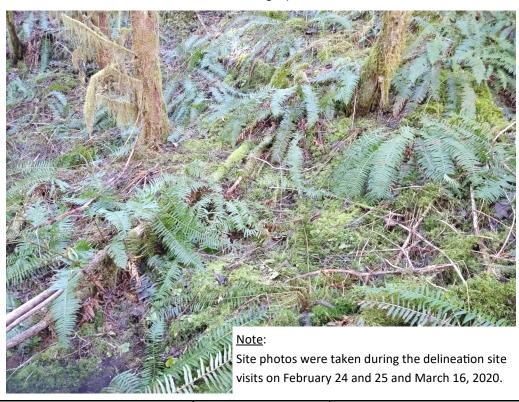


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SITE PHOTOS
5 Mile Fill Site
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Above: Photo 19. View east showing Wetland D.

Below: Photo 20. View west showing upland buffer west of Wetland D.





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SITE PHOTOS
5 Mile Fill Site
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King County, Washington
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Above: **Photo 21.** View southwest showing Wetland E north of road.

Below: **Photo 22.** View southwest showing existing road and Wetland E that is located on both sides of road.





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SITE PHOTOS
5 Mile Fill Site
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Section 14, Township 24N, Range 8E, W.M.



Above: Photo 23. View north showing Wetland F.

Below: Photo 24. View east showing logged buffer east of Wetland F.





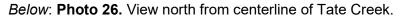
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Photoplate 12
SITE PHOTOS
5 Mile Fill Site
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Above: Photo 25. View east from the west side of Tate Creek.







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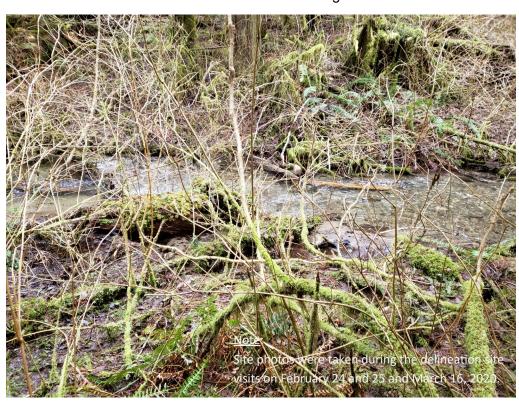
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Photoplate 13
SITE PHOTOS
5 Mile Fill Site
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Above: Photo 27. View north from centerline of Tate Creek.

Below: Photo 28. View east showing Tate Creek.





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SITE PHOTOS
5 Mile Fill Site
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Above: Photo 29. View of fish break sign.

Below: Photo 30. View of dry channel upstream of fish sign in June 2021.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
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Above: Photo 31. View upstream of fish sign showing dry channel in April 2021.

Below: Photo 32. View downstream of fish sign showing flow in channel, June 2021.





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SITE PHOTOS
5 Mile Fill Site
Hos Bros Construction, Inc.
King County, Washington
Section 14, Township 24N, Range 8E, W.M.

Appendix A | Wetland Determination Data Forms

Plant Indicators

The indicator status, which follows the common and scientific names on the data forms, indicates how likely a species is to be found in wetlands. Listed from most likely to least likely to be found in wetlands, the indicator status categories are:

- OBL (obligate wetland) occur almost always (estimated probability >99%) under natural conditions in wetlands.
- **FACW** (facultative wetland) usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
- **FAC** (facultative) equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
- **FACU** (facultative upland) usually occur in non-wetlands (estimated probability 67%-99%), but occasionally found in wetlands (estimated probability 1%-33%).
- **UPL** (obligate upland) occur almost always (estimated probability >99%) under natural conditions in non-wetlands.
- NI (no indicator) insufficient data to assign to an indicator category.

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

WEILAND DETERMINATION	I DATA FO	Kivi – vveste	i ii wouii	tailis, valleys allu coas	Region	
Project/Site: 5 Mile Fill Site	City/Cou	ınty: King	Sam	ampling Date: 2/25/2020		
Applicant/Owner: Hos Bros Construction		State: V		oling Point: TP-A1		
Investigator(s): McGrath, Mara and Johnson, Beau		Section	n, Townshi	p, Range: S14, T24N, R8E		
Landform (hillslope, terrace, etc.): Depression	_ Local relief: (c 46378		onvex, none): Concave	Slope (%):0	-1%	
Subregion (LRR): LRR A, MLRA2			atum: NAD83			
Soil Map Unit Name: (231) Seattle muck, 0 to 1 perce Are climatic / hydrologic conditions on the site typical f	Na 🗆 (I	NWI classification: Freshwate	r Forested/Shrub Wetla	and		
Are Vegetation □, Soil □, or Hydrology □ significant				r no, expiain Remarks. <i>)</i> Circumstances" present? Yes[√ No□	
Are Vegetation, Soil, or Hydrology significant				any answers in Remarks.)	A 140	
SUMMARY OF FINDINGS – Attach site map		,		• ,	nt features, etc	
Hydrophytic Vegetation Present? Yes ⊠ No [11 10010100, 0101	
Hydric Soils Present? Yes ⊠ No [Is the San				
Wetland Hydrology Present? Yes ⊠ No [_	within a V	Vetland?	Yes⊠ No⊡		
Remarks: This test plot lies west of Wetland A's northe				t consisted of tree, shrub, and	herbaceous species.	This
test plot met all wetland indicators; therefore, TP-A1 w	as considere	d to be within a	wetland.			
VEGETATION – Use scientific names of pla	ints.					
	Absolute	Dominant	Indicator	Dominance Test Workshe	et .	
Tree Stratum (Plot size:15 ft radius)	% Cover	Species?	Status	Dominance rest workshe	Gi	
1.	%			Number of Dominant Specie	es 4	(A)
2. Tsuga heterophylla	15%	yes	FACU	That Are OBL, FACW, or FA		. (7.1)
3. Picea sitchensis	5%	yes	FAC	1		
4.	%			Total Number of Dominant	7	(B)
$50\% = \underline{10} \ 20\% = \underline{4}$	20%	=Total Cover		Species Across All Strata:		
				Percent of Dominant Specie	es.	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FA		(A/B)
1	%			Prevalence Index workshe		` '
2. Malus fusca	35%	yes	FACW	Total % Cover of:	Multiply by:	
3. Thuja plicata	10%	yes	FAC		<u>1</u> x 1= <u>1</u>	
4.	%	<u> </u>			$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	
5.	% 4F0/	Total Cayer		FAC species	$ \begin{array}{ccccccccccccccccccccccccccccccccc$	
50% = <u>23</u> 20% = <u>9</u> <u>Herb Stratum</u> (Plot size: <u>5</u> ft radius)	45%	=Total Cover		FACU species UPL species	$\frac{3}{0}$ $x 4 = \frac{12}{0}$ $x 5 = 0$	
1. Carex obnupta	5%	yes	OBL		7 (A) 23	(B)
2. Vaccinium parvifolium	5%	yes	FACU	-	dex = B/A=3.29	(3)
3. Polystichum munitum	5%	yes	FACU	Hydrophytic Vegetation Ir		
4.	%			☐ 1 – Rapid Test for Hy		
5.	%					
6	%			3 - Prevalence Index i		
7	%	<u> </u>		4 - Morphological Ada		
8	%	<u> </u>		supporting data in Re sheet)	marks or on a separate	9
9.	<u>%</u> %			5 - Wetland Non-Vaso	oular Planta1	
11.		·		5 - Welland Non-Vasc	ulai Flants	
50% = 8 20% = 3	15%	=Total Cover		☐ Problematic Hydrophy	tic Vegetation1 (Explai	n)
Woody Vine Stratum (Plot size: 15 ft radius)	,				tio regetation (=np.a.	,
1.	%			¹ Indicators of hydric soil and	d wetland hydrology	
2.	%			must be present, unless dis	turbed or problematic.	
50% = 20% =	%	=Total Cover				
		-		Hydrophytic		
				Vegetation Present?	Yes⊠ No[- I
% Bare Ground in Herb Stratum 60%				Present?	res No	_
Remarks:The hydrophytic vegetation criterion was m	et because o	ver 50% of dom	inant spec	ies had FAC, FACW, or OBL i	ndicator statuses.	
, , , , , , , , , , , , , , , , , , ,				, ,		

SOIL								Sampling Point: TP-A1
	escription: (Desc	ribe to the dept	h needed to doc	ument the ind	licator or confir	m the a	absence of indicators.)	
Depth	Matrix		O-1 (i-t)	Redox Feat		12	Tautuma	Damada
(inches) 0-16	Color (moist) 10YR 2/1	<u>%</u> 100%	Color (moist)		Type ¹	Loc ²	Texture mucky sandy loam	Remarks
0 10	1011(2/1	%					muoky sandy loam	·
	_	%		%				-
		%		%				
		<u></u> %		%_				· -
		<u></u> %						
		%		<u>%</u> %				
1Turner C	Concentration [A Dadwood Motrix		or Coatad Cana	d Craina	2Location: PL=Por	o Lining M. Motriy
	C=Concentration, [oil Indicators: (Ap					Giairis	Indicators for Problema	
Histosa			☐ Sandy Red		•,	[2 cm Muck (A10)	do riyario dona
	Epipedon (A2)		☐ Stripped M				Red Parent Material (TF	F2)
☐ Black H					1) (except MLR		☐ Very Shallow Dark Surf	
☐ Hydrog	gen Sulfide (A4)		-	yed Matrix (F2			☐ Other (Explain in Rema	
☐ Deplet	ed Below Dark Su	rface (A11)	☐ Depleted N	Natrix (F3)				
☐ Thick [Dark Surface (A12)	☐ Redox Dar	k Surface (F6)		3	Indicators of hydrophytic v	egetation and
☐ Sandy	Mucky Minerals (S	S1)	□ Depleted □	Oark Surface (F	7)		Wetland hydrology mus	
☐ Sandy	Gleyed Matrix (S4	1)	☐ Redox Dep	pressions (F8)			unless disturbed or prol	blematic
Restrictiv	e Layer (if prese	nt):				1		.
		,						
Type:	 .							
Depth (inc							ric Soil Present?	Yes⊠ No⊡
							the site visit and meets Lo	amy Mucky Material (F1)
because a	l layer of mucky m	lodified loamy so	oli materiai 4 inch	es or more thic	k within 6 inches	s or the	soil surface was present.	
HYDROL	OGY							
Wetland I	Hydrology Indica	tors:						
Primary In	dicators (min. of c	one required; che	eck all that apply)				Secondary Indica	tors (2 or more required)
-	·			/D:	0) (
	e Water (A1)				9) (except MLR	A 1, 2, 4		I Leaves (B9) (MLRA 1, 2,
_	/ater Table (A2)		and 4E	,			4A, and 4E	•
☐ Satura			☐ Salt Crust		2)		☐ Drainage Patte	
	Marks (B1)		-	ertebrates (B1			☐ Dry-Season W	ible on Aerial Imagery (C9)
	ent Deposits (B2)			Sulfide Odor (C		c (C2)		• • • •
	eposits (B3)			•	long Living Root	s (C3)	☐ Geomorphic P	
_	Mat or crust (B4)			of Reduced Iron	Tilled Soils (C6)		☐ Shallow Aquita	
	eposits (B5) e Soil Cracks (B6)				, ,		☐ FAC Neutral T	
	, ,				ts (D1) (LRR A)		☐ Raised Ant Mid	ounds (D6) (LRR A)
	tion Visible on Ae			lain in Remark	5)		☐ F10St-neave F	iummocks (D7)
-	ly Vegetated Con	cave Surface (B	8)			1		
	ervations: /ater Present?	Yes 🗌	No ⊠ D	epth (Inches):				
	ole Present?	Yes ⊠		epth (Inches):	6 inch has	Wetla	and Hydrology Present?	
Saturation		Yes 🗌		epth (Inches):	o mon bgs	11000	and riyarology r resent.	Yes ⊠ No 🗌
	Capillary fringe)							
	Recorded Data (S	tream gauge, m	onitoring well, aer	ial photos, prev	vious inspections	s), if ava	ailable:	
				-	-			
Remarks:	High Water Table	(A2) was observ	ed within the test	plot during the	e site visit.			

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

W212/W3 3212/WW////				tains, valicys and	•	
Project/Site: 5 Mile Fill Site		City/Cou	unty: King		Sampling Date: 2/25/2020	
Applicant/Owner: Hos Bros Construction		0	State: \		Sampling Point: TP-A2	
Investigator(s): McGrath, Mara and Johnson, Beau				ip, Range: S14, T24N,		
Landform (hillslope, terrace, etc.): hillslope Subregion (LRR): LRR A, MLRA2	Lat: 47.564			onvex, none): Convex 21.7467244	Slope (%):0-8% Datum: NAD83	
Subregion (LRR): <u>LRR A, MLRA2</u> Soil Map Unit Name: <u>(10) Barneston gravelly ashy c</u>	Lal47.504	am 0 to 8% slo	_LUIIY. <u>- 12</u>	NWI classification: Non		
Are climatic / hydrologic conditions on the site typical	for this time of	f vear? Yes 🕅	No□ (I			
Are Vegetation□, Soil□, or Hydrology□ significar				Circumstances" present		
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally				any answers in Remar		
SUMMARY OF FINDINGS – Attach site ma	•	•			· ·	
					P	
	\boxtimes	Is the Sar within a V	npled Are		No⊠	
Wetland Hydrology Present? Yes ☐ No				_	_	
Remarks: This test plot lies east of the boundary of V			nis plot con	sisted of tree and shrub	b species. This test plot did not me	
wetland indicators; therefore, TP-A2 was considered	to be within up	olands.				
VECETATION Lies esigntific names of pl	onto					
VEGETATION – Use scientific names of pl		D	L. P. d.	T Daniel Track	Coul all and	
Tree Charters (Diet sine 45 ft and live)	Absolute	Dominant	Indicator	Dominance Test We	orksheet	
Tree Stratum (Plot size:15 ft radius)	% Cover	Species?	Status	Number of Dominant	t Species a (A)	
1. Pseudotsuga menziesii	65%	yes	FACU FACU	That Are OBL, FACV		
2. Tsuga heterophylla	40%	yes		- Inat Aic OBE, I AOV	v, or 170.	
3. <u>Picea sitchensis</u> 4.	<u>5%</u> %	no	FAC	Total Number of Don	minant 3 (B)	
50% = <u>55</u> 20% = <u>22</u>	110%	=Total Cover		Species Across All S	3 (D)	
30% = 35/20% = 22/2	11076	= rotal Cover				
				Percent of Dominant		
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACV		
Gaultheria shallon	5%	yes	FACU	Prevalence Index w		
2.	%			Total % Cover		
3.	%			OBL species	x 1=	
4.	%	·		FACW species	x 2=	
5. 50% = 3 20% = 1	<u>%</u> %	=Total Cover		FAC species FACU species	x 3= x 4=	
Herb Stratum (Plot size: 5 ft radius)		= rotal Cover		UPL species	x 4= x 5=	
1.	%			Column Totals:	(A) (I	
2.		·			nce Index = B/A=	
3.		·		Hydrophytic Vegeta		
4		· ———			t for Hydrophytic Vegetation	
5.	- // %			2 – Dominance		
6.	%	· 		☐ 3 - Prevalence		
7.	%				cal Adaptations ¹ (Provide	
8.	%				a in Remarks or on a separate	
9.	%			sheet)		
10.	%			5 - Wetland No	on-Vascular Plants¹	
11.	%					
$50\% = 3 \ 20\% = 1$	5%	=Total Cover		☐ Problematic Hy	ydrophytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size: 15 ft radius)						
1	%				soil and wetland hydrology	
2	%			must be present, unle	less disturbed or problematic.	
50% = 20% =	%	=Total Cover		l localmanalacetia		
		-		Hydrophytic		
				Vegetation Present?	Yes□ No⊠	
% Bare Ground in Herb Stratum 65%				riescht:	Tes No	
Remarks:The hydrophytic vegetation criterion was r	not met becaus	se less than 50%	% of domin	ant species had FAC. F	FACW, or OBL indicator statuses.	
Moss and leaf litter occupied 35% of the ground surfa			or domin	spooloo ilaa i 710, i	, or obe majorior diatabos.	

SOIL Sampling Point: TP-A2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 100% % See Remarks Below Duff +4 % 0-16 7.5YR 3/4 100% Sandy Loam % % % % % % % % % % % % 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 ☐ Histosal (A1) ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): Yes□ No⊠ **Hydric Soil Present?** Remarks: Test plot contained a 4 inch layer of duff over mineral layer. No indicators of hydric soil were observed in the test plot during the site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2, ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Saturation (A3) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aguitard (D3) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No 🖂 Depth (Inches): Water Table Present? No 🖂 Depth (Inches): Wetland Hydrology Present? Yes □ Saturation Present? Yes □ No 🖂 Depth (Inches): Yes ☐ No ☒ (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No indicators of hydrology were observed in the test plot during the site visit.

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

WEILAND DETERMINATIO	NDATAFO	KIVI – VVESIE	i ii wouii	tairis, valleys allu v	JUASI NE	gion	
Project/Site: 5 Mile Fill Site	City/Cou	City/County: King			Sampling Date: 2/25/2020		
Applicant/Owner: Hos Bros Construction			State: \		Sampling Point: TP-A3		
Investigator(s): McGrath, Mara and Johnson, Beau				p, Range: S14, T24N,	R8E	01 (01)	
Landform (hillslope, terrace, etc.): Depression	1 -4: 47.50			onvex, none): Concave	Datum	Slope (%): <u>0-</u>	1%
Subregion (LRR): LRR A, MLRA2 Soil Map Unit Name: (231) Seattle muck, 0 to 1 perc	Lat: 47.564			1.7472245 NWI classification: Fres		: NAD83	nd
Soil Map Unit Name: (231) Seattle muck, 0 to 1 perc Are climatic / hydrologic conditions on the site typical	for this time of	voar2 Vos⊠	No (f no explain Pemarks)	nwater Fore	ested/Shrub vvettal	na
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significan				Circumstances" present		Jo[
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally				any answers in Remark			
SUMMARY OF FINDINGS – Attach site ma		,		•	•	atures, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No							
Hydric Soils Present? Yes ⊠ No			npled Are		. —		
Wetland Hydrology Present? Yes ⊠ No		within a V	Vetland?	Yes⊠ N	No□		
Remarks: This test plot lies in the north portion of We			tation in th	is plot consisted of shru	b species.	This test plot met a	dl
wetland indicators; therefore, TP-A3 was considered	to be within a	wetland.					
VECETATION . Her estantific names of m							-
VEGETATION – Use scientific names of pl				-			
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet		
<u>Tree Stratum</u> (Plot size: 15 ft radius)	% Cover	Species?	Status	N all a Co	0		
1.	%			Number of Dominant That Are OBL, FACW		2	(A)
2.	<u>%</u>			That Ale Obl., FACM	, or FAC.		
3. 4.	<u> </u>			Total Number of Dom	inant	2	(D)
50% = 20% =	- <u>//</u> %	=Total Cover		Species Across All St	rata:		(B)
30 70 = 20 70 =		- Total Cover					
				Percent of Dominant			(. (.)
Sapling/Shrub Stratum (Plot size: 15 ft. radius)	FF0/		EA (C) A (That Are OBL, FACW		<u>100</u>	(A/B)
Malus fusca Spiraea douglasii	55% 35%	yes	FACW FACW	Prevalence Index we		Multiply by	
3.	35% %	yes	FACVV	Total % Cover OBL species	JI.	Multiply by: x 1=	_
4.	- / %	· 		FACW species		x 2=	-
5.	<u> </u>	·		FAC species		x 3=	-
50% = <u>45</u> 20% = <u>18</u>	90%	=Total Cover		FACU species			-
Herb Stratum (Plot size: 5 ft radius)	•	•		UPL species		x 4= x 5=	_
1	%			Column Totals:		(A)	(B)
2	%				ce Index = I		
3	%			Hydrophytic Vegeta			
4	%			☐ 1 – Rapid Test			
5. 6.	<u>%</u> %			☐ 2 – Dominance☐ 3 - Prevalence			
_	- // %	·		4 - Morphologic			
7. 8.	- // %	· ——				s or on a separate	
9.	%			sheet)		,	
10.	%			5 - Wetland No	n-Vascular	Plants ¹	
11.	%						
50% = 20% =	%	=Total Cover		☐ Problematic Hy	drophytic V	egetation1 (Explain	1)
Woody Vine Stratum (Plot size: 15 ft radius)				4			
1.				¹Indicators of hydric s			
2	<u>%</u>	=Total Cover		must be present, unle	ss disturbe	d or problematic.	
50% = 20% =	76	= rotal Cover		Hydrophytic			
				Vegetation			
				Present?		Yes⊠ No□]
% Bare Ground in Herb Stratum 10%							
Remarks:The hydrophytic vegetation criterion was r	net because 10	00% of dominar	nt species	had FACW indicator sta	tuses. Mos	ses, Polystichum	
munitum (FACU), and Gaultheria shallon (FACU) we							

SOIL Sampling Point: TP-A3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 10YR 2/2 100% % 8-0 Mucky loam 10YR 2/1 % 8-16 100% Muck % % % % % % % % % % % % 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 ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) M Histosal (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Yes⊠ No□ Remarks: Organic soil material to a depth of at least 16 inches was observed in the test plot during the site visit and meets Histosol (A1) or Histic Epipdeon (A2) because 16 inches or more of the upper 32 inches is organic soil material. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ⊠ Water-Stained Leaves (B9) (MLRA 1, 2, Surface Water (A1) ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Salt Crust (B11) ☐ Saturation (A3) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Surface Soil Cracks (B6) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes 🖂 № П Depth (Inches): 12 No 🖂 Water Table Present? Yes Depth (Inches): Wetland Hydrology Present? Yes No 🖂 Yes ⊠ No □ Saturation Present? Depth (Inches): (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The primary hydrology indicators Surface Water (A1) and Hydrogen Sulfide Odor (C1) were observed in the test plot during the site visit.

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

				italiis, valicys and	•
Project/Site: 5 Mile Fill Site	City/Cou	unty: King	A/A	Sampling Date: <u>2/25/2020</u>	
Applicant/Owner: Hos Bros Construction		Coatio	State: \		Sampling Point: TP-A4
Investigator(s): McGrath, Mara and Johnson, Beau Landform (hillslope, terrace, etc.): Hillslope				ip, Range: S14, T24N, onvex, none): Convex	Slope (%):0-8%
Subregion (LRR): LRR A, MLRA2	Lat: 47.56			21.7472337	Slope (%).0-6% Datum: NAD83
Soil Map Unit Name: (10)Barneston gravelly ashy co	arse sandy los	am 0 to 8% slo	_LUIIY <u>-12</u> nes	NWI classification: Non-	
Are climatic / hydrologic conditions on the site typical	for this time of	vear? Yes	No□ (I		
Are Vegetation□, Soil□, or Hydrology□ significar				Circumstances" present	
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally				any answers in Remar	
SUMMARY OF FINDINGS – Attach site ma	•	`		•	
					90.14.11.104.41.00, 0.01
Hydric Soils Present? Yes ☐ No	\boxtimes	Is the Sar within a V	npled Are		No⊠
Wetland Hydrology Present? Yes ☐ No					
Remarks: This test plot lies north of Wetland A. The		is plot consiste	d of tree a	nd herbaceous species.	. This test plot did not meet wetland
indicators; therefore, TP-A4 was considered to be wi	thin uplands.				
VEGETATION – Use scientific names of pl	ants.				
	Absolute	Dominant	Indicator	Dominance Test Wo	orksheet
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status		
1	%			Number of Dominant	
2. Pseudotsuga menziesii	50%	yes	FACU	That Are OBL, FACW	√, or FAC:
3	%			Total Number of Dom	ain ant
4	%			Total Number of Dom Species Across All St	3 (D)
$50\% = 25 \ 20\% = 10$	50%	=Total Cover		Opecies Across Air O	irata.
				Percent of Dominant	Species
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW	
1. Acer circinatum	60%	yes	FAC	Prevalence Index w	
2.	%			Total % Cover	of: Multiply by:
3.	%			OBL species	x 1=
4.	%			FACW species	x 2=
5.	%			FAC species	x 3= x 4=
$50\% = 30 \ 20\% = 12$	60%	=Total Cover		FACU species	x 4=
Herb Stratum (Plot size: 5 ft radius)				UPL species	x 5=
Polystichum munitum	10%	yes	<u>FACU</u>	Column Totals:	(A) (B)
2	%				ice Index = B/A=
3	%			Hydrophytic Vegeta	
4	%			-	for Hydrophytic Vegetation
5	%			2 – Dominance	
6.	%			3 - Prevalence	
7	%	·			cal Adaptations ¹ (Provide
8. 9.	<u>%</u>	· 		sheet)	a in Remarks or on a separate
9. 10.	_ <u>%</u> %	· 		- '	n-Vascular Plants¹
11.	- / 6 %	· 			TI-Vasculai Flatits
50% = 5 20% = 2	10%	=Total Cover		☐ Problematic Hy	vdrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)	1070	-10101 00101		rroblematio my	diophytic vogetation (Explain)
1	%			¹ Indicators of hydric s	soil and wetland hydrology
2.	%				ess disturbed or problematic.
50% = 20% =	%	=Total Cover			·
30 /6 = 20 /6 =	-	:		Hydrophytic	
				Vegetation	
0/ Dana Crawa dia Hark Obrahwa 00/				Present?	Yes⊡ No⊠
% Bare Ground in Herb Stratum 0%				<u> </u>	
Remarks:The hydrophytic vegetation criterion was r			of domina	nt species had FAC, FA	ACW, or OBL indicator statuses.
Moss and leaf litter occupied 95% of the ground surfa	ace within this	test plot.			

SOIL								Sampling Point: TP-A4
Profile D	escription: (Desc	ribe to the depth	needed to d	ocument the indicator or cor	nfirm the	absence	e of indicators.)	
Depth	Matrix			Redox Features		_		
(inches)	Color (moist)		Color (moist)	% Type ¹	Loc ²		Texture	Remarks
+2		100%		<u>%</u>			Duff	See Remarks Below
0-16	10YR 3/4	50%					Bravelly Loam	
	10YR 3/6	<u>50%</u>		<u>%</u>			Gravelly Loam	
		<u> </u>						
	-							
		<u> </u>		<u> </u>				
		%		<u> </u>				
				trix, CS=Covered or Coated Sa	and Grain		Location: PL=Pore	
-		oplicable to all LR		otherwise noted.)			ors for Problemat	ic Hydric Soils
Histos			☐ Sandy R				Muck (A10)	
	Epipedon (A2)		Stripped				Parent Material (TF	
	Histic (A3)		-	/lucky Mineral (F1) (except ML	-RA 1)	-	Shallow Dark Surfa	
-	gen Sulfide (A4)		-	Gleyed Matrix (F2)		☐ Othe	r (Explain in Rema	rks)
	ted Below Dark Su		•	d Matrix (F3)				
	Dark Surface (A12	•		ark Surface (F6)			ors of hydrophytic v	
☐ Sandy	Mucky Minerals (S1)	□ Depleted	d Dark Surface (F7)			and hydrology mus	
☐ Sandy	Gleyed Matrix (S4	1)	☐ Redox D	epressions (F8)		unles	ss disturbed or prob	olematic
Restricti	ve Layer (if prese	nt):						·
_								
Type:	<u></u>				Шли	dria Cail	Dragant?	Vaa□ Na⊠
Depth (in	•			neral layer. No indicators of hyd			Present?	Yes∐ No⊠
	Hydrology Indica							
Primary I	ndicators (min. of c	one required; checl	k all that appl	y)		_	Secondary Indicat	tors (2 or more required)
	e Water (A1) Vater Table (A2)		☐ Water-Sand	tained Leaves (B9) (except ML 4B)	LRA 1, 2,	4A,	☐ Water-Stained 4A, and 4E	Leaves (B9) (MLRA 1, 2,
☐ Satura	, ,		☐ Salt Crus				☐ Drainage Patte	,
	Marks (B1)			Invertebrates (B13)			☐ Dry-Season W	• •
	ent Deposits (B2)		-	n Sulfide Odor (C1)			-	ble on Aerial Imagery (C9)
	eposits (B3)			Rhizospheres along Living Ro	oots (C3)		☐ Geomorphic P	• • • •
	Mat or crust (B4)			e of Reduced Iron (C4)	()		☐ Shallow Aquita	
_	eposits (B5)			ron Reduction in Tilled Soils (C	26)		☐ FAC Neutral T	
	e Soil Cracks (B6)			or Stressed Plants (D1) (LRR				unds (D6) (LRR A)
	ation Visible on Ae			xplain in Remarks)	/		☐ Frost-Heave H	
	ely Vegetated Con		Oo. (L	Apian in remaine)				difficont (D1)
	servations:		 -					.
	Vater Present?	Yes 🗌	No ⊠	Depth (Inches):				
	ble Present?	Yes 🗌		Depth (Inches):	Wet	land Hyd	drology Present?	
Saturation	n Present?	Yes 🗌		Depth (Inches):	j			Yes 🗌 No 🛛
	Capillary fringe)							
Describe	Recorded Data (S	tream gauge, mon	itoring well, a	erial photos, previous inspection	ons), if av	/ailable:		
Remarks	No indicators of hy	ydrology were obs	erved in the t	est plot during the site visit.				_

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

WE12/W3 3212/WWW/1101	15/1/110	110010	···· ·····ou···	tamo, vancyo ana v	Jouot Rogio	•	
Project/Site: 5 Mile Fill Site	City/Coι	City/County: King			Sampling Date: 2/25/2020		
Applicant/Owner: Hos Bros Construction		State: V		Sampling Point: TP-A5			
Investigator(s): McGrath, Mara and Johnson, Beau				p, Range: <u>\$14, T24N,</u>	R8E	21 (21) 2	
Landform (hillslope, terrace, etc.): Depression	1 -+ 47 50			onvex, none): Concave	D-t N	Slope (%):0	-1%
Subregion (LRR): LRR A, MLRA2 Soil Map Unit Name: (231) Seattle muck, 0 to 1 perce				1.7449327 NWI classification: Fres	Datum: N		and
Soil Map Unit Name: (231) Seattle muck, 0 to 1 perce Are climatic / hydrologic conditions on the site typical I	for this time of	vear2 Ves⊠	 No□(It	f no evolain Remarks)	iwater Forester	u/Siliub Wella	anu
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significant	lv disturbed?	year: res⊠ Are		Circumstances" present	? Yes⊠ No□		
Are Vegetation , Soil , or Hydrology naturally p				any answers in Remark			
SUMMARY OF FINDINGS – Attach site map		•		•	•	res. etc.	
Hydrophytic Vegetation Present? Yes ⊠ No							
Hydric Soils Present? Yes ⊠ No		Is the San			. —		
Wetland Hydrology Present? Yes ⊠ No		within a V	Vetland?	Yes⊠ N	lo∐		
Remarks: This test plot lies in the extreme northeast lo	obe of Wetland	d A. The vegeta	ation in this	plot consisted only of to	ree species. Th	is test plot me	et all
wetland indicators; therefore, TP-A5 was considered t	o be within a v	wetland.					
VECETATION . He a signific manner of mis							
VEGETATION – Use scientific names of pla	ants.						
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet		
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	<u> </u>			
1. Alnus rubra	40%	yes	FAC	Number of Dominant	Species	1	(A)
2	%			That Are OBL, FACW	, or FAC:		
3.	%	· 		Total Number of Dom	inant	4	(D)
4.	<u>%</u>	Tatal Carra		Species Across All St		1	(B)
50% = <u>20</u> 20% = <u>8</u>	%	=Total Cover		Sp. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3. 3.			
				Percent of Dominant			
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW		<u>100</u>	(A/B)
1	<u>%</u>			Prevalence Index wo			
2.	%			Total % Cover		Multiply by:	
3.	<u>%</u> %			OBL species	x 1		_
4. 5.	%			FACW species FAC species	x 2 x 3	:= 	_
50% = 20% =		=Total Cover		FACU species	x 3		_
Herb Stratum (Plot size: 5 ft radius)		= Total Gover		UPL species	x 5	 i=	_
1.	%			Column Totals:	(A)		(B)
2.	%				ce Index = B/A=	· · · · · · · · · · · · · · · · · · ·	_ (
3.	%			Hydrophytic Vegeta			
4.	%			☐ 1 – Rapid Test	for Hydrophytic	Vegetation	
5	%						
6	%			3 - Prevalence			
7	<u>%</u>			4 - Morphologic			
8	%			supporting data	in Remarks or	on a separate	9
9.	0/			sheet) □ 5 - Wetland Nor	a Magazilar Dlar	1	
10. 11.	%			5 - Welland Nor	i-vasculai Plan	ils.	
50% = 20% =	// 6	=Total Cover		☐ Problematic Hy	drophytic Veget	tation¹ (Explai	n)
Woody Vine Stratum (Plot size: 15 ft radius)		_ 10tal 00vol			aropriyuo vogo	ation (Explai	•••
1	%			¹ Indicators of hydric s	oil and wetland	hydrology	
2.	%			must be present, unle			
50% = 20% =	%	=Total Cover					
2070 2070				Hydrophytic			
				Vegetation		🗖 5	_
% Bare Ground in Herb Stratum 60%				Present?		Yes⊠ No[_
Remarks:The hydrophytic vegetation criterion was m	et hecques 10	10% of dominar	nt enocios I	had FAC FACIAL or OB	L indicator state	1000	
Nemarks. The hydrophytic vegetation chienon was m	ei because 10	70 /6 OI GOITHINAI	ir shecies i	iliau FAO, FAOVV, UI OB	L IIIUICALUI SIALL	µ3€3.	

