

---

**Sewall Wetland Consulting, Inc.**

PO Box 880  
Fall City, WA 98024

Phone: 253-859-0515

March 15, 2023

Hanson Sisters, LLC  
18820 3rd Ave NE  
Arlington, Washington 98223

RE: Parcel #31051900401200 – Critical Area Report  
City of Marysville, Washington  
SWC Job #18122

This report describes our observations of any jurisdictional wetlands, streams or buffers on or within 200' of (Parcel #31051900401200) located at 17406 19<sup>th</sup> Avenue NE in the City of Marysville, Washington (the "site"). The site is located in Section 29, Township 31 North, Range 5 east of the W.WM.

The site is an irregular shaped 18.87 acre agricultural property used for growing hay, corn and other crops. A single family home, as well as a barn, several small outbuildings and associated gravel driveway are located on the site.

## **METHODOLOGY**

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site between February and May 30 of 2018. The site was re-inspected in March of 2023 and conditions remain the same.

The site was reviewed using methodology described in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987), and the *Western Mountains, Valleys and Coast region Supplement* (Version 2.0) dated June 24, 2010, as required by the US Army Corps of Engineers.



*Above: Snohomish County Parcel Map of the site.*

Given the mapped Custer and Norma soil series on the north and east side of the site, hydrology monitoring in the early growing season was used to verify if wetland hydrology exists on this agricultural field.

Previous information from NRCS indicates that there is such a high degree of disturbance to historical hydrology of the Custer soils in the vicinity of the site that the only sure determination if the soil was hydric was to observe wetland hydrology in the early growing season over the required period of time.

The presence of wetland hydrology is the driving force behind wetland presence, without wetland hydrology, an area does not meet wetland criteria. Therefore, only areas on the site that contain all three parameters during the early growing season meet the definition of a wetland. Areas that do not have hydrology do not meet wetland criteria and are considered upland.

In order to determine what portion of the site contained wetland hydrology, an analysis of wetland hydrology was conducted throughout the site.

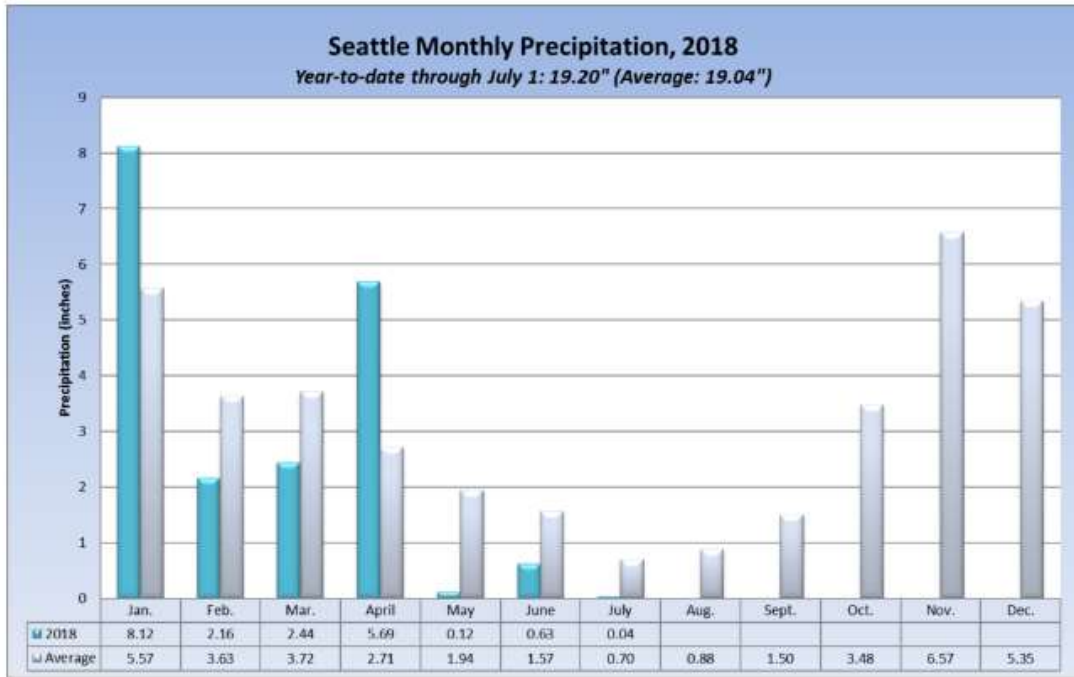
*Site Hydrology Monitoring Methods*

A total of 18 data points (soil pits) were sampled to determine if wetland vegetation, soils and hydrology was present on the site within 12” of the soil surface.



*Above: Data point locations on the site*

The site was visited between February 28th and May 25 of 2018 to collect hydrology data.



Rainfall in the region was above normal for January and April and less in May, but on average, rainfall was normal between Jan and May of 2018. Normal rainfall for this period is 17.57" and in 2018 18.53" of rain fell in this period, which is slightly above normal (105%).

At each sample point soil pit was excavated -18" deep. At each pit observations of the level of standing water and/or soil saturation (if any) were recorded.

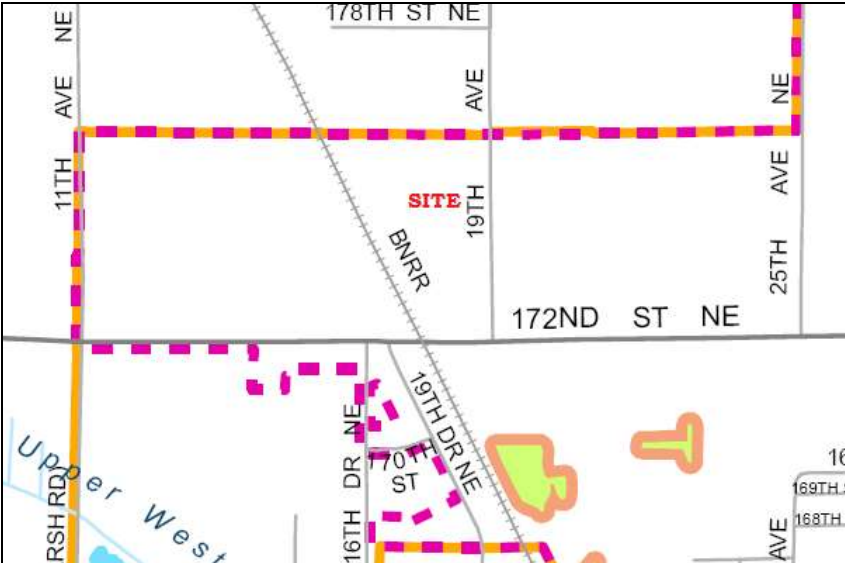
## **OBSERVATIONS**

### ***Existing Site Documentation.***

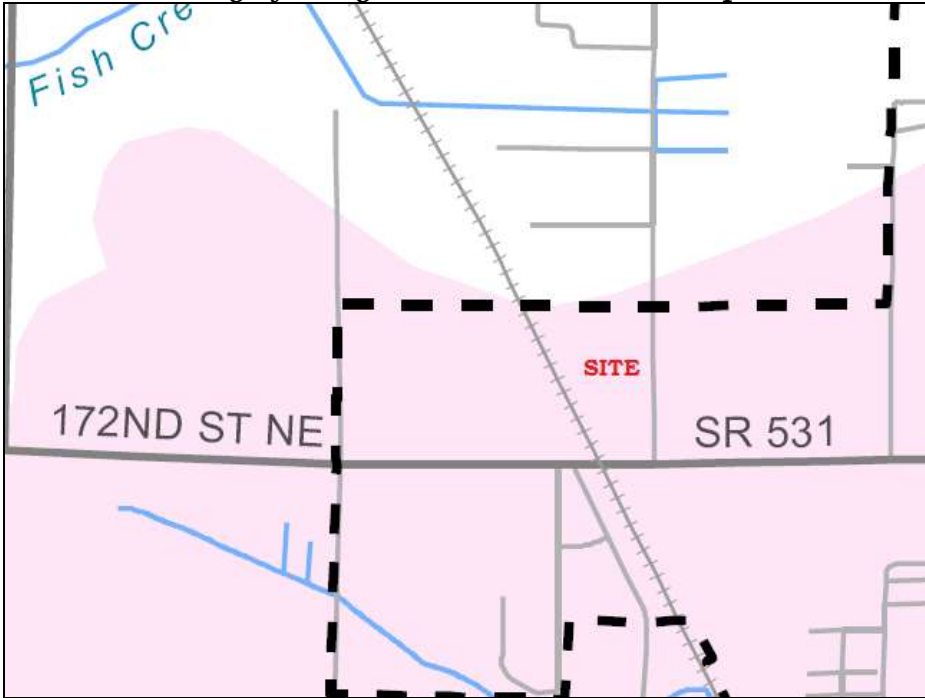
Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the City of Marysville Critical Areas map, National Wetland Inventory Map, the NRCS Soil Survey online mapping and Data, WADNR Fpars stream mapping and the WDFW Priority Habitats mapping website.