SOIL Sampling Point: -A5 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 100% % See Remarks Below Duff +4 10YR 2/2 % 0-6 100% Peat 10YR 2/1 6-16 100% % Peat % % % % % % % % % % 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 ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) M Histosal (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Yes⊠ No□ Remarks: This test plot contained a 4-inch layer of duff over the peat layer. Organic soil material to a depth of at least 16 inches was observed in the test plot during the site visit and meets Histosol (A1) or Histic Epipdeon (A2) because 16 inches or more of the upper 32 inches is organic soil material. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ⊠ Water-Stained Leaves (B9) (MLRA 1, 2, Surface Water (A1) ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Salt Crust (B11) ☐ Saturation (A3) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Surface Soil Cracks (B6) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes 🖂 № П Depth (Inches): 4 No 🖂 Water Table Present? Yes Depth (Inches): Wetland Hydrology Present? Yes No 🖂 Yes ⊠ No □ Saturation Present? Depth (Inches): (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The primary hydrology indicators Surface Water (A1) was observed in the test plot during the site visit.

WEILAND DETERMINATION	IDAIAFO	IKIVI – VVESIE	i ii wouii	tairis, valleys and t	JUASI NE	gion	
Project/Site: 5 Mile Fill Site		City/Cou	unty: King			Date: 2/25/20	
Applicant/Owner: Hos Bros Construction			State: <u>V</u>	** *		Point: TP-A6	
Investigator(s): McGrath, Mara and Johnson, Beau Landform (hillslope, terrace, etc.): Hillslope				p, Range: S14, T24N, pnvex, none): Convex	R8E	Slope (%	\· \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Subregion (LRR): LRR A, MLRA2	Lat: 47.564			1.7448175	Datum	Slope (% i: NAD83	5). <u>U-0 76</u>
Soil Map Unit Name: (10) Barneston gravelly ashy coa	arse sandy lo	am, 0 to 8% slc	pes	NWI classification: None			
Are climatic / hydrologic conditions on the site typical f						_	
Are Vegetation , Soil , or Hydrology significant				Circumstances" present		√o□	
Are Vegetation, Soil, or Hydrology naturally p		•		any answers in Remark	,		
SUMMARY OF FINDINGS – Attach site map Hydrophytic Vegetation Present? Yes No [_	sampling po	int locati	ons, transects, imp	ortant le	eatures, etc.	l .
Hydrophytic Vegetation Present? Yes ☐ No ☐ Hydric Soils Present? Yes ☐ No ☐		Is the Sar	. 🖂				
Wetland Hydrology Present? Yes ☐ No [\boxtimes	within a V			lo⊠		
Remarks: This test plot lies northeast of the northeaste species. This test plot did not meet wetland indicators;					d of tree, sl	hrub, and herb	aceous
species. This test plot did not meet wetland indicators,	therefore, Tr	AU was consid	dered to be	within uplanus.			
VEGETATION							
VEGETATION – Use scientific names of pla				1=			
Tree Stratum (Plot size:15 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test Wo	rksheet		
1. Pseudotsuga menziesii	35%	yes	FACU	Number of Dominant	Species	1	(A)
2. Tsuga heterophylla	35%	yes	FACU	That Are OBL, FACW			(//)
3.	%]			
4	%	· 		Total Number of Dom Species Across All St		4	(B)
50% = <u>35</u> 20% = <u>14</u>	70%	=Total Cover		Openies / toross / tir ot	iata.		
				Percent of Dominant			
Sapling/Shrub Stratum (Plot size: 15 ft. radius) 1. Ruibus spectabilis	150/	V00	FAC	That Are OBL, FACW		<u>25</u>	(A/B)
1. Ruibus spectabilis 2.	15% 	yes	FAC	Total % Cover		Multiply	hv.
3.		· :		OBL species	//.	x 1=	<u>5y.</u>
4.	%			FACW species		x 2=	
5.	%			FAC species			
50% = 8 20% = 3 Herb Stratum (Plot size: 5 ft radius)	15%	=Total Cover		FACU species UPL species		x 4= x 5=	
1. Polystichum munitum	40%	yes	FACU	Column Totals:			(B)
2. Rubus ursinus	5%	no	FACU		ce Index = I		(/
3.	%			Hydrophytic Vegeta			
4.	%			1 – Rapid Test			n
5. 6.	<u>%</u> %			☐ 2 – Dominance☐ 3 - Prevalence I			
7.				4 - Morphologic			
8.	%			supporting data	in Remark	s or on a sepa	rate
9.	%			sheet)	., .	5. 1	
10. 11.	<u>%</u> %			5 - Wetland Nor	n-Vascular	Plants ¹	
50% = <u>23</u> 20% = <u>9</u>	45%	=Total Cover		☐ Problematic Hy	drophytic V	egetation¹ (Ex	plain)
Woody Vine Stratum (Plot size: 15 ft radius)	,				opyo .	ogotation (=/	p.u)
1	%			¹ Indicators of hydric s			
2	%	T. (-1.0)		must be present, unle	ss disturbe	ed or problema	tic.
50% = 20% =	<u></u> %	=Total Cover		Hydrophytic			
				Vegetation			
0/ Dana Casara dia Harib Chastara 400/				Present?		Yes⊟ I	No⊠
% Bare Ground in Herb Stratum 40%		- l th 500	/ af ala aasia		A O M O	DI indicator of	
Remarks:The hydrophytic vegetation criterion was no Moss and leaf litter occupied 15% of the ground surface			6 ot domin	ant species had FAC, F	ACVV, or Of	B∟ indicator st	atuses.
inioss and real litter occupied 1370 of the ground surface	e within this	test plot.					

SOIL								Sampling Point: TP-A6
Profile De	escription: (Desc	ribe to the dep	th needed to do	cument the ind	icator or confir	m the al	bsence of indicators.)	-
Depth	Matrix			Redox Featu	ıres			
(inches)	Color (moist)	%	Color (moist)	%		Loc ²	Texture	Remarks
+4		100%		%			Duff	See Remarks Below
0-16	10YR 3/6	100%		<u></u> %			Silty Sand	
		<u> </u>		%				
		<u>%</u> _						. <u></u>
		<u>%</u>					-	
		<u> %</u>		<u></u> <u>%</u> %				
		<u> </u>						· ———
¹Type: C	C=Concentration,		A-Poducod Matri		or Coated Sand	l Grains	² Location: PL=Por	o Lining M-Matrix
	oil Indicators: (Ap						Indicators for Problema	<u> </u>
☐ Histosa		phodble to all	☐ Sandy Re		,		2 cm Muck (A10)	no riyano dono
	Epipedon (A2)		☐ Stripped N				Red Parent Material (TI	F2)
☐ Black H				ucky Mineral (F1) (except MLRA		_]Very Shallow Dark Surf	
	gen Sulfide (A4)		-	eyed Matrix (F2)		-	Other (Explain in Rema	
	ed Below Dark Su	rface (A11)	☐ Depleted	• , ,		_	(—. p	,
	Dark Surface (A12	, ,		rk Surface (F6)		3	ndicators of hydrophytic v	regetation and
	Mucky Minerals (,		Dark Surface (F	7)		Wetland hydrology mus	
-	Gleyed Matrix (S4		-	pressions (F8)	' /		unless disturbed or pro	
	, ,	,		,pressions (1 0)		_		
Restrictiv	e Layer (if prese	nt):						
Type:								
Depth (inc	hes):					Hvdr	ic Soil Present?	Yes⊟ No⊠
		tained a 4-inch l	aver of duff. No in	ndicators of hyd	ric soil were obs		the test plot during the si	te visit
rtomanto.	This tool plot con		ayor or aum mon	indicatoro or riya	no con more obc		and took plot during the or	to viola
LIVEROL	201							
HYDROL								
	Hydrology Indica							
Primary in	dicators (min. of d	one requirea; cn	eck all that apply)			Secondary Indica	tors (2 or more required)
☐ Surface	e Water (A1)		☐ Water-Sta	ined Leaves (B	except MLR	A 1, 2, 4	A,	Leaves (B9) (MLRA 1, 2,
	/ater Table (A2)		and 4		,		4A, and 4I	
☐ Satura	tion (A3)		☐ Salt Crust	: (B11)			☐ Drainage Patt	erns (B10)
☐ Water	Marks (B1)		☐ Aquatic In	vertebrates (B1	3)		☐ Dry-Season W	/ater Table (C2)
	ent Deposits (B2)		•	Sulfide Odor (C				ible on Aerial Imagery (C9)
	eposits (B3)			Rhizospheres al	•	s (C3)	☐ Geomorphic F	= : : :
	flat or crust (B4)			of Reduced Iron		- (/	☐ Shallow Aquita	
	eposits (B5)			on Reduction in			☐ FAC Neutral T	
	e Soil Cracks (B6)			r Stressed Plant				ounds (D6) (LRR A)
	tion Visible on Ae			plain in Remarks			☐ Frost-Heave H	
	ely Vegetated Con		,	piaiii iii ixemaik	>)		□ i iost-rieave i	Idillillocks (D1)
	servations:	cave Surface (L	10)	.				.
	/ater Present?	Yes □	No ⊠ □	Depth (Inches):				
	ole Present?	Yes \square		Depth (Inches):		Wetla	nd Hydrology Present?	
	Present?	Yes 🗌		Depth (Inches):			na riyarology r resenc.	Yes ☐ No 🏻
		. 55 🗀	🖂 💆	(aa.).		i		
	Capillary fringe)							
(Includes	Capillary fringe) Recorded Data (S	tream gauge, m	onitoring well, ae	rial photos, prev	ious inspections	s), if avai	lable:	
(Includes	Capillary fringe) Recorded Data (S	tream gauge, m	onitoring well, ae	erial photos, prev	ious inspections	s), if avai	lable:	
(Includes		tream gauge, m	onitoring well, ae	erial photos, prev	rious inspections	s), if avai	lable:	
(Includes		tream gauge, m	onitoring well, ae	rial photos, prev	ious inspections	s), if avai	lable:	
(Includes Describe I			-			s), if avai	lable:	
(Includes Describe I	Recorded Data (S		-			s), if avai	lable:	

WEILAND DETERMINATION	N DATA FO	KIVI – WESIE	iii wouii	tairis, valleys allu v	JUASI NE	gion		
Project/Site: 5 Mile Fill Site		City/Cou	unty: King			g Date: 2/2		
Applicant/Owner: Hos Bros Construction			State: \			Point: TP-	-A7	
Investigator(s): McGrath, Mara and Johnson, Beau Landform (hillslope, terrace, etc.): Depression				ip, Range: S14, T24N,	R8E	Slone	e (%):0-	10/
Subregion (LRR): LRR A, MLRA2	Lat: 47.56			onvex, none): <u>Concave</u> 1.7462828	Datur	Siope n: NAD83		-170
Soil Map Unit Name: (231) Seattle muck, 0 to 1 perce	nt slopes			NWI classification: Fres				and
Are climatic / hydrologic conditions on the site typical f	or this time of							
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significant				Circumstances" present		No□		
Are Vegetation , Soil , or Hydrology naturally p		•	•	any answers in Remark	•	4	. 4 -	
SUMMARY OF FINDINGS – Attach site map		sampling po	int locati	ons, transects, imp	ortant 16	eatures, e	₹€.	
Hydrophytic Vegetation Present? Yes ⊠ No [Hydric Soils Present? Yes ⊠ No [npled Are		- —			
Wetland Hydrology Present? Yes ⊠ No [within a V			No 🗌			
Remarks: This test plot lies within the southeastern po					sted of tree	e and shrub	specie	es.
This test plot met all wetland indicators; therefore, TP-	A7 was consi	dered to be with	hin a wetla	nd.				
VEGETATION – Use scientific names of pla	ınts.							
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet			
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	Number of Dominant	Species			(4)
Thuja plicata Populus balsamifera	25% 25%	yes	FAC FAC	That Are OBL, FACW			4	(A)
3. Picea sitchensis	15%	ves	FAC		,			
4.	%			Total Number of Dom			5	(B)
50% = <u>38</u> 20% = <u>15</u>	75%	=Total Cover		Species Across All St	rata:			•
				Percent of Dominant	Species			
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW			<u>80</u>	(A/B)
1. Rubus spectabilis	35%	yes	FAC	Prevalence Index wo		N 414:	برط برام	
Rhododendron menziesii Spiraea douglasii	10% 5%	yes no	FACU FACW	Total % Cover of OBL species	OT:	x 1=	ply by:	
4.	 %		17.000	FACW species		x 2=		_
5.	%			FAC species		x 3=		
50% = <u>25</u> 20% = <u>10</u>	50%	=Total Cover		FACU species		x 4=		_
Herb Stratum (Plot size: 5 ft radius) 1.	%			UPL species Column Totals:	-	x 5= (A)		_ (B)
2.	// // %	·			ce Index =			_ (D)
3.		· .		Hydrophytic Vegeta			-	
4.	%			1 – Rapid Test			ation	
5	%			☐ 2 – Dominance				
6	<u>%</u> %			3 - Prevalence 4 - Morphologic			ido	
0				supporting data				9
9.	%			sheet)				
10.				5 - Wetland Nor	า-Vascular	Plants ¹		
11.	%						<i>,</i>	
50% = 20% = <u>Woody Vine Stratum</u> (Plot size: <u>15</u> ft radius)	%	=Total Cover		☐ Problematic Hy	drophytic \	/egetation '	(Explaii	n)
1	%			¹ Indicators of hydric s	oil and we	tland hydro	logy	
2.	%			must be present, unle				
50% = 20% =	%	=Total Cover				•		
		•		Hydrophytic				
				Vegetation Present?		Yes	⊠ No[٦
% Bare Ground in Herb Stratum%								
Remarks:The hydrophytic vegetation criterion was m	et because ov	ver 50% of dom	ninant spec	ies had FAC, FACW, or	OBL indic	ator statuse	s. Abu	ndant
mosses were present on ground surface.								

SOIL Sampling Point: TP-A7 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 100% % Duff See Remarks Below +4 % 0-8 10YR 2/1 100% Mucky Loam % % % % % % % % % % % % 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 ☐ Histosal (A1) ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) □ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Depth (inches): **Hydric Soil Present?** Yes⊠ No□ Remarks: This test plot contained a 4-inch layer of duff. Organic soil material to a depth of at least 8 inches was observed and meets Loamy Mucky Material (F1) because a layer of mucky modified loamy soil material 4 inches or more thick within 6 inches of the soil surface was present. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ☐ Water-Stained Leaves (B9) (MLRA 1, 2, Surface Water (A1) ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Salt Crust (B11) ☐ Saturation (A3) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Surface Soil Cracks (B6) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes 🖂 № П Depth (Inches): 6 No 🖂 Water Table Present? Yes Depth (Inches): Wetland Hydrology Present? Yes No 🖂 Yes ⊠ No □ Saturation Present? Depth (Inches): (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The hydrology indicator Surface Water (A1) was met in the test plot during the site visit.

				tanio, vancyo ana c	•	
Project/Site: 5 Mile Fill Site		City/Co	unty: King			te: 2/25/2020
Applicant/Owner: Hos Bros Construction		0	State: \		Sampling Poi	nt: TP-A8
Investigator(s): McGrath, Mara and Johnson, Beau				ip, Range: S14, T24N,	R8E	Clana (0/.). 0. 00/
Landform (hillslope, terrace, etc.): Hillslope	Lat: 47.56			onvex, none): Convex	Dotum: A	Slope (%): <u>0-8%</u>
Subregion (LRR): <u>LRR A, MLRA2</u> Soil Map Unit Name: <u>(10) Barneston gravelly ashy c</u>	Lal47.30	om 0 to 99/ cla	Long 12	1.7462623 NWI classification: None	Datum: <u>N</u>	NADOS
Are climatic / hydrologic conditions on the site typical	for this time of	fyear? Ves	ipes /i		.	
Are Climatic / Hydrologic conditions on the site typical Are Vegetation□, Soil□, or Hydrology□ significan				Circumstances" present?	2 Ves⊠ No⊏	1
Are Vegetation, Soil, or Hydrology naturally				any answers in Remark		J
SUMMARY OF FINDINGS – Attach site ma	•	•		•	•	uras ata
		samping po	iiit iocati	Ulis, transects, imp	Jortani leatt	1165, 616.
Hydrophytic Vegetation Present? Yes ☐ No Hydric Soils Present? Yes ☐ No		Is the Sar	npled Are	a		
		within a V	Vetland?	Yes□ N	No⊠	
Wetland Hydrology Present? Yes ☐ No Remarks: This test plot lies southeast of Wetland A's		yeastation in t	his plot co	neieted of tree shrub ar	nd herbaceous	enaciae This tast
plot did not meet all wetland indicators; therefore, TP					id Herbaceous	species. This test
plot did flot flicet dii wetiafid ilidicators, tricrerore, fr	710 Was consi	acrea to be with	iii apianas	14		
VEGETATION – Use scientific names of pl	ants					
VEGETATION GGC GOICHLING HUMCS OF PI				T =		
T 0: (D) : (5)	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet	
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	Number of Deminent	Chasias	
1. Pseudotsuga menziesii	45%	yes	FACU	Number of Dominant : That Are OBL, FACW		1 (A)
2. Tsuga heterophylla	30%	yes	FACU	That Ale Obl., FACW	, or FAC.	
3.	%	·		Total Number of Domi	inant	F (D)
4.	<u>%</u>	T. (-) O		Species Across All St		5 (B)
50% = <u>38</u> 20% = <u>15</u>	75%	=Total Cover				
				Percent of Dominant S	Species	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW		<u>20</u> (A/B)
1. Rhododendron menziesii	35%	yes	FACU	Prevalence Index wo	orksheet	
2. Rubus spectabilis	25%	yes	FAC	Total % Cover of		Multiply by:
3. Acer circinatum	5%	no	FAC	OBL species	x ′	
4	%			FACW species	x 2	
5	%	· 		FAC species	x3	
50% = <u>33</u> 20% = <u>13</u>	65%	=Total Cover		FACU species	X 4	
Herb Stratum (Plot size: 5 ft radius)	450/		E4011	UPL species	x :	
1. Polystichum munitum	45%	yes	FACU	Column Totals:	(A	
2. Rubus ursinus	5%	no	FACU		ce Index = B/A:	
3.	%			Hydrophytic Vegetat		
4.	<u>%</u>			1 – Rapid Test f		vegetation
5. 6.	<u>%</u>	·		☐ 2 – Dominance 1☐ 3 - Prevalence I		
7		· ——		4 - Morphologica		1 (Provide
0	- / 0 %			supporting data		
0	- // %			sheet)	iii rtomanto oi	on a coparato
9. 10.	- / %			5 - Wetland Nor	n-Vascular Plar	nts ¹
11.	- / %				i vaccalai i lai	
50% = 25 20% = 10	50%	=Total Cover		☐ Problematic Hyd	drophytic Veae	etation1 (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)						(/
1	%			¹ Indicators of hydric so	oil and wetland	d hydrology
2.	%			must be present, unle		
50% = 20% =	%	=Total Cover				•
30 /6 = 20 /6 =		-		Hydrophytic		
				Vegetation		
0/ Dana Cravin dia Harb Chrahima 00/				Present?		Yes⊡ No⊠
% Bare Ground in Herb Stratum 0%					 	
Remarks: The hydrophytic vegetation criterion was r			% of domin	ant species had FAC, FA	ACW, or OBL i	ndicator statuses.
Moss and leaf litter occupied 100% of the ground sur	face within this	s test plot.				

SOIL									Sampling Point: TP-A8
Profile De	escription: (Desc	ribe to the dep	oth needed to do	ocument the inc	licator or cor	nfirm the	absenc	e of indicators.)	- · · · ·
5 (1				5 . 5 .					
Depth	Matrix		Color (maint)	Redox Feat		1.002	_	Taxtura	Domorko
(inches) +2	Color (moist)	- <u>%</u> 100%	Color (moist)	<u> </u>	Type ¹	Loc ²		Texture Duff	Remarks
2-16	10YR 3/6	100%						Loamy sand	
	10111070	<u> </u>		<u> </u>				Loanly band	
		<u> </u>		<u> </u>					
-		%		%					
		%		%			_		
		%		%					
		%		%					
	C=Concentration,					and Grair	ns.	² Location: PL=Pore	Lining, M=Matrix
-	oil Indicators: (A	pplicable to all			.)			tors for Problemation	c Hydric Soils
☐ Histos			☐ Sandy R					n Muck (A10)	
	Epipedon (A2)		Stripped					Parent Material (TF2	
	Histic (A3)		-	lucky Mineral (F		-RA 1)	-	Shallow Dark Surface	-
	gen Sulfide (A4)			leyed Matrix (F2	2)		Othe	er (Explain in Remark	ss)
	ed Below Dark Sเ	, ,	☐ Depleted	, ,					
☐ Thick I	Dark Surface (A12	2)	☐ Redox D	ark Surface (F6)				ors of hydrophytic ve	
☐ Sandy	Mucky Minerals (S1)	Depleted	Dark Surface (F	7)			land hydrology must	
☐ Sandy	Gleyed Matrix (Se	4)	☐ Redox D	epressions (F8)			unle	ess disturbed or proble	ematic
Restrictiv	e Layer (if prese	ent):							
		,							
Type:									
Depth (inc	ches):					Ну	dric Soi	I Present?	Yes⊡ No⊠
Remarks:	The test plot cont	tained a 2-inch	layer of duff. No	indicators of hyd	ric soil were o	bserved	in the tes	st plot during the site	visit.
	OCV								
HYDROL									
	Hydrology Indica								
Primary Ir	ndicators (min. of o	one required; cl	neck all that apply	y)			_	Secondary Indicato	ors (2 or more required)
□ Surfac	e Water (A1)		□ Water-St	ained Leaves (B	9) (except Mi	PA 1 2	1Δ	☐ Water-Stained I	_eaves (B9) (MLRA 1, 2,
	Vater Table (A2)		and	•	9) (except ivii	LIVA I, Z	, 4 A,	4A, and 4B)	
☐ Satura			☐ Salt Crus	•				☐ Drainage Patter	
	` '			nvertebrates (B1	3)			☐ Dry-Season Wa	
	Marks (B1)								
	ent Deposits (B2)			n Sulfide Odor ((to (C2)			le on Aerial Imagery (C9)
	eposits (B3)			Rhizospheres a)OIS (C3)		☐ Geomorphic Po	, ,
	/lat or crust (B4)			of Reduced Iro				☐ Shallow Aquitar	` '
	eposits (B5)			on Reduction in	,	•		☐ FAC Neutral Te	• ,
	e Soil Cracks (B6)			or Stressed Plan	. , .	A)		Raised Ant Mou	·
	ition Visible on Ae	• • •	,	kplain in Remark	s)			☐ Frost-Heave Hu	mmocks (D7)
	ely Vegetated Con	cave Surface (B8)						
	servations:	–							
	Vater Present?	Yes 🗌		Depth (Inches):					
	ole Present?	Yes 🗌	_	Depth (Inches):		Wet	tland Hy	drology Present?	V N
	Present?	Yes 🗌	No ⊠	Depth (Inches):		ļ			Yes ☐ No 🏻
	Capillary fringe)	troom gougo n	nonitoring wall o	orial photos pro	vious inancati	ona) if a	(ailahla)		
Describe	Recorded Data (S	aream gauge, r	nonitoring well, a	enai priotos, pre	vious inspecti	ons), ii av	vallable:		
Domorko	No indicators of h	vdrology wors	abcorred in the to	act plat during th	o cito vicit				
itemarks.	INO IIIUICALUIS OI N	yurulugy were (opoetved itt itte it	sar bior anning in	C SILE VISIL.				

WEILAND DETERMINATION	DATAFO	KIVI – Weste	i ii wouii	tairis, valleys ariu coa	st Region	
Project/Site: 5 Mile Fill Site		City/Cou	unty: King	Sa	mpling Date: 3/16/2020	
Applicant/Owner: Hos Bros Construction			State: V	VA Sar	mpling Point: TP-B3	
Investigator(s): McGrath, Mara and Johnson, Beau				p, Range: S14, T24N, R8E		
Landform (hillslope, terrace, etc.): Depression				onvex, none): Concave	Slope (%): <u>0-3%</u>	
Subregion (LRR): LRR A, MLRA2	Lat: 47.56	43691			Datum: NAD83	
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer	nt slopes		<u> </u>	NWI classification: PSSC		
Are climatic / hydrologic conditions on the site typical f					- N - N	
Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally p				Circumstances" present? Yeany answers in Remarks.)	SM NOL	
SUMMARY OF FINDINGS – Attach site map		•		•	ant faatures, etc	
			iii iocati	ons, transects, import	ant reatures, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No [Hydric Soils Present? Yes ⊠ No [npled Area			
Wetland Hydrology Present? Yes ⊠ No [within a V	Vetland?	Yes⊠ No⊡	I	
Remarks: This test plot lies within Wetland B. The veg			of trees, sh	rubs, and herbaceaous spe	cies. This test plot met all	
wetland indicators; therefore, TP-B3 was considered to	be within a	wetland.				
VEGETATION – Use scientific names of pla	nte					
VEGETATION - 030 30101111110 Harries of pla				I 5 1		
Troc Stratum (Plot aizo:15 ft radius)	Absolute	Dominant Species?	Indicator	Dominance Test Worksh	ieet	
Tree Stratum (Plot size:15 ft radius) 1. Populus balsamifera	% Cover 40%	Species? yes	Status FAC	Number of Dominant Spec	cies a (A)	`
2. Tsuga heterophylla	10%	no	FACU	That Are OBL, FACW, or		,
3. Alnus rubra	10%	no	FAC			
4.	%		1710	Total Number of Dominan	3 (6))
50% = <u>30</u> 20% = <u>12</u>	60%	=Total Cover		Species Across All Strata:		<i>'</i>
		=		Percent of Dominant Spec	nio o	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or		/R)
1. Rubus spectabilis	30%	yes	FAC	Prevalence Index works		<u>''</u>
2.	%			Total % Cover of:	Multiply by:	
3.	%			OBL species	x 1=	
4.	%			FACW species	x 2=	
5	%	- ·		FAC species	x 3=	
50% = <u>15</u> 20% = <u>6</u>	30%	=Total Cover		FACU species	x 4=	
Herb Stratum (Plot size: 5 ft radius) 1. Tolmiea menziesii	E 0/	V00	FAC	UPL species Column Totals:	x 5=	В)
1. Tolmiea menziesii 2.	<u>5%</u> %	yes	FAC	Prevalence In		D)
3.		·		Hydrophytic Vegetation		-
4.		· ——		1 – Rapid Test for H		
5.	//					
6.	%			3 - Prevalence Index		
7.	%			4 - Morphological Ad		
8	%				Remarks or on a separate	
9.	%			sheet)	. 5 1	
10.	<u>%</u>			5 - Wetland Non-Va	scular Plants	
11. 50% = 3 20% = 1	5%	=Total Cover		☐ Problematic Hydron	hytic Vegetation ¹ (Explain)	
Woody Vine Stratum (Plot size: 15 ft radius)	376	= Total Cover			Trytic vegetation (Explain)	
1.	%			¹ Indicators of hydric soil a	nd wetland hydrology	
2.	%			must be present, unless d		
50% = 20% =	%	=Total Cover		•	•	
3070 = 2070 =		-		Hydrophytic		
				Vegetation	🗖 🗆	
% Bare Ground in Herb Stratum%				Present?	Yes⊠ No⊡	
Remarks:The hydrophytic vegetation criterion was me	et hecause 1	00% of dominar	nt eneciae l	had FAC FACW or OBL inc	dicator statuege	_
Tremarks. The hydrophytic vegetation chienon was mi	et necause 11	oo % or dominar	ır əhecies i	iau i-AO, FAOVV, UI ODL INC	มเบลเบา รเสเนรษร.	

SOIL Sampling Point: TP-B3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 10YR 2/1 50% % 0-16 Peat loam 10YR 2/2 50% % 0-16 Peat 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.) Indicators for Problematic Hydric Soils ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) M Histosal (A1) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Yes⊠ No□ Depth (inches): **Hydric Soil Present?** Remarks: Organic soil material to a depth of at least 16 inches was observed in the test plot during the site visit and meets Histosol (A1) or Histic Epipdeon (A2) because 16 inches or more of the upper 32 inches is organic soil material. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ⊠ Water-Stained Leaves (B9) (MLRA 1, 2, ☐ Surface Water (A1) ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) □ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Shallow Aquitard (D3) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Stunted or Stressed Plants (D1) (LRR A) ☐ Surface Soil Cracks (B6) ☐ Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No 🖂 Depth (Inches): Water Table Present? Yes No 🖂 Depth (Inches): Wetland Hydrology Present? Yes 🛛 Yes ⊠ No □ Saturation Present? No 🗌 Depth (Inches): 0 (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: The hydrology indicators Saturation (A3), Water-Stained Leaves (B9), and Geomorphic Position (D2) were met.

WEILAND DEIERMINATION	NDATATO	KIVI – VVESIE	i ii wouii	tailis, valleys allu C	oasi neç	gion		
Project/Site: 5 Mile Fill Site		City/Cou	unty: King			Date: 3/16/2		
Applicant/Owner: Hos Bros Construction		<u> </u>	State: <u>\</u>			Point: TP-B	4	
Investigator(s): McGrath, Mara and Johnson, Beau Landform (hillslope, terrace, etc.): Hillslope				p, Range: S14, T24N, pnvex, none): Convex	₹8E	Slope (0/. \· ∩_30	0/-
Subregion (LRR): LRR A, MLRA2	Lat: 47.56			1.7406501	Datum	Slope (: NAD83	76). <u>U-3</u> /	/0
Soil Map Unit Name: (158) Norma loam, 0 to 3 perce	nt slopes			NWI classification: None				
Are climatic / hydrologic conditions on the site typical								
Are Vegetation , Soil , or Hydrology significant				Circumstances" present?		lo 🗌		
Are Vegetation, Soil, or Hydrology naturally p		,		any answers in Remark	•	oturoo ot	_	
SUMMARY OF FINDINGS – Attach site map		sampling po	int locati	ons, transects, imp	ortant le	atures, et	U.	
Hydrophytic Vegetation Present? Yes ⊠ No Hydric Soils Present? Yes □ No		Is the Sar						
Wetland Hydrology Present? Yes ☐ No	\boxtimes	within a V			o⊠			
Remarks: This test plot lies south of the southeastern	most portion o	of Wetland B. Th	nis test plo	t did not meet all three w	etland indic	cators; there	fore, TF	P-A6
was considered to be within uplands.								
VEGETATION – Use scientific names of pla	ants.							
	Absolute	Dominant	Indicator	Dominance Test Wo	ksheet			
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	Number of Dominant S	Procinc		,	• `
Thuja plicata Alnus rubra	25% 15%	yes	FAC FAC	That Are OBL, FACW		3	(,	A)
3.		yes	170					
4.	%	-		Total Number of Domi		4	(1	B)
50% = <u>20</u> 20% = <u>8</u>	40%	=Total Cover		Species Across All Str	ata:			
				Percent of Dominant S	Species			
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW	or FAC	<u>75</u>	<u>5</u> (,	A/B)
1. Acer circinatum	35%	yes	FAC	Prevalence Index wo		B. B. 141 1		
2. Rubus spectabilis 3.	<u>5%</u> %	no	FAC	Total % Cover of OBL species	<u>f:</u>	Multiply x 1=	y by:	-
4.				FACW species		x 1= x 2=		
5.	%			FAC species				
50% = <u>20</u> 20% = <u>8</u>	40%	=Total Cover		FACU species		x 4=		
Herb Stratum (Plot size: 5 ft radius)	200/		FACIL	UPL species		x 5=		(D)
1. Polystichum munitum 2.	20%	yes	FACU	Column Totals:	e Index = E	(A)		(B)
3.		·		Hydrophytic Vegetat				
4.	//			1 – Rapid Test f			ion	
5.	%							
6	%			3 - Prevalence li				
7. 8.	<u>%</u> %	·		4 - Morphologica supporting data	il Adaptatio	ons' (Provide	e Sarato	
9.		·		sheet)	III IXCIIIAINS	o or on a sep	arate	
10.	%			☐ 5 - Wetland Non	-Vascular I	Plants ¹		
11.	%							
50% = <u>10</u> 20% = <u>4</u>	20%	=Total Cover		☐ Problematic Hyd	rophytic Ve	egetation¹ (E	xplain)	
Woody Vine Stratum (Plot size: 15 ft radius) 1.	%			¹ Indicators of hydric so	oil and watl	and hydrolo	3 \/	
2.		·		must be present, unles				
50% = 20% =	%	=Total Cover		index so process, dimes	20 0.010.20	<u>a e. p.ez.e</u>		
50% = 20% =		•		Hydrophytic				
				Vegetation		VV	Na 🗆	
% Bare Ground in Herb Stratum%				Present?		Yes⊠	NO∐	
Remarks:75% of the ground was covered in mosses	in this test pla	ot. The hydroph	ytic vegeta	ition criterion was met be	cause grea	ater than 50°	% of	
dominant species had FAC indicator statuses.		· >	, - 3-10		3.50		•	

SOIL									Sampling Point: TP-B4
Profile Do	escription: (Desc	ribe to the dep	oth needed to doc	ument the inc	dicator or cor	nfirm the	absenc	e of indicators.)	· · ·
D (1	8.4 - 4.5			D. I. F					
Depth	Color (moist)	<u> </u>	Color (moist)	Redox Feat %	ures Type ¹	Loc ²	_	Texture	Remarks
(inches) 0-16	10YR 2/2	100%	Coloi (Illoist)		Туре	LUC		Loam	- Itemarks
	101112/2	<u> </u>		<u> </u>				Loam	
		%		%			_		
		%		%					
		%		%					
		<u></u> %		%_					
		%		%					
		%		%					
			M=Reduced Matrix			and Grain		² Location: PL=Pore	
		oplicable to all	LRRs, unless oth		.)			tors for Problemati	c Hydric Soils
☐ Histos			☐ Sandy Red					n Muck (A10)	2)
	Epipedon (A2)		☐ Stripped M		4) /	DA 4\		Parent Material (TF:	
	Histic (A3)		-	cky Mineral (F		.KA 1)	-	/ Shallow Dark Surfa	
	gen Sulfide (A4)	(0.44)	-	yed Matrix (F2	2)		☐ Otne	er (Explain in Remar	KS)
	ed Below Dark Su	, ,	☐ Depleted N	, ,			21 11 4		
	Dark Surface (A12			k Surface (F6)				ors of hydrophytic ve land hydrology must	
	Mucky Minerals (Oark Surface (F	-7)			ess disturbed or prob	
□ Sandy	Gleyed Matrix (S	4)	☐ Redox Dep	pressions (F8)			unic	33 distarbed of prob	icitiatio
Restrictiv	e Layer (if prese	nt):							
_									
Type:	<u></u>					ш	dria Cai	I Drocont?	Yes⊟ No⊠
Depth (inc						пу	aric Soi	I Present?	res∟ No⊠
Remarks:	No indicators of r	lydric soil were	observed in the tes	st plot during ti	ne site visit.				
HYDROL	.OGY								
Wetland	Hydrology Indica	tors:							
			neck all that apply)					Casandanıladisət	oro (O or moore required)
1 minary ii	idicators (IIIII. or t	nie required, ci	ieck all triat apply)				_	Secondary indicate	ors (2 or more required)
	e Water (A1)		☐ Water-Stai	ned Leaves (B	9) (except MI	LRA 1, 2,	4A,	☐ Water-Stained	Leaves (B9) (MLRA 1, 2,
☐ High V	Vater Table (A2)		and 4E	3)				4A, and 4B)
☐ Satura	tion (A3)		☐ Salt Crust	(B11)				☐ Drainage Patte	rns (B10)
☐ Water	Marks (B1)		☐ Aquatic Inv	ertebrates (B1	3)			☐ Dry-Season Wa	ater Table (C2)
☐ Sedim	ent Deposits (B2)		☐ Hydrogen	Sulfide Odor (0	C1)			☐ Saturation Visit	ole on Aerial Imagery (C9)
☐ Drift D	eposits (B3)		☐ Oxidized R	hizospheres a	long Living Ro	oots (C3)		☐ Geomorphic Po	osition (D2)
☐ Algal N	Mat or crust (B4)		☐ Presence of	of Reduced Iro	n (C4)			☐ Shallow Aquita	rd (D3)
☐ Iron D	eposits (B5)		☐ Recent Iro	n Reduction in	Tilled Soils (C	26)		☐ FAC Neutral Te	est (D5)
☐ Surface	e Soil Cracks (B6))	☐ Stunted or	Stressed Plan	ts (D1) (LRR	A)		☐ Raised Ant Mor	unds (D6) (LRR A)
☐ Inunda	tion Visible on Ae	rial Imagery (B	7) 🗌 Other (Exp	lain in Remark	s)			☐ Frost-Heave Hu	ummocks (D7)
	ely Vegetated Con				•				, ,
	servations:	· · · · · · · · · · · · · · · · · · ·							
Surface V	Vater Present?	Yes 🗌	No ⊠ Do	epth (Inches):					
Water Tal	ble Present?	Yes 🗌	No 🛛 Do	epth (Inches):		Wet	land Hy	drology Present?	
	n Present?	Yes 🗌	No ⊠ De	epth (Inches):					Yes 🗌 No 🛛
	Capillary fringe)								
Describe	Recorded Data (S	tream gauge, n	nonitoring well, aer	ial photos, pre	vious inspecti	ons), if av	/ailable:		
Remarks:									

WEILAND DETERMINATION	N DATA FO	Kivi – vveste	i ii wiouiii	tailis, valleys and coast Region
Project/Site: 5 Mile Fill Site		City/Cou	unty: King	Sampling Date: 3/16/2020
Applicant/Owner: Hos Bros Construction			State: V	VA Sampling Point: TP-B5
Investigator(s): McGrath, Mara and Johnson, Beau		Section	n, Townshi	p, Range: S14, T24N, R8E
Landform (hillslope, terrace, etc.): Depression				onvex, none): Concave Slope (%):0-3%
Subregion (LRR): LRR A, MLRA2	Lat: 47.568	39369		1.7415688 Datum: NAD83
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer	nt slopes		1	NWI classification: None
Are climatic / hydrologic conditions on the site typical f				
Are Vegetation , Soil , or Hydrology significant				Circumstances" present? Yes⊠ No□
Are Vegetation, Soil, or Hydrology naturally p		,	•	any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map		sampling pol	int location	ons, transects, important leatures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No Hydric Soils Present? Yes ⊠ No		Is the San	npled Area	
Wetland Hydrology Present? Yes ⊠ No	_	within a V	Vetland?	Yes⊠ No□
		. The vegetatio	n in this pla	ot consisted of tree, shrub, and herbaceous species. This
test plot met all wetland indicators, therefore, TP-B5 w				
VEGETATION – Use scientific names of pla	ants.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	
1. Alnus rubra	45%	yes	FAC	Number of Dominant Species 3 (A)
Pseudotsuga menziesii	20%	yes	FACU	That Are OBL, FACW, or FAC:
3	<u>%</u>			Total Number of Dominant
4.	<u>%</u>			Species Across All Strata:
50% = <u>33</u> 20% = <u>13</u>	65%	=Total Cover		Spools of the coop in Charles
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC 60 (A/B
Rubus spectabilis	60%	yes	FAC	Prevalence Index worksheet
2.	%			Total % Cover of: Multiply by:
3.	%			OBL species x 1=
5.	<u>%</u> %			FACW species x 2= FAC species x 3=
50% = 30 20% = 12	60%	=Total Cover		FAC species x 3= FACU species x 4=
Herb Stratum (Plot size: 5 ft radius)	0070	-10tal 00vol		UPL species x 5=
1.	%			Column Totals: (A) (B)
2. Polystichum munitum	10%	yes	FACU	Prevalence Index = B/A=
3. Tolmiea menziesii	2%	yes	FAC	Hydrophytic Vegetation Indicators:
4.	%			☐ 1 – Rapid Test for Hydrophytic Vegetation
5	%			
6	<u>%</u>			☐ 3 - Prevalence Index is ≤3.01
7	<u>%</u>			4 - Morphological Adaptations¹ (Provide
8	<u>%</u>			supporting data in Remarks or on a separate sheet)
9.	<u>%</u> %			5 - Wetland Non-Vascular Plants ¹
11.	%			
50% = 6 20% = 2	12%	=Total Cover		☐ Problematic Hydrophytic Vegetation¹ (Explain)
Woody Vine Stratum (Plot size: 15 ft radius)	1270	-10tal 00vol		Trobolitatio riyaropriyato vogetation (Explain)
1.	%			¹ Indicators of hydric soil and wetland hydrology
2.	%			must be present, unless disturbed or problematic.
50% = 20% =	%	=Total Cover		
2070 2070				Hydrophytic
				Vegetation
% Bare Ground in Herb Stratum 0%				Present? Yes⊠ No□
·	at hacques ar	pater than 500/	of domina	Int species had FAC, FACW, or OBL indicator statuses.
Tremarks. The hydrophytic vegetation chienoff was in	et because gr	eater triair 50%	o or aoriiila	in species had I AO, I AOVV, OF ODE Indicator Statuses.
I .				

SOIL Sampling Point: <u>TP-B5</u>

	escription: (Desc	ribe to the depth	needed to doc	ument the ind	icator or co	onfirm th	he abse	nce of indicators.)	
Depth	Matrix	<		Redox Feat	ıres				
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	2	Texture	Remarks
0-5	10YR 2/1	100%		%				Peat loam	
5-16	10YR 4/1	95%	10YR 6/8	5%	C	M		Clay loam	
		<u> </u>		<u>%</u>					
		- <u>%</u>		<u> </u>					
		- //				-			
	-	<u> </u>		<u> </u>					
		%		%					
¹ Type: (C=Concentration,	D=Depletion, RM=	Reduced Matrix	c, CS=Covered	or Coated S	Sand Gra	ains.	² Location: PL=Pore	Lining, M=Matrix
	oil Indicators: (A	pplicable to all Li)			cators for Problemati	c Hydric Soils
Histos			☐ Sandy Red					cm Muck (A10)	_,
	Epipedon (A2)		☐ Stripped M					ed Parent Material (TF2	
	Histic (A3)			cky Mineral (F1		ILRA 1)		ery Shallow Dark Surfa	
	gen Sulfide (A4)	((() () ()	•	yed Matrix (F2)				ther (Explain in Remark	(S)
	ted Below Dark Su		□ Depleted N				31 !'.	and the state of t	
	Dark Surface (A12	·		k Surface (F6)	- \			cators of hydrophytic ve /etland hydrology must	
-	Mucky Minerals (•	Oark Surface (F	/)			nless disturbed or probl	
	Gleyed Matrix (S	•	☐ Redox Dep	pressions (F8)			ui		
Restrictiv	ve Layer (if prese	ent):							
Type:									
Type:	ches).						Hydric S	Soil Present?	Yes⊠ No⊡
	,	tor Depleted Matri	x (F3) was met o	due to a matrix	value of 4			redoximorphic feature	
below the		tor Doprotod Matri	x (i o) nao mor v	ado to a matrix	value of 1,	ornoma c	01 1, 0110	rodoximorpino rodiaro	
20.01. 11.0									
HYDROL	_OGY								
Wetland	Hydrology Indica								
Primary Ir	ndiantara (min. of a	itors:							
	nuicators (min. or o		ck all that apply)					Secondary Indicate	ors (2 or more required)
		itors: one required; chec	_						ors (2 or more required)
	ce Water (A1)		☐ Water-Stai	ned Leaves (B	9) (except N	//LRA 1,		☐ Water-Stained I	Leaves (B9) (MLRA 1, 2,
⊠ High V	ce Water (A1) Vater Table (A2)		☐ Water-Stai	3)	9) (except N	/ILRA 1,	 2, 4A,	☐ Water-Stained I	Leaves (B9) (MLRA 1, 2,
	ce Water (A1) Water Table (A2) ation (A3)		☐ Water-Stai and 4E	B) (B11)		/ILRA 1,	2, 4A,	☐ Water-Stained I 4A, and 4B) ☐ Drainage Patter	Leaves (B9) (MLRA 1, 2,) rns (B10)
☐ High V☐ Satura☐ Water	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1)		☐ Water-Stain and 4E ☐ Salt Crust ☐ Aquatic Inv	B) (B11) vertebrates (B1	3)	/ILRA 1,	2, 4A,	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2)
☐ High V☐ Satura☐ Water☐ Sedim	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2)		☐ Water-Stain and 4E ☐ Salt Crust ☐ Aquatic Inv	B) (B11) vertebrates (B1: Sulfide Odor (C	3) 1)			☐ Water-Stained I 4A, and 4B) ☐ Drainage Patter ☐ Dry-Season Wa ☐ Saturation Visib	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9)
□ High V □ Satura □ Water □ Sedim □ Drift D	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ent Deposits (B2) deposits (B3)		☐ Water-Stain and 4E ☐ Salt Crust (☐ Aquatic Inv ☐ Hydrogen S☐ Oxidized R	B) (B11) vertebrates (B1: Sulfide Odor (C hizospheres al	3) 1) ong Living F			☐ Water-Stained I 4A, and 4B) ☐ Drainage Patter ☐ Dry-Season Wa ☐ Saturation Visib ☐ Geomorphic Po	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2)
□ High V □ Satura □ Water □ Sedim □ Drift D □ Algal N	ce Water (A1) Water Table (A2) ation (A3) Marks (B1) eent Deposits (B2) deposits (B3) Wat or crust (B4)		☐ Water-Stain and 4E ☐ Salt Crust © Aquatic Inv ☐ Hydrogen S ☐ Oxidized R ☐ Presence of	B) (B11) vertebrates (B1) Sulfide Odor (C hizospheres all of Reduced Iror	3) 1) ong Living F ı (C4)	Roots (C		□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) esition (D2) rd (D3)
	ce Water (A1) Water Table (A2) ation (A3) Marks (B1) Hent Deposits (B2) Peposits (B3) Wat or crust (B4) Peposits (B5)	one required; chec	Water-Stain and 4E Salt Crust on Aquatic Inv Hydrogen S Oxidized R Presence on Recent Iron	(B11) vertebrates (B1: Sulfide Odor (Cithizospheres allof Reduced Iron n Reduction in	3) 1) ong Living F i (C4) Tilled Soils (Roots (C3		□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5)
	ce Water (A1) Vater Table (A2) Ation (A3) Marks (B1) Ation Deposits (B2) Ation Deposits (B3) Mat or crust (B4) Ation Cracks (B6) Ation Cracks (B6)	one required; chec	☐ Water-Stain and 4E ☐ Salt Crust ☐ Aquatic Inv ☐ Hydrogen S ☐ Oxidized R ☐ Presence C ☐ Recent Iron ☐ Stunted or	(B) (B11) (ertebrates (B1) Sulfide Odor (C) chizospheres all of Reduced Iron in Reduction in Stressed Plant	3) ong Living F o (C4) Tilled Soils (s (D1) (LRF	Roots (C3		□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A)
	ce Water (A1) Water Table (A2) Ation (A3) Marks (B1) Hent Deposits (B2) Peposits (B3) Mat or crust (B4) Peposits (B5) Re Soil Cracks (B6) Ation Visible on Ae	one required; checone required	Water-Stain and 4E Salt Crust of Aquatic Inv Hydrogen of Oxidized R Presence of Recent Iron Stunted or Other (Exp	(B11) vertebrates (B1: Sulfide Odor (Cithizospheres allof Reduced Iron n Reduction in	3) ong Living F o (C4) Tilled Soils (s (D1) (LRF	Roots (C3		□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A)
	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or crust (B4) eposits (B5) ce Soil Cracks (B6) ation Visible on Ae ely Vegetated Cor	one required; checone required	Water-Stain and 4E Salt Crust of Aquatic Inv Hydrogen of Oxidized R Presence of Recent Iron Stunted or Other (Exp	(B) (B11) (ertebrates (B1) Sulfide Odor (C) chizospheres all of Reduced Iron in Reduction in Stressed Plant	3) ong Living F o (C4) Tilled Soils (s (D1) (LRF	Roots (C3		□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A)
	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or crust (B4) eposits (B5) de Soil Cracks (B6) ation Visible on Ae ely Vegetated Conservations:	one required; chec) rial Imagery (B7) acave Surface (B8)	Water-Stain and 4E Salt Crust of Aquatic Involved Hydrogen Social Presence of Recent Iron Stunted or Other (Exp.)	(B11) Vertebrates (B1)	3) ong Living F o (C4) Tilled Soils (s (D1) (LRF	Roots (C3		□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A)
	ce Water (A1) Vater Table (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or crust (B4) Deposits (B5) Des Soil Cracks (B6) Detaition Visible on Ae Deposits (B6) Des Servations: Vater Present?	one required; checons one required; checons		(B11) Vertebrates (B1)	3) ong Living F o (C4) Tilled Soils (s (D1) (LRF	Roots (C:	3)	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A)
	ce Water (A1) Water Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Wat or crust (B4) Deposits (B5) Des Soil Cracks (B6) Determine Visible on Ae Dely Vegetated Conservations: Water Present? Use Water Resent?	one required; checons one required; checons one required; checons on the constant of the const	Water-Stain and 4E Salt Crust of Aquatic Inverse Stain Aquatic Inverse A	(B11) Vertebrates (B1)	3) ong Living F ong C4) Tilled Soils (s (D1) (LRF s)	Roots (C:	3)	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
	ce Water (A1) Vater Table (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Deposits (B3) Mat or crust (B4) Deposits (B5) Des Soil Cracks (B6) Detaition Visible on Ae Deposits (B6) Des Servations: Vater Present?	one required; checons one required; checons	Water-Stain and 4E Salt Crust of Aquatic Inverse Stain Aquatic Inverse Aquatic Inverse Aquatic Inverse Aquatic Inverse Aquatic Inverse Aquatic Inverse I	(B11) Vertebrates (B1)	3) ong Living F ong C4) Tilled Soils (s (D1) (LRF s)	Roots (C:	3)	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu	Leaves (B9) (MLRA 1, 2, 1) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A)
	ce Water (A1) Water Table (A2) Ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Wat or crust (B4) Meposits (B5) Mesonic Cracks (B6) Metor Crust (B6) Mesonic Cracks (B6) Mesonic Cracks (B6) Mesonic Cracks (B6) Metor Cracks	one required; checonical Imagery (B7) acave Surface (B8) Yes Yes Yes Yes Yes Yes Yes Yes	Water-Stain and 4E Salt Crust Sal	(B11) Vertebrates (B12) Verteb	3) ong Living F ong C4) Tilled Soils (s (D1) (LRF s)	Roots (C:	3) /etland l	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or crust (B4) deposits (B5) de Soil Cracks (B6) ation Visible on Ae dely Vegetated Conservations: Vater Present? ble Present? n Present? Capillary fringe)	one required; checonical Imagery (B7) acave Surface (B8) Yes Yes Yes Yes Yes Yes Yes Yes	Water-Stain and 4E Salt Crust Sal	(B11) Vertebrates (B12) Verteb	3) ong Living F ong C4) Tilled Soils (s (D1) (LRF s)	Roots (C:	3) /etland l	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
	ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) ment Deposits (B2) deposits (B3) Mat or crust (B4) deposits (B5) de Soil Cracks (B6) ation Visible on Ae dely Vegetated Conservations: Vater Present? ble Present? n Present? Capillary fringe)	one required; checonical Imagery (B7) acave Surface (B8) Yes Yes Yes Yes Yes Yes Yes Yes	Water-Stain and 4E Salt Crust Sal	(B11) Vertebrates (B12) Verteb	3) ong Living F ong C4) Tilled Soils (s (D1) (LRF s)	Roots (C:	3) /etland l	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
	ce Water (A1) Water Table (A2) ation (A3) Marks (B1) Hent Deposits (B2) Peposits (B3) Wat or crust (B4) Peposits (B5) Peposits (B5) Peposits (B5) Peposits (B6) Peposits (one required; checonic required;	Water-Stain and 4E Salt Crust on Aquatic Investment of Aquatic Inv	(B11) vertebrates (B1: Sulfide Odor (Cithizospheres allof Reduced Iron in Reduction in Stressed Plant lain in Remarks epth (Inches): epth (Inches): epth (Inches):	3) 11) ong Living F 1 (C4) Tilled Soils (15 (D1) (LRF 15) 8 6 Tious inspec	Roots (C:	3) /etland l	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu Hydrology Present? e:	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A) ummocks (D7) Yes No
	ce Water (A1) Water Table (A2) ation (A3) Marks (B1) Hent Deposits (B2) Peposits (B3) Wat or crust (B4) Peposits (B5) Peposits (B5) Peposits (B5) Peposits (B6) Peposits (one required; checonic required;	Water-Stain and 4E Salt Crust on Aquatic Investment of Aquatic Inv	(B11) vertebrates (B1: Sulfide Odor (Cithizospheres allof Reduced Iron in Reduction in Stressed Plant lain in Remarks epth (Inches): epth (Inches): epth (Inches):	3) 11) ong Living F 1 (C4) Tilled Soils (15 (D1) (LRF 15) 8 6 Tious inspec	Roots (C:	3) /etland l	□ Water-Stained I 4A, and 4B) □ Drainage Patter □ Dry-Season Wa □ Saturation Visib □ Geomorphic Po □ Shallow Aquitar □ FAC Neutral Te □ Raised Ant Mou □ Frost-Heave Hu	Leaves (B9) (MLRA 1, 2,) rns (B10) ater Table (C2) ble on Aerial Imagery (C9) sition (D2) rd (D3) set (D5) unds (D6) (LRR A) ummocks (D7) Yes No

WEILAND DETERMINATION	I DATA FO	KIVI – Weste	i ii wiouiii	iailis, valleys allu Goasi	Region	
Project/Site: 5 Mile Fill Site		City/Cou	ınty: King	Samp	ling Date: 3/16/2020	
Applicant/Owner: Hos Bros Construction			State: V	VA Sampl	ling Point: TP-B6	
Investigator(s): McGrath, Mara and Johnson, Beau		Section	n, Townshi	p, Range: S14, T24N, R8E		
Landform (hillslope, terrace, etc.): Depression	<u> </u>			nvex, none): Convex	Slope (%): <u>0</u> -	-3%
Subregion (LRR): LRR A, MLRA2	Lat: ,47.568	89946	Long: <u>-12</u>		tum: NAD83	
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer	nt slopes		!	NWI classification: None		
Are climatic / hydrologic conditions on the site typical f						
Are Vegetation , Soil , or Hydrology significant				Circumstances" present? Yes⊠	J No∐	
Are Vegetation, Soil, or Hydrology naturally p		•		any answers in Remarks.)	. faata ata	
SUMMARY OF FINDINGS – Attach site map		ampling po	int locati	ons, transects, important	reatures, etc.	
Hydrophytic Vegetation Present? Yes ☐ No ☐ Hydric Soils Present? Yes ☐ No ☐ N		Is the San	npled Area	a		
Wetland Hydrology Present? Yes ☐ No [within a V	Vetland?	Yes⊡ No⊠		
Remarks: This test plot lies in the northeastern bounds		I B. The vegeta	tion in this	plot consisted of tree, shrub, a	nd herbaceous specie	es.
This test plot did not meet wetland indicators; therefore						
,	•		'			
VEGETATION – Use scientific names of pla	nts.					
	Absolute	Dominant	Indicator	Dominance Test Workshee	t	
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status			
Tsuga heterophylla	80%	yes	FACU	Number of Dominant Species		(A)
2. Alnus rubra	10%	no	FAC	That Are OBL, FACW, or FAC	J:	
3	%			Total Number of Dominant		
4.	<u>%</u>			Species Across All Strata:	3	(B)
$50\% = 45 \ 20\% = 18$	90%	=Total Cover		openes / torous / til otrata.		
				Percent of Dominant Species	;	
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC	C <u>34</u>	(A/B)
1. Acer circinatum	5%	yes	FAC	Prevalence Index workshee)t	
2	%			Total % Cover of:	Multiply by:	
3.	%			OBL species <u>0</u>		
4.	%			FACW species 0	x 2= <u>0</u>	
5. 50% = 3 20% = 1	5%	=Total Cover		FACW species 0 FAC species 3 FACU species 2 UPL species 0	x 3= <u>9</u> x 4= <u>8</u> x 5= <u>0</u>	
Herb Stratum (Plot size: 5 ft radius)	3%	= rotal Cover		UPL species 0	x 4= <u>o</u> x 5= 0	
1. Polystichum munitum	40%	yes	FACU	Column Totals: 5	(A) 17	(B)
Rubus ursinus	2%	no	FAC	Prevalence Inde	• • • —	(-)
3.	<u></u> %			Hydrophytic Vegetation Ind		
4.	%			☐ 1 – Rapid Test for Hydr		
5.	%			☐ 2 – Dominance Test is		
6.	%			☐ 3 - Prevalence Index is		
7	%			4 - Morphological Adap		
8	%			supporting data in Rem	arks or on a separate	Э
9	<u>%</u>			sheet)		
10.	%			5 - Wetland Non-Vascu	lar Plants ¹	
11.	<u>%</u>	Tatal Carra		Dooble or estical business business	:- \/+-+:1/ -	
$50\% = \underline{21}$ $20\% = \underline{8}$ Woody Vine Stratum (Plot size: 15 ft radius)	42%	=Total Cover		☐ Problematic Hydrophyti	c vegetation (Explai	m)
	%			¹ Indicators of hydric soil and	wetland hydrology	
2.				must be present, unless distu		
		=Total Cover		must be present, unless diste	ibod of problematic.	
50% = 20% =		. 510. 5516.		Hydrophytic		
				Vegetation		
0/ Page 0 and 1 all all 0/ and an 00/				Present?	Yes□ No∑	\boxtimes
% Bare Ground in Herb Stratum 0%						
Remarks:The hydrophytic vegetation criterion was no	ot met because	e less than 50%	6 of domina	ant species had FAC, FACW, o	r OBL indicator status	ses.