**City of Marysville Critical Areas Map**

According to the City of Marysville Critical Areas Maps, there are no wetlands or streams on the site



*City of Marysville Critical Areas Map*



*Above: City of Marysville Stream mapping.*

## National Wetlands Inventory (NWI)

The NWI map depicts the southern edge of an emergent and forested wetland located primarily off-site to the north along the north edge of the site.



*Above: NWI Map of the area of the site.*

## Soil Survey

According to the NRCS Soil Mapper website, the site is mapped as Custer fine sandy loam in the center and eastern side of the site. The north edge of the site is mapped as poorly drained Norma Soils, and the southwest side, Kitsap silt loam. Both the Norma and Custer soils when not drained, are considered hydric or wetland soils.

According to Soil Survey of Snohomish County Area, Washington (Debose and Klungland, 1983) the site is mapped as Custer fine sandy

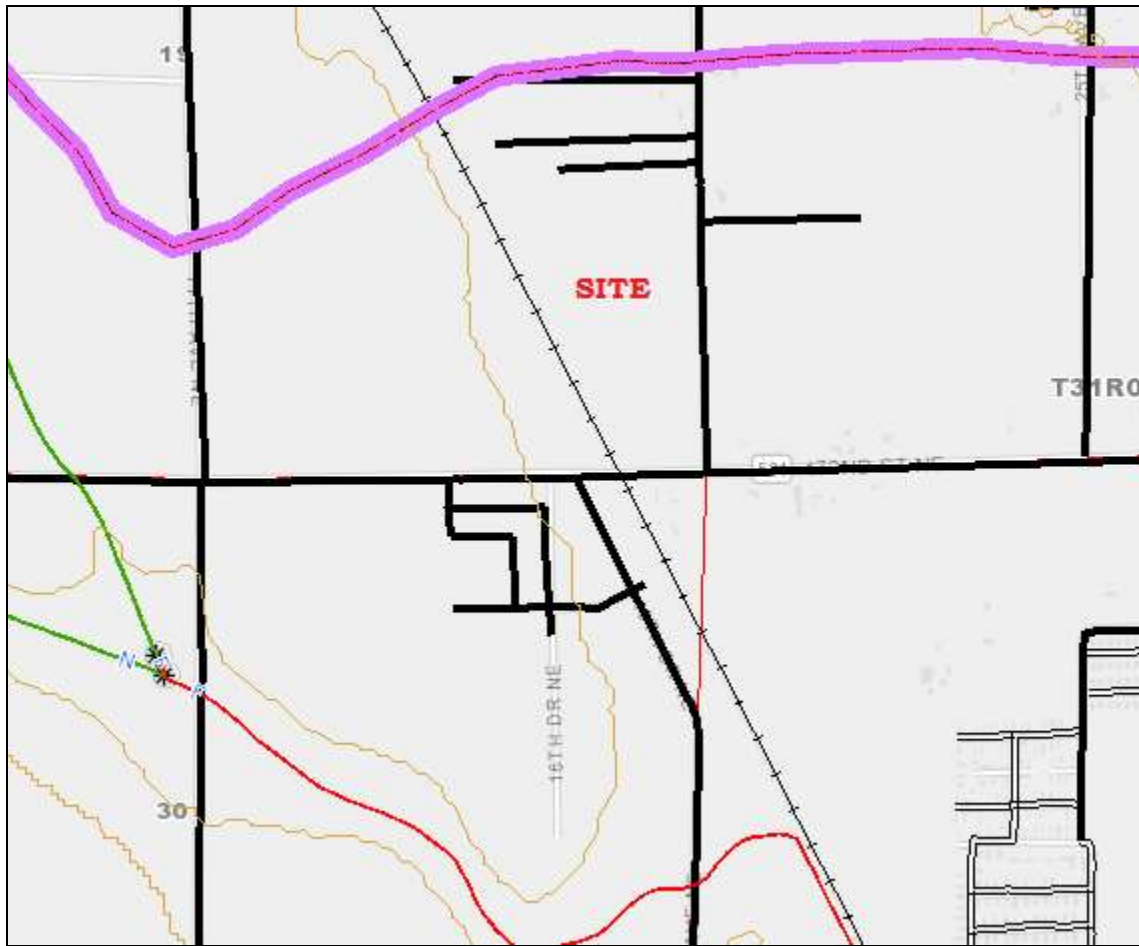
loams. Custer soils (soil unit #13) are poorly drained soils formed in outwash plains. According to local NRCS scientists, Custer soils have such a high degree of disturbance to historical hydrology in the vicinity of the site that the only sure determination if the soil was hydric was to observe wetland hydrology in the early growing season over the required continuous period of time.



*Above: NRCS Soil map of the study area.*

### **WADNR Fpars**

The WADNR Fpars stream typing map for the site there are no streams on or near the site.



*Above WDNR Fpars Stream Typing map.*

### **WDFW Priority Habitats**

According to the WDFW Priority Habitats mapping website, there are no priority habitats on the site. The wetlands identified on the NWI maps have been replicated on this map as wetlands are considered priority habitats.





*Above: WDFW Priority Habitats Map of the site*

## **Field observations**

### *Uplands*

The site has a high point along the west boundary which borders the railroad tracks. The site slopes down gradually towards 19<sup>th</sup> Avenue NE.

An existing farm house as well as a barn and several outbuildings are located near the center of the site. A gravel driveway accesses the home from 19<sup>th</sup> Avenue NE on the east.

Several roadside storm drainage ditches are located along the property, one along the edge of 19<sup>th</sup> Avenue NE, one along portions of the west edge of the site near the railroad tracks collecting railroad track runoff, one along SR531 collecting road and development runoff, and one agricultural ditch, through the center of the site.

These ditches are man-made agricultural drainage ditches which carry storm water from properties to the north, west and east of the site. The drainage from these ditches join and drain southerly under SR 531 in a

ditch along the east side of the railroad tracks, eventually draining into the West Fork of Quilceda just at the fish screens on the Sather property. These ditches convey runoff from “Pollutant Generating Surfaces” (Roads) and this is “permitted” as a Municipal Separated Storm Sewer System (MS4) through the City of Marysville Phase II NPDES Permit. These ditches clearly carry storm water runoff from SR531 to the north and west, as well as other recently developed properties east of 19<sup>th</sup> Avenue NE.

Both the Federal and State Water Pollution Control Regulations (State rules RCW 90.48.080 specifically) do not allow the discharge of polluted water in the “Waters of the State”. The Municipality is also responsible for this MS4 up to its discharge into receiving water. In this case, that would be West Fork Quilceda Creek south of the Fish Screens. By Permit, only treated water is supposed to be discharged into a “receiving water”. The ditches north of the fish screens are clearly used as part of the City’s storm water system, and a ditch permitted as a MS4 cannot at the same time be called a “water of the state”.

These ditches are not streams or wetlands. The closest stream being the West Fork of Quilceda located 2,800’ south of the site. A fish screen has been placed at the point 2,800’ south of the site at WDFW’s approval specifically to prevent any fish from migrating into the man-made and artificially created drainage ditch south and west of the site, that the sites ditch flows into.

The site is regularly plowed and planted with hay, corn or rye on an annual basis and has been a farm since the site was homesteaded in the 1800’s. Old drainage tiles were observed in several areas and subsurface drainage throughout the field is probably present, as was typical for farms in this area.

At the time of our winter-spring sampling the field was covered in growing rye.

Soil pits excavated throughout the site were very mixed and varied, with loam in the western area of the site and some dense silty loam and sandy loam and loamy sand on the eastern side of the site.

Several points were observed to have soil saturation (DP #1, 6,7, 8, 10 and 16) at some point within 16” of the surface (see attached hydrology

monitoring results). However, none of these observations were close enough to the surface and for prolonged enough to meet wetland hydrology criteria.

### **Potential Off-site wetland**

The area off-site to the north, which has been mapped by the NWI maps as wetland, has a small area that may be wetland.

Our observations were limited to the northern site boundary and looking across the 4' deep drainage ditch to the property to the north. A small area north of the western side of the site was observed to have a mix of birch, some salmonberry and patches of slough sedge. We do not know the soil characteristics or hydrology of this area as we have no access to it. We never observed any surface water in this area, although its possible soil saturation was present in the early growing season. It possible that the area was wet and was drained years ago by the agricultural drainage ditch or it is still marginally wetland and meets wetland hydrology criteria as hydrophytic vegetation was visibly present.

For the purposes of this study, and given the NWI mapping, we assumed this area with visible wetland vegetation, located off-site to the north is wetland. However, this can only be positively confirmed by an on-site review of this off-site area for which we had no permission.

City of Marysville Code (MMC 22E.010.060 Wetland rating and classification) states: Wetlands shall be classified as Category I, II, III, or IV using the Washington State Department of Ecology's Wetland Rating System for Western Washington, Publication No. 04-06-025, or as amended hereafter. As a result the wetland area was rated using the 2014 Wetland Rating system.



*Above: Location of potential Category IV off-site wetland.*

Using the 2014 WADOE Wetland Rating system and rating the wetland as a depressional wetland, this wetland scored a total of 15 points with 5 for habitat. This indicates a Category IV wetland. Category IV wetlands in the City of Marysville have a 35' buffer measured from the wetland edge.

## **Proposed Project**

The proposed project is the construction of 247 single family dwelling units and associated infrastructure as depicted on the attached Land Technologies "*Hanson Sisters, LLC Preliminary Plat Plan*". The 35' buffer of the possible Category IV wetland off-site to the north extends onto the west side of the northern property line. All development has been designed to avoid the 35' buffer.

If you have any questions in regards to this report or need additional information, please feel free to contact me at (253) 859-0515 or at [esewall@sewallwc.com](mailto:esewall@sewallwc.com).

Sincerely,  
*Sewall Wetland Consulting, Inc.*

A handwritten signature in black ink on a light yellow background, appearing to read "Ed Sewall".

Ed Sewall  
Senior Wetlands Ecologist PWS #212

Attached: Data Sheets  
Rating Form & Exhibits

## **REFERENCES**

Cowardin, L., V. Carter, F. Golet, and E. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, FWS/OBS-79-31, Washington, D. C.

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1. U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi.

Muller-Dombois, D. and H. Ellenberg. 1974. Aims and Methods of Vegetation Ecology. John Wiley & Sons, Inc. New York, New York.

Munsell Color. 1988. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, Maryland.

National Technical Committee for Hydric Soils. 1991. Hydric Soils of the United States. USDA Misc. Publ. No. 1491.

Reed, P., Jr. 1988. National List of Plant Species that Occur in Wetlands: Northwest (Region 9). 1988. U. S. Fish and Wildlife Service, Inland Freshwater Ecology Section, St. Petersburg, Florida.

Reed, P.B. Jr. 1993. 1993 Supplement to the list of plant species that occur in wetlands: Northwest (Region 9). USFWS supplement to Biol. Rpt. 88(26.9) May 1988.

USDA NRCS & National Technical Committee for Hydric Soils, September 1995. Field Indicators of Hydric Soils in the United States - Version 2.1

City of Marysville Municipal Code

3/12/2023 9:04 AM  
Z:\Hillock\_Joe\_Larson Property\Sheets\1.P1 Preliminary Plan.dwg

**LEGEND**

---	PROJECT BOUNDARY
---	R/W LINE, EXIST
---	R/W LINE, PROPOSED
---	LOT LINE
---	TRACT LINE
---	UTILITY EASEMENT
---	EXIST. PARCEL LINE
---	BUILDING SETBACK
---	PROPOSED PAVED AREA
---	POWER POLE, EXIST
---	PROPOSED STORM CULVERT
---	ROCK WALL
---	FENCE (MIN 48" H)

**LOT YIELD ANALYSIS**

Gross Project Area	850,175 sf (19.52 ac)
Zoning Multiplier	28.0
Net Project Area Percentage	100%
<b>Maximum Yield (Standard)</b>	<b>547</b>

**OPEN SPACE ANALYSIS**

Type of Dwelling Unit	Quantity	Sqft per Unit	Total Floor Area
3Plex (Central)	17	7,071 sf/unit	120,207 sf
3Plex (South)	1	9,678 sf/unit	9,678 sf
4Plex (Central)	19	9,663 sf/unit	183,597 sf
4plex (North)	13	12,894 sf/unit	167,622 sf
4plex (West)	15	9,402 sf/unit	141,030 sf
5plex	1	12,260 sf/unit	12,260 sf

Gross Floor Area	634,394 sf (14.56 ac)
Minimum Open Space (OS) Required	30.0% 190,318 sf (4.37 ac)

**Open Space Provided**

Tract 999 - Open space active recreation and SWM	25,660 sf (0.59 ac)
Tract 998 - Open space active recreation and SWM	32,693 sf (0.75 ac)
Tract 997 - Open space active recreation	18,099 sf (0.42 ac)
Tract 996 - Open space passive recreation	6,600 sf (0.15 ac)
Tract 995 - Open space active recreation	38,621 sf (0.89 ac)
Tract 994 - Landscape buffer	15,428 sf (0.35 ac)
Tract 993 - Landscape buffer	4,799 sf (0.11 ac)
Tract 992 - Landscape buffer	11,220 sf (0.26 ac)
Tract 991 - Open space passive and landscape buffer	47,929 sf (1.10 ac)
<b>Total Open Space Provided</b>	<b>31.7% 201,047 sf (4.62 ac)</b>
<b>Total Active Open Space Provided</b>	<b>18.1% 115,072 sf (2.64 ac)</b>

**IMPERVIOUS AREAS**

Existing road area	0 sf (0.00 ac)
Existing driveway area	0 sf (0.00 ac)
Existing roof area	0 sf (0.00 ac)
New road pavement area (onsite)	143,830 sf (3.30 ac)
New road pavement area total	159,477 sf (3.66 ac)
New driveway area	94,334 sf (2.17 ac)
New roof area	211,465 sf (4.85 ac)
New sidewalk area (onsite)	sf (0.00 ac)
New sidewalk area total	9,581 sf (0.22 ac)
Total impervious area (onsite)	449,629 sf (10.32 ac)
Total impervious area	474,857 sf (10.90 ac)

**SITE AREA ANALYSIS**

Gross Site Area	850,175 sf (19.52 ac)
Area in ROW	34,809 sf (0.80 ac)
Area in Lots	467,354 sf (10.73 ac)
Area in Tracts	348,012 sf (7.99 ac)
<b>Total</b>	<b>850,175 sf (19.52 ac)</b>

**TRACT DESIGNATION**

Tract 999 - Open space active recreation and SWM	25,660 sf (0.59 ac)
Tract 998 - Open space active recreation and SWM	32,693 sf (0.75 ac)
Tract 997 - Open space active recreation	18,099 sf (0.42 ac)
Tract 996 - Open space passive recreation	6,600 sf (0.15 ac)
Tract 995 - Open space active recreation	38,621 sf (0.89 ac)
Tract 994 - Landscape buffer	15,428 sf (0.35 ac)
Tract 993 - Landscape buffer	4,799 sf (0.11 ac)
Tract 992 - Landscape buffer	11,220 sf (0.26 ac)
Tract 991 - Open space passive and landscape buffer	47,929 sf (1.10 ac)

**Access Tracts**

Tract 990 - Access Tract	146,965 sf (3.37 ac)
--------------------------	----------------------

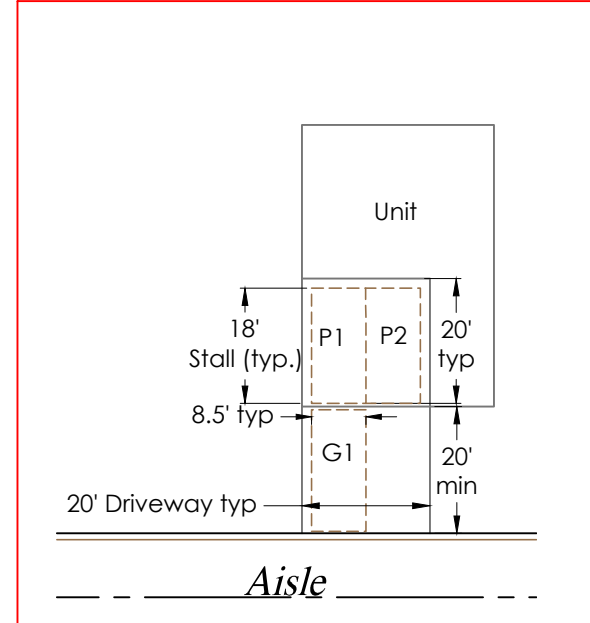
**Total Tract Area** **348,012 sf (7.99 ac)**

**VEGETATIVE ANALYSIS**

EXISTING	
Forested areas	850,175 sf (19.52 ac)
Building & Gravel areas	0 sf (0.00 ac)
<b>Total</b>	<b>850,175 sf (19.52 ac)</b>
PROPOSED	
Landscape areas	375,319 sf (8.62 ac)
Building & Driveway areas	305,799 sf (7.02 ac)
Road & Sidewalk areas	169,058 sf (3.88 ac)
<b>Total site area</b>	<b>850,175 sf (19.52 ac)</b>

**GENERAL DEVELOPMENT STANDARDS - PARKING**  
**NUMBER OF SPACES REQUIRED (MMC 22C.130.030 Table 1)**

Single Family Dwelling Units Proposed - 247 townhomes		
Description	Required	Provided
Min. Req'd Parking Spaces	2 per DU (494 spaces)	494 spaces
+ Adm'l Guest Space	1 per 1 DU (247 spaces)	247 spaces
<b>TOTAL Parking Spaces</b>	<b>731 spaces</b>	<b>731 spaces</b>