SOIL Sampling Point: <u>TP-B6</u>

Drofile D	locarintian (Doca	vibo to the denth	nooded to de	aumont the indicator or o	anfirm	the ob	conce of indicators	
Profile D	escription: (Desc	ribe to the depth	needed to do	ocument the indicator or c	ontirm	tne ab	sence of indicators.)	
Depth	Matrix			Redox Features				
(inches)	Color (moist)		Color (moist)	%Type ¹	Loc	C ²	Texture	Remarks
+10	7 FVD 0/4	<u>%</u>					Duff	See Remarks Below
0-16	7.5YR 3/4			<u> </u>			Silty sandy loam	
		- %						·
		- /// // //						
		%		<u> </u>				
		%						
		%		%				
¹ Type:	C=Concentration,	D=Depletion, RM=	Reduced Mat	rix, CS=Covered or Coated	Sand G	rains.	² Location: PL=Por	e Lining, M=Matrix
Hydric S	oil Indicators: (A	pplicable to all LF				Ir	ndicators for Problema	tic Hydric Soils
Histos			☐ Sandy Re				2 cm Muck (A10)	
	Epipedon (A2)		Stripped				Red Parent Material (T	
	Histic (A3)		-	ucky Mineral (F1) (except N	VILRA 1	-	Very Shallow Dark Surf	
-	gen Sulfide (A4)		-	leyed Matrix (F2)		Ш	Other (Explain in Rema	ırks)
-	ted Below Dark Su		-	Matrix (F3)				
	Dark Surface (A12	•		ark Surface (F6)		³ ln	dicators of hydrophytic	
	y Mucky Minerals (•	•	Dark Surface (F7)			Wetland hydrology mus	
☐ Sandy	y Gleyed Matrix (S	4)	☐ Redox D	epressions (F8)			unless disturbed or pro	Diemauc
Restricti	ve Layer (if prese	ent):						
Type:								
Depth (in	iches):					Hvdrid	c Soil Present?	Yes⊡ No⊠
Remarks	· No indicators of h	ovdric soil were ob	served in the t	est plot during the site visit.	The plo	ot conta	ined a 10-inch layer of a	luff
HYDRO	LOGY							
Wetland	Hydrology Indica	ntors:						
Primary I	ndicators (min. of	one required; chec	k all that apply	/)			Secondary Indica	tors (2 or more required)
☐ Surfac	ce Water (A1)		☐ Water-St	ained Leaves (B9) (except I	MLRA 1	1, 2, 4A	., ☐ Water-Stained	Leaves (B9) (MLRA 1, 2,
☐ High \	Nater Table (A2)		and 4	4B)			4A, and 4	B)
☐ Satura	ation (A3)		☐ Salt Crus	t (B11)			☐ Drainage Patt	
☐ Water	Marks (B1)		Aquatic I	nvertebrates (B13)			☐ Dry-Season V	/ater Table (C2)
☐ Sedim	nent Deposits (B2)		☐ Hydroger	n Sulfide Odor (C1)			☐ Saturation Vis	ible on Aerial Imagery (C9)
☐ Drift □	Deposits (B3)		☐ Oxidized	Rhizospheres along Living I	Roots (0	C3)	☐ Geomorphic F	Position (D2)
☐ Algal	Mat or crust (B4)		☐ Presence	e of Reduced Iron (C4)			☐ Shallow Aquit	ard (D3)
☐ Iron D	eposits (B5)		☐ Recent Ir	on Reduction in Tilled Soils	(C6)		☐ FAC Neutral 1	est (D5)
☐ Surfac	ce Soil Cracks (B6)	☐ Stunted of	or Stressed Plants (D1) (LRI	R A)		☐ Raised Ant Me	ounds (D6) (LRR A)
☐ Inund	ation Visible on Ae	erial Imagery (B7)	Other (Ex	plain in Remarks)			☐ Frost-Heave I	Hummocks (D7)
□ Spars	ely Vegetated Cor	ncave Surface (B8))					
	servations:							
	Water Present?	Yes 🗌		Depth (Inches):	ļ			
	ible Present?	Yes 🗌		Depth (Inches):	1	Wetlan	d Hydrology Present?	,
	n Present?	Yes 🗌	No ⊠	Depth (Inches):				Yes ☐ No ⊠
(Includes	Capillary fringe)	Stroom gouge man	nitoring well a	erial photos, previous inspec	otions)	if avails	ablo:	
Describe	necolded Data (S	oneam gauge, mor	mornig well, a	enai priotos, previous inspec	cuons), I	ıı avalla	ADIC.	
Remarks	:No indicators of h	vdrology were obs	served in the te	est plot during the site visit.				
		, 3, 2,2 220		, 5				

WEILAND DETERMINATION	IDAIAFO	Kivi – vveste	i ii wiouiii	iallis, valleys allu Coast Ne	gion		
Project/Site: 5 Mile Fill Site		City/Cou	unty: King	Sampling	ampling Date: 3/16/2020		
Applicant/Owner: Hos Bros Construction			State: V		Point: TP-B7		
Investigator(s): McGrath, Mara and Johnson, Beau				p, Range: S14, T24N, R8E			
Landform (hillslope, terrace, etc.): Depression				nvex, none): Concave	Slope (%):0-3%		
Subregion (LRR): LRR A, MLRA2	Lat: 47.567	79401	Long: -12		Datum: NAD83		
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer	nt slopes			NWI classification: Freshwater Fo	rested/Shrub Wetland		
Are climatic / hydrologic conditions on the site typical f					Na 🗆		
Are Vegetation, Soil, or Hydrology significantly Are Vegetation, Soil, or Hydrology naturally p				Circumstances" present? Yes⊠ any answers in Remarks.)	NOL		
SUMMARY OF FINDINGS – Attach site map		•		•	noturos ete		
		samping po	iii iocati	ons, transects, important it	eatures, etc.		
Hydrophytic Vegetation Present? Yes ⊠ No [Hydric Soils Present? Yes ⊠ No [Is the Sar	npled Area				
Wetland Hydrology Present? Yes ⊠ No [_	within a V	Vetland?	Yes⊠ No⊡			
Remarks: This test plot lies in the northeastern portion		B. The vegetation	n in this pla	ot consisted of tree, shrub, and he	rbaceous species. This		
test plot met all wetland indicators; therefore, TP-B7 w				, ,	'		
•							
VEGETATION – Use scientific names of pla	nts.						
	Absolute	Dominant	Indicator	Dominance Test Worksheet			
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	<u> </u>			
1. Thuja plicata	45%	yes	FAC	Number of Dominant Species	4 (A)		
2	%			That Are OBL, FACW, or FAC:			
3	%			Total Number of Dominant	4 (5)		
4.	<u>%</u>	Tatal Carra		Species Across All Strata:	4 (B)		
50% = <u>23</u> 20% = <u>9</u>	45%	=Total Cover					
				Percent of Dominant Species			
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC	<u>100</u> (A/B)		
Rubus spectabilis	50%	yes	FAC	Prevalence Index worksheet			
2. Cornus sericea	5%	no	FACW	Total % Cover of:	Multiply by:		
3.	<u>%</u> %			OBL species	x 1=		
5.	<u></u> %	· 		FACW species	x 2= x 3=		
50% = <u>28</u> 20% = <u>11</u>	55%	=Total Cover		FACU species	x 3= x 4=		
Herb Stratum (Plot size: 5 ft radius)	0070	_ 10tal 00v0l		UPL species	x 5=		
1. Carex stipata	10%	yes	OBL	Column Totals:	(A) (B)		
2. Oenanthe sarmentosa	10%	yes	OBL	Prevalence Index =			
3. Lysichiton americanus	2%	no	OBL	Hydrophytic Vegetation Indica			
4.	%			☐ 1 – Rapid Test for Hydrop			
5	%						
6	%			☐ 3 - Prevalence Index is ≤3			
7	<u>%</u>			4 - Morphological Adaptat			
8	<u>%</u>	·		supporting data in Remarl sheet)	ks or on a separate		
9.	<u>%</u> %	· 		5 - Wetland Non-Vascular	· Dlanta1		
10 11.	%			5 - Welland Non-Vascular	Piants		
50% = 11 20% = 4	22%	=Total Cover		☐ Problematic Hydrophytic \	/egetation1 (Explain)		
Woody Vine Stratum (Plot size: 15 ft radius)	2270	_ 10tal 00v0l		Troblemate Hydrophyte	regetation (Explain)		
1	%			¹ Indicators of hydric soil and we	tland hydrology		
2.	%			must be present, unless disturbe			
50% = 20% =	%	=Total Cover			•		
2070 =				Hydrophytic			
				Vegetation			
% Bare Ground in Herb Stratum 0%				Present?	Yes⊠ No⊡		
Remarks:The hydrophytic vegetation criterion was m	et hecause 10	00% of dominar	nt enocios b	and EAC EACW or OPI indicator	etatuege		
Tremarks. The hydrophytic vegetation chienoff was in	er necause 10	70 70 OI UUIIIIIAI	ir sheries i	iau i AO, i AOVV, UI ODL IIIUICALUI	วเลเนอซอ.		

SOIL Sampling Point: <u>TP-B7</u>

Depth	Matrix			Redox Feat	ures				
inches)	Color (moist)	%	Color (mois		Type ¹	Loc	.2	Texture	Remarks
0-10	10YR 2/1	100%		%				Mucky loam	
10-16	10YR 3/1	97%	10YR 4/6	3%	С	М		Clay	
		%		%					
		<u></u> %		%					
		<u>%</u>							
		<u>%</u>			-	-			
		<u>%</u>							
T		<u>%</u>	Dadward M	<u>%</u>	041	0		21 anations DI Dana	Lining M. Matrix
	C=Concentration, E					Sand Gr		² Location: PL=Pore cators for Problemati	
Histos		plicable to all L		Redox (S5)	.)			cm Muck (A10)	c riyuric solis
	Epipedon (A2)			ed Matrix (S6)				ed Parent Material (TF:	2)
	Histic (A3)			Mucky Mineral (F1) (except N	MIRA 1)		ery Shallow Dark Surfa	
	gen Sulfide (A4)		-	Gleyed Matrix (F2		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		her (Explain in Remark	
-	ted Below Dark Su	face (A11)	-	ed Matrix (F3))			iner (Explain in Neman	(3)
	Dark Surface (A12)	, ,	-	Dark Surface (F6)			³ Indic	ators of hydrophytic ve	agetation and
_	Mucky Minerals (S			ed Dark Surface (F	7)			etland hydrology must	
	Gleyed Matrix (S4	•		Depressions (F8)	1)			less disturbed or probl	
	•	<u> </u>	☐ IXedox	Depressions (1 0)				·	
Restricti	ve Layer (if preser	nt):							
Гуре:									
Depth (in	ches):						Hvdric S	oil Present?	Yes⊠ No□
	Organic soil mate mucky modified lo						site visit a	and meets Loamy Mucl	ky Material (F1) becaus
a layer of	mucky modified lo						site visit a	and meets Loamy Mucl	
a layer of	mucky modified lo	amy soil materia					site visit a	and meets Loamy Mucl	
a layer of	mucky modified lo	amy soil materia	I 4 inches or	more thick within 6			site visit a	and meets Loamy Mucl as present.	ky Material (F1) becaus
IYDROI Wetland	LOGY Hydrology Indicated andicators (min. of o	amy soil materia	I 4 inches or	more thick within 6			site visit a	and meets Loamy Mucl as present.	
IYDROI Wetland Primary I	LOGY Hydrology Indicate andicators (min. of once Water (A1)	amy soil materia	ck all that ap	more thick within 6 ply) Stained Leaves (B	inches of the	he soil s	site visit a	snd meets Loamy Muclas present. Secondary Indicate Water-Stained	ky Material (F1) becaus ors (2 or more required) Leaves (B9) (MLRA 1,
YDROI Wetland Primary I ☑ Surfac ☐ High \	LOGY Hydrology Indicate adicators (min. of one Water (A1) Vater Table (A2)	amy soil materia	ck all that ap	more thick within 6 ply) Stained Leaves (Bard 4B)	inches of the	he soil s	site visit a	Secondary Indicate Water-Stained 4A, and 4B	brs (2 or more required) Leaves (B9) (MLRA 1,
IYDROI Wetland Primary I Surfac High \ Satura	LOGY Hydrology Indicate andicators (min. of one Water (A1) Vater Table (A2) ation (A3)	amy soil materia	ck all that ap Water- an Salt Cr	eply) Stained Leaves (B: d 4B) Fust (B11)	9) (except I	he soil s	site visit a	Secondary Indicate Water-Stained 4A, and 4B) Drainage Pattel	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10)
IYDROI Wetland Primary I Surface High \ Satura Water	LOGY Hydrology Indicate andicators (min. of of the Water (A1) Vater Table (A2) ation (A3) Marks (B1)	amy soil materia	ck all that ap Water- an Salt Cr	pply) Stained Leaves (Btd 4B) cust (B11) c Invertebrates (B1	9) (except I	he soil s	site visit a	Secondary Indicate Water-Stained I 4A, and 4B Drainage Pattel Dry-Season Wa	brs (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) ater Table (C2)
IYDROI Wetland Primary I Surfac High \ Satura Water Sedim	LOGY Hydrology Indicate andicators (min. of or ewater (A1) Water Table (A2) ation (A3) Marks (B1) Lent Deposits (B2)	amy soil materia	ck all that ap Water- an Salt Cr Aquatic Hydrog	pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (C	9) (except I	he soil si	site visit a urface wa	Secondary Indicate Water-Stained 4A, and 4B, Drainage Patter Dry-Season Wa Saturation Visib	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) ater Table (C2) ole on Aerial Imagery (C
IYDROI Wetland Primary I Surfac High \ Satura Water Sedim Drift D	LOGY Hydrology Indicate andicators (min. of of other CA1) Vater Table (A2) ation (A3) Marks (B1) Marks (B1) Ment Deposits (B2) Meposits (B3)	amy soil materia	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize	pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al	9) (except I 3) c1) ong Living I	he soil si	site visit a urface wa	Secondary Indicate Water-Stained 4A, and 4B Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2)
IYDROI Wetland Primary I Surfac High \ Satura Water Water Drift D Algal	LOGY Hydrology Indicate andicators (min. of or ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) June Deposits (B2) June Deposits (B3) Mat or crust (B4)	amy soil materia	ck all that ap Water- an Salt Cr Aquation Hydrog Oxidize Preser	pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres allace of Reduced Iror	9) (except I 3) c1) ong Living I	MLRA 1	site visit a urface wa	Secondary Indicate Water-Stained AA, and 4B; Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po	cors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leater Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3)
IYDROI Wetland Primary I Surfac High \ Satura Water Sedim Drift D Algal Iron D	LOGY Hydrology Indicate andicators (min. of or ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) June Deposits (B2) June Deposits (B3) Mat or crust (B4) Leposits (B5)	amy soil materia	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent	pply) Stained Leaves (Bad 4B) rust (B11) con Sulfide Odor (Conder Reduced Iron Reduction in	9) (except I 3) C1) ong Living I n (C4) Tilled Soils	MLRA 1 Roots (C	site visit a urface wa	Secondary Indicate Water-Stained I 4A, and 4B Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5)
IYDROI Wetland Primary I Surfac High \ Satura Sedim Drift D Algal Iron D Surfac	LOGY Hydrology Indicate andicators (min. of of the Water (A1) Vater Table (A2) ation (A3) Marks (B1) Hent Deposits (B2) Heposits (B3) Mat or crust (B4) Heposits (B5) Heposits (B5) Heposits (B6)	ors: ne required; che	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent	more thick within 6 pply) Stained Leaves (Bt d 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI	MLRA 1 Roots (C	site visit a urface wa	Secondary Indicate Water-Stained I AA, and AB Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lends (D6) (LRR A)
YDRO Wetland Primary I Surfact High Saturation Water Sedim Drift D Algal Iron D Surfact Inunda	Hydrology Indicate andicators (min. of of ce Water (A1) Vater Table (A2) ation (A3) Marks (B1) Hent Deposits (B2) Heposits (B3) Mat or crust (B4) Heposits (B5) Heposits (B5) Heposits (B6)	ors: ne required; che	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter	pply) Stained Leaves (Bad 4B) rust (B11) con Sulfide Odor (Conder Reduced Iron Reduction in	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI	MLRA 1 Roots (C	site visit a urface wa	Secondary Indicate Water-Stained I 4A, and 4B Drainage Pattel Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lends (D6) (LRR A)
IYDROI Wetland Primary I Surfac High \ Satura Vater Sedim Drift D Algal Iron D Surfac Inunda	Hydrology Indicate andicators (min. of one Water (A1) Water Table (A2) ation (A3) Marks (B1) Ment Deposits (B2) Meposits (B3) Mat or crust (B4) Meposits (B5) Meson Cracks (B6) Metor Cracks (B6)	ors: ne required; che	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter	more thick within 6 pply) Stained Leaves (Bt d 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI	MLRA 1 Roots (C	site visit a urface wa	Secondary Indicate Water-Stained I AA, and AB Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lends (D6) (LRR A)
IYDROI Wetland Primary I Surface High \ Satura Sedim Drift D Algal Iron D Surface Inunda Spars Field Ob	Hydrology Indicate andicators (min. of of the Water (A1) Water Table (A2) ation (A3) Marks (B1) the Deposits (B2) the posits (B3) water or crust (B4) the posits (B5) the Soil Cracks (B6) ation Visible on Aerely Vegetated Conceservations:	ial Imagery (B7)	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nice of Reduced Iror t Iron Reduction in d or Stressed Plant (Explain in Remark	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI	MLRA 1 Roots (C	site visit a urface wa	Secondary Indicate Water-Stained I AA, and AB Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lends (D6) (LRR A)
IYDROI Wetland Primary I Surface High \ Satura Sedim Drift D Surface Iron D Surface Inunda Spars Field Ob Surface \	DOGY Hydrology Indicate andicators (min. of of order (A1) Vater Table (A2) Aution (A3) Marks (B1) Aution (B3) Marks (B3) Mat or crust (B4) Aution (B4) Aution (B5) Aution (B6)	ial Imagery (B7) cave Surface (B8)	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nice of Reduced Iron t Iron Reduction in d or Stressed Plant (Explain in Remark	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lends (D6) (LRR A)
IYDROI Wetland Primary I Surface High \ Satura Sedim Drift D Algal Iron D Surface Inunda Spars Field Ob Surface \ Water Ta	Hydrology Indicated andicators (min. of one Water (A1) Vater Table (A2) Aution (A3) Marks (B1) Aution (B3) Marks (B3) Mat or crust (B4) Aution (B4) Aution (B5) Aution (B5) Aution (B6) Au	ial Imagery (B7) cave Surface (B8) Yes Yes Yes	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunted Other (pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant (Explain in Remark Depth (Inches): Depth (Inches):	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI s)	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained I AA, and AB Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te	cors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Lete on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lunds (D6) (LRR A) Lummocks (D7)
IYDROI Wetland Primary I Surface High \ Satura Sedim Drift D Surface Inunda Spars Field Ob Surface \ Water Ta Saturatio	Hydrology Indicate andicators (min. of one Water (A1) Vater Table (A2) Aution (A3) Marks (B1) Author Crust (B4) Author Crust (B4) Author Crust (B4) Author Crust (B5) Author Crust (B6) Author C	ial Imagery (B7) cave Surface (B8)	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (pply) Stained Leaves (Bad 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nice of Reduced Iron t Iron Reduction in d or Stressed Plant (Explain in Remark	9) (except I 3) c1) ong Living I n (C4) Tilled Soils is (D1) (LRI s)	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained 4A, and 4B) Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou	ors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Dole on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lends (D6) (LRR A)
Wetland Primary I Surface High \ Satura Sedim Drift D Surface Inunda Spars Field Ob Surface \ Water Ta Saturatio (Includes	Hydrology Indicate andicators (min. of one Water (A1) Vater Table (A2) Aution (A3) Marks (B1) Aution (A3) Marks (B1) Aution (B4) Aution (B4) Aution (B4) Aution (B5) Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6) Aution	ial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (8) No No	pply) Stained Leaves (Bod 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant (Explain in Remark Depth (Inches): Depth (Inches):	9) (except I 3) c1) ong Living I n (C4) Tilled Soils s (D1) (LRI s)	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained 4A, and 4B Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou Frost-Heave Hu	cors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Lete on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lunds (D6) (LRR A) Lummocks (D7)
Wetland Primary I Surface High \ Satura Sedim Drift D Surface Inunda Spars Field Ob Surface \ Water Ta Saturatio (Includes	Hydrology Indicate andicators (min. of one Water (A1) Vater Table (A2) Aution (A3) Marks (B1) Author Crust (B4) Author Crust (B4) Author Crust (B4) Author Crust (B5) Author Crust (B6) Author C	ial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (8) No No	pply) Stained Leaves (Bod 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant (Explain in Remark Depth (Inches): Depth (Inches):	9) (except I 3) c1) ong Living I n (C4) Tilled Soils s (D1) (LRI s)	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained 4A, and 4B Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou Frost-Heave Hu	cors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Lete on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lunds (D6) (LRR A) Lummocks (D7)
Wetland Primary I Surface High \ Satura Sedim Drift D Surface Inunda Spars Field Ob Surface \ Water Ta Saturatio (Includes	Hydrology Indicate andicators (min. of one Water (A1) Vater Table (A2) Aution (A3) Marks (B1) Aution (A3) Marks (B1) Aution (B4) Aution (B4) Aution (B4) Aution (B5) Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6)	ial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (8) No No	pply) Stained Leaves (Bod 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant (Explain in Remark Depth (Inches): Depth (Inches):	9) (except I 3) c1) ong Living I n (C4) Tilled Soils s (D1) (LRI s)	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained 4A, and 4B Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou Frost-Heave Hu	cors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Lete on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lunds (D6) (LRR A) Lummocks (D7)
IYDROI Wetland Primary I Surface High \ Satura Under Sedim Drift D Surface Inunda Inunda Spars Field Ob Surface \ Water Ta Saturatio	Hydrology Indicate andicators (min. of one Water (A1) Vater Table (A2) Aution (A3) Marks (B1) Aution (A3) Marks (B1) Aution (B4) Aution (B4) Aution (B4) Aution (B5) Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6) Aution Visible on Aerely Vegetated Conceservations: Vater Present? Aution (B6)	ial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt Cr Aquatic Hydrog Oxidize Preser Recent Stunter Other (8) No No	pply) Stained Leaves (Bod 4B) rust (B11) c Invertebrates (B1 gen Sulfide Odor (Ced Rhizospheres al nce of Reduced Iror t Iron Reduction in d or Stressed Plant (Explain in Remark Depth (Inches): Depth (Inches):	9) (except I 3) c1) ong Living I n (C4) Tilled Soils s (D1) (LRI s)	MLRA 1, Roots (C (C6) R A)	, 2, 4A,	Secondary Indicate Water-Stained 4A, and 4B Drainage Patter Dry-Season Wa Saturation Visib Geomorphic Po Shallow Aquitar FAC Neutral Te Raised Ant Mou Frost-Heave Hu	cors (2 or more required) Leaves (B9) (MLRA 1,) rns (B10) Leter Table (C2) Lete on Aerial Imagery (Cosition (D2) rd (D3) Lest (D5) Lunds (D6) (LRR A) Lummocks (D7)

	WEILAND DETERMINATIO	NDATAFO	ixivi – vveste	i ii iviouii	tairis, valleys and ot	Jast INC	gion		
Moderatin Maria and Johnson, Beau Section, Township, Range, S14, T24N, R8E	Project/Site: 5 Mile Fill Site		City/Cou	unty: King	;	Sampling	Date: 3/	16/2020	
	Applicant/Owner: Hos Bros Construction						Point: TF	P-B8	
Subtregion (ILRIS). LIRR A, MLRAZ						8E			
Soil Map Unit Name: (158) Norma loam, 0 to 3 percent slopes Normal Circumstances* present? Vestal Normal Circumstances* present* plants. VEGETATION - Use scientific names of plants. Section of the Vestal Circumstances* present* vestal Normal Circumstances* present* plants* plants* present* plants* pl		1 ot: 47 FC				Dotum			-3%
Accimants: / hydrologic conditions on the site hypical for this time of year? Yes			79995			_ Datuii	I. NADO)	
Are *Normal Circumstances* present? Yes	Are climatic / hydrologic conditions on the site typical	for this time of	vear? Yes⊠	 No□_ (It	f no. explain Remarks.)				
SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, etc. Hydrophylic Vegetation Present? Yes						Yes⊠ 1	No□		
Hydrochylic Vegatation Present?			•		•	•			
Hydric Soils Present?	SUMMARY OF FINDINGS – Attach site ma	p showing s	sampling po	int locati	ons, transects, impo	rtant fe	eatures,	etc.	
Weltand Hydrology Present? Yes No No No No No No No N		a							
						\boxtimes			
VEGETATION - Use scientific names of plants.			in this plot cons	sisted of tre	e shruh and herbaceous	snecies	This test	t plot did	not
VEGETATION - Use scientific names of plants.				sisted of the	se, siliub, aliu lielbaceous	species	5. THIS 163	i piot did	1101
Tries Stratum (Plot size:15 ft radius)									
Tries Stratum (Plot size:15 ft radius)									
Tries Stratum (Plot size:15 ft radius)									
Tries Stratum (Plot size:15 ft radius)	VEGETATION Has a significant and a significant a								
Tree Stratum (Plot size:15 ft radius)	VEGETATION – Use scientific names of pi				T =				
1. Tsuga heterophylla 2. Thuja plicata 3.	Trop Chrotism (Diet sings 45 ft radius)				Dominance Test Work	sheet			
2.			· — ·		Number of Dominant Sr	necies		2	(4)
3.					That Are OBL, FACW, of	or FAC:			(A)
Sapling/Shrub Stratum (Plot size: 15 ft. radius) Sapling/Shrub Stratum (Plot size: 15 ft. radius) Sapling/Shrub Stratum (Plot size: 15 ft. radius) Sweetabilis				17.0					
Sapling/Shrub Stratum (Plot size: 15 ft. radius) 1. Vaccinium parvifolium 5% yes FACU Prevalence Index worksheet That Are OBL, FACW, or FAC 40 (A/B)			· -					5	(B)
Saping/Shrub Stratum (Plot size: 15 ft. radius) Vaccinium parvifolium 5%	50% = <u>40</u> 20% = <u>16</u>	80%	=Total Cover		Species Across All Stra	ta:			
Saping/Shrub Stratum (Plot size: 15 ft. radius) Vaccinium parvifolium 5%					Percent of Dominant Sc	ecies			
2. Rubus spectabilis	Sapling/Shrub Stratum (Plot size: 15 ft. radius)							<u>40</u>	(A/B)
3.			yes	FACU					
4.			yes	FAC					
5.									
2. Blechnum spicant 5% no FAC Prevalence Index = B/A=3.5 3.			· -			<u>U</u>		<u>U</u>	
2. Blechnum spicant 5% no FAC Prevalence Index = B/A=3.5 3.			=Total Cover			3		<u>5</u> 12	
2. Blechnum spicant 5% no FAC Prevalence Index = B/A=3.5 3.						0		0	
3.			yes		Column Totals:		(A)	<u>21</u>	(B)
4.			no	FAC					
5.	3.								
6.	4		· -		7 <u>—</u>			etation	
7.			· ·						
8.	7		-					vide	
10.	0	%				Remark	s or on a	separate	e
11									
Sow = 25 20% = 10 Sow Total Cover Problematic Hydrophytic Vegetation¹ (Explain)					_	/ascular	Plants ¹		
Woody Vine Stratum (Plot size: 15 ft radius) 1.			-Total Cover		☐ Problematic Hydr	onhytic \	/egetation	¹ /Evolai	n)
1		30 /6	- Total Cover			opriyuc v	egetation	(Lxpiai	'')
50% = 20% =		%			¹ Indicators of hydric soil	and wet	tland hydr	ology	
Hydrophytic Vegetation Present? Yes□ No⊠ Remarks:The hydrophytic vegetation criterion was not met because less than 50% of dominant species had FAC, FACW, or OBL indicator statuses.	2.				must be present, unless	disturbe	ed or prob	lematic.	
# Hydrophytic Vegetation Present? Yes No ✓ No	50% = 20% =	%	=Total Cover						
% Bare Ground in Herb Stratum 0% Remarks:The hydrophytic vegetation criterion was not met because less than 50% of dominant species had FAC, FACW, or OBL indicator statuses.			•						
% Bare Ground in Herb Stratum 0% Remarks: The hydrophytic vegetation criterion was not met because less than 50% of dominant species had FAC, FACW, or OBL indicator statuses.							Yes	.□ No	ব
	% Bare Ground in Herb Stratum 0%				i rosont.		100		_3
Mosses occupied 90% of the ground surface.		ot met becaus	e less than 50%	6 of domina	ant species had FAC, FAC	CW, or O	BL indicat	tor status	ses.
	Mosses occupied 90% of the ground surface.								

SOIL					Sampling Point: TP-B8
Profile Description: (Describe to the depth	needed to document the indica	ator or confirm t	the absence	of indicators.)	
Depth Matrix	Doday Footure				
	Redox Feature Color (moist) %	rype¹ Loc	-2	Texture	Remarks
+6 100%	%	<u> </u>	<u> </u>	Duff	See Remarks Below
0-16 7.5YR 3/4 100%	<u> </u>		Si	Ity sandy loam	
<u></u> %	%		 -		
%	%				
	<u></u> %				-
	%				
	%				
¹Type: C=Concentration, D=Depletion, RM=		Coated Sand G		Location: PL=Pore	<u>.</u>
Hydric Soil Indicators: (Applicable to all LR				ors for Problemat	ic Hydric Soils
Histosal (A1)	Sandy Redox (S5)			Muck (A10)	·0/
Histic Epipedon (A2)	Stripped Matrix (S6)			Parent Material (TF	
Black Histic (A3)	Loamy Mucky Mineral (F1) (except MLRA 1	-	Shallow Dark Surfa	
☐ Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)			r (Explain in Remar	·ks)
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)		_		
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)			ors of hydrophytic v	
☐ Sandy Mucky Minerals (S1)	☐ Depleted Dark Surface (F7)			and hydrology must	
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)		unies	s disturbed or prob	nematic
Restrictive Layer (if present):					
, , ,					
Type:					
Depth (inches):			Hydric Soil	Present?	Yes⊡ No⊠
Remarks: No indicators of hydric soil were obs	served in the test plot during the s	site visit. The tes	t plot contair	ned a 6-inch layer c	f duff.
HYDROLOGY					·
Wetland Hydrology Indicators:					
	k all that apply)			Occupation to Pro-	(0
Primary Indicators (min. of one required; check	к ан тпат арргу)			Secondary Indicat	ors (2 or more required)
☐ Surface Water (A1)	☐ Water-Stained Leaves (B9)	(except MLRA 1	, 2, 4A,	☐ Water-Stained	Leaves (B9) (MLRA 1, 2,
☐ High Water Table (A2)	and 4B)			4A, and 4B	3)
☐ Saturation (A3)	☐ Salt Crust (B11)			□ Drainage Patte	erns (B10)
☐ Water Marks (B1)	☐ Aquatic Invertebrates (B13)			☐ Dry-Season W	ater Table (C2)
☐ Sediment Deposits (B2)	☐ Hydrogen Sulfide Odor (C1)				ble on Aerial Imagery (C9)
☐ Drift Deposits (B3)	Oxidized Rhizospheres alon	g Living Roots (C	C3)	☐ Geomorphic P	osition (D2)
☐ Algal Mat or crust (B4)	☐ Presence of Reduced Iron (0	• •	,	☐ Shallow Aquita	, ,
☐ Iron Deposits (B5)	☐ Recent Iron Reduction in Till			☐ FAC Neutral To	` '
☐ Surface Soil Cracks (B6)	☐ Stunted or Stressed Plants (unds (D6) (LRR A)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks)	DI) (ERR A)		☐ Frost-Heave H	, , ,
	Other (Explain in Remarks)			□ 1 103t-1 leave 11	ummocks (D1)
Sparsely Vegetated Concave Surface (B8) Field Observations:	· · · · · · · · · · · · · · · · · · ·	ı			
Surface Water Present? Yes	No ⊠ Depth (Inches):				
Water Table Present? Yes	No ☐ Depth (Inches): No ☐ Depth (Inches):	,	Netland Hy	drology Present?	
Saturation Present? Yes	No ⊠ Depth (Inches):	"	rvetiana myt	arology i resent:	Yes ☐ No ⊠
(Includes Capillary fringe)	Deptil (ilienes).				ICS [] NO [[
Describe Recorded Data (Stream gauge, mon	itoring well, aerial photos, previou	us inspections). i	if available:		
3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	g, p				
Remarks: No indicators of hydrology were obse	erved in the test plot during the s	ite visit.			
Remarks:No indicators of hydrology were observed	erved in the test plot during the s	ite visit.			

WEILAND DETERMINATION	IDAIAFO	Kivi – vveste	iii wouii	tailis, valleys and Coast Region
Project/Site: 5 Mile Fill Site		City/Cou	unty: King	Sampling Date: 3/16/2020
Applicant/Owner: Hos Bros Construction			State: V	VA Sampling Point: TP-B9
Investigator(s): McGrath, Mara and Johnson, Beau		Section	n, Townshi	p, Range: S14, T24N, R8E
Landform (hillslope, terrace, etc.): Depression				onvex, none): Concave Slope (%):0-3%
Subregion (LRR): LRR A, MLRA2	Lat: 47.568	36007		1.7426027 Datum: NAD83
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer	nt slopes		!	NWI classification: None
Are climatic / hydrologic conditions on the site typical f				
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significant				Circumstances" present? Yes⊠ No□
Are Vegetation , Soil , or Hydrology naturally p		•		any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map		sampling pol	int locati	ons, transects, important reatures, etc.
Hydrophytic Vegetation Present? Yes ⊠ No [Is the San	npled Area	a
Hydric Soils Present? Yes ⊠ No [Wetland Hydrology Present? Yes ⊠ No [_	within a V	Vetland?	Yes⊠ No⊡
		The vegetation	n in this pla	ot consisted of tree, shrub, and herbaceous species. This
test plot met all wetland indicators; therefore, TP-B9 w				or consisted of troo, office, and norbacocae oposice. This
,,				
VEGETATION – Use scientific names of pla	ints.			
	Absolute	Dominant	Indicator	Dominance Test Worksheet
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status	
1. Tsuga heterophylla	80%	yes	FACU	Number of Dominant Species 2 (A)
2.	%			That Are OBL, FACW, or FAC:
3	%			Total Number of Deminent
4	%_			Total Number of Dominant 3 (B) Species Across All Strata:
50% = <u>40</u> 20% = <u>16</u>	80%	=Total Cover		Opecies Across Air Otrata.
				Percent of Dominant Species
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC 67 (A/B)
Rubus spectabilis	10%	yes	FAC	Prevalence Index worksheet
2	%			Total % Cover of: Multiply by:
3.	%			OBL species x 1=
4.	%			FACW species x 2=
5. 50% = 5 20% = 2	10%	=Total Cover		FAC species x 3= FACU species x 4=
Herb Stratum (Plot size: 5 ft radius)	10%	= Total Cover		UPL species
1.	%			Column Totals:
2. Lysichiton americanus	5%	yes	OBL	Prevalence Index = B/A=
3.	%			Hydrophytic Vegetation Indicators:
4.	%			☐ 1 – Rapid Test for Hydrophytic Vegetation
5.	%			
6.	%			3 - Prevalence Index is ≤3.01
7	%			4 - Morphological Adaptations ¹ (Provide
8.	<u>%</u>			supporting data in Remarks or on a separate
9.	%			sheet)
10.	%			5 - Wetland Non-Vascular Plants ¹
11.	5%	=Total Cover		Droblematic Hydrophytic Vegetation 1 (Evaluin)
$50\% = \underline{5} \ 20\% = \underline{1}$ Woody Vine Stratum (Plot size: 15 ft radius)	3%	= rotal Cover		☐ Problematic Hydrophytic Vegetation¹ (Explain)
1.	%			¹ Indicators of hydric soil and wetland hydrology
2.				must be present, unless disturbed or problematic.
	 %	=Total Cover		The state of the s
50% = 20% =				Hydrophytic
				Vegetation
0/ Dave Creamed in Llegh Streeture 00/				Present? Yes⊠ No□
% Bare Ground in Herb Stratum 0%				Land to Land EACH CONTRACT TO THE CONTRACT TO
Remarks:The hydrophytic vegetation criterion was m	et because gr	eater than 50%	of domina	ant species had FAC, FACW, or OBL indicator statuses.