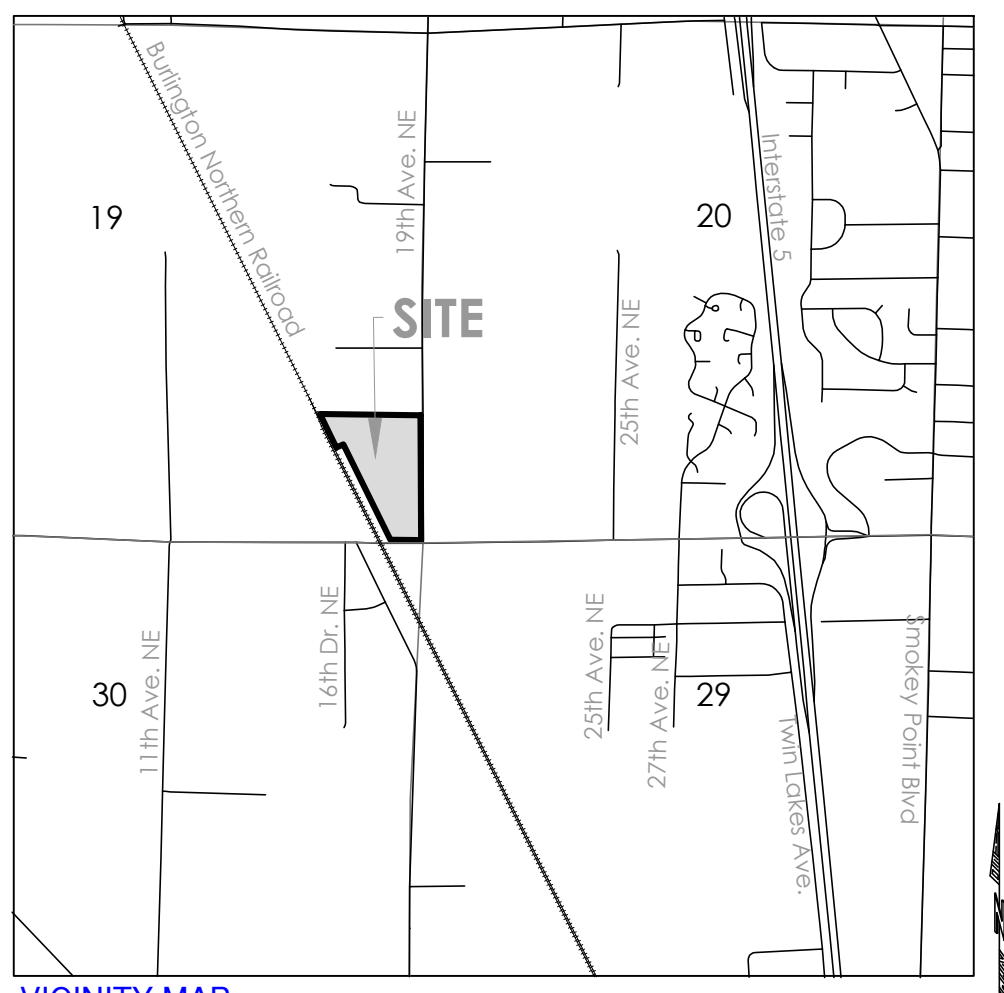
**SLOPE ANALYSIS**

Slopes vary across the site. Slopes typically range from 0 to 5%. Average slope is 3.66%. Site slopes generally downward from the west to east.

There are no indications of unstable slopes on the site.

Slope analysis based on T.I.N. triangle slopes of the LIDAR surface:

Range	Area (sf)
0% - 5%	850,175 sf
5% - 10%	0 sf
10% - 15%	0 sf
15% - 33%	0 sf
33% +	0 sf
<b>Total =</b>	<b>850,175 sf (19.52 ac)</b>



**LAND TECHNOLOGIES**  
18820 3rd Avenue, N.E.  
Arlington, WA 98223  
360-652-9727

MAKING A WAY OUT OF NO WAY

**HOUSING MIX RATIO**  
Proposal - 100% Single Family Attached Homes

**ZONING NOTES MU**

Density: Dwelling units/acre	28 du/acre
Minimum Street Setback	0 feet
Minimum Side Yard Setback	0 feet
Minimum Rear Yard Setback	15 feet
Base Height	45 feet
Impervious Surface Coverage	75%
Parking	3 stalls per unit

**LAND DISTURBING AREA**

<b>Total Site Area</b>	<b>850,175 sf (19.52 ac)</b>
<b>Land Disturbing Activity</b>	<b>Conceptual Area of Disturbance</b>
	838,082 sf (19.24 ac)

**Site Grading**

Cut	0 cy
Fill	80,000 cy

**LEGAL DESCRIPTION**

ALL THAT PORTION OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 19, TOWNSHIP 31 NORTH, RANGE 5 EAST, W.M. LYING EASTERLY OF THE GREAT NORTHERN RAILWAY RIGHT OF WAY, LESS COUNTY ROAD, SNOHOMISH COUNTY, WASHINGTON.

SITUATE IN THE COUNTY OF SNOHOMISH, STATE OF WASHINGTON.

**DATUM & BENCHMARK**

VERTICAL DATUM:  
NAVD 88 (NGVD 29-NAVD 88-3.71)  
FOUND A STANDARD NG3 3" BRASS DISK SET IN 6" IRON PIPE IN NW QUAD OF INTERSECTION 172ND ST. NW AND BNRR.  
ELEVATION = 124.68' PER GPS OBSERVATIONS.

**SURVEY REFERENCES**

(R1) BOUNDARY LINE ADJUSTMENT BLA 06-004 - A.F. #200701125006  
(R2) SURVEY FOR MYRON GEMMER - A.F. #9309275016

**SURVEY NOTES**

1.) THIS SURVEY HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF PARTIES WHOSE NAMES APPEAR HEREON ONLY, AND DOES NOT EXTEND TO ANY UNNAMED THIRD PARTIES WITHOUT EXPRESS RECERTIFICATION BY THE LAND SURVEYOR OF RECORD.

2.) BOUNDARY LINES SHOWN AND CORNERS SET REPRESENT DEED LOCATIONS; OWNERSHIP LINES MAY VARY. NO GUARANTEE OF OWNERSHIP IS EXPRESSED OR IMPLIED. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND DOES NOT PURPORT TO SHOW ALL EASEMENTS, RESTRICTIONS, RESERVATIONS, AND OCCUPATION WHICH MAY ENCUMBER TITLE OR USE OF SUBJECT PROPERTY.

**EQUIPMENT & PROCEDURES**

**METHOD OF SURVEY:**  
SURVEY PERFORMED BY FIELD TRAVERSE

**INSTRUMENTATION:**  
LEICA IS15 ROBOTIC ELECTRONIC TOTAL STATION

**PRECISION:**  
MEETS OR EXCEEDS STATE STANDARDS WAC 332-130-090

**PROJECT INFORMATION**

Tax Parcel Numbers	310519-004-012-00
Total Area	850,175 sf (19.52 ac)
GPP Designation	Mixed Use
Existing Zoning	Mixed Use
Existing Land Use	Undeveloped
Proposed Land Use	Single Family Dwelling Units
Number of Lots	247
Average Lot Size	1,892
Smallest Lot	1,240
Net Lot Density	12.65 du/net acre

**LOCAL SERVICES**

Sewage Disposal:	City of Marysville
Water District:	City of Marysville
School District:	Lakewood School #306
Fire District:	City of Marysville
Post Office:	Marysville
Electric:	Snohomish County PUD
Phone:	Frontier Communications
Cable:	Comcast
Gas:	

**CONTACT PERSON**

Land Technologies Inc.  
Mefe Ash  
18820 3rd Ave. NE  
Arlington, WA 98223  
360.652.9727  
mefe@landtechway.com

**SITE ADDRESS**

17406 19th Ave NE  
Marysville, WA 98271

**ENGINEER**

Land Technologies, Inc.  
Tyler S. Foster, PE  
18820 3rd Ave. NE  
Arlington, WA 98223  
360.652.9727  
tyler@landtechway.com

**APPLICANT/OWNER**

Hanson Sisters, LLC  
16720 Smokey Point Blvd, Ste 3  
Arlington, WA 98223

**SURVEYOR**

Pacific Coast Surveys, Inc.  
Darren J. Riddle  
P.O. BOX 13619  
Clinton, WA 98236  
425.512.7099

**CERTIFIED EROSION CONTROL SPECIALIST**



PROJECT LEAD: Mefe  
CHECKED BY: Tyler  
DRAWN BY: Mefe, Alex  
DATE: 3/12/2023  
REVISION 1: -  
REVISION 2: -  
REVISION 3: -  
REVISION 4: -  
AS-BUILT: -

English Crossing  
17406 19th Ave NE, Marysville, WA 98271  
A PORTION OF SECTION 19, TOWNSHIP 31 NORTH, RANGE 05 EAST, W.M.

Hanson Sisters, LLC  
16720 Smokey Point Blvd, Ste 3, Arlington, WA 98223

PRELIMINARY PLAT PLAN

P1 SHEET of P1  
24x36  
PA 21-023

marysville, wa Search

ex: Computer repair near Boston

Get Directions History

Marysville

▼ Places

- My Places
  - Sightseeing Tour
    - Make sure 3D Buildings layer is checked
  - garmin GPS Device
    - Created 09/07/12 08:30:41
  - garmin GPS Device
    - Created 12/12/12 08:01:16
  - Untitled Polygon
    - garmin GPS Device
    - Created 02/21/13 12:17:00
  - Waypoints
    - 001
      - 26-JUN-12 9:14:13AM

▼ Layers

- Primary Database
  - Borders and Labels
  - Places
  - Photos
  - Roads
  - 3D Buildings
  - Ocean
  - Weather
  - Gallery
  - Global Awareness
  - More
  - Terrain



Ruler

Line Path Polygon Circle 3D path 3D polygon

Measure the distance between two points on the ground

Map Length:	149.18	Feet
Ground Length:	149.20	
Heading:	88.05 degrees	

Mouse Navigation    Save    Clear

Sign in

Google Earth

Imagery Date: 7/10/2014 48°09'13.02" N 122°12'37.16" W elev 137 ft eye alt 2452 ft



Legend Filter Data Zoom To Tools

Navigation Tools:

Pan Zoom In Zoom Out Zoom Full Zoom Last Zoom Next

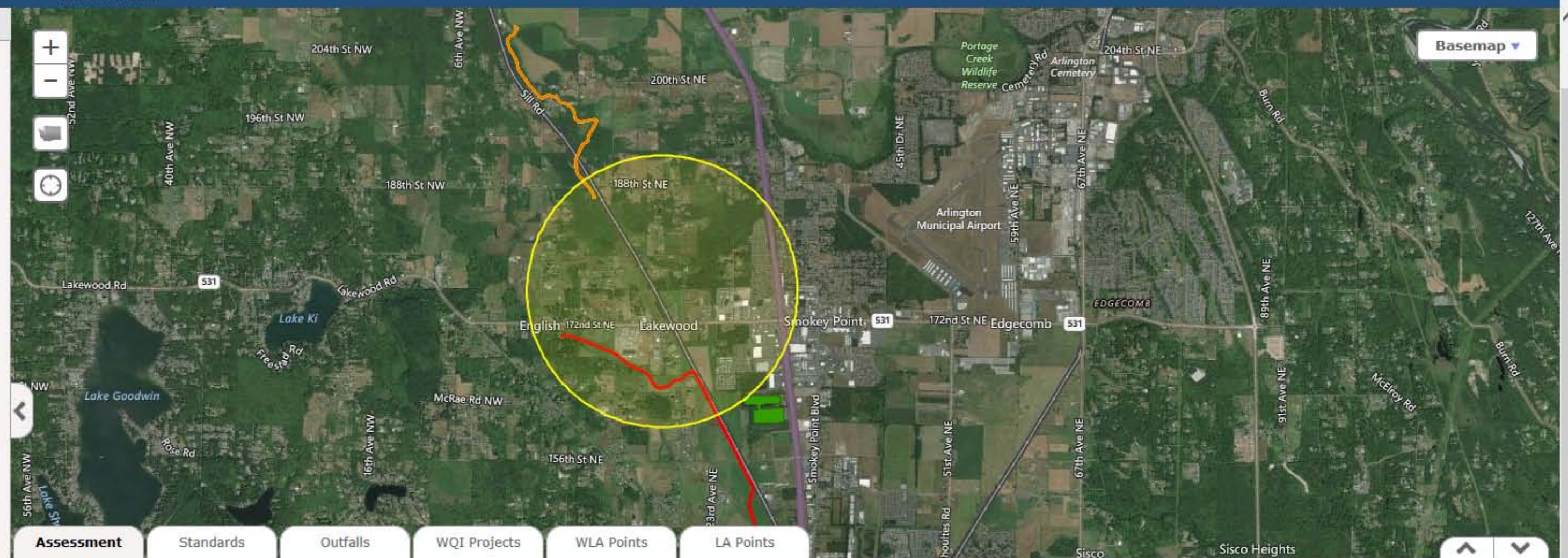
Miscellaneous Tools:

Identify Print Map Share Map Clear Graphics

Spatial Filter Tools:

Box Filter Polygon Filter Buffer Point Buffer Feature

Spatial filter applied ✓ (remove filter)



- Assessment
- Standards
- Outfalls
- WQI Projects
- WLA Points
- LA Points

Zoom to selection Export to csv

Find	Listing ID	Assessment Unit ID	Category	Medium	Parameter	Details
	7299	17110011000521	5	Water	Dissolved Oxygen	<a href="#">view</a>
	40733	17110008000422	4A	Water	Dissolved Oxygen	<a href="#">view</a>
	7305	17110011000521	4A	Water	Bacteria	<a href="#">view</a>

Showing 1 to 5 of 7 entries Previous 1 2 Next

Search

marysville, wa Search

Get Directions History

Marysville

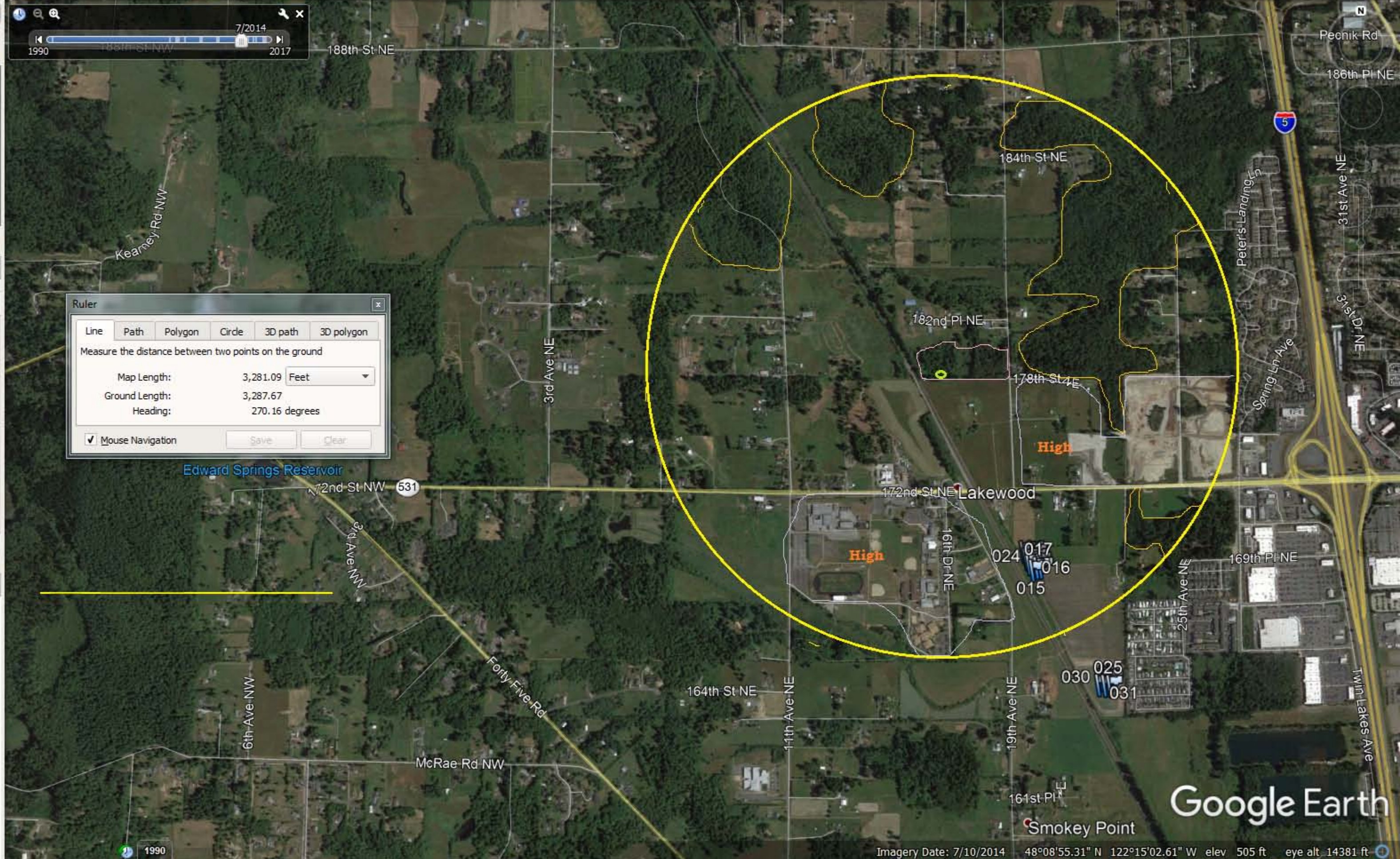
Places

- My Places
  - Sightseeing Tour
    - garmin GPS Device
      - Created 09/07/12 08:30:41
    - garmin GPS Device
      - Created 12/12/12 08:01:16
    - Untitled Polygon
      - garmin GPS Device
        - Created 02/21/13 12:17:00
  - Waypoints
    - 001
      - 26-JUN-12 9:14:13AM