SOIL Sampling Point: <u>TP-B9</u>

Depth	Matrix			Redox Fe	atures				
inches)	Color (moist)	%	Color (mois		Type ¹	Loc ²		Texture	Remarks
0-16	10YR 2/1	100%		%				Peat loam	
		<u>%</u>							
		<u>%</u>							
		<u>%</u>		<u>%</u> %					
									
				<u> </u>					
	-	%		%		-		_	-
Type: (C=Concentration, I	D=Depletion, RM=	=Reduced N	//atrix, CS=Cover	ed or Coated	Sand Grai	ns.	² Location: PL=Pore	Lining, M=Matrix
lydric So	oil Indicators: (Ap	plicable to all L	RRs, unles	s otherwise note	ed.)		Indica	ators for Problemat	ic Hydric Soils
				Redox (S5)				n Muck (A10)	
☑ Histic I	Epipedon (A2)		☐ Strippe	ed Matrix (S6)			Rec	d Parent Material (TF	2)
Black I	Histic (A3)		☐ Loamy	y Mucky Mineral (F1) (except N	/ILRA 1)	☐ Ver	y Shallow Dark Surfa	ice (TF12)
ြ Hydro	gen Sulfide (A4)		☐ Loamy	y Gleyed Matrix (I	- 2)		☐ Oth	er (Explain in Remar	ks)
☐ Deplet	ed Below Dark Su	rface (A11)	□ Deplet	ted Matrix (F3)					
Thick [Dark Surface (A12)	☐ Redox	Dark Surface (F	6)			tors of hydrophytic ve	
☐ Sandy	Mucky Minerals (S1)	□ Deplet	ted Dark Surface	(F7)			tland hydrology must	
☐ Sandy	Gleyed Matrix (S4	1)	☐ Redox	Depressions (F8	3)		unle	ess disturbed or prob	lematic
estrictiv	e Layer (if prese	nt):							
		•							
ype:	. .								
Depth (inc							dric So	il Present?	Yes⊠ No□
	Organic soil mate (A2) because 16 i						g the site	e visit and meets Hist	osol (A1) or Histic
Epipdeon	(A2) because 16						g the site	e visit and meets Hist	osol (A1) or Histic
Epipdeon YDROL	(A2) because 16	nches or more of					g the site	e visit and meets Hist	osol (A1) or Histic
Epipdeon YDROL Vetland I	(A2) because 16	nches or more of	the upper 3	32 inches is orgar			g the site		osol (A1) or Histic
YDROL Vetland I Crimary Ir Surfac	.OGY Hydrology Indicandicators (min. of compared to the compar	nches or more of	the upper 3	oply) -Stained Leaves	ic soil materia	al.		Secondary Indicate	ors (2 or more required) Leaves (B9) (MLRA 1, 2
YDROL Vetland I Primary Ir ☐ Surfac ☑ High W	.OGY Hydrology Indicandicators (min. of compared water (A1) Vater Table (A2)	nches or more of	the upper 3	oply) -Stained Leaves and 4B)	ic soil materia	al.		Secondary Indicate Water-Stained 4A, and 4B	ors (2 or more required) Leaves (B9) (MLRA 1, 2
YDROL Vetland I Primary Ir Surfac High W	.OGY Hydrology Indicandicators (min. of context) Water Table (A2) tion (A3)	nches or more of	ck all that ap Water an Salt C	oply) -Stained Leaves (ad 4B) rust (B11)	ic soil materia	al.		Secondary Indicat Water-Stained 4A, and 4B Drainage Patte	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10)
YDROL Vetland I Primary Ir Surfac High W Satura Water	.OGY Hydrology Indicandicators (min. of context of the Water (A1) Vater Table (A2) tion (A3) Marks (B1)	nches or more of	ck all that ap Water an Salt C	oply) -Stained Leaves and 4B) rust (B11) ic Invertebrates (I	ic soil materia (B9) (except I	al.		Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season Wa	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2)
YDROL Vetland I Primary Ir Surfac High W Satura Water Sedime	.OGY Hydrology Indicandicators (min. of context) Water Table (A2) tion (A3) Marks (B1) ent Deposits (B2)	nches or more of	ck all that ap Water an Salt C Aquati	oply) -Stained Leaves and 4B) rust (B11) ic Invertebrates (Igen Sulfide Odor	(B9) (except I	MLRA 1, 2		Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visit	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (C
YDROL Vetland I Surfac High W Satura Water Sedime	.OGY Hydrology Indicated adicators (min. of control of	nches or more of	ck all that ap Water an Salt C Aquati Hydro	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (I gen Sulfide Odor led Rhizospheres	(B9) (except I) (C1) along Living I	MLRA 1, 2		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visite Geomorphic Po	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2)
YDROL Vetland I Surfac High W Satura Water Sedime	LOGY Hydrology Indicated adicators (min. of control of	nches or more of	ck all that ap Water an Salt C Aquati Hydro Oxidiz Presei	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (I gen Sulfide Odor led Rhizospheres nce of Reduced I	(B9) (except I (B13) (C1) along Living I	MLRA 1, 2		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visiter Geomorphic Poter Shallow Aquita	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3)
YDROL Vetland I Surfac High W Satura Water Sedime Drift De Algal N	.OGY Hydrology Indicandicators (min. of context) Water Table (A2) tion (A3) Marks (B1) ent Deposits (B2) eposits (B3) Mat or crust (B4) eposits (B5)	tors:	ck all that ap Water an Salt C Aquati Hydro Oxidiz Preser Recen	oply) -Stained Leaves at 4B) rust (B11) ic Invertebrates (It gen Sulfide Odor ed Rhizospheres ance of Reduced It Iron Reduction	(B9) (except I (B13) (C1) along Living I ron (C4) in Tilled Soils	MLRA 1, 2 Roots (C3)		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visite Geomorphic Poly Shallow Aquita FAC Neutral Telescond	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) est (D5)
YDROL Vetland I Surfac High W Satura Water Sedime Drift De Algal N Iron De	.OGY Hydrology Indicandicators (min. of context of cont	tors:	ck all that ap Water an Salt C Aquati Hydro Oxidiz Presei Recen Stunte	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (If gen Sulfide Odor led Rhizospheres nice of Reduced International or Stressed Plant Iron Reductional or Stressed Plant Iron Research (Iron Reductional Iron Reductional	(B9) (except I B13) (C1) along Living I ron (C4) in Tilled Soils ants (D1) (LRI	MLRA 1, 2 Roots (C3)		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visiter Geomorphic Potential Secondary Aquitater FAC Neutral Telescondary	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) ast (D5) unds (D6) (LRR A)
YDROL Vetland I Surfac High W Satura Water Sedime Drift De Algal N Iron De Surfac	LOGY Hydrology Indical adicators (min. of context of co	tors: one required; chec	ck all that ap Water an Salt C Aquati Hydro Oxidiz Presei Recen Stunte	oply) -Stained Leaves at 4B) rust (B11) ic Invertebrates (It gen Sulfide Odor ed Rhizospheres ance of Reduced It Iron Reduction	(B9) (except I B13) (C1) along Living I ron (C4) in Tilled Soils ants (D1) (LRI	MLRA 1, 2 Roots (C3)		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visite Geomorphic Poly Shallow Aquita FAC Neutral Telescond	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) ast (D5) unds (D6) (LRR A)
YDROL Vetland I Surfac High W Satura Water Sedima Drift Do Algal N Iron Do Surfac	LOGY Hydrology Indicated adicators (min. of one of the control of	tors: one required; chec	ck all that ap Water an Salt C Aquati Hydro Oxidiz Presei Recen Stunte	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (If gen Sulfide Odor led Rhizospheres nice of Reduced International or Stressed Plant Iron Reductional or Stressed Plant Iron Research (Iron Reductional Iron Reductional	(B9) (except I B13) (C1) along Living I ron (C4) in Tilled Soils ants (D1) (LRI	MLRA 1, 2 Roots (C3)		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visiter Geomorphic Potential Secondary Aquitater FAC Neutral Telescondary	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) ast (D5) unds (D6) (LRR A)
YDROL Vetland I Surfac High W Satura Water Sedima Drift Do Algal N Iron Do Surfac Inunda Sparse	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) Hydrology Indical adicators (min. of control of con	tors: one required; chec	ck all that ap Water an Salt C Aquati Hydro Oxidiz Preset Recen Stunte Other	oply) -Stained Leaves (1 and 4B) rust (B11) ic Invertebrates (1 agen Sulfide Odor and Reduced It Iron Reduction and or Stressed Plat (Explain in Remains)	(B9) (except I B313) (C1) along Living I ron (C4) in Tilled Soils ants (D1) (LRI rks)	MLRA 1, 2 Roots (C3)		Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visiter Geomorphic Potential Secondary Aquitater FAC Neutral Telescondary	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) ast (D5) unds (D6) (LRR A)
YDROL Vetland I Surfac High W Satura Water Sedima Drift Do Algal N Iron Do Surfac Inunda Sparse Field Obs	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because (AZ) because	rial Imagery (B7) cave Surface (B8	ck all that ap Water an Salt C Aquati Hydro Oxidiz Presei Recen Stunte	oply) -Stained Leaves (1 and 4B) rust (B11) ic Invertebrates (1 agen Sulfide Odor (2 and Reduced I) and Iron Reduction (3 and are done of Reduced I) and or Stressed Plat (Explain in Remain Depth (Inches)	(B9) (except I) (B9) (except I) (C1) (C1) (C1) (C4) (C4) (C4) (C4) (C5) (C4) (C7) (C4) (C7) (C4) (C7) (C4) (C7) (C8) (C8) (C8)	MLRA 1, 2 Roots (C3) (C6) R A)	- -, 4A,	Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visiter Geomorphic Poter Shallow Aquitarer FAC Neutral Teres Raised Ant Moter Secondary History Frost-Heave History	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) ast (D5) unds (D6) (LRR A)
YDROL Wetland I Primary Ir Surfac High W Satura Water Sedima Drift Do Algal N Iron Do Surfac Inunda Sparse Field Obs	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) Hydrology Indical adicators (min. of control of con	rial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes X	ck all that ap Water an Salt C Aquati Hydro Oxidiz Presel Recen Stunte Other No	oply) -Stained Leaves (1 and 4B) rust (B11) ic Invertebrates (1 agen Sulfide Odor (2 and Reduced I) and Iron Reduction (3 and are don't red or Stressed Plat (Explain in Remain Depth (Inches) Depth (Inches)	(B9) (except I) (B9) (except I) (B13) (C1) (B13) (C1) (B13) (C1) (B13) (C1) (C4) (C4) (C4) (C4) (C4) (C4) (C4) (C5) (C4) (C6) (C7) (C7) (C7) (C7) (C8) (C7) (C8) (C7) (C8) (C7) (C8) (C8) (C9) (C9) (C9) (C9) (C9) (C9) (C9) (C9	MLRA 1, 2 Roots (C3) (C6) R A)	- -, 4A,	Secondary Indicate Water-Stained 4A, and 4B Drainage Patte Dry-Season Water Saturation Visiter Geomorphic Potential Secondary Aquitater FAC Neutral Telescondary	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROL Vetland I Primary Ir Surfac High W Satura Water Sedime Drift De Surfac Inunda Sparse Field Obs	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because (AZ) because	rial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt C Aquati Hydro Oxidiz Presel Recen Stunte Other No No No No No No No No No No	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (I gen Sulfide Odor led Rhizospheres nce of Reduced I to Tron Reduction ed or Stressed Pla (Explain in Remain Depth (Inches) Depth (Inches)	(B9) (except I) (B9) (except I) (B13) (C1) (B13) (C1) (B13) (C1) (C4) (B13) (C1) (C4) (C4) (C4) (C5) (C4) (C6) (C7) (C4) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	MLRA 1, 2 Roots (C3) (C6) R A)	-, 4A,	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season Water-Stained Saturation Visiter Secondary Indicat	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) ast (D5) unds (D6) (LRR A)
YDROL Wetland I Primary Ir Surfac High W Satura Water Sedime Drift De Surfac Iron De Surfac Inunda Sparse Field Obs Surface W Water Tab Saturation Includes	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because (AZ) because	rial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt C Aquati Hydro Oxidiz Presel Recen Stunte Other No No No No No No No No No No	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (I gen Sulfide Odor led Rhizospheres nce of Reduced I to Tron Reduction ed or Stressed Pla (Explain in Remain Depth (Inches) Depth (Inches)	(B9) (except I) (B9) (except I) (B13) (C1) (B13) (C1) (B13) (C1) (C4) (B13) (C1) (C4) (C4) (C4) (C5) (C4) (C6) (C7) (C4) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	MLRA 1, 2 Roots (C3) (C6) R A)	-, 4A,	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season Water-Stained Saturation Visiter Secondary Indicat	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROL Vetland I Primary Ir Surfac High W Satura Water Sedime Drift De Surfac Inunda Sparse Field Obs Surface W Water Tak Saturation Includes	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because (AZ) because	rial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt C Aquati Hydro Oxidiz Presel Recen Stunte Other No No No No No No No No No No	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (I gen Sulfide Odor led Rhizospheres nce of Reduced I to Tron Reduction ed or Stressed Pla (Explain in Remain Depth (Inches) Depth (Inches)	(B9) (except I) (B9) (except I) (B13) (C1) (B13) (C1) (B13) (C1) (C4) (B13) (C1) (C4) (C4) (C4) (C5) (C4) (C6) (C7) (C4) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	MLRA 1, 2 Roots (C3) (C6) R A)	-, 4A,	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season Water-Stained Saturation Visiter Secondary Indicat	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)
YDROL Vetland I Primary Ir Surfac High W Satura Water Sedima Iron De Surfac Inunda Sparse Gurface W Vater Takes Saturation	AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because 16 in AZ) because (AZ) because	rial Imagery (B7) cave Surface (B8 Yes Yes Yes Yes Yes Yes Yes Yes	ck all that ap Water- an Salt C Aquati Hydro Oxidiz Presel Recen Stunte Other No No No No No No No No No No	oply) -Stained Leaves of 4B) rust (B11) ic Invertebrates (I gen Sulfide Odor led Rhizospheres nce of Reduced I to Tron Reduction ed or Stressed Pla (Explain in Remain Depth (Inches) Depth (Inches)	(B9) (except I) (B9) (except I) (B13) (C1) (B13) (C1) (B13) (C1) (C4) (B13) (C1) (C4) (C4) (C4) (C5) (C4) (C6) (C7) (C4) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	MLRA 1, 2 Roots (C3) (C6) R A)	-, 4A,	Secondary Indicat Water-Stained 4A, and 4B Drainage Patte Dry-Season Water-Stained Saturation Visiter Secondary Indicat	ors (2 or more required) Leaves (B9) (MLRA 1, 2) rns (B10) ater Table (C2) ble on Aerial Imagery (Cosition (D2) rd (D3) est (D5) unds (D6) (LRR A) ummocks (D7)

WEILAND DETERMINATION	IDAIAFO	Kivi – vveste	i ii wiouiii	iailis, valleys allu C	oasi ne	gion		
Project/Site: 5 Mile Fill Site		City/Cou	unty: King		Sampling	Date: 3/1	6/2020	
Applicant/Owner: Hos Bros Construction			State: V			Point: TP	'-B10	
Investigator(s): McGrath, Mara and Johnson, Beau				p, Range: S14, T24N,	R8E			
Landform (hillslope, terrace, etc.): Hillslope				onvex, none): Convex			e (%): <u>0-</u>	-3%
Subregion (LRR): LRR A, MLRA2	Lat: 47.568	85953		1.7425597		n: <u>NAD83</u>	1	
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer Are climatic / hydrologic conditions on the site typical for	or this time of	voar2 Voe⊠	I 	NWI classification: None				
Are Vegetation, Soil, or Hydrology significant				Circumstances" present?	Yes⊠ 1	NoΠ		
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally p				any answers in Remark				
SUMMARY OF FINDINGS – Attach site map		•		•	•	eatures.	etc.	
Hydrophytic Vegetation Present? Yes No [
Hydric Soils Present? Yes ☐ No [within a V	npled Area		o⊠				
Wetland Hydrology Present? Yes ☐ No [
Remarks: This test plot lies northeast of Wetland B's n					shrub, an	d herbace	ous spe	cies.
This test plot did not meet all wetland indicators; there	fore, TP-B10	was considered	to be with	in uplands.				
VEGETATION – Use scientific names of pla	nts.							
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet			
Tree Stratum (Plot size:30 ft radius)	% Cover	Species?	Status					
1. Tsuga heterophylla	90%	yes	FACU	Number of Dominant			1	(A)
2.	%			That Are OBL, FACW	, or FAC:			
3	%			Total Number of Domi	nont			
4.	<u>%</u>			Species Across All St			3	(B)
50% = <u>45</u> 20% = <u>18</u>	90%	=Total Cover			ata.			
				Percent of Dominant S				
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW			<u>34</u>	(A/B)
1. Vaccinium parvifolium	5%	yes	FACU	Prevalence Index wo				
2.	<u>%</u> %	. <u> </u>		Total % Cover of			tiply by:	
3. 4.	<u></u> %			OBL species FACW species	<u>0</u>	x 1= x 2=	<u>0</u>	
5.		·		FAC species	<u>0</u> 1	x 3=	<u>0</u> 3	
50% = 3 20% = 1	5%	=Total Cover		FACU species	1 2 0	x 4=	3 8 0 11	
Herb Stratum (Plot size: 5 ft radius)		•		UPL species	<u>0</u>	x 5=	<u>0</u>	
1. Blechnum spicant	5%	yes	FAC	Column Totals:	<u>3</u>	(A)	<u>11</u>	(B)
2	%				nce Index :			
3.	<u>%</u>			Hydrophytic Vegetat				
4	%			1 – Rapid Test f			tation	
5. 6.	<u>%</u> %			☐ 2 – Dominance ☐ 3 - Prevalence I				
7.				4 - Morphologica			/ide	
8.	 %			supporting data	in Remark	s or on a s	separate)
9.	%			sheet)			·	
10.	%			5 - Wetland Nor	-Vascular	Plants ¹		
11	%							
50% = <u>3</u> 20% = <u>1</u>	5%	=Total Cover		☐ Problematic Hyd	Irophytic V	egetation ¹	(Explair	n)
Woody Vine Stratum (Plot size: 15 ft radius)	0/			¹ Indicators of hydric se	منا ممط سما	land budge	alom.	
1	<u> </u>			must be present, unle				
		=Total Cover		must be present, unic	33 distarbe	od of proble	ciriatio.	
50% = 20% =		-10101 00101		Hydrophytic				
				Vegetation				
% Bare Ground in Herb Stratum 0%				Present?		Yes	□ No⊵	₫
	t mot boodie	o loss than 500	/ of domin	ent aposios had EAC EA	\C\\\\ or \O	DI indicate	or status	200
Remarks: The hydrophytic vegetation criterion was no Mosses occupied 85% of the ground surface.	n mer becaus	e iess เกสก 50%	o OI GOITIIN	ant species had FAC, FA	CVV, OF O	DE INGICATO	วเ รเสเนร	e5.
ground surface.								

SOIL					Sampling Point: TP-B10
Profile Description: (Describe to the depth	needed to document the ind	cator or confirm	n the absend	ce of indicators.)	-
Depth Matrix	Redox Featu				
	Color (moist) %		oc ²	Texture	Remarks
+3 100%	% /s			Duff	See Remarks Below
0-16 7.5YR 3/4 100%				Silt loam	
<u></u> %	%				
%	%				
	%_			_	
	%_				
	%				
%	%			0	
Type: C=Concentration, D=Depletion, RM=				² Location: PL=Pore	
Hydric Soil Indicators: (Applicable to all LR)		ators for Problemat	ic Hydric Soils
Histosal (A1)	Sandy Redox (S5)			m Muck (A10)	2)
Histic Epipedon (A2)	☐ Stripped Matrix (S6)	\		Parent Material (TF	
Black Histic (A3)	Loamy Mucky Mineral (F1	· ·	-	y Shallow Dark Surfa	
Hydrogen Sulfide (A4)	☐ Loamy Gleyed Matrix (F2)		☐ Oth	er (Explain in Remar	ks)
Depleted Below Dark Surface (A11)	☐ Depleted Matrix (F3)		0		
☐ Thick Dark Surface (A12)	Redox Dark Surface (F6)			tors of hydrophytic v	
☐ Sandy Mucky Minerals (S1)	☐ Depleted Dark Surface (F	7)		tland hydrology must	
☐ Sandy Gleyed Matrix (S4)	☐ Redox Depressions (F8)		unie	ess disturbed or prob	iematic
Restrictive Layer (if present):					
, , ,					
Type:					
Depth (inches):			Hydric So	il Present?	Yes□ No⊠
Remarks: No indicators of hydric soil were obs	served in the test plot during th	e site visit. The to	est plot conta	ined a 3-inch layer o	f duff.
HYDROLOGY					
Wetland Hydrology Indicators:					
Primary Indicators (min. of one required; chec	k all that annly)			Cocondon, Indicat	oro (2 or moro roquirod)
Timary malcators (min. of one required, offec				-	ors (2 or more required)
☐ Surface Water (A1)	□ Water-Stained Leaves (B9)) (except MLRA	1, 2, 4A,		Leaves (B9) (MLRA 1, 2,
☐ High Water Table (A2)	and 4B)			4A, and 4B	5)
☐ Saturation (A3)	☐ Salt Crust (B11)			☐ Drainage Patte	rns (B10)
☐ Water Marks (B1)	☐ Aquatic Invertebrates (B13	3)		□ Dry-Season W	ater Table (C2)
☐ Sediment Deposits (B2)	☐ Hydrogen Sulfide Odor (C	1)		☐ Saturation Visit	ole on Aerial Imagery (C9)
☐ Drift Deposits (B3)	Oxidized Rhizospheres ale	ong Living Roots	(C3)	☐ Geomorphic Po	osition (D2)
☐ Algal Mat or crust (B4)	☐ Presence of Reduced Iron		,	☐ Shallow Aquita	` '
☐ Iron Deposits (B5)	☐ Recent Iron Reduction in			☐ FAC Neutral Te	, ,
☐ Surface Soil Cracks (B6)	☐ Stunted or Stressed Plant				unds (D6) (LRR A)
☐ Inundation Visible on Aerial Imagery (B7)	☐ Other (Explain in Remarks			☐ Frost-Heave H	· · · ·
☐ Sparsely Vegetated Concave Surface (B8)	Guier (Explain in Remarks	·)			ummocks (D7)
Field Observations:	.				
Surface Water Present? Yes	No ☑ Depth (Inches):				
Water Table Present? Yes	No ☐ Depth (Inches):		Wetland Hy	drology Present?	
Saturation Present? Yes	No ☐ Depth (Inches):		Wottand H	diology i resent.	Yes ☐ No 🏻
(Includes Capillary fringe)					
Describe Recorded Data (Stream gauge, mon	itoring well, aerial photos, prev	ious inspections)	, if available:		
, 3 34,	3 1 71 2	/			
Remarks:No indicators of hydrology were obs	erved in the test plot during the	site visit.			
	. 3				

WEILAND DETERMINATIO	IN DATA FO	Kivi – vveste	iii wouii	tairis, valleys allu v	Suasi Ne	gion	
Project/Site: 5 Mile Fill Site		City/Cou	unty: King			g Date: 2/25/202)
Applicant/Owner: Hos Bros Construction			State: \			Point: TP-C1	
Investigator(s): McGrath, Mara and Johnson, Beau Landform (hillslope, terrace, etc.): Depression				ip, Range: S14, T24N, onvex, none): Concave		Slope (%):	0.10/
Subregion (LRR): LRR A, MLRA2	Lat: 47.56			1.7458233		Slope (%). n: NAD83	U- 1 70
							tland
Are climatic / hydrologic conditions on the site typical	for this time of		No□ (I	f no, explain Remarks.)			
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significan				Circumstances" present		No□	
Are Vegetation , Soil , or Hydrology naturally	-	•		any answers in Remar			
SUMMARY OF FINDINGS – Attach site ma		sampling po	int locati	ons, transects, imp	ortant re	eatures, etc.	
Hydrophytic Vegetation Present? Yes ⊠ No Hydric Soils Present? Yes ⊠ No			npled Are				
Wetland Hydrology Present? Yes ⊠ No		within a V	Vetland?	Yes⊠ I	No□		
Remarks: This test plot lies within Wetland C. The ve	getation in this	plot consisted	of herbace	ous species. This test p	lot met all	wetland indicator	s;
therefore, TP-C1 was considered to be within a wetla	and.						
VEGETATION - Use scientific names of pl	ants.						
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet		
Tree Stratum (Plot size: 15 ft radius)	% Cover	Species?	Status				
1.	%			Number of Dominant That Are OBL, FACW		1	_ (A)
2.	%			That Ale Obl., FACW	, or FAC.		
3. 4.	<u>%</u>			Total Number of Dom	ninant	1	(B)
50% = 20% =	- / %	=Total Cover		Species Across All S	trata:	<u>.</u>	_ ()
<u> </u>		-		Percent of Dominant	Species		
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW		100	(A/B)
1.	%			Prevalence Index w		<u></u>	()
2.	%			Total % Cover	of:	Multiply by	<u>":</u>
3.	<u>%</u> %	· ———		OBL species		x 1=	
4. 5.				FACW species FAC species		x 2= x 3=	
50% = 20% =	- / 0	=Total Cover		FACU species		x 3= x 4= x 5=	
Herb Stratum (Plot size: 5 ft radius)		-		UPL species		x 5=	<u> </u>
Lysichiton americanus	5%	yes	OBL	Column Totals:		(A)	(B)
2.	%	· 			ce Index =		
3. 4	<u>%</u>			Hydrophytic Vegeta □ 1 – Rapid Test			
5.	- / 0			☐ 2 – Dominance			
6.	%			3 - Prevalence	Index is ≤3	3.0 ¹	
7.	%	·		4 - Morphologic	al Adaptati	ions ¹ (Provide	
8. 9.		·		supporting data sheet)	in Remark	s or on a separa	te
10.	- %			5 - Wetland No	n-Vascular	Plants ¹	
11.	<u> </u>			o wouldness	· vaooaiai	rianto	
50% = 20% =	5%	=Total Cover		☐ Problematic Hy	drophytic V	egetation ¹ (Expl	ain)
Woody Vine Stratum (Plot size: 15 ft radius)				4			
1. 2.	_ <u> </u>	·		Indicators of hydric s must be present, unle			
	- // %	=Total Cover		must be present, unit	335 UISTUIDE	ed of problematic	·-
50% = 20% =		- 10101 00101		Hydrophytic			
				Vegetation			_
% Bare Ground in Herb Stratum 75%				Present?		Yes⊠ No	,U
Remarks:The test plot contained 20% moss cover a	and downed loc	as covered in m	oss. The h	vdrophytic vegetation c	riterion was	met because 10)0% of
dominant species had FAC, FACW, or OBL indicator		,- 00.0100 III III	1710 11	,		2000000 10	. 3 , 3 31

SOIL								Sampling Point: TP-C1
Profile De	escription: (Desc	ribe to the depth	needed to doo	ument the indi	icator or conf	irm the a	absence of indicators.)	
Depth	Matrix			Redox Featu	ıres			
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 2/1	100%		%			Gravelly mucky loam	
		<u>%</u>		%				
		<u>%</u>		<u>%</u>				
								-
				<u>%</u>				
		%		%				
		<u></u> %		%				
		D=Depletion, RM=				nd Grains		0,
☐ Histosa		pplicable to all LF	Rs, unless otl ☐ Sandy Red)	Г	Indicators for Problemat ☐ 2 cm Muck (A10)	ic Hydric Soils
	Epipedon (A2)		☐ Stripped M				☐ Red Parent Material (TF	·2)
☐ Black F				cky Mineral (F1) (excent MI R		☐ Very Shallow Dark Surfa	
	en Sulfide (A4)		-	eyed Matrix (F2)		-	☐ Other (Explain in Remai	
	ed Below Dark Su	rface (A11)	☐ Depleted N	• , ,				no,
•	Dark Surface (A12	, ,		k Surface (F6)		3	Indicators of hydrophytic v	egetation and
	Mucky Minerals (S	,		Dark Surface (F	7)		Wetland hydrology mus	t be present,
	Gleyed Matrix (S4			pressions (F8)	,		unless disturbed or prob	olematic
	e Layer (if prese	<u>* </u>		. ,				<u> </u>
	(p	··- ·						
Type:	<u> </u>							
Depth (inc						_	ric Soil Present? the site visit and meets Loa	Yes⊠ No□
HYDROL	OGY							
	Hydrology Indicators (min. of o	ne required; chec	k all that apply)				Socondary Indicat	tore (2 or more required)
	,	ric required, crice						tors (2 or more required)
	e Water (A1)			ned Leaves (B9) (except MLF	RA 1, 2, 4		Leaves (B9) (MLRA 1, 2,
_	ater Table (A2)		and 4				4A, and 4E	
☐ Saturat	. ,		☐ Salt Crust		2)		☐ Drainage Patte	
	Marks (B1) ent Deposits (B2)		-	vertebrates (B13 Sulfide Odor (C			☐ Dry-Season W	ble on Aerial Imagery (C9)
	eposits (B3)			Sullide Odol (C Rhizospheres ald		te (C3)	Geomorphic P	• • • •
	lat or crust (B4)			of Reduced Iron		ns (CS)	☐ Shallow Aquita	
-	eposits (B5)			n Reduction in 1		3)	☐ FAC Neutral T	
	e Soil Cracks (B6)			Stressed Plants				unds (D6) (LRR A)
	tion Visible on Aeı			lain in Remarks		,	☐ Frost-Heave H	, , ,
		cave Surface (B8)	_ , ,		,			,
	ervations:	, ,						
Surface W	ater Present?	Yes ⊠		epth (Inches): 6	<u>6</u>			
	le Present?	Yes 🗌		epth (Inches): _		Wetla	and Hydrology Present?	
Saturation		Yes 🗌	No ⊠ D	epth (Inches):				Yes ⊠ No 🗌
	Capillary fringe) Recorded Data (St	tream gauge, mon	itoring well, aer	ial photos, prev	ious inspection	ns), if ava	ailable:	
200011001	toooraoa zata (o	area gaage, men	noning won, do	iai priotoo, prov	iodo inopodiioi	,	Middle.	
Remarks:	I ne hydrology indi	cators Surface W	ater (A1) was m	net in the test pl	ot during the s	ıte visit.		