Layers

- Primary Database
  - Borders and Labels
  - Places
  - Photos
  - Roads
  - 3D Buildings
  - Ocean
  - Weather
  - Gallery
  - Global Awareness
  - More
  - Terrain

Timeline: 1990 - 7/2014 - 2017



Ruler

Line Path Polygon Circle 3D path 3D polygon

Measure the distance between two points on the ground

Map Length: 3,281.09 Feet

Ground Length: 3,287.67

Heading: 270.16 degrees

Mouse Navigation Save Clear

Sign in

Google Earth

Imagery Date: 7/10/2014 48°08'55.31" N 122°15'02.61" W elev 505 ft eye alt 14381 ft



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

Project/Site: Haven sishus City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP1  
 Investigator(s): Ed Sewall Section, Township, Range: \_\_\_\_\_  
 Landform (hilllope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Let: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWT classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (if no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at the time formed, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____				Total Number of Dominant Species Across All Strata: _____ (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____				
= Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____				Total % Cover of _____ Multiply by _____
2. _____				OBL species _____ x 1 = _____
3. _____				FACW species _____ x 2 = _____
4. _____				FACU species _____ x 3 = _____
5. _____				UPL species _____ x 4 = _____
= Total Cover				UPL species _____ x 5 = _____
= Total Cover				Column Totals: _____ (A) _____ (B)
Prevalence Index = B/A = _____				
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Sagittaria</u>	<u>10</u>	<u>NF</u>		___ Dominance Test is >50%
2. _____				___ Prevalence Index is <=3.0
3. _____				___ Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
4. _____				___ Wetland Non-Vascular Plants <sup>1</sup>
5. _____				___ Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
6. _____				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
= Total Cover				
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. _____				
2. _____				
= Total Cover				
Remarks: <u>cropland</u>				

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0	<u>10YR 2/2</u>						<u>loam</u>	
16	<u>10YR 3/2</u>						<u>silt loam</u>	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>  
 \_\_\_ Histosol (A1) \_\_\_ Sandy Redox (S6) \_\_\_ 2 cm Muck (A10)  
 \_\_\_ Histic Epipedon (A2) \_\_\_ Stripped Matrix (S6) \_\_\_ Red Parent Material (TF2)  
 \_\_\_ Black Histic (A3) \_\_\_ Loamy Mucky Mineral (F1) (except MLRA 1) \_\_\_ Other (Explain in Remarks)  
 \_\_\_ Hydrogen Sulfide (A4) \_\_\_ Loamy Gleyed Matrix (F2)  
 \_\_\_ Depleted Below Dark Surface (A11) \_\_\_ Depleted Matrix (F3)  
 \_\_\_ Thick Dark Surface (A12) \_\_\_ Redox Dark Surface (F6)  
 \_\_\_ Sandy Mucky Mineral (S1) \_\_\_ Depleted Dark Surface (F7)  
 \_\_\_ Sandy Gleyed Matrix (S4) \_\_\_ Redox Depressions (F8)  
<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes  No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Water-Stained Leaves (B6) (except MLRA 1, 2, 4A, and 4B)
___ High Water Table (A2)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Aquatic Invertebrates (B13)
___ Sediment Deposits (B2)	___ Hydrogen Sulfide Odor (C1)
___ Drift Deposits (B3)	___ Oxidized Rhizospheres along Living Roots (C3)
___ Algal Mat or Crust (B4)	___ Presence of Reduced Iron (C4)
___ Iron Deposits (B5)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Surface Soil Cracks (B6)	___ Stunted or Stressed Plants (D1) (LRR A)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	___ Frost-Heave Hummocks (D7)

Field Observations:  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): -12"  
 (includes capillary fringe)  
 Wetland Hydrology Present? Yes  No   
 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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

Project/Site: Hassen sisters City/County: Marysville Sampling Date: 2-28-18
Applicant/Owner: State: WA Sampling Point: DPZ2
Investigator(s): Ed Sewell Section, Township, Range:
Landform (Hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: HWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes No / (If no, explain in Remarks.)
Are Vegetation Soil or Hydrology significantly disturbed? Are 'Normal Circumstances' present? Yes No /
Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes No /
Hydric Soil Present? Yes No /
Wetland Hydrology Present? Yes No /
Remarks: - above normal rainfall at time
- farmed, ditched + planted in rice

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: ) Absolute % Cover Dominant Species? Status
1.
2.
3.
4. = Total Cover
Savanna/Shrub Stratum (Plot size: ) = Total Cover
1.
2.
3.
4.
5. = Total Cover
Herb Stratum (Plot size: )
1. 20 17
2.
3.
4.
5.
6.
7.
8.
9.
10.
11. = Total Cover
Woody Vine Stratum (Plot size: )
1.
2. = Total Cover
% Bare Ground in Herb Stratum
Remarks:

SOIL

Sampling Point: \_\_\_\_\_

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)
Depth (inches) Matrix Color (moist) % Color (moist) % Type Loc Texture Remarks
9 10YR3/2
16 10YR3/1
Type: C-Concentration, D-Depletion, RM-Reduced Matrix, CS-Covered or Coated Sand Grains. Location: PL-Pore Lining, M-Matrix
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils:
Histosol (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) Other (Explain in Remarks)
Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2)
Depleted Below Dark Surface (A11) Depleted Matrix (F3)
Thick Dark Surface (A12) Redox Dark Surface (F6) Indicators of hydrophytic vegetation and
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present,
Sandy Gleyed Matrix (S4) Redox Depressions (F8) unless disturbed or problematic
Restrictive Layer (if present):
Type:
Depth (inches): Hydric Soil Present? Yes No /
Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one required, check all that apply) Secondary Indicators (2 or more required)
Surface Water (A1) Water-Stamped Leaves (B9) (except MLRA 1, 2, 4A, and 4B) Water-Stamped Leaves (B9) (MLRA 1, 2, 4A, and 4B)
High Water Table (A2) Salt Crust (B11) Drainage Patterns (B10)
Saturation (A3) Aquatic Invertebrates (B13) Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9)
Sediment Deposits (B2) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2)
Drift Deposits (B3) Presence of Reduced Iron (C4) Shallow Aquitard (D3)
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5)
Iron Deposits (B5) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A)
Surface Soil Cracks (B6) Other (Explain in Remarks) Frost-Heave Hummocks (D7)
Inundation Visible on Aerial Imagery (B7)
Sparsely Vegetated Concave Surface (B8)
Field Observations:
Surface Water Present? Yes No / Depth (inches):
Water Table Present? Yes No / Depth (inches):
Saturation Present? Yes No / Depth (inches): Wetland Hydrology Present? Yes No /
Remarks: no indicators

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

Project/Site: Hansen Siskins City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DPB 3  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type	Loc	Texture	Remarks
10	10YR 2/2						10 cm	
16	2.5Y 4/4						5 cm	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils:  
 \_\_\_ Histosol (A1) \_\_\_ Sandy Redox (S5) \_\_\_ 2 cm Muck (A10)  
 \_\_\_ Hiolic Epipedon (A2) \_\_\_ Stripped Matrix (S6) \_\_\_ Red Parent Material (TF2)  
 \_\_\_ Black Hiolic (A3) \_\_\_ Loamy Mucky Mineral (F1) (except MLRA 1) \_\_\_ Other (Explain in Remarks)  
 \_\_\_ Hydrogen Sulfide (A4) \_\_\_ Loamy Gleyed Matrix (F2)  
 \_\_\_ Depleted Below Dark Surface (A11) \_\_\_ Depleted Matrix (F3)  
 \_\_\_ Thick Dark Surface (A12) \_\_\_ Redox Dark Surface (F8) \_\_\_ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  
 \_\_\_ Sandy Mucky Mineral (S1) \_\_\_ Depleted Dark Surface (F7)  
 \_\_\_ Sandy Gleyed Matrix (S4) \_\_\_ Redox Depressions (F9)

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
___ High Water Table (A2)	___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
___ Saturation (A3)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Geomorphic Position (D2)
___ Algal Mat or Crust (B4)	___ Shallow Aquitard (D3)
___ Iron Deposits (B5)	___ FAC-Neutral Test (D5)
___ Surface Soil Cracks (B6)	___ Stunted or Stressed Plants (D1) (LRR A)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	___ Raised Ant Mounds (D6) (LRR A)
	___ Frost-Heave Hummocks (D7)

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)  
 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no indicators

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

Project/Site: Hansen Sisters City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DPH4  
 Investigator(s): Ed Sewall Section, Township, Range: \_\_\_\_\_  
 Landform (Hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- farmed, ditched + planked in place</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
7	10YR 3/2						fine	
16	2.5 Y/4						sandy loam	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>:

___ Histosol (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)	___ Other (Explain in Remarks)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: no indicators

HYDROLOGY

**Wetland Hydrology Indicators:**

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

(includes capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks: no indicators