WEILAND DEILINMATIO	MEAIAIO	Tim Woold	iii woan	italiis, valicys alia	,					
Project/Site: 5 Mile Fill Site		City/Cou	unty: King		Sampling Date: 2					
Applicant/Owner: Hos Bros Construction		<u>-</u>	State: \		Sampling Point:	ΓP-C2				
Investigator(s): McGrath, Mara and Johnson, Beau				ip, Range: S14, T24N,		(01) 0.001				
Landform (hillslope, terrace, etc.): Hillslope	1 -1 47 50			onvex, none): Convex		ope (%): <u>0-8%</u>				
Subregion (LRR): LRR A, MRLA2	Lat: 47.560			21.7459292	Datum: NAD	83				
Soil Map Unit Name: (10) Barneston gravelly ashy of Are climatic / hydrologic conditions on the site typical	for this time of	am, 0 to 8% Sic	pes /	NWI classification: Non	<u>ie </u>					
Are Vegetation□, Soil□, or Hydrology□ significar				n no, explain Remarks. <i>)</i> Circumstances" present						
Are Vegetation, Soil, or Hydrology naturally										
	•	oblematic? (If needed, explain any answers in Remarks.) showing sampling point locations, transects, important features, et								
	\boxtimes	Is the Sar	npled Are	а						
Wetland Hydrology Present? Yes No		within a V	Vetland?	Yes□ I	No⊠					
Remarks: This test plot lies east of Wetland C. The v		s plot consisted	of tree sh	hrub, and herbaceous s	necies This test plo	nt did not met all				
wetland indicators; therefore, TP-C2 was considered					, pooloo:o toot p.o	7. a.a				
VEGETATION - Use scientific names of pl	ants.									
·	Absolute	Dominant	Indicator	Dominance Test Wo	orksheet					
Tree Stratum (Plot size:15 ft radius)	% Cover	Species?	Status	Dominance rest We	Orksticct					
1. Picea sitchensis	40%	yes	FAC	Number of Dominant	t Species	1 (A)				
Tsuga heterophylla	20%	yes	FACU	That Are OBL, FACV		(/1)				
Pseudotsuga menziesii	10%	no	FACU	7						
4.	%		17100	Total Number of Dom	ninant	7 (B)				
50% = <u>35</u> 20% = <u>14</u>	70%	=Total Cover		Species Across All S	itrata:	(-/				
Conline/Charle Ctratum (Diet size, 45 ft radius)				Percent of Dominant		4.4 (A/D)				
Sapling/Shrub Stratum (Plot size: 15 ft. radius) 1. Vaccinium parvifolium	100/	V00	EACH	That Are OBL, FACW		<u>14</u> (A/B)				
Vaccinium parvifolium Rhododendron ferruginea	10% 5%	yes yes	FACU FACU	Total % Cover		ultiply by:				
3. Gaultheria shallon	5%	ves	FACU	OBL species	x 1=	unipiy by.				
4.	- 370 %	ycs	17.00	FACW species	x 2=					
5.	<u> </u>			FAC species	x 3=					
50% = <u>10</u> 20% = <u>4</u>	20%	=Total Cover		FACU species	x 4=					
Herb Stratum (Plot size: 5 ft radius)		•		UPL species	x 5=					
1. Polystichum munitum	20%	yes	FACU	Column Totals:	(A)	(B)				
2.	%			Prevalen	nce Index = B/A=					
3. Rubus ursinus	10%	yes	FACU	Hydrophytic Vegeta						
4	%			☐ 1 – Rapid Test	for Hydrophytic Ve	getation				
5	%			_ 2 – Dominance						
6	%			3 - Prevalence						
7.	%	· 			cal Adaptations ¹ (Pr					
8.	%	·			a in Remarks or on a	a separate				
9.	<u>%</u>			sheet)	on-Vascular Plants ¹					
10. 11.	- <u>%</u> %	· 		5 - Welland No	n-vascular Plants					
50% = 15 20% = 6	30%	=Total Cover		☐ Problematic Hv	ydrophytic Vegetatio	n ¹ (Evolain)				
Woody Vine Stratum (Plot size: 15 ft radius)	0070	-10101 00101		Troblemationly	, aropriyuo vogotatio	" (Explain)				
1	%			¹ Indicators of hydric s	soil and wetland hvo	drology				
2.	%	· 		must be present, unle						
50% = 20% =	%	=Total Cover		†	<u> </u>					
30 % = 20 % =	-			Hydrophytic						
				Vegetation						
9/ Para Cround in Harb Stratum 09/				Present?	Ye	es□ No⊠				
% Bare Ground in Herb Stratum 0%										
Remarks:The hydrophytic vegetation criterion was r	not met becaus	e less than 50%	% of domin	ant species had FAC, F	-ACW, or OBL indic	ator statuses.				
Mosses occupied 75% of the ground surface										

SOIL Sampling Point: TP-C2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 100% % Duff See Remarks Below +2 10YR 3/6 % 2-16 100% Sandy loam % % % % % % % % % % % % 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 ☐ Histosal (A1) ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: Yes□ No⊠ Depth (inches): **Hydric Soil Present?** Remarks: No indicators of hydric soil were observed in the test plot during the site visit. The test plot contained a 2-inch layer of duff. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2, ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Saturation (A3) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aguitard (D3) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No 🖂 Depth (Inches): Water Table Present? No 🖂 Depth (Inches): Wetland Hydrology Present? Yes □ Saturation Present? Yes □ No 🖂 Depth (Inches): Yes ☐ No ☒ (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No indicators of hydrology were observed in the test plot during the site visit.

WEILAND DETERMINATION	N DATA FO	KIVI – WESIE	tairis, valleys allu v	_				
Project/Site: 5 Mile Fill Site		City/Cou	unty: King		Sampling Date: 3/16/2020			
Applicant/Owner: Hos Bros Construction			State: \			Point: TP-	<u>D1</u>	
Investigator(s): McGrath, Mara and Johnson, Beau Landform (hillslope, terrace, etc.): Depression, drainage	201/01/0			p, Range: S14, T24N, pnvex, none): Concave	R8E	Slope	e (%):0-	20/
Subregion (LRR): LRR A, MLRA2	Lat: 47.56			1.7403675	Datur	Slope n: NAD83	; (76). <u>U-</u>	370
Soil Map Unit Name: (158) Norma loam, 0 to 3 percer	nt slopes			NWI classification: Fres			b Wetla	and
Are climatic / hydrologic conditions on the site typical f						_		
Are Vegetation , Soil , or Hydrology significant				Circumstances" present		No□		
Are Vegetation, Soil, or Hydrology naturally p		•		any answers in Remark	,		.4.	
SUMMARY OF FINDINGS – Attach site map			int locati	ons, transects, imp	Jortant 16	eatures, e	HC.	
Hydrophytic Vegetation Present? Yes ⊠ No [Hydric Soils Present? Yes ⊠ No [npled Are		. —			
Wetland Hydrology Present? Yes ⊠ No [within a V			No 🗌			
Remarks: This test plot lies within Wetland D. The veg			of trees, sl	nrubs, and herbaceaous	species. T	his test plo	t met a	II
wetland indicators; therefore, TP-D1 was considered to	o be within a	wetland.						
VEGETATION – Use scientific names of pla	ınts.							
	Absolute	Dominant	Indicator	Dominance Test Wo	rksheet			
Tree Stratum (Plot size: 15 ft radius)	% Cover 60%	Species?	Status FACU	Number of Dominant	Species		^	(
Tsuga heterophylla Picea sitchensis	20%	yes	FAC	That Are OBL, FACW			3	(A)
3.	%		1710	_				
4.	%			Total Number of Dom			4	(B)
$50\% = 40 \ 20\% = 16$	80%	=Total Cover		Species Across All St	rata:			
				Percent of Dominant	Species			
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW			<u>75</u>	(A/B)
1. Acer circinatum	5%	yes	FAC	Prevalence Index we		N /1 14:	سيطيرات	
2	<u>%</u> %			Total % Cover OBL species	OT:	x 1=	ply by:	_
4.		· -		FACW species		x 2=		_
5.	%			FAC species		x 3=		
50% = <u>3</u> 20% = <u>1</u>	5%	=Total Cover		FACU species		x 4=		_
Herb Stratum (Plot size: 5 ft radius) 1. Tolmiea menziesii	20%	yes	FAC	UPL species Column Totals:		x 5= (A)	-	_ (B)
Lysichiton americanus	2%	no	OBL		ce Index =			_ (D)
3.	%			Hydrophytic Vegeta				
4.	%			1 – Rapid Test	for Hydropl	hytic Veget	ation	
5	%			☐ 2 – Dominance				
6	<u>%</u> %			3 - Prevalence 4 - Morphologic			do	
8.				supporting data)
9.	%			sheet)				
10.	%			5 - Wetland No	n-Vascular	Plants ¹		
11. 50% = 13 20% = 5	25%	=Total Cover		Droblemetic Hy	dranhytia \	/agatation1	/Evoloi:	~ \
Woody Vine Stratum (Plot size: 15 ft radius)	25%	= rotal Cover		☐ Problematic Hy	arophytic v	regetation	(Explain	n)
1.	%			¹ Indicators of hydric s	oil and we	tland hydro	logy	
2.	%			must be present, unle				
50% = 20% =	%	=Total Cover		U. I I				
		•		Hydrophytic Vegetation				
				Present?		Yes	⊠ No[
% Bare Ground in Herb Stratum 0%								
Remarks: Mosses occupied 85% of the ground surface	e. The hydro	phytic vegetatio	n criterion	was met because 100%	of domina	ant species	had FA	۸C,
FACW, or OBL indicator statuses.								

SOIL								Sampling Point: TP-D1
	escription: (Desc	ribe to the dept	h needed to doc	ument the inc	licator or confi	rm the a	bsence of indicators.)	
5 4				5 . 5 .				
Depth	Matrix Color (moist)	%	Color (moist)	Redox Feat %		Loc ²	Texture	Remarks
(inches) 0-16	10YR 2/1	100%	Color (Inoist)	// // // // // // // // // // // // //	туре	LUC	Peat loam	Remarks
	1011(2/1	%		<u> </u>			1 out louin	
				<u> </u>	-			
		%		%				
		%		%				
		<u> </u>		%				
		%		%				
		%		%				
	C=Concentration, I							
-	oil Indicators: (Ap	oplicable to all			.)		Indicators for Problemat	ic Hydric Soils
			☐ Sandy Red				2 cm Muck (A10)	2)
	Epipedon (A2)		☐ Stripped M		4) /		Red Parent Material (TF	
☐ Black H	` '		-		1) (except MLR		☐ Very Shallow Dark Surfa	
	gen Sulfide (A4)	· (· · · · / (/ 4 / 4)	-	yed Matrix (F2	i)	L	Other (Explain in Remar	KS)
	ed Below Dark Su	, ,	☐ Depleted N	` ,		3	L. P. G. G. G. C. Lord C.	(
	Dark Surface (A12		☐ Redox Dar	, ,	 \	5	Indicators of hydrophytic ve Wetland hydrology must	
	Mucky Minerals (ark Surface (F	-7)		unless disturbed or prob	
□ Sandy	Gleyed Matrix (S4	1)	☐ Redox Dep	ressions (F8)			dilicas disturbed of prob	iomatio
Restrictiv	e Layer (if prese	nt):						
_								
Type:	<u></u>					العراط	ria Cail Brasant?	Vas⊠ Na□
Depth (inc					11 11 11 11		ric Soil Present?	Yes⊠ No□
	(A2) because 16 i					ot during	the site visit and meets His	Stosol (A1) of Histic
Ebibaeon	(AZ) because 10 i	niches of more (or the upper 32 inc	nies is organic	Sui materiai.			
HYDROL	OGY							
Wetland I	Hydrology Indica	tors:						
Primary In	dicators (min. of c	one required; che	eck all that apply)				Secondary Indicat	ors (2 or more required)
	- 10/-+ (0.4)	·	□ \\/-t== Ct=:	(D	0) (avecant MI D			
_	e Water (A1)			·	9) (except MLR	XA 1, 2, 4		Leaves (B9) (MLRA 1, 2,
_ •	/ater Table (A2)		and 4E	,			4A, and 4B	•
⊠ Saturat			☐ Salt Crust		0)		☐ Drainage Patte	
	Marks (B1)		☐ Aquatic Inv				☐ Dry-Season Wa	
	ent Deposits (B2)		Hydrogen	•	•	(00)	<u> </u>	ole on Aerial Imagery (C9)
	eposits (B3)				long Living Root	ts (C3)	☐ Geomorphic Po	
_	fat or crust (B4)			of Reduced Iron	, ,		☐ Shallow Aquita	• •
	eposits (B5)				Tilled Soils (C6)		☐ FAC Neutral Te	
	e Soil Cracks (B6)				ts (D1) (LRR A)			unds (D6) (LRR A)
	tion Visible on Ae			lain in Remark	s)		☐ Frost-Heave H	ummocks (D7)
-	ly Vegetated Con	cave Surface (B	8)					
	ervations:	_	_					
	/ater Present?	Yes 🗌		epth (Inches):				
	ole Present?	Yes 🗌		epth (Inches):		Wetla	and Hydrology Present?	v 🖂 u 🗆
Saturation		Yes ⊠	No ☐ De	epth (Inches):	<u>0</u>	ļ Ī		Yes ⊠ No 🗌
	Capillary fringe) Recorded Data (S	troom gougo m	onitoring well oor	ial photos pro	vious inspection	c) if ove	ilabla:	
Describe i	Necolueu Dala (S	iream gauge, m	oriitoring well, aer	iai priotos, pre	vious irispection	15), 11 ava	illable.	
Remarke:	The hydrology ind	icator Saturation	ι (Δ3) was met at	the surface in	the test plot duri	ina the ci	ite visit	
Montaino.	ine nyarology ma	iodioi Odiuidii0i	i (/ io) was met at	and Suriate III	and tost plot dull	9 1110 31	NO VIOIL	

WEILAND DETERMINATION	NUATAFO	KIVI – WESLE	i ii wouii	tairis, valleys and C	oasi Kegion		
Project/Site: 5 Mile Fill Site		City/Cou	ınty: King		Sampling Date	e: 3/16/2020	
Applicant/Owner: Hos Bros Construction			State: V		Sampling Point	t: TP-D2	
Investigator(s): McGrath, Mara and Johnson, Beau		Section	n, Townshi	p, Range: S14, T24N, F	₹8E		
Landform (hillslope, terrace, etc.): Hillslope				onvex, none): Convex		Slope (%):0	-3%
Subregion (LRR): LRR A, MLRA2	Lat: 47.56			1.7404491	Datum: <u>N</u>	AD83	
Soil Map Unit Name: (158) Norma loam, 0 to 3 perce Are climatic / hydrologic conditions on the site typical	nt slopes			NWI classification: PSSC	, r		
Are Vegetation ☐, Soil ☐, or Hydrology ☐ significant				Circumstances" present?			
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally p		•		any answers in Remarks	•		
SUMMARY OF FINDINGS – Attach site map	showing s	sampling poi	int locati	ons, transects, impo	ortant featur	es, etc.	
Hydrophytic Vegetation Present? Yes ☐ No	\boxtimes	Is the San	nnlad Ara	•			
Hydric Soils Present? Yes No		within a V			o⊠		
Wetland Hydrology Present? Yes ☐ No Remarks: This test plot lies east of Wetland D. This te						241.1	
·						·	
VEGETATION – Use scientific names of pla	ants.						
	Absolute	Dominant	Indicator	Dominance Test Wor	ksheet		
Tree Stratum (Plot size:15 ft radius)	% Cover	Species?	Status	Number of Deminsor C	'nocioo	_	
1. Tsuga heterophylla	45%	yes	FACU	Number of Dominant S That Are OBL, FACW,		1	(A)
2. Pseudotsuga menziesii	15%	yes	FACU	That Are Obl., FACW,	OI FAC.		
3.	%			Total Number of Domir	nant	-	(D)
4.	%	Tatal Carra		Species Across All Stra		5	_ (B)
50% = <u>30</u> 20% = <u>12</u>	60%	=Total Cover					
				Percent of Dominant S	pecies		
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW,	or FAC	<u>20</u>	(A/B)
1. Vaccinium parvifolium	5%	yes	FACU	Prevalence Index wor	ksheet		
2	%			Total % Cover of		Multiply by:	
3	%			OBL species	x 1=		
4	%			FACW species	x 2=		_
5.	%			FAC species	x 3=		_
50% = <u>3</u> 20% = <u>1</u>	5%	=Total Cover		FACU species	x 4=		_
Herb Stratum (Plot size: 5 ft radius)	100/		E4011	UPL species	x 5=	=	
1. Polystichum munitum	40%	yes	FACU FAC	Column Totals:	(A)		(B)
2. Tolmiea menziesii	10%	yes	FAC		e Index = B/A=		
3.	<u>%</u> %			Hydrophytic Vegetati 1 – Rapid Test for			
4.	%	·		2 – Dominance T			
5. 6.				3 - Prevalence In			
7				4 - Morphologica		(Provide	
0	0/			supporting data i			e
				sheet)	ii itomano oi c	orra ocparac	•
9. 10.	%	·		5 - Wetland Non-	Vascular Plant	·s ¹	
11.					vaccaiai i iaii	.0	
50% = <u>25</u> 20% = <u>10</u>	-	=Total Cover					
<u> </u>	50%			☐ Problematic Hyd	rophytic Vegeta	ation¹ (Expla	in)
Woody Vine Stratum (Plot size: 15 ft radius)		-					,
1	%			¹ Indicators of hydric so	il and wetland l	hydrology	
2.	%			must be present, unles	s disturbed or	problematic.	
50% = 20% =	%	=Total Cover					
<u> </u>	•	-		Hydrophytic			
				Vegetation			_
% Bare Ground in Herb Stratum 0%				Present?		Yes□ No[\boxtimes
<u> </u>	oo Tho budge	phytic vogetet:-	n oritorias	was not mot because !	es then ECO/ of	dominant ==	ooiss
Remarks:Mosses occupied 80% of the ground surface	ce. The hydro	priytic vegetatio	n criterion	was not met because les	s than 50% of	uominant sp	ecies
had FAC, FACW, or OBL indicator statuses.							

SOIL									Sampling Point: TP-D2
Profile Do	escription: (Desc	ribe to the dep	oth needed to doo	ument the inc	dicator or co	nfirm t	he ab	sence of indicators.)	
D (1	8.4 - 4.5			D. I. F					
Depth	Color (moist)	<u> </u>	Color (moist)	Redox Feat %	tures Type ¹	Loc	2	Texture	Remarks
(inches) 0-16	10YR 3/3	100%	Color (moist)		Туре	LUC		Loam	- INGINAINS
	10111070	<u> </u>		<u> </u>				Loam	·
		%		%		-			
		%		%					
		%		%					
		%		%					
		%		%					
		%		%					
			M=Reduced Matrix			and Gr		² Location: PL=Pore	
		oplicable to all	LRRs, unless otl		l.)			ndicators for Problemat	ic Hydric Soils
Histos			☐ Sandy Red					2 cm Muck (A10)	0)
	Epipedon (A2)		☐ Stripped M					Red Parent Material (TF	
	Histic (A3)		-	cky Mineral (F		LRA 1)		Very Shallow Dark Surfa	
	gen Sulfide (A4)		-	yed Matrix (F2	2)		Ш	Other (Explain in Remar	ks)
•	ed Below Dark Su	, ,	Depleted N	, ,					
	Dark Surface (A12			k Surface (F6)			³ ln	dicators of hydrophytic ve	
	Mucky Minerals (•	Oark Surface (F	- 7)			Wetland hydrology must	
☐ Sandy	Gleyed Matrix (S	4)	☐ Redox Dep	pressions (F8)				unless disturbed or prob	iematic
Restrictiv	e Layer (if prese	nt):							
		,							
Type:									
Depth (inc	ches):					I	Hydrid	c Soil Present?	Yes⊡ No⊠
Remarks:	No indicators of h	ydric soil were	observed in the te	st plot during th	he site visit.				
HYDROL	OCV								
	Hydrology Indica								
Primary Ir	ndicators (min. of o	one required; ch	neck all that apply)					Secondary Indicat	ors (2 or more required)
□ Surfac	e Water (A1)		□ Water-Stai	ned Leaves (B	(a) (except M	II PA 1	2 11	□ Water-Stained	Leaves (B9) (MLRA 1, 2,
	Vater Table (A2)		and 4	•	(except ivi	ilixa i,	,	4A, and 4B	
☐ Satura			☐ Salt Crust	•				☐ Drainage Patte	•
	` '			(B11) ∕ertebrates (B1	13/			☐ Dry-Season Wa	, ,
	Marks (B1)								
	ent Deposits (B2)			Sulfide Odor ((a a ta (C	20)		ble on Aerial Imagery (C9)
	eposits (B3)			hizospheres a		oois (C	ردر)	Geomorphic Po	` '
	Mat or crust (B4)			of Reduced Iro				☐ Shallow Aquita	· ·
	eposits (B5)			n Reduction in	,	•		☐ FAC Neutral Te	• •
	e Soil Cracks (B6)			Stressed Plan		A)			unds (D6) (LRR A)
	ition Visible on Ae			lain in Remark	(S)			☐ Frost-Heave H	ummocks (D7)
	ely Vegetated Con	cave Surface (B8)						
	servations:	–	= -						
	Vater Present?	Yes 🗌		epth (Inches):		١.,			
	ble Present?	Yes 🗌		epth (Inches):		V	Vetlan	d Hydrology Present?	V N
	Present?	Yes 🗌	No ⊠ D	epth (Inches):		ļ			Yes ☐ No 🏻
	Capillary fringe)	troom gougo n	oonitoring wall oor	ial photos pro	vious issesset	iono) if	fovoile	ahla:	
Describe	Recorded Data (S	tream gauge, n	nonitoring well, aer	iai priotos, pre	vious inspect	ions), ii	avalla	able:	
Domorko	No indicators of b	udrology wors	boon and in the tee	t plot during th	o cito vicit				
itemarks.	INO INDICALOIS OF N	yurulugy were (observed in the tes	t plot during th	e sile visit.				

WEILAND DETERMINATION	NDATATO	Kivi – vveste	i ii wiouiii	iailis, valleys allu Goasi N	egion	
Project/Site: 5 Mile Fill Site		City/Cou	unty: King	Samplin	ng Date: 2/24/2020	
Applicant/Owner: Hos Bros Construction			State: V		g Point: TP-UP1	
Investigator(s): McGrath, Mara and Johnson, Beau				p, Range: S14, T24N, R8E	<u> </u>	
Landform (hillslope, terrace, etc.): Depression				onvex, none): Concave	Slope (%):0-	1%
Subregion (LRR): LRR A, MLRA2	Lat: 47.570		Long: -12		m: NAD83	
Soil Map Unit Name: (10) Barneston gravelly ashy co Are climatic / hydrologic conditions on the site typical	arse sandy lo	am, 0 to 8% sid	pes i	NWI classification: None		
Are Vegetation □, Soil □, or Hydrology □ significant				Circumstances" present? Yes	NoΠ	
Are Vegetation, Soil, or Hydrology naturally p				any answers in Remarks.)	110	
SUMMARY OF FINDINGS – Attach site may		•		•	eatures, etc.	
Hydrophytic Vegetation Present? Yes No				<u> </u>		
Hydric Soils Present? Yes ☐ No			npled Area			
Wetland Hydrology Present? Yes ☐ No		within a V		Yes□ No⊠		
Remarks: This test plot lies in a slightly depressional a				berry at the end of a forest road,	north of Wetland B.	This
test plot had no wetland indicators; therefore, TP-UP1	was consider	red to be within	uplands.			
VEGETATION - Use scientific names of pla	ants.					
•	Absolute	Dominant	Indicator	Dominance Test Worksheet		
Tree Stratum (Plot size:15 ft radius)	% Cover	Species?	Status	Dominance Test Worksheet		
1. Alnus rubra	40%	yes	FAC	Number of Dominant Species	2	(A)
Pseudotsuga menziesii	25%	yes	FACU	That Are OBL, FACW, or FAC:		(, ,)
3.	%]		
4.	%			Total Number of Dominant	4	(B)
$50\% = 33 \ 20\% = 13$	65%	=Total Cover		Species Across All Strata:		
				Percent of Dominant Species		
Sapling/Shrub Stratum (Plot size: 15 ft. radius)				That Are OBL, FACW, or FAC	<u>50</u>	(A/B)
Rubus spectabilis	65%	yes	FAC	Prevalence Index worksheet		
2	%			Total % Cover of:	Multiply by:	
3.	%			OBL species	x 1=	_
4.	%			FACW species	x 2=	-
5. 50% = 33 20% = 13	<u>%</u> 65%	=Total Cover		FAC species FACU species	x 3= x 4=	-
Herb Stratum (Plot size: 5 ft radius)	0070	- Total Cover		UPL species	x 5=	-
1. Polystichum munitum	30%	yes	FACU	Column Totals:	(A)	(B)
2.	%			Prevalence Index =		_ (\ /
3.	%			Hydrophytic Vegetation Indic	ators:	-
4.	%			☐ 1 – Rapid Test for Hydror		
5	%			2 – Dominance Test is >5		
6	%			3 - Prevalence Index is ≤		
7	<u>%</u> %	·		4 - Morphological Adapta supporting data in Remar		
8. 9.				sheet)	ks of off a separate	
10.		· 		☐ 5 - Wetland Non-Vascula	r Plants ¹	
11.	%					
50% = <u>15</u> 20% = <u>6</u>	30%	=Total Cover		☐ Problematic Hydrophytic	Vegetation ¹ (Explain	1)
Woody Vine Stratum (Plot size: 15 ft radius)		•				
1	%			¹ Indicators of hydric soil and we		
2.	%			must be present, unless disturb	ed or problematic.	
50% = 20% =	%	=Total Cover		Usadrombustio		
				Hydrophytic Vegetation		
				Present?	Yes⊡ No⊠	1
% Bare Ground in Herb Stratum 70%				. 10001111	.000	y
Remarks: The hydrophytic vegetation criterion was no	ot met due to	lack of FAC, FA	CW, or OE	L dominant species.		

SOIL Sampling Point: TP-UP1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Redox Features Color (moist) % (inches) Color (moist) Loc² Texture Remarks 10YR 2/2 100% % 8-0 Gravelly loam 10YR 3/2 % 8-16 100% Gravelly loam % % % % % % % % % % % % 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 ☐ Histosal (A1) ☐ Sandy Redox (S5) ☐ 2 cm Muck (A10) ☐ Histic Epipedon (A2) ☐ Stripped Matrix (S6) ☐ Red Parent Material (TF2) ☐ Black Histic (A3) ☐ Loamy Mucky Mineral (F1) (except MLRA 1) ☐ Very Shallow Dark Surface (TF12) ☐ Hydrogen Sulfide (A4) ☐ Loamy Gleyed Matrix (F2) ☐ Other (Explain in Remarks) ☐ Depleted Below Dark Surface (A11) ☐ Depleted Matrix (F3) ☐ Thick Dark Surface (A12) ☐ Redox Dark Surface (F6) ³Indicators of hydrophytic vegetation and Wetland hydrology must be present, ☐ Sandy Mucky Minerals (S1) ☐ Depleted Dark Surface (F7) unless disturbed or problematic ☐ Sandy Gleyed Matrix (S4) ☐ Redox Depressions (F8) Restrictive Layer (if present): Type: **Hydric Soil Present?** Yes No⊠ Depth (inches): Remarks: There was no evidence of hydric soil indicators within the test plot during the site visit. **HYDROLOGY** Wetland Hydrology Indicators: Primary Indicators (min. of one required; check all that apply) Secondary Indicators (2 or more required) ☐ Water-Stained Leaves (B9) (MLRA 1, 2, ☐ Surface Water (A1) ☐ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, ☐ High Water Table (A2) and 4B) 4A, and 4B) ☐ Saturation (A3) ☐ Salt Crust (B11) ☐ Drainage Patterns (B10) ☐ Water Marks (B1) ☐ Aquatic Invertebrates (B13) ☐ Dry-Season Water Table (C2) ☐ Sediment Deposits (B2) ☐ Hydrogen Sulfide Odor (C1) ☐ Saturation Visible on Aerial Imagery (C9) ☐ Drift Deposits (B3) ☐ Oxidized Rhizospheres along Living Roots (C3) ☐ Geomorphic Position (D2) ☐ Algal Mat or crust (B4) ☐ Presence of Reduced Iron (C4) ☐ Shallow Aguitard (D3) ☐ Iron Deposits (B5) ☐ Recent Iron Reduction in Tilled Soils (C6) ☐ FAC Neutral Test (D5) ☐ Surface Soil Cracks (B6) ☐ Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) ☐ Inundation Visible on Aerial Imagery (B7) ☐ Other (Explain in Remarks) ☐ Frost-Heave Hummocks (D7) ☐ Sparsely Vegetated Concave Surface (B8) Field Observations: Surface Water Present? Yes □ No 🖂 Depth (Inches): Water Table Present? No 🖂 Depth (Inches): Wetland Hydrology Present? Yes □ Saturation Present? No 🖂 Depth (Inches): Yes ☐ No ☒ Yes □ (Includes Capillary fringe) Describe Recorded Data (Stream gauge, monitoring well, aerial photos, previous inspections), if available: Remarks: No indicators of hydrology were observed in the test plot during the site visit.

Appendix B | Western Washington Wetland Rating

Wetland name or number A

RATING SUMMARY – Western Washington

Name of wetland (or ID #):	Wetland A	_Date of site visi	t: <u>2</u>	<u>-24-2020</u>), 2-25-2020 <u>,</u>	& 3-:	<u> 16-20</u>	20
Rated by M.McGrath	Trained	by Ecology? Yes_	Χ	No	Date of train	ning	_3-20	01
HGM Class used for rating De	pressional	Wetland ha	s mı	ultiple H0	GM classes?_	Y	X N	

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

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY <u>I</u> (based on functions_or special characteristics $\sqrt{}$)

1. Category of wetland based on FUNCTIONS

<u> </u>	Category I - Total score = 23 - 27
	_Category II - Total score = 20 - 22
	_Category III - Total score = 16 - 19
	Category IV – Total score = 9 – 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	_	Circle the ap	propriate ratings	
Site Potential	H M L	H M L	H M L	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H) M L	H M L	TOTAL
Score Based on Ratings	8	8	8	24

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H
8 = H.H.M
- , ,
7 = H,H,L
7 = H,M,M
6 = H,M,L
6 = M,M,M
5 = H,L,L
5 = M,M,L
4 = M,L,L
3 = L.L.L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
Estuarine	I II
Wetland of High Conservation Value	-(
Bog	(1)
Mature Forest)-
Old Growth Forest	I
Coastal Lagoon	I II
Interdunal	I II III IV
None of the above	N/A

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015

Wetland name or number A

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	9
Hydroperiods	D 1.4, H 1.2	9
Location of outlet (can be added to map of hydroperiods) None	D 1.1, D 4.1	9
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	9
Map of the contributing basin	D 4.3, D 5.3	10
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	10
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	19
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	19

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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

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2

Wetland name or number A

HGM Classification of Wetlands in Western Washington

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

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

Are the water				



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.

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 - 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

- 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
 - ___The overbank flooding occurs at least once every 2 years.

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Wetland name or number A

YES - The wetland class is Riverine

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

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

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

Wetland name or number A

<u>DEPRESSIONAL AND FLATS WETLANDS</u>		
Water Quality Functions - Indicators that the site functions to improve wat	er quality	
D 1.0. Does the site have the potential to improve water quality?		
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing of Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing	points = 3 outlet. points = 2 points = 1	3
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes:	points = 1 = 4 No = 0	4
Wetland has persistent, ungrazed, plants > $\frac{1}{2}$ of area Wetland has persistent, ungrazed plants > $\frac{1}{10}$ of area	rdin classes): points = 5 points = 3 points = 1 points = 0	5
Area seasonally ponded is > ¼ total area of wetland	points = 4 points = 2 points = 0	4
Total for D 1 Add the points in the bo	xes above	16

Rating of Site Potential If score is: X 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? Small inputs from compacted, gravel road Yes = 1 No = 0	1
D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Yes = 1 No = 0	0
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 Municipal biosolid application area in vicinity has likely contributed to algae in the past Yes = 1 No = 0	1
Total for D 2 Add the points in the boxes above	2

Rating of Landscape Potential If score is: ___3 or 4 = H __X_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 wa 303(d) list?	ater that is on the Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining wate if there is a TMDL for the basin in which the unit is found)?	r quality (<i>answer YES</i> Yes = 2 No = 0	2
Total for D 3 Add the points	in the boxes above	2

5

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L Record the rating on the first page

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Wetland name or number A

DEPRESSIONAL AND FLATS WETLANDS Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation			
	OH		
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) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 0	4		
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	3		
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	5		
Total for D 4 Add the points in the boxes above	12		
Rating of Site Potential If score is: X 12-16 = H6-11 = M0-5 = L Record the rating on the f	irst page		
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?			
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1		
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	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	0		
Total for D 5 Add the points in the boxes above	1		
Rating of Landscape Potential If score is:3 = HX_1 or 2 = M0 = L Record the rating on the f	irst page		
D 6.0. Are the hydrologic functions provided by the site valuable to society?			
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin.	2		

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 the wetland unit being rated. Do not add points. Choose the high. The wetland captures surface water that would otherwise flow damaged human or natural resources (e.g., houses or salmon recovers flooding occurs in a sub-basin that is immediately down-graes. Surface flooding problems are in a sub-basin farther down-graes flooding from groundwater is an issue in the sub-basin.	hest score if more than one condition is met. lown-gradient into areas where flooding has dds): dient of unit. points = 2 tradient. points = 1 points = 1	2
The existing or potential outflow from the wetland is so constrai water stored by the wetland cannot reach areas that flood. <i>Explu</i> 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 floo	od conveyance in a regional flood control plan? Yes = 2 No = 0	0
Total for D 6	Add the points in the boxes above	2

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Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

6

Record the rating on the first page

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

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Wetland name or number <u>A</u>	
H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). X Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed)	4
 X At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata) 	
Total for H 1 Add the points in the boxes above	14
Rating of Site Potential If score is: X 15-18 = H 7-14 = M 0-6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 68.3% 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	3
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. **Calculate:** % undisturbed habitat+ [(% moderate and low intensity land uses)/2] = 87.0% Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity points = 0	0
Total for H 2 Add the points in the boxes above	6

Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L

Record the rating on the first page

3.1. Does the site provide habitat for species valued in laws, regulations, or policie that applies to the wetland being rated.	s? Choose only the nighest score	
Site meets ANY of the following criteria:	points = 2	
 It has 3 or more priority habitats within 100 m (see next page) 	,	
 It provides habitat for Threatened or Endangered species (any plant or ar 	imal on the state or federal lists)	
 It is mapped as a location for an individual WDFW priority species 		1
 It is a Wetland of High Conservation Value as determined by the Departm 	ent of Natural Resources	
 It has been categorized as an important habitat site in a local or regional 	comprehensive plan, in a	
Shoreline Master Plan, or in a watershed plan		
Site has 1 or 2 priority habitats (listed on next page) within 100 m	points = 1	
Site does not meet any of the criteria above	points = 0	

Rating of Value If score is: ___2 = H __X __1 = M ___0 = L

Record the rating on the first page

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WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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/)

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.

found in old-growth; 80-200 years old west of the Cascade crest.

__Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

√ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

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SC 4.0. Forested Wetlands	
Does the wetland have at least $\underline{1}$ contiguous acre of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
the wetland based on its functions.	
— Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
— Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
 The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from 	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
— The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon	
SC 5.1. Does the wetland meet all of the following three conditions?	
 The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100). 	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
— Long Beach Peninsula: Lands west of SR 103	
— Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	C-+ N'
	Cat. IV
Category of wetland based on Special Characteristics	N/A
If you answered No for all types, enter "Not Applicable" on Summary Form	,,,

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number $\underline{\mathsf{A}}$

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wetlar</u>	nd B Date of site visit: 2-24-2020, 2-25-2020, & 3-16-2020
Rated by M. McGrath HGM Class used for rating Slope	Trained by Ecology? Yes_X No Date of training <u>3-2019</u> Wetland has multiple HGM classes?Y_X_N
•	e without the figures requested (figures can be combined). oto/map
OVERALL WETLAND CATEGO	RY <u>II</u> (based on functions $\sqrt{}$ or special characteristics)
1. Category of wetland based	d on FUNCTIONS

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

FUNCTION		npro ter Q	ving (uality	Ну	/drol	ogic		Habita	at	
		_			Circle	the ap	propr	iate ra	tings	
Site Potential	Н	M	L	Н	M) L	Н	M	L	
Landscape Potential	Н	М	(L)	Н	М	(L)	\oplus	М	L	
Value	\oplus	М	L	\oplus	М	L (\oplus	М	L	TOTAL
Score Based on Ratings		6			6			8		20

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,M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

1

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	I II		
Wetland of High Conservation Value	1		
Bog	I		
Mature Forest	I		
Old Growth Forest	1		
Coastal Lagoon	I II		
Interdunal	I II III IV		
None of the above	N/A		

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Maps and figures required to answer questions correctly for **Western Washington**

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	11
Hydroperiods	H 1.2	11
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	11
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	11
(can be added to figure above)		11
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	11
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	12
polygons for accessible habitat and undisturbed habitat		12
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	19
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	19

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HGM Classification of Wetlands in Western Washington

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

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

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



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?
 - X The wetland is on a slope (slope can be very gradual),
 - <u>X</u> 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,
 - X 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.

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NO - go to 6

YES – The wetland class is Riverine NOTE:

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

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

NO - go to 7

YES - The wetland class is Depressional

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

NO - go to 8

YES - The wetland class is Depressional

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

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

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

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

Rating of Site Potential If score is: 12 = H X 6-11 = M 0-5 = L

Record the rating on the first page

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

Rating of Landscape Potential If score is: ___1-2 = M __X __0 = L

Record the rating on the first page

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

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

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SLOPE WETLANDS	
Hydrologic Functions - Indicators that the site functions to reduce flooding and stream eros	sion
S 4.0. Does the site have the potential to reduce flooding and stream erosion?	
S 4.1. Characteristics of plants that reduce the velocity of surface flows during storms: Choose the points appropriate for the description that best fits conditions in the wetland. Stems of plants should be thick enough (usually > \frac{1}{2}.	
in), or dense enough, to remain erect during surface flows.	1
Dense, uncut, rigid plants cover > 90% of the area of the wetland <i>Rubus spectabilis</i> points = 1	
All other conditions points = 0	

Rating of Site Potential If score is: X 1 = M ___0 = L

Record the rating on the first page

5 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	5 5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
	5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	0

Rating of Landscape Potential If score is: ___1 = M _X_0 = L

Record the rating on the first page

S 6.1. Distance to the nearest areas downstream that have flooding	problems:	
The sub-basin immediately down-gradient of site has flooding	g problems that result in damage to human or	
natural resources (e.g., houses or salmon redds)	points = 2	2
Surface flooding problems are in a sub-basin farther down-gra	radient points = 1	
No flooding problems anywhere downstream	points = 0	
S 6.2. Has the site been identified as important for flood storage or	flood conveyance in a regional flood control plan?	?
Middle Fork Snoqualmie River Corridor Planning & Capital Investmen	nt Strategy appears to address lower reaches of the river	r 0
and not the project site.	Yes = 2 No = 0	

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

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

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H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). X Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) X At least % ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-loying by amphibians) X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	4
Total for H 1 Add the points in the boxes above	13
Rating of Site Potential If score is: 15-18 = H X 7-14 = M 0-6 = L Record the rating on	
	the jirst page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = $\frac{48.3}{}$ % If total accessible habitat is: > $^{1}/_{3}$ (33.3%) of 1 km Polygon points = 3 20-33% of 1 km Polygon points = 0 10-19% of 1 km Polygon points = 0	3
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 85.8% Undisturbed habitat > 50% of Polygon	3
H 2.3. Land use intensity in 1 km Polygon: If $> 50\%$ of 1 km Polygon is high intensity land use $$ 50\%$ of 1 km Polygon is high intensity $$ points = (-2) $$ $$ 50\%$ of 1 km Polygon is high intensity $$ points = 0 $$	0
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M <1 = L Record the rating on t	the first page
H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated. Site meets ANY of the following criteria: It has 3 or more priority habitats within 100 m (see next page) It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) It is mapped as a location for an individual WDFW priority species It is a Wetland of High Conservation Value as determined by the Department of Natural Resources It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above Rating of Value If score is: X 2 = H 1 = M 0 = L Record the rating of	2 on the first page
	, , , , ,

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WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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).

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).
<u>X</u> 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).
<u>X</u> 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.
X Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable

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

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.

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CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

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SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
the wetland based on its functions.	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered 	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
 Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
	Cat. I
<u> </u>	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
 The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) 	Cat. I
Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon	
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less	
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^1/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? \emph{If}	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
— Long Beach Peninsula: Lands west of SR 103	Cat I
 — Grayland-Westport: Lands west of SR 105 — Ocean Shores-Copalis: Lands west of SR 115 and SR 109 	Cati
Yes – Go to SC 6.1 No = hot an interdunal wetland for rating	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	Cat. IV
Category of wetland based on Special Characteristics	
If you answered No for all types, enter "Not Applicable" on Summary Form	[(N/A)

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number $\underline{\mathsf{B}}$

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RATING SUMMARY – Western Washington

Name of wetland (or ID #):	Wetland C	Date of site visit: _2	2-24-2020	, 2-25-2020,	& 3-1	<u> 16-2020</u>
Rated by M.McGrath	Trained b	y Ecology? Yes X	No	Date of train	ing	_3-2019
HGM Class used for rating D	epressional	Wetland has m	ultiple H	6M classes?	_Y	ΧN

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

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY III (based on functions $\sqrt{}$ or special characteristics__)

1. Category of wetland based on FUNCTIONS

	Category I - Total score = 23 - 27
	Category II - Total score = 20 - 22
Х	_Category III - Total score = 16 - 19
	Category IV – Total score = 9 – 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
	_	Circle the ap	propriate ratings	
Site Potential	H M L	H M L	н м 🗅	
Landscape Potential	H M L	H M L	H M L	
Value	H M L	H) M L	H M L	TOTAL
Score Based on Ratings	7	6	6	19

Score for each function based on three ratings (order of ratings is not important)
9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M 6 = H,M,L 6 = M,M,M 5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY		
Estuarine	1 1	II	
Wetland of High Conservation Value	I		
Bog	ı		
Mature Forest	st I		
Old Growth Forest	I		
Coastal Lagoon	ı	II	
Interdunal	I II III IV		
None of the above)	

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Wetland name or number C

Maps and figures required to answer questions correctly for Western Washington

Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	D 1.3, H 1.1, H 1.4	9
Hydroperiods	D 1.4, H 1.2	9
Location of outlet (can be added to map of hydroperiods)	D 1.1, D 4.1	9
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	9
Map of the contributing basin	D 4.3, D 5.3	10
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	10
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	19
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	19

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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

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HGM Classification of Wetlands in Western Washington

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

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

1	Are the water	lovale in the	antira unit ucu	ally controlled	hy tidoc ovcon	t during floods
1.	ALC LIE WALEL	icveis ili uie	ciiui e uiiit usu	any comu oneu	DV LIUCS EXCED	t uui iiiz iioous



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

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).



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.



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

- 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
 - ___The overbank flooding occurs at least once every 2 years.

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YES - The wetland class is Riverine

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

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

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). 3 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1 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 4 D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes): Wetland has persistent, ungrazed, plants > 95% of area points = 5 Wetland has persistent, ungrazed, plants > ½ of area points = 3 0 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: This is the area that is ponded for at least 2 months. See description in manual. 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 11 Total for D 1 Add the points in the boxes above

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

D 2.0. Does the landscape have the potential to support the water quality function of th	e 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	0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questic Source Municipal biosolid application area in vicinity has likely contributed to algae in the past	ons D 2.1-D 2.3? Yes = 1 No = 0	1
Total for D 2 Add the points	in the boxes above	1

Rating of Landscape Potential If score is: ___3 or 4 = H __X_1 or 2 = M ___0 = L Record the rating on the first page

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

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L Record the rating on the first page

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Wetland name or number C

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) 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 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland 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) 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 unit points = 5 The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 0 D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0 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 D 5.3. Is more than 25% of the contributing basin of the wetland covered with	DEPRESSIONAL AND FLATS WETLANDS		
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) Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2 Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing points = 0 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 or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 3 Marks of ponding between 2 ft to < 2 ft from surface or bottom of outlet points = 3 Marks of ponding lestween 2 ft to < 2 ft from surface or bottom of outlet points = 3 Marks of ponding lestween 2 ft to < 2 ft from surface or bottom of outlet points = 3 Marks of ponding lestween 2 ft to < 2 ft from surface or bottom of outlet points = 3 Marks of ponding lest what has small depressions on the surface that trap water points = 3 Marks of ponding lest than 0.5 ft (6 in) 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 unit points = 0 The area of the basin is lost to 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 0 D 5.2. Is > 100 to 100 times the area of the unit points = 0 D 5.2. Is > 100 to 100 times the area of the unit points = 0 D 5.3. Is more than 25% of the original points = 1 area of the unit points = 0 D 5.3. Is more than 25% of the original points = 1 area of the unit points = 0 D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive huma	Hydrologic Functions - Indicators that the site functions to reduce flooding a	nd stream degradat	ion
Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4 Wetland has an intermittently flowing stream or dich., OR highly constricted permanently flowing outlet points = 1 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing both to wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing both to wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing both to with no outlet, measure from the surface of permanent water or if dry, the deepest port. Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 3 The wetland is a "fleadwaret" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 3 Marks of ponding less than 0.5 ft (6 in) 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 unit points = 5 The area of the basin is less than 10 times the area of the unit points = 3 The area of the basin is nore than 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 5 The area of the basin is more than 100 times the area of the unit points = 5 Total for D 4 Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page D 5.0. Does the landscape have the potential to support hydrologic functions of the site? D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0 D 5.2. Is solve the wetland covered with intensive human land uses (residential at yes 1 residence/ac, urban, commercial, agriculture, etc.)? Add the points in the boxes above 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 floodi	D 4.0. Does the site have the potential to reduce flooding and erosion?		
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 1 Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch 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 autlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 3 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland Wetland is 18 flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is 10 to 100 times the area of the unit points = 0 Entire wetland is in the Flats class The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class Total for D 4 Add the points in the boxes above P Rating of Site Potential If score is: 12-16 = H X 6-11 = M	D 4.1. Characteristics of surface water outflows from the wetland:		
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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 for more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface or bottom of outlet 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) 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 unit points = 5 The area of the basin is less than 10 times the area of the unit points = 0 The area of the basin is less than 10 times the area of the unit points = 0 The area of the basin is in the Flats class Total for D 4 Add the points in the boxes above 9 Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the first page 0 D 5.1. Does the landscape have the potential to support hydrologic functions of the site? D 5.0. Does the wetland receive stormwater discharges? D 5.0. Does the wetland receive stormwater discharges? D 5.0. Does the wetland receive stormwater discharges? D 6.0. Are the hydrologic functions of the site? D 6.0. Are the hydrologic functions provided by the site valuable to society? D 6.1. The unit is in a landscape have than the sub-host in the sub-host in the boxes above 0 Rating of Landscape Potential If score is: 3 = H 1 or 2 = M X 0 = L Record the rating on the first page 1 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 captures surface water that would otherwise flow down-			
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Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the first page

 $Wetland\ Rating\ System\ for\ Western\ WA:\ 2014\ Update$ $Rating\ Form\ -\ Effective\ January\ 1,\ 2015$

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

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Wetland name or number C

wettand name of number <u>c</u>	
H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 3.3 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strata)	1
Total for H 1 Add the points in the boxes above	2
Rating of Site Potential If score is:15-18 = H7-14 = MX_0-6 = L Record the rating on	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 68.3% 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	3
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat+ [(% moderate and low intensity land uses)/2] _= 87.0 % 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 10-50% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If	3
> 50% of 1 km Polygon is high intensity land use points = (-2)	0
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above Rating of Landscape Potential If score is: X 4-6 = H1-3 = M<1 = L Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m	1

Rating of Value If score is: ___2 = H __X __1 = M ___0 = L

Record the rating on the first page

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WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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/)

than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that

_Riparian: The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.

___**Westside Prairies:** Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie (*full descriptions in WDFW PHS report p. 161 – see web link above*).

_Instream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.

__Nearshore: Relatively undisturbed nearshore habitats. These include Coastal Nearshore, Open Coast Nearshore, and Puget Sound Nearshore. (full descriptions of habitats and the definition of relatively undisturbed are in WDFW report – see web link on previous page).

___Caves: A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.

Cliffs: Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.

__Talus: Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.

√ Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number C

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

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

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Wetland name or number \underline{C}

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i> the wetland based on its functions.	
 Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more. 	
 Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm). 	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks — The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 (No = Not a wetland in a coastal lagoon	Cat. I
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less	C-4 II
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
 — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland. 	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103	
Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	C++ 111
Yes = Category II No – Go to SC 6.3 SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	Cat. III
Yes = Category III No = Category IV	
and the same of th	Cat. IV
Category of wetland based on Special Characteristics	N/A
If you answered No for all types, enter "Not Applicable" on Summary Form	,

Wetland name or number $\underline{\textbf{C}}$

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): Wetla	and D Date of site visit: 2-24-2020, 2-25-2020, & 3-16-2020
Rated by M. McGrath	Trained by Ecology? Yes_X_ No Date of training 3-2019
HGM Class used for rating Slope	Wetland has multiple HGM classes?Y X_N
•	te without the figures requested (figures can be combined). noto/map
OVERALL WETLAND CATEGO	DRY <u>III</u> (based on functions $\sqrt{}$ or special characteristics)
1. Category of wetland base	d 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			
			_	(ircle	the ap	propri	iate ro	itings	
Site Potential	Н	М	(L)	Н	М	(Н	М	Θ	
Landscape Potential	Н	М	(L)	Н	М	(L)	\equiv	М	L	
Value	\oplus	М	L	\oplus	М	L	$_{\pm}$	М	L	TOTAL
Score Based on Ratings		5			5			7		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,M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

1

2. Category based on SPECIAL CHARACTERISTICS of wetland

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

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Wetland name or number D

Maps and figures required to answer questions correctly for **Western Washington**

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	13
Hydroperiods	H 1.2	13
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	13
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	13
(can be added to figure above)		13
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	13
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	14
polygons for accessible habitat and undisturbed habitat		14
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	19
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	19

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HGM Classification of Wetlands in Western Washington

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

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

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



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?
 - X The wetland is on a slope (slope can be very gradual),
 - <u>X</u> 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,
 - X 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.

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Wetland name or number D

YES – The wetland class is Riverine NOTE:

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

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

NO - go to 7

NO - go to 6

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

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

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

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

Rating of Landscape Potential If score is: 1-2 = M X 0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	0
S 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 unit is found. Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	2

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

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Wetland name or number D

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

Rating of Site Potential If score is: 1 = M X 0 = L

Record the rating on the first page

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

Rating of Landscape Potential If score is: ___1 = M _X_0 = L

Record the rating on the first page

S 6.0. Are the hydrologic functions provided by the site valuable to society?	
S 6.1. Distance to the nearest areas downstream that have flooding problems: The sub-basin immediately down-gradient of site has flooding problems that result in damage to human or natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 0	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Middle Fork Snoqualmie River Corridor Planning & Capital Investment Strategy appears to address lower reaches of the river and not the project site. Yes = 2 No = 0	0
Total for S 6 Add the points in the boxes above	2

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

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

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Wetland name or number D

H.1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points. X. Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland (> 1 in diameter and 6 ft long). Stable steep banks of fine material that might be used by beave or muskrat for denning (> 30 degree slope) QR signs of recent beaver activity are present (cat show the wetland, for at least \$3 at (10 m) stable steep banks of fine material that might be used by beave or muskrat for denning (> 30 degree slope) QR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least X ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibions) X. Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of strato) Total for H 1	wedand name of number <u>b</u>	
H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat = + [(% moderate and low intensity land uses)/2] = 64.9% If total accessible habitat is: > 1/s (33.3%) of 1 km Polygon 10-19% of 1	Check the habitat features that are present in the wetland. The number of checks is the number of points. X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long). Standing snags (dbh > 4 in) within the wetland Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m) over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m) Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered where wood is exposed) At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are permanently or seasonally inundated (structures for egg-laying by amphibians) X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of	2
H 2.0. Does the landscape have the potential to support the habitat functions of the site? H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 64.9% If total accessible habitat is: > ¹¹/₃ (33.3%) of 1 km Polygon points = 2 10.19% of 1 km Polygon points = 0 10.19% of 1 km Polygon points = 0 H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat 10.50% and in 1-3 patches Undisturbed habitat 10.50% and or 3 patches Undisturbed habitat 10.50% and or 3 patches Undisturbed habitat 10.50% and or 3 patches Undisturbed habitat 10.50% in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity land use ≤ 50% of 1 km Polygon is high intensity land use Points = 0 Total for H 2 Add the points in the boxes above 6 Rating of Landscape Potential If score is: X 4-6 = H1-3 = M < 1 = L Record the rating on the first page H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m Site does not meet any of the criteria above Points = 0 1 Site does not meet any of the criteria above	Total for H 1 Add the points in the boxes above	3
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 64.9% If total accessible habitat is: > \frac{1}{2}, (33.3%) of 1 km Polygon	Rating of Site Potential If score is:15-18 = H7-14 = MX_0-6 = L Record the rating on	the first page
If total accessible habitat is: Solution	H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 89.5% Undisturbed habitat > 50% of Polygon	Calculate:% undisturbed habitat+ [(% moderate and low intensity land uses)/2]= 64.9 %If total accessible habitat is:> 1 /3 (33.3%) of 1 km Polygonpoints = 320-33% of 1 km Polygonpoints = 210-19% of 1 km Polygonpoints = 1	3
H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use \$ 50% of 1 km Polygon is high intensity Total for H 2 Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L Record the rating on the first page H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above Definition of the first page of the points in the boxes above for the points in the boxes above for the first page on the first pag	Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 89.5% 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	3
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M < 1 = L Record the rating on the first page H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2)	0
H 3.0. Is the habitat provided by the site valuable to society? H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	Total for H 2 Add the points in the boxes above	6
that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above points = 0	<u> </u>	he first page
	that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m points = 1 Site does not meet any of the criteria above	

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WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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).
<u>X</u> 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).
<u>X</u> 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.
X Snags and Logs: Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable

and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.

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

cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 20 in (51 cm) in western Washington

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number D

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal,	
— Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine	wetland
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural A	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 33.	l Cat I
Yes = Category I No - Go	to SC 1.2
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
 The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has 	as less Cat. I
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
— At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-graze	d or un-
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open w	Cat. II
	ategory II
- Contaguous residues rectains.	ategory
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands	
	to SC 2.3
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = No	ot a WHCV
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	t a writer
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 (No =)No	t a WHCV
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and list	ted it on
their website? Yes = Category I No = No	t a WHCV
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs?	Use the key
below. If you answer YES you will still need to rate the wetland based on its functions.	461
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that each pos more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go	se 16 in or 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	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top o	
	not a bog
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least	
cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go	to SC 3.4
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that	criterion by
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red o	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND a species (or combination of species) listed in Table 4 provide more than 30% of the cover under the	
· · · · · · · · · · · · · · · · · · ·	not a bog

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Wetland name or number $\underline{\mathsf{D}}$

SC 4.0. Forested Wetlands	
Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate</i>	
 the wetland based on its functions. Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered 	
— Oid-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
— Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
— The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	Cat. I
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon	Cat. i
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less	
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas: — Long Beach Peninsula: Lands west of SR 103	
Cong Beach Peninsula. Lands west of SR 105 Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	Cat. IV
Catagory of watland based on Special Characteristics	Cuv
Category of wetland based on Special Characteristics If you answered No for all types, enter "Not Applicable" on Summary Form	(N/A)
ii you answered no for an types, enter inot Applicable on Summary Form)

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Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number $\underline{\mathsf{D}}$

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): <u>Wet</u>	land E Date of site visit: 2-24-2020, 2-25-2020, & 3-16-2020
•	Trained by Ecology? Yes X No Date of training 3-2019
HGM Class used for rating Slope	e Wetland has multiple HGM classes? Y X N
	ete without the figures requested (figures can be combined). whoto/map
OVERALL WETLAND CATEG	ORY <u>III</u> (based on functions $\sqrt{}$ or special characteristics)
1. Category of wetland base	ed on FUNCTIONS

	Category I — Total score = 23 – 27
	Category II - Total score = 20 - 22
Х	Category III - Total score = 16 - 19
	Category IV – Total score = 9 – 15

FUNCTION	Improving Water Quality		Н	ydrolo	gic		Habitat			
	Circle the appropriate ratings									
Site Potential	Н	M	(L)	Н	M	L	Н	М	\bigcirc	
Landscape Potential	Н	M) L	Н	M	L	\oplus	М	L	
Value	\oplus	М	L	田	М	L	Н	M	L	TOTAL
Score Based on Ratings		6			7			6		19

Score for each function based on three ratings (order of ratings is not important) 9 = H,H,H 8 = H,H,M 7 = H,H,L 7 = H,M,M6 = H,M,L 6 = M,M,M5 = H,L,L 5 = M,M,L 4 = M,L,L 3 = L,L,L

1

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC CATEGOR			
Estuarine	I II		
Wetland of High Conservation Value	I		
Bog	I		
Mature Forest	I		
Old Growth Forest	I		
Coastal Lagoon	I II		
Interdunal	I II III IV		
None of the above	N/A		

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Wetland name or number **E**

Maps and figures required to answer questions correctly for **Western Washington**

Depressional Wetlands

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

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (can be added to another figure)	R 2.4	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of unit vs. width of stream (can be added to another figure)	R 4.1	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	15
Hydroperiods	H 1.2	15
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	15
Plant cover of dense, rigid trees, shrubs, and herbaceous plants	S 4.1	15
(can be added to figure above)		15
Boundary of 150 ft buffer (can be added to another figure)	S 2.1, S 5.1	15
1 km Polygon: Area that extends 1 km from entire wetland edge - including	H 2.1, H 2.2, H 2.3	16
polygons for accessible habitat and undisturbed habitat		16
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	19
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	19

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HGM Classification of Wetlands in Western Washington

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

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

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



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?
 - X The wetland is on a slope (slope can be very gradual),
 - X 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,
 - X 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.

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Wetland name or number E

NO - go to 6

YES - The wetland class is Riverine NOTE:

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

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

NO - go to 7

YES - The wetland class is Depressional

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

NO - go to 8

YES - The wetland class is Depressional

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

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

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

SLOPE WETLANDS		
Water Quality Functions - Indicators that the site functions to improve w	ater quality	
S 1.0. Does the site have the potential to improve water quality?		
S 1.1. Characteristics of the average slope of the wetland: (a 1% slope has a 1 ft vertical drop in elevatio 100 ft of horizontal distance) Slope is 1% or less Slope is > 1%-2% Slope is > 2%-5% Slope is greater than 5%	points = 3 points = 2 points = 1 points = 0	3
S 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions): Ye		0
S 1.3. Characteristics of the plants in the wetland that trap sediments and pollutants: Choose the points appropriate for the description that best fits the plants in the wetland. Dense is have trouble seeing the soil surface (>75% cover), and uncut means not grazed or mowed and plant than 6 in.	,	
Dense, uncut, herbaceous plants > 90% of the wetland area Dense, uncut, herbaceous plants > ½ of area Dense, woody, plants > ½ of area Dense, uncut, herbaceous plants > ½ of area Does not meet any of the criteria above for plants Very little herbaceous or shrubs, mostly moss	points = 6 points = 3 points = 2 points = 1 points = 0	2
Total for S 1 Add the points in the	boxes above	5

Rating of Site Potential If score is: 12 = H 6-11 = M X 0-5 = L

Record the rating on the first page

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

Rating of Landscape Potential If score is: X 1-2 = M ___0 = L

Record the rating on the first page

S 3.0. Is the water quality improvement provided by the site valuable to society?	
S 3.1. Does the wetland discharge directly (i.e., within 1 mi) to a stream, river, lake, or marine water that is on the 303(d) list? Yes = 1 No = 0	0
S 3.2. Is the wetland in a basin or sub-basin where water quality is an issue? At least one aquatic resource in the basin is on the 303(d) list. Yes = 1 No = 0	0
S 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 unit is found. Yes = 2 No = 0	2
Total for S 3 Add the points in the boxes above	2

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

5

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Wetland name or number **E**

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

Rating of Site Potential If score is: X 1 = M ___0 = L

Record the rating on the first page

5 5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess	5.0. Does the landscape have the potential to support the hydrologic functions of the site?	
SUITACE FUNDITY YES = $1 \text{ NO} = 0 \text{ I}$	5.1. Is more than 25% of the area within 150 ft upslope of wetland in land uses or cover that generate excess surface runoff? Yes = 1 No = 0	1

Rating of Landscape Potential If score is: X 1 = M ___0 = L

Record the rating on the first page

natural resources (e.g., houses or salmon redds) Surface flooding problems are in a sub-basin farther down-gradient No flooding problems anywhere downstream points = 1 So.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Middle Fork Snoqualmie River Corridor Planning & Capital Investment Strategy appears to address lower reaches of the river	Surface flooding problems are in a sub-basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0 S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	S 6.1. Distance to the nearest areas downstream that have floodi The sub-basin immediately down-gradient of site has flood	o.	
No flooding problems anywhere downstream points = 0 S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	No flooding problems anywhere downstream points = 0 S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Middle Fork Snoqualmie River Corridor Planning & Capital Investment Strategy appears to address lower reaches of the river 0	, ,	•	2
S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan?	S 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Middle Fork Snoqualmie River Corridor Planning & Capital Investment Strategy appears to address lower reaches of the river 0	01	•	
	Middle Fork Snoqualmie River Corridor Planning & Capital Investment Strategy appears to address lower reaches of the river	,		
and not the project site. Yes = 2 No = 0		Middle Fork Snoqualmie River Corridor Planning & Capital Investm	nent Strategy appears to address lower reaches of the river	0

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

NOTES and FIELD OBSERVATIONS:

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

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Wetland name or number E

wettand name of number <u>L</u>	
H 1.5. Special habitat features:	
Check the habitat features that are present in the wetland. The number of checks is the number of points.	
X Large, downed, woody debris within the wetland (> 4 in diameter and 6 ft long).	
Standing snags (dbh > 4 in) within the wetland	
Undercut banks are present for at least 6.6 ft (2 m) and/or overhanging plants extends at least 3.3 ft (1 m)	
over a stream (or ditch) in, or contiguous with the wetland, for at least 33 ft (10 m)	
Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 30 degree	2
slope) OR signs of recent beaver activity are present (cut shrubs or trees that have not yet weathered	
where wood is exposed)	
At least ¼ ac of thin-stemmed persistent plants or woody branches are present in areas that are	
permanently or seasonally inundated (structures for egg-laying by amphibians)	
X Invasive plants cover less than 25% of the wetland area in every stratum of plants (see H 1.1 for list of	
strata)	
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is:15-18 = H7-14 = MX0-6 = L	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	1 . 3
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit).	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 79.8%	
If total accessible habitat is:	
$> \frac{1}{3}$ (33.3%) of 1 km Polygon points = 3	3
20-33% of 1 km Polygon points = 2	
10-19% of 1 km Polygon points = 1	
< 10% of 1 km Polygon points = 0	
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland.	
Calculate: % undisturbed habitat + [(% moderate and low intensity land uses)/2] = 89.4%	
Undisturbed habitat > 50% of Polygon points = 3	3
Undisturbed habitat 10-50% and in 1-3 patches points = 2	'
Undisturbed habitat 10-50% and > 3 patches points = 1	
Undisturbed habitat < 10% of 1 km Polygon points = 0	
H 2.3. Land use intensity in 1 km Polygon: If	
> 50% of 1 km Polygon is high intensity land use points = (- 2)	0
≤ 50% of 1 km Polygon is high intensity points = 0	
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: X 4-6 = H1-3 = M<1 = L Record the rating on	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score	
that applies to the wetland being rated.	
Site meets ANY of the following criteria: points = 2	
It has 3 or more priority habitats within 100 m (see next page)	
 It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) 	
It is mapped as a location for an individual WDFW priority species	
 It is a Wetland of High Conservation Value as determined by the Department of Natural Resources 	1
It has been categorized as an important habitat site in a local or regional comprehensive plan, in a	
Shoreline Master Plan, or in a watershed plan	
Site has 1 or 2 priority habitats (listed on next page) within 100 m	,
Site does not meet any of the criteria above points = 0	
Rating of Value f score is: 2 = H X 1 = M 0 = L Record the rating or	the first nage
necord the rating of	the just page

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WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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).
Signification Graph State S
 lerbaceous 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- ayered 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).
liparian : The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
Vestside Prairies: Herbaceous, non-forested plant communities that can either take the form of a dry prairie or a wet prairie <i>full descriptions in WDFW PHS report p. 161 – see web link above</i>).
nstream: The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
 learshore: 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 ink 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.
Falus: 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

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

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.