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

Project/Site: Hansen Siskins City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP#5  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes  No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No   
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
12	10YR 2/2						tan	
16	2.5Y 4/3						tan	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>  
 Histosol (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)  Other (Explain in Remarks)  
 Hydrogen Sulfide (A4)  Loamy Gleyed Matrix (F2)  
 Depleted Below Dark Surface (A11)  Depleted Matrix (F3)  
 Thick Dark Surface (A12)  Redox Dark Surface (F6)  Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  
 Sandy Mucky Mineral (S1)  Depleted Dark Surface (F7)  
 Sandy Gleyed Matrix (S4)  Redox Depressions (F8)

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes  No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:  
 Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)  
 Wetland Hydrology Present? Yes  No

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

Remarks: no indicators





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

Project/Site: Hansen Siskins City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP# 7  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (Hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
8	10YR 3/2						Tom	
16	10YR 3/2						3" Plan rock fragments	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils:  
 \_\_\_ Histosol (A1) \_\_\_ Sandy Redox (S5) \_\_\_ 2 cm Muck (A10)  
 \_\_\_ Hiatic Epipedon (A2) \_\_\_ Stripped Matrix (S6) \_\_\_ Red Parent Material (TF2)  
 \_\_\_ Black Hiatic (A3) \_\_\_ Loamy Mucky Mineral (F1) (except MLRA 1) \_\_\_ Other (Explain in Remarks)  
 \_\_\_ Hydrogen Sulfide (A4) \_\_\_ Loamy Gleyed Matrix (F2)  
 \_\_\_ Depleted Below Dark Surface (A11) \_\_\_ Depleted Matrix (F3)  
 \_\_\_ Thick Dark Surface (A12) \_\_\_ Redox Dark Surface (F6) \_\_\_ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  
 \_\_\_ Sandy Mucky Mineral (S1) \_\_\_ Depleted Dark Surface (F7)  
 \_\_\_ Sandy Gleyed Matrix (S4) \_\_\_ Redox Depressions (F8)

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No \_\_\_\_\_ Depth (inches): -17  
 (include capillary fringe)  
 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: saturation to deep

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

Project/Site: Hansen Sishus City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP#8  
 Investigator(s): Ed Sewall Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_ Soil  or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planked a way</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)
2. _____				Total Number of Dominant Species Across All Strata: _____ (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
4. _____				
= Total Cover				Prevalence Index worksheet:
Total % Cover of: _____				Multiply by:
OBL species _____ x 1 = _____				
FACW species _____ x 2 = _____				
FACU species _____ x 3 = _____				
UPL species _____ x 4 = _____				
Column Totals: _____ (A) _____ (B)				
Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators:				
Dominance Test is >30% _____				
Prevalence Index is >3.0 <sup>1</sup> _____				
Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____				
Wetland Non-Vascular Plants <sup>1</sup> _____				
Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) _____				
Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. _____				
Hydrophytic Vegetation Present? Yes _____ No _____				
Woody Vine Stratum (Plot size: _____)				
= Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>bare ground, tilled</u>				

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type <sup>1</sup>		
7	10YR 3/2.5						1cm	
16	10YR 3/6			Fer	Fer	Am	subgr	

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

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

___ Histic (A1)	___ Sandy Redox (S5)	___ Indicators for Problematic Hydric Soils <sup>2</sup> :
___ Histic Epipedon (A2)	___ Stripped Matrix (S8)	___ 2 cm Muck (A10)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1) (except MLRA 1)	___ Red Parent Material (TF2)
___ 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 (F8)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F6)	

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

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_  
 Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
___ High Water Table (A2)	___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
___ Saturation (A3)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Geomorphic Position (D2)
___ Algal Mat or Crust (B4)	___ Shallow Aquitard (D3)
___ Iron Deposits (B5)	___ FAC-Neutral Test (D6)
___ Surface Soil Cracks (B6)	___ Raised Ant Mounds (D6) (LRR A)
___ Inundation Visible on Aerial Imagery (B7)	___ Frost-Heave Hummocks (D7)
___ Other (Explain in Remarks)	
___ Sparingly Vegetated Concave Surface (B8)	

Field Observations:

Surface Water Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Water Table Present? Yes _____ No <input checked="" type="checkbox"/>	Depth (inches): _____	
Saturation Present? Yes <input checked="" type="checkbox"/> No _____	Depth (inches): <u>16"</u>	

(includes capillary fringe)

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

Remarks: Sub too deep

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

Project/Site: Hansen Siskins City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP# 9  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
4	10YR 3/3						10um	
16	10YR 3/6						Sandy loam	

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

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

___ Histosol (A1)	___ Sandy Redox (S5)	___ 2 cm Muck (A10)
___ Hiatic Epipedon (A2)	___ Stripped Matrix (S6)	___ Red Parent Material (TF2)
___ Black Hiatic (A3)	___ Loamy Mucky Mineral (F1) (except MLRA 1)	___ Other (Explain in Remarks)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

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

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Wetland Hydrology Present? Yes \_\_\_\_\_ No

(includes capillary fringe)

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

Remarks: no indicators

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

Project/Site: Haven sisters City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP#10  
 Investigator(s): Ed Semell Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>
In the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	%		Color (moist)	%	Type <sup>1</sup>		
0-10	10YR 5/3						clay	
10-16	2.5 5/3			fine		fine	clay	

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

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

___ Histosol (A1)	___ Sandy Redox (S5)	___ 2 cm Muck (A10)
___ Histic Epipedon (A2)	___ Stripped Matrix (S8)	___ Rad Parent Material (TF2)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1) (except MLRA 1)	___ Other (Explain in Remarks)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F8)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	

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

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_  
 Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<b>Primary Indicators</b> (minimum of one required, check all that apply) ___ Surface Water (A1) ___ High Water Table (A2) ___ Saturation (A3) ___ Water Marks (B1) ___ Sediment Deposits (B2) ___ Drift Deposits (B3) ___ Algal Mat or Crust (B4) ___ Iron Deposits (B5) ___ Surface Soil Cracks (B6) ___ Inundation Visible on Aerial Imagery (B7) ___ Sparsely Vegetated Concave Surface (B8)	<b>Secondary Indicators</b> (2 or more required) ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B) ___ Salt Crust (B11) ___ Aquatic Invertebrates (B13) ___ Hydrogen Sulfide Odor (C1) ___ Oxidized Rhizospheres along Living Roots (C3) ___ Presence of Reduced Iron (C4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Stunted or Stressed Plants (D1) (LRR A) ___ Other (Explain in Remarks)	___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B) ___ Drainage Patterns (S10) ___ Dry-Season Water Table (C2) ___ Saturation Visible on Aerial Imagery (C9) ___ Geomorphic Position (D2) ___ Shallow Aquifer (D3) ___ FAC-Neutral Test (D5) ___ Raised Ant Mounds (D6) (LRR A) ___ Frost-Heave Hummocks (D7)
---	--	--

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)  
 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 Remarks: no indicators

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

Project/Site: Hansen Sishus City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP#1  
 Investigator(s): Ed Sewall Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planked a way</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc <sup>2</sup>		
9	10YR 3/2						2m	
16	2.5Y 5/3				Fin Fin Dr		Loamy sand	

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

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

<ul style="list-style-type: none"> <li><input type="checkbox"/> Histosol (A1)</li> <li><input type="checkbox"/> Histic Epipedon (A2)</li> <li><input type="checkbox"/> Black Histic (A3)</li> <li><input type="checkbox"/> Hydrogen Sulfide (A4)</li> <li><input type="checkbox"/> Depleted Below Dark Surface (A11)</li> <li><input type="checkbox"/> Thick Dark Surface (A12)</li> <li><input type="checkbox"/> Sandy Mucky Mineral (S1)</li> <li><input type="checkbox"/> Sandy Gleyed Matrix (S4)</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> Sandy Redox (S5)</li> <li><input type="checkbox"/> Stripped Matrix (S6)</li> <li><input type="checkbox"/> Loamy Mucky Mineral (F1) (except MLRA 1)</li> <li><input type="checkbox"/> Loamy Gleyed Matrix (F2)</li> <li><input type="checkbox"/> Depleted Matrix (F3)</li> <li><input type="checkbox"/> Redox Dark Surface (F6)</li> <li><input type="checkbox"/> Depleted Dark Surface (F7)</li> <li><input type="checkbox"/> Redox Depressions (F8)</li> </ul>	<p>Indicators for Problematic Hydric Soils<sup>1</sup>:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 2 cm Muck (A10)</li> <li><input type="checkbox"/> Red Parent Material (TF2)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>
--	---	---

<sup>1</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: \_\_\_\_\_

HYDROLOGY

Wetland Hydrology Indicators:

<p><b>Primary Indicators</b> (minimum of one required, check all that apply)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Surface Water (A1)</li> <li><input type="checkbox"/> High Water Table (A2)</li> <li><input type="checkbox"/> Saturation (A3)</li> <li><input type="checkbox"/> Water Marks (B1)</li> <li><input type="checkbox"/> Sediment Deposits (B2)</li> <li><input type="checkbox"/> Drift Deposits (B3)</li> <li><input type="checkbox"/> Algal Mat or Crust (B4)</li> <li><input type="checkbox"/> Iron Deposits (B5)</li> <li><input type="checkbox"/> Surface Soil Cracks (B6)</li> <li><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</li> <li><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</li> </ul>	<p><b>Secondary Indicators</b> (2 or more required)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)</li> <li><input type="checkbox"/> Salt Crust (B11)</li> <li><input type="checkbox"/> Aquatic Invertebrates (B13)</li> <li><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</li> <li><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</li> <li><input type="checkbox"/> Presence of Reduced Iron (C4)</li> <li><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C5)</li> <li><input type="checkbox"/> Stunted or Stressed Plants (D1) (LRR A)</li> <li><input type="checkbox"/> Other (Explain in Remarks)</li> </ul>	<p><b>Other Indicators</b> (2 or more required)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)</li> <li><input type="checkbox"/> Drainage Patterns (B10)</li> <li><input type="checkbox"/> Dry-Season Water Table (C2)</li> <li><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</li> <li><input type="checkbox"/> Geomorphic Position (D2)</li> <li><input type="checkbox"/> Shallow Aquitard (D3)</li> <li><input type="checkbox"/> FAC-Neutral Test (D5)</li> <li><input type="checkbox"/> Raised Ant Mounds (D6) (LRR A)</li> <li><input type="checkbox"/> Frost-Heave Hummocks (D7)</li> </ul>
--	---	--

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (include capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks: no indicators

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

Project/Site: Hansen sisters City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DP # 12  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NW classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydroic Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- farmed, ditched + planked a ryce</u>			

**VEGETATION – Use scientific names of plants.**

Tree Stratum (Plot size: _____)		Absolute % Cover	Dominant Species?	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
= Total Cover				
Shrub/Strub Stratum (Plot size: _____)		Absolute % Cover	Dominant Species?	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
= Total Cover				
Herb Stratum (Plot size: _____)		Absolute % Cover	Dominant Species?	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____
6.	_____	_____	_____	_____
7.	_____	_____	_____	_____
8.	_____	_____	_____	_____
9.	_____	_____	_____	_____
10.	_____	_____	_____	_____
11.	_____	_____	_____	_____
= Total Cover				
Woody Vine Stratum (Plot size: _____)		Absolute % Cover	Dominant Species?	Indicator Status
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
= Total Cover				
% Bare Ground in Herb Stratum _____		Remarks: <u>bare ground, tilled</u>		

**SOIL**

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix			Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type	Loc		
4	<u>10YR 3/2</u>						<u>tan</u>	
16	<u>2.5Y 5/2</u>			<u>Free Fine Part</u>			<u>subly tan</u>	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils:  
 \_\_\_ Histosol (A1) \_\_\_ Sandy Redox (S5) \_\_\_ 2 cm Muck (A10)  
 \_\_\_ Hist. Epipedon (A2) \_\_\_ Stripped Matrix (S6) \_\_\_ Red Parent Material (TF2)  
 \_\_\_ Black Hist. (A3) \_\_\_ Loamy Mucky Mineral (F1) (except MLRA 1) \_\_\_ Other (Explain in Remarks)  
 \_\_\_ Hydrogen Sulfide (A4) \_\_\_ Loamy Gleyed Matrix (F2)  
 \_\_\_ Depleted Below Dark Surface (A11) \_\_\_ Depleted Matrix (F3)  
 \_\_\_ Thick Dark Surface (A12) \_\_\_ Redox Dark Surface (F8)  
 \_\_\_ Sandy Mucky Mineral (S1) \_\_\_ Depleted Dark Surface (F7) \_\_\_ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  
 \_\_\_ Sandy Gleyed Matrix (S4) \_\_\_ Redox Depressions (F8)

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_  
 Hydric Soil Present? Yes  No \_\_\_\_\_

Remarks:

**HYDROLOGY**

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

Secondary Indicators (2 or more required):  
 \_\_\_ Saturation Visible on Aerial Imagery (C9)  
 \_\_\_ Geomorphic Position (D2)  
 \_\_\_ Shallow Aquifer (D3)  
 \_\_\_ FAC-Neutral Test (D5)  
 \_\_\_ Raised Ant Mounds (D6) (LRR A)  
 \_\_\_ Frost-Heave Hummocks (D7)

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Wetland Hydrology Present? Yes \_\_\_\_\_ No   
 (includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 Remarks: no indicators

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

Project/Site: Hansen Sishus City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DPE 13  
 Investigator(s): Ed Sewall Section, Township, Range: \_\_\_\_\_  
 Landform (hilltop, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are 'Normal Circumstances' present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

<p><b>Tree Stratum</b> (Plot size: _____)</p> <p>Absolute % Cover _____ Dominant Indicator Species? _____ Status _____</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>= Total Cover _____</p> <p><b>Sapling/Shrub Stratum</b> (Plot size: _____)</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p> <p>= Total Cover _____</p> <p><b>Herb Stratum</b> (Plot size: _____)</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p> <p>4. _____</p> <p>5. _____</p> <p>6. _____</p> <p>7. _____</p> <p>8. _____</p> <p>9. _____</p> <p>10. _____</p> <p>11. _____</p> <p>= Total Cover _____</p> <p><b>Woody Vine Stratum</b> (Plot size: _____)</p> <p>1. _____</p> <p>2. _____</p> <p>= Total Cover _____</p> <p>% Bare Ground in Herb Stratum _____</p>	<p><b>Dominance Test worksheet:</b></p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)</p> <p>Total Number of Dominant Species Across All Strata: _____ (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)</p> <p><b>Prevalence Index worksheet:</b></p> <p>Total % Cover of _____ Multiply by _____</p> <p>OBL species _____ x 1 = _____</p> <p>FACW species _____ x 2 = _____</p> <p>FACU species _____ x 3 = _____</p> <p>FACU species _____ x 4 = _____</p> <p>UPL species _____ x 5 = _____</p> <p>Column Totals: _____ (A) _____ (B)</p> <p>Prevalence Index = B/A = _____</p> <p><b>Hydrophytic Vegetation Indicators:</b></p> <p>Dominance Test is &gt;50% _____</p> <p>Prevalence Index is <math>\leq 3.0^1</math> _____</p> <p>Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____</p> <p>Wetland Non-Vascular Plants<sup>1</sup> _____</p> <p>Problematic Hydrophytic Vegetation<sup>1</sup> (Explain) _____</p> <p>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p> <p><b>Hydrophytic Vegetation Present?</b> Yes _____ No _____</p>
Remarks: <u>bare ground, tilled</u>	

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	Type	Loc		
0	10YR3/3					1m	
16	2.5Y5/3		FF			3-1/2m	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>1</sup>:

___ Histic (A1)	___ Sandy Redox (S5)	___ 2 cm Muck (A10)
___ Histic Epipedon (A2)	___ Stripped Matrix (S8)	___ Red Parent Material (TF2)
___ Black Histic (A3)	___ Loamy Mucky Mineral (F1) (except MLRA 1)	___ Other (Explain in Remarks)
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F8)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ Sandy Gleyed Matrix (S4)	___ Redox Depressions (F8)	

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

**Restrictive Layer (if present):**

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

<b>Primary Indicators</b> (minimum of one required; check all that apply)	<b>Secondary Indicators</b> (2 or more required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
___ High Water Table (A2)	___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
___ Saturation (A3)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Geomorphic Position (D2)
___ Algal Mat or Crust (B4)	___ Shallow Aquitard (D3)
___ Iron Deposits (B5)	___ FAC-Neutral Test (D5)
___ Surface Soil Cracks (B6)	___ Raised Ani Mounds (D6) (LRR A)
___ Inundation Visible on Aerial Imagery (B7)	___ Frost-Heave Hummocks (D7)
___ Stunted or Stressed Plants (D1) (LRR A)	
___ Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)	

**Field Observations:**

Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_

(include capillary fringe)

Wetland Hydrology Present? Yes \_\_\_\_\_ No

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

Remarks: no indicators



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

Project/Site: Hansen sisters City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DPE 14  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Lat: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NW classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (If no, explain in Remarks.)  
 Are Vegetation  Soil  or Hydrology  significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation  Soil  or Hydrology  naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

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

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type	Loc	Texture	Remarks
12	10YR2/2						loam	
16	2.5 4/4						loam	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. Location: PL=Pore Lining, M=Matrix.  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils:  
 \_\_\_ Histic (A1) \_\_\_ Sandy Redox (S5) \_\_\_ 2 cm Muck (A10)  
 \_\_\_ Histic Epipedon (A2) \_\_\_ Stripped Matrix (S8) \_\_\_ Red Parent Material (TF2)  
 \_\_\_ Black Histic (A3) \_\_\_ Loamy Mucky Mineral (F1) (except MLRA 1) \_\_\_ Other (Explain in Remarks)  
 \_\_\_ Hydrogen Sulfide (A4) \_\_\_ Loamy Gleyed Matrix (F2)  
 \_\_\_ Depleted Below Dark Surface (A11) \_\_\_ Depleted Matrix (F3)  
 \_\_\_ Thick Dark Surface (A12) \_\_\_ Redox