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number E

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands	
Does the wetland meet the following criteria for Estuarine wetlands?	
— The dominant water regime is tidal,	
— Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine	wetland
SC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural A	
Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 33.	l Cat I
Yes = Category I No - Go	to SC 1.2
SC 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions?	
 The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has 	as less Cat. I
than 10% cover of non-native plant species. (If non-native species are <i>Spartina</i> , see page 25)	
— At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-graze	d or un-
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open w	Cat. II
	ategory II
- Contaguous residues rectains.	ategory
SC 2.0. Wetlands of High Conservation Value (WHCV)	
SC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands	
	to SC 2.3
SC 2.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = No	ot a WHCV
SC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	t a writer
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf	
Yes – Contact WNHP/WDNR and go to SC 2.4 (No =)No	t a WHCV
SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and list	ted it on
their website? Yes = Category I No = No	t a WHCV
SC 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs?	Use the key
below. If you answer YES you will still need to rate the wetland based on its functions.	461
SC 3.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that each pos more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – Go	se 16 in or 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	
over bedrock, or an impermeable hardpan such as clay or volcanic ash, or that are floating on top o	
	not a bog
SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least	
cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go	to SC 3.4
NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that	criterion by
measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than	
plant species in Table 4 are present, the wetland is a bog.	Cat. I
SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red o	
western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND a species (or combination of species) listed in Table 4 provide more than 30% of the cover under the	
· · · · · · · · · · · · · · · · · · ·	not a bog

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SC 4.0. Forested Wetlands	
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
the wetland based on its functions.	
— Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
— Mature forests (west of the Cascade Crest): Stands where the largest trees are 80- 200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = Not a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
— The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt)	
during most of the year in at least a portion of the lagoon (needs to be measured near the bottom)	Cat. I
Yes – Go to SC 5.1 No = Not a wetland in a coastal lagoon	
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less	
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^{1}/_{10}$ ac (4350 ft ²)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103	
Grayland-Westport: Lands west of SR 105	Cat I
Ocean Shores-Copalis: Lands west of SR 115 and SR 109	
Yes – Go to SC 6.1 No = not an interdunal wetland for rating	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	
	Cat. IV
Category of wetland based on Special Characteristics	N/A
If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number $\underline{\textbf{E}}$

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RATING SUMMARY – Western Washington

Name of wetland (or ID #): _	Wetland F	Date of site visit	: <u>2</u> -	-24-2020,	2-25-2020,	& 3-1	L6-2	020
Rated by M.McGrath	Trained b	y Ecology? Yes_	Χ	No	Date of train	ning	_3-2	201
HGM Class used for rating D	epressional	Wetland has	mı	ultiple HG	iM classes?	Υ	1 X	N

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

Source of base aerial photo/map Google Earth

OVERALL WETLAND CATEGORY II (based on functions $\sqrt{}$ or special characteristics__)

1. Category of wetland based on FUNCTIONS

	_Category I – Total score = 23 – 27
Х	_Category II - Total score = 20 - 22
	_Category III – Total score = 16 – 19
	Category IV – Total score = 9 – 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat		
	_	Circle the ap	Circle the appropriate ratings		
Site Potential	H M L	H M L	н м 🗅		
Landscape Potential	H M L	H M L	H M L		
Value	H M L	H M L	H M L	TOTAL	
Score Based on Ratings	8	7	6	21	

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	1 11	
Wetland of High Conservation Value	I	
Bog	I	
Mature Forest	1	
Old Growth Forest	I	
Coastal Lagoon	1	II
Interdunal	1 11 111	IV
None of the above	N/A)

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Wetland name or number F

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	17
Hydroperiods	D 1.4, H 1.2	17
Location of outlet (can be added to map of hydroperiods) None	D 1.1, D 4.1	17
Boundary of area within 150 ft of the wetland (can be added to another figure)	D 2.2, D 5.2	17
Map of the contributing basin	D 4.3, D 5.3	18
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	18
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	D 3.1, D 3.2	19
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	D 3.3	19

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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	S 4.1	
(can be added to figure above)		
Boundary of 150 ft buffer (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	H 2.1, H 2.2, H 2.3	
polygons for accessible habitat and undisturbed habitat		
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	

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HGM Classification of Wetlands in Western Washington

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

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

					_	
1	Aro the water	lovale in the	entire unit usual	ly controlled by	tidae avcant	· during floods
1.	ALC LIE WALEL	icveis ili die i	ciiui e uiiii usua.	iv coma onea by	uues excebi	. uui iiig iioous



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.

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 - 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

- 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
 - ___The overbank flooding occurs at least once every 2 years.

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Wetland name or number F

YES - The wetland class is Riverine

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

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

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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	3
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	
D 1.2. The soil 2 in below the surface (or duff layer) is true clay or true organic (use NRCS definitions). Yes = 4 No = 0	0
D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):	
Wetland has persistent, ungrazed, plants > 95% of area points = 5	
Wetland has persistent, ungrazed, plants > ½ of area points = 3	5
Wetland has persistent, ungrazed plants $> \frac{1}{1}/_{10}$ of area points = 1	
Wetland has persistent, ungrazed plants $< 1/10$ of area points = 0	
D 1.4. Characteristics of seasonal ponding or inundation:	
This is the area that is ponded for at least 2 months. See description in manual.	
Area seasonally ponded is > ½ total area of wetland points = 4	4
Area seasonally ponded is > ¼ total area of wetland points = 2	
Area seasonally ponded is < ¼ total area of wetland points = 0	
Total for D 1 Add the points in the boxes above	12

Rating of Site Potential If score is: X 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? Small input from compacted, gravel road along west boundary of 1 wetland Yes = 1 No = 0 D 2.2. Is > 10% of the area within 150 ft of the wetland in land uses that generate pollutants? Recent clearcut 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? 0 Source Yes = 1 No = 0 Total for D 2 Add the points in the boxes above

Rating of Landscape Potential If score is: ___3 or 4 = H __X_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 wa 303(d) list?	ter that is on the Yes = 1 No = 0	0
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list?	Yes = 1 No = 0	0
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water if there is a TMDL for the basin in which the unit is found)?	r quality (answer YES Yes = 2 No = 0	2
Total for D 3 Add the points	in the boxes above	2

Rating of Value If score is: X 2-4 = H ___1 = M ___0 = L

Record the rating on the first page

5

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Wetland name or number F

-		
<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. Characteristics of surface water outflows from the wetland: Wetland is a depression or flat depression with no surface water leaving it (no outlet) 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 Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1	4	
D 4.2. Depth of storage during wet periods: Estimate the height of ponding above the bottom of the outlet. For wetlands with no outlet, measure from the surface of permanent water or if dry, the deepest part. Marks of ponding are 3 ft or more above the surface or bottom of outlet points = 7 Marks of ponding between 2 ft to < 3 ft from surface or bottom of outlet points = 5 Marks are at least 0.5 ft to < 2 ft from surface or bottom of outlet points = 3 The wetland is a "headwater" wetland points = 3 Wetland is flat but has small depressions on the surface that trap water points = 1 Marks of ponding less than 0.5 ft (6 in) points = 0	0	
D 4.3. Contribution of the wetland to storage in the watershed: Estimate the ratio of the area of upstream basin contributing surface water to the wetland to the area of the wetland unit itself. The area of the basin is less than 10 times the area of the unit points = 5 The area of the basin is 10 to 100 times the area of the unit points = 3 The area of the basin is more than 100 times the area of the unit points = 0 Entire wetland is in the Flats class points = 5	3	
Total for D 4 Add the points in the boxes above	7	
Rating of Site Potential If score is: 12-16 = H X 6-11 = M 0-5 = L Record the rating on the f	irst page	
D 5.0. Does the landscape have the potential to support hydrologic functions of the site?		
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	1	
D 5.2. Is >10% of the area within 150 ft of the wetland in land uses that generate excess runoff? Yes = 1 No = 0	1	
D 5.3. Is more than 25% of the contributing basin of the wetland covered with intensive human land uses (residential at >1 residence/ac, urban, commercial, agriculture, etc.)? Yes = 1 No = 0	0	
Total for D 5 Add the points in the boxes above	2	
Rating of Landscape Potential If score is: 3 = H X 1 or 2 = M 0 = L Record the rating on the f	irst page	
D 6.0. Are the hydrologic functions provided by the site valuable to society?		
D 6.1. The unit is in a landscape that has flooding problems. Choose the description that best matches conditions around the wetland unit being rated. Do not add points. Choose the highest score if more than one condition is met. The wetland captures surface water that would otherwise flow down-gradient into areas where flooding has damaged human or natural resources (e.g., houses or salmon redds): • Flooding occurs in a sub-basin that is immediately down-gradient of unit. points = 2 • Surface flooding problems are in a sub-basin farther down-gradient. points = 1 Flooding from groundwater is an issue in the sub-basin. points = 1 The existing or potential outflow from the wetland is so constrained by human or natural conditions that the water stored by the wetland cannot reach areas that flood. Explain why points = 0 There are no problems with flooding downstream of the wetland. points = 0	2	
D 6.2. Has the site been identified as important for flood storage or flood conveyance in a regional flood control plan? Yes = 2 No = 0	0	
Total for D 6 Add the points in the boxes above	2	
Rating of Value If score is: X 2-4 = H 1 = M 0 = L Record the rating on the	first nage	

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

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7

Wetland name or number F

wetiand name of number 1	
H 1.5. Special habitat features: Check the habitat features that are present in the wetland. The number of checks is the number of points.	2
Total for H 1 Add the points in the boxes above	3
Rating of Site Potential If score is:15-18 = H7-14 = MX_0-6 = L	the first page
H 2.0. Does the landscape have the potential to support the habitat functions of the site?	
H 2.1. Accessible habitat (include only habitat that directly abuts wetland unit). Calculate: % undisturbed habitat _ + [(% moderate and low intensity land uses)/2] = 79.0% 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	3
H 2.2. Undisturbed habitat in 1 km Polygon around the wetland. Calculate: % undisturbed habitat _ + [(% moderate and low intensity land uses)/2] _ = 84.8 % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10-50% and in 1-3 patches points = 2 Undisturbed habitat 10-50% and > 3 patches points = 1 Undisturbed habitat < 10% of 1 km Polygon points = 0 H 2.3. Land use intensity in 1 km Polygon: If > 50% of 1 km Polygon is high intensity land use points = (-2) ≤ 50% of 1 km Polygon is high intensity points = 0	3
Total for H 2 Add the points in the boxes above	6
Rating of Landscape Potential If score is: X 4-6 = H 1-3 = M <1 = L Record the rating on the score is: X 4-6 = H 1-3 = M 1-3 =	the first page
H 3.0. Is the habitat provided by the site valuable to society?	
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose only the highest score that applies to the wetland being rated. Site meets ANY of the following criteria: — It has 3 or more priority habitats within 100 m (see next page) — It provides habitat for Threatened or Endangered species (any plant or animal on the state or federal lists) — It is mapped as a location for an individual WDFW priority species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats (listed on next page) within 100 m Points = 1 Site does not meet any of the criteria above	1

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

Record the rating on the first page

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WDFW Priority Habitats

<u>Priority habitats listed by WDFW</u> (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 multilayered 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. Nags 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

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

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

Wetland Rating System for Western WA: 2014 Update Rating Form – Effective January 1, 2015 Wetland name or number F

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Wetland Type	Category
Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.	
SC 1.0. Estuarine wetlands Does the wetland meet the following criteria for Estuarine wetlands? — The dominant water regime is tidal, — Vegetated, and	
— With a salinity greater than 0.5 ppt Yes –Go to SC 1.1 No= Not an estuarine wetland	
CC 1.1. Is the wetland within a National Wildlife Refuge, National Park, National Estuary Reserve, Natural Area Preserve, State Park or Educational, Environmental, or Scientific Reserve designated under WAC 332-30-151? Yes = Category I No - Go to SC 1.2	Cat. I
 6C 1.2. Is the wetland unit at least 1 ac in size and meets at least two of the following three conditions? — The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing, and has less than 10% cover of non-native plant species. (If non-native species are Spartina, see page 25) — At least % of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-gra	Cat. I
mowed grassland. — The wetland has at least two of the following features: tidal channels, depressions with open water, or contiguous freshwater wetlands. Yes = Category I No = Category II	Cat. II
CC 2.0. Wetlands of High Conservation Value (WHCV) CC 2.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 2.2 No – Oo to SC 2.3 Yes = Category I No = Not a WHCV CC 2.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland?	Cat. I
http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhpwetlands.pdf Yes – Contact WNHP/WDNR and go to SC 2.4 No = lot a WHCV SC 2.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and listed it on	
their website? Yes = Category I No = Not a WHCV 6C 3.0. Bogs	
Does the wetland (or any part of the unit) meet both the criteria for soils and vegetation in bogs? Use the key below. If you answer YES you will still need to rate the wetland based on its functions. 63.1. Does an area within the wetland unit have organic soil horizons, either peats or mucks, that to pose 16 in or more of the first 32 in of the soil profile? Yes – Go to SC 3.3 No – So to SC 3.2 63.2. 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 two of a lake or	
pond? Yes – Go to SC 3.3 No = s not a bog SC 3.3. Does an area with peats or mucks have more than 70% cover of mosses at ground level, AND at least a 30% cover of plant species listed in Table 4? Yes = Is a Category I bog No – Go to SC 3.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 4 are present, the wetland is a bog. SC 3.4. Is an area with peats or mucks forested (> 30% cover) with Sitka spruce, subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 4 provide more than 30% of the cover under the canopy? Yes = Is a Category I bog No = Is not a bog	Cat. I

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Wetland name or number <u>F</u>

SC 4.0. Forested Wetlands	
Does the wetland have at least 1 contiguous acre of forest that meets one of these criteria for the WA	
Department of Fish and Wildlife's forests as priority habitats? If you answer YES you will still need to rate	
the wetland based on its functions.	
— Old-growth forests (west of Cascade crest): Stands of at least two tree species, forming a multi-layered	
canopy with occasional small openings; with at least 8 trees/ac (20 trees/ha) that are at least 200 years of	
age OR have a diameter at breast height (dbh) of 32 in (81 cm) or more.	
— Mature forests (west of the Cascade Crest): Stands where the largest trees are 80-200 years old OR the	
species that make up the canopy have an average diameter (dbh) exceeding 21 in (53 cm).	
Yes = Category I No = ot a forested wetland for this section	Cat. I
SC 5.0. Wetlands in Coastal Lagoons	
Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?	
— The wetland lies in a depression adjacent to marine waters that is wholly or partially separated from	
marine waters by sandbanks, gravel banks, shingle, or, less frequently, rocks	
 The lagoon in which the wetland is located contains ponded water that is saline or brackish (> 0.5 ppt) during most of the year in at least a portion of the lagoon (needs to be measured near the bottom) 	Cat. I
Yes – Go to SC 5.1 No = Nbt a wetland in a coastal lagoon	Cut. I
SC 5.1. Does the wetland meet all of the following three conditions?	
— The wetland is relatively undisturbed (has no diking, ditching, filling, cultivation, grazing), and has less	
than 20% cover of aggressive, opportunistic plant species (see list of species on p. 100).	Cat. II
— At least ¾ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-	
mowed grassland.	
— The wetland is larger than $^1/_{10}$ ac (4350 ft 2)	
Yes = Category I No = Category II	
SC 6.0. Interdunal Wetlands	
Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? If	
you answer yes you will still need to rate the wetland based on its habitat functions.	
In practical terms that means the following geographic areas:	
Long Beach Peninsula: Lands west of SR 103	Catt
— Grayland-Westport: Lands west of SR 105	Cat I
 Ocean Shores-Copalis: Lands west of SR 115 and SR 109 Yes – Go to SC 6.1 No = not an interdunal wetland for rating 	
163 00 to 30 to 1	
SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M	Cat. II
for the three aspects of function)? Yes = Category I No – Go to SC 6.2	
SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger?	
Yes = Category II No – Go to SC 6.3	Cat. III
SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac?	
Yes = Category III No = Category IV	Cat. IV
Catalog of called hands a Catalog of Catalog	Cat. IV
Category of wetland based on Special Characteristics	N/A
If you answered No for all types, enter "Not Applicable" on Summary Form	

Wetland name or number $\underline{\mathsf{F}}$

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Appendix C | Wildlife Assessment



APPENDIX C Wildlife Assessment

June 15, 2021



5 Mile Fill Site King County, Washington

Prepared for

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Prepared by

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Signatures

The information and data in this report were compiled and prepared under the supervision and direction of the undersigned.

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Mara McGrath

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- Figure 1 Vicinity Map
- Figure 2 **Existing Habitats**
- Figure 3 SalmonScape
- Figure 4 Priority Habitat and Species Map
- Figure 5 King County Critical Areas Map

Introduction

Ecological Land Services, Inc. (ELS) has completed this wildlife assessment for on behalf of the applicant, Hos Bros Construction, Inc. (Hos Bros), for the 5 Mile Fill Site permit expansion. This assessment summarizes wildlife observed onsite as well as likely wildlife occurrence according to available mapping and other online resources. This assessment has been prepared in accordance King County Code (KCC) Chapter 21A.24, Critical Areas. The study area for this wildlife assessment is the same as for the critical areas report.

Existing Conditions

PROJECT LOCATION

The 5 Mile Fill Site is in the Snohomish watershed (WRIA 7) and has been impacted by forestry land uses for decades. The 257-acre study area is comprised of a portion of King County tax parcel no. 1424089001, within Section 14, Township 24 North, Range 8 East of the Willamette Meridian (Figure 1).

SITE CONDITIONS

The 5 Mile Fill Site consists of mainly silvicultural land with timber ranging from approximately 4 years to 70 years old (Figure 2). Tate Creek originates from Wetland B near the center of the site and flows in a southerly direction. Timber within the riparian habitat of Tate Creek, Wetland A, and Wetland B consists of mainly mixed species mature forest canopy.

Existing Habitat

ONSITE CRITICAL AREAS

Wetlands

Six wetlands were delineated within the study area (Figure 2). The largest wetlands are Category I and Category II that are completely onsite or extend off to the south of the study area. These large wetlands contain a mix of forested, scrub shrub, and emergent vegetation classes. Trees within these wetlands vary in age, with some being over 50 years old according to historic aerial imagery (Figure 2). These large wetlands are primarily sustained by ground water and are seasonally flooded or inundated. The presence of scrub shrub vegetation within the wetlands paired with seasonal inundation creates ideal conditions for egg-laying amphibians.

Tate Creek

Tate Creek is a Type F (fish-bearing) stream with a short segment of Type N (non-fish bearing) in its upper reach. The stream originates at the southeast boundary of Wetland B and flows to the Snoqualmie River. During site visits in April and June 2021, we observed that the stream channel

was dry above a natural barrier, identified by a *Last Fish* sign. Tate Creek drains into the Snoqualmie River approximately 3.75 miles south from the study area. No man-made structures are present along Tate Creek's channel within the study area.

The natural barrier to fish passage causes the change from a fish-bearing stream to a non-fish-bearing stream. Below this natural barrier, Tate Creek is approximately 15 feet wide between its ordinary high water marks, and ranges from 2 feet to 4 feet in depth. Tate Creek has a densely forested riparian habitat which adequately shades the stream and provides input of large woody material for fish habitat and food. The stream substrate is sand and gravel below the natural fish barrier with lots of large woody debris and large rock in the channel, slowing water and creating pools. Above the natural fish barrier, the stream has a lower gradient resulting in a substrate that consists of mostly silt.

Other Habitat

The area for the fill expansion does not contain any mapped federal or state habitats of importance or any habitats of local significance other than wetlands and Tate Creek. The majority of the site consists of stands of Douglas fir monocultures ranging from approximately 3 years to over 40 years in age. These monoculture stands are densely planted, as typical for silvicultural practices, and have little sub-canopy. The two large wetlands onsite have a mixed stand of timber species, with some of the trees being over 50 years old (Figure 2).

Listed Species and Habitats in the Project Vicinity

The potential presence of listed species that have a primary association with the habitat on or adjacent to the project area was evaluated by a site visit and assessing aerial photographs for different habitat features. Additionally, the following online resources were used to research potential species presence:

- Washington Department of Fish and Wildlife (WDFW) SalmonScape,
- King County iMap (King County 2020),
- WDFW Priority Habitats and Species (PHS) website (WDFW 2019, 2020),
- U.S. Fish and Wildlife Service (USFWS) website (USFWS 2020), and
- National Marine Fisheries Service (NMFS) website (NMFS 2016, 2020).

In accordance with the *CCC*, this habitat assessment will address the species and habitats that have a primary association with habitat on or adjacent to the project area. The following table shows state priority habitats and federally or state-listed species, as well as state candidate species, that have a primary association with habitat within the study area. A previous onsite wildlife survey was completed in 2004 for a past expansion of the 5 Mile Fill Site, which is directly to the west of the current proposed expansion. The observed species are documented in Table 2. It is assumed these species also access the newly proposed fill site.

Table 1. State Priority Habitats and Endangered, Threatened, Candidate, and Sensitive Species that have Primary Association with Habitat on or Adjacent to the Study Area

Species or State Priority Habitat	State Status ¹	Federal Status ¹	Critical Habitat in Project Vicinity ²	
Fish				
Bull Trout (Salvelinus confluentus)	Candidate	Threatened	No	
Resident Coastal Cutthroat (Oncorhynchus clarki)	None	None	Not applicable	
Mammals				
Gray Wolf (Canis lupus)	Endangered	Endangered	Not available	
North American Wolverine (Gulo gulo luscus)	Candidate	Candidate	No	
Roosevelt Elk (Cervus elaphus)	None	None	Not applicable	
Birds				
Marbled Murrelet (Brachyramphus marmoratus)	Endangered	Threatened	No	
Yellow-billed Cuckoo (Coccyzus americanus)	Candidate	Threatened	No	
Critical Habitats				
No critical habitats mapped in this location				

¹ Endangered - In danger of becoming extinct or extirpated; Threatened - Likely to become endangered within the foreseeable future throughout all or a significant portion of its range and that has been formally listed as such in the Federal Register under the Federal Endangered Species Act; Sensitive - Vulnerable or declining and could become endangered or threatened in the state;

FISH

The study area does not have suitable habitat for bull trout. Bull trout spawn in the fall after temperatures drop, in streams with cold, unpolluted water, clean gravel and cobble substrate, and gentle stream slopes. They are more sensitive to increased water temperatures, poor water quality, and degraded stream habitat than many other salmonids. Additionally, there is no mapped critical habitat for bull trout in Tate Creek. It is assumed there are no bull trout in Tate Creek. Resident cutthroat trout have been extensively studied and observed on the lower reaches of Tate Creek. It is assumed that the resident coastal cutthroat trout are present within the study area up to the natural barrier serving as a water type break.

MAMMALS

The critical habitat for gray wolf is not available to the public; however, the study area and surrounding has not had any gray wolf sightings. North American wolverine is also unlikely to be onsite due to the elevation and presence of persistent spring snow cover for successful reproduction

^{2.}WDFW 2020

(Federal Register 2013). No records exist of wolverines denning anywhere but in snow. Suitable habitat includes remote regions of boreal forests, subarctic and alpine tundra. Roosevelt elk sign was observed in the 2004 survey and are assumed to be present.

BIRDS

No marbled murrelet nesting or occupancy sites are mapped within the study area, and none have been observed. Some general habitat attributes are characteristic throughout its range, including the presence of nesting platforms, adequate canopy cover over the nest, landscape condition, and distance to the marine environment (Federal Register 2016). Because of the monoculture of young Douglas fir trees and the fact that the study area is approximately 30 miles from marine environment, it is highly unlikely marbled murrelet are present within the study area.

The yellow-billed cuckoo is a neotropical migrant that winters in South America and breeds in west of the Rocky Mountains in North America from Mexico to southern British Columbia. They are secretive birds that are in the Pacific Northwest for the nesting season from June through August, then they migrate south. Suitable breeding habitat in the Pacific Northwest includes cottonwood and willow bottoms along the Willamette and lower Columbia rivers (Federal Register 2014). The study area is likely too far west of the Rocky Mountains and too far north to be suitable for nesting.

CRITICAL HABITATS

No federally designated critical habitats are within the study area.

2004 WILDLIFE SURVEY

Table 2 contains species or sign observed from the 2004 wildlife survey.

Table 2. 2004 Inventory of Wildlife Species from Field Surveys

Species	Observations
Mammals	
Roosevelt elk Cervus elaphus roosevelti	Individual tracks, and scat
 Columbian black-tailed deer Odocoileus hemionus columbianus 	Tracks, scat, and rubs
■ Coyote Canis latrans	Individual animal and scat
Black bearUrsus americanus	Scat and tracks
Mountain beaver Aplodontia rufa	Tunnels in road cuts
■ Vole Microtus sp.	Tunnels in grassy area
 Douglas squirrel Tamiasciurius douglasi mollipilosus 	Heard chirping and observed

Species	Observations			
Birds				
American robin Turdus migratorius	Song heard and individuals observed			
Mourning dove Zenaida macroura	Call heard			
Northern harrier Circus cyaneus	Individual observed			
Winter wren Troglodytes troglodytes	Song heard			
American crow Corvus brachyrhynchos	Song heard			
Ruffed grouse Bonasa umbellus	Flushed bird			
Song sparrow Melospirza melodia	Song heard			
Varied thrush Ixoreus naevius	Song heard			
Northern flicker Colaptes auratus	Call heard and individual observed			
Spotted tooheePipilo maculates	Call heard			
Swainson's thrush Catharus ustulatus	Song heard			
Canada goose Branta canadensis	Flock observed			
American goldfinch Carduelis tristis	Individual male observed and song heard			
American crow Corvus brachyrhynchos	Call heard			
Barn swallow Hirundo rustica	Individual observed			
Amphibians				
Pacific treefrogPseudocaris regilla	Song heard			

Development Standards

WILDLIFE HABITAT CONSERVATION AREAS

The following development standards (in italics) apply to development proposals and alterations on sites containing wildlife habitat conservation areas as listed in *KCC 21A.24.382*.

A. Unless allowed as an alteration exception under K.C.C. 21A.24.070, only the alterations identified in K.C.C. 21A.24.045 are allowed within a wildlife habitat conservation area;

No alterations to mapped wildlife habitat conservation areas are proposed.

B. For a bald eagle:

1. The wildlife habitat conservation area is an area with a four-hundred-foot radius from an active nest;

No mapped bald eagle nests are present within the proposed work area.

2. Between March 15 and April 30, alterations are not allowed within eight hundred feet of the nest; and

Not applicable.

3. Between January 1 and August 31, land clearing machinery, such as bulldozers, graders or other heavy equipment, may not be operated within eight hundred feet of the nest;

Not applicable.

C. For a great blue heron:

 The wildlife habitat conservation area is an area with an eight-hundred-twenty-foot radius from the rookery. The department may increase the radius up to an additional one-hundred sixty-four feet if the department determines that the population of the rookery is declining; and

There are no mapped rookeries within the study area or within 800 feet of its boundaries.

2. Between January 1 and July 31, clearing or grading are not allowed within nine-hundred-twenty-four feet of the rookery;

Not applicable.

D. For a marbled murrelet, the wildlife habitat conservation area is an area with a one-half-mile radius around an active nest;

No critical habitat for marbled murrelet is mapped within the study area. There are also no mapped or observed nests.

E. For a northern goshawk, the wildlife habitat conservation area is an area with a one-thousand-five-hundred-foot radius around an active nest located outside of the urban growth area;

No active nests for the northern goshawk have been observed within the study area. If a nest is observed, the proper precautions will be taken to avoid disturbance.

F. For an osprey:

1. The wildlife habitat conservation area is an area with a two-hundred-thirty-foot radius around an active nest; and

No active nests have been observed within the study area. If a nest is observed, the proper precautions will be taken to avoid disturbance.

2. Between April 1 and September 30, alterations are not allowed within six-hundred-sixty feet of the nest;

If a nest is observed, the proper precautions will be taken to avoid disturbance.

G. For a peregrine falcon:

1. The wildlife habitat conservation area is an area extending for a distance of one-thousand feet of an eyrie on a cliff face, the area immediately above the eyrie on the rim of the cliff, and the area immediately below the cliff;

There are no cliff faces within the study area; therefore, the presence of a peregrine falcon eyrie is highly unlikely.

2. Between March 1 and June 30, land-clearing activities that result in loud noises, such as from blasting, chainsaws or heavy machinery, are not allowed within one-half mile of the eyrie; and

Not applicable.

3. New power lines may not be constructed within one-thousand feet of the eyrie;

Not applicable.

H. For a spotted owl, the wildlife habitat conservation area is an area with a three-thousand-sevenhundred-foot radius from an active nest;

The habitat in the study area is not suitable for spotted owls. Additionally, PHS mapping from WDFW shows masks data and only shows townships in which spotted owls have been observed due to the sensitive status of the species. According to PHS, no spotted owls have been observed within the township that the project is located in.

- *I.* For a Townsend's big-eared bat:
 - Between June 1 and October 1, the wildlife habitat conservation area is an area with a fourhundred-fifty-foot radius from the entrance to a cave or mine, located outside of the urban area, with an active nursery colony

There are no caves or mines within the study area. The presence of Townsend's big-eared bat is highly unlikely. The existing surface mine adjacent to the proposed surface mine and fill site will not have suitable habitat for these bats.

2. Between November 1 and March 31, the wildlife habitat conservation area is an area with a four-hundred-fifty-foot radius around the entrance to a cave or mine located outside the urban growth area serving as a winter hibernacula;

Not applicable.

3. Between March 1 and November 30, a building, bridge, tunnel, or other structure used solely for day or night roosting may not be altered or destroyed;

Not applicable.

4. Between May 1 and September 15, the entrance into a cave or mine that is protected because of bat presence is protected from human entry; and

Not applicable.

5. A gate across the entrance to a cave or mine that is protected because of bat presence must be designed to allow bats to enter and exit the cave or mine;

Not applicable.

- J. For a Vaux's swift:
 - The wildlife habitat conservation area is an area with a three-hundred-foot radius around an active nest located outside of the urban growth areas;

No nests, active or inactive, were observed in the 2004 wildlife survey. Additionally, Vaux's swift, if present, would likely be using the study area for breeding. These birds are mainly

- associated with old-growth and mature coniferous forests, using large hollow trees and snags for nesting and roosting. Because of the monoculture of Douglas fir being largely undersized and not having suitable nesting or roosting habitat, it is unlikely Vaux's swift would use the site for nesting.
- Between April 1 and October 31, clearing, grading, or outdoor construction is not allowed within four hundred feet of an active or potential nest tree. The applicant may use a species survey to demonstrate that the potential nest tree does not contain an active nest;
 Not applicable.
- K. The department shall require protection of an active breeding site of any federal or state listed endangered, threatened, sensitive and candidate species or King County species of local importance not listed in subsections B. through J. of this section. If the Washington state Department of Fish and Wildlife has adopted management recommendations for a species covered by this subsection, the department shall follow those management recommendations. If management recommendations have not been adopted, the department shall base protection decisions on best available science. (Ord. 17485 § 23, 2012: Ord. 15051 § 198, 2004).

Based on the monoculture of even-aged Douglas fir forest, it is unlikely any federal or state listed endangered, threatened, sensitive or candidate species, or species of local importance are located within the study area. If these species are observed, the proper setbacks and timing limitations will be immediately applied to the proposed surface mine and fill site.

Limitations

ELS bases this report's determinations on standard scientific methodology and best professional judgment. In our opinion, local, state, and federal regulatory agencies should agree with our determinations. However, the information contained in this report should be considered preliminary and used at your own risk until it has been approved in writing by the appropriate regulatory agencies. ELS is not responsible for the impacts of any changes in environmental standards, practices, or regulations after the date of this report.

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Figures

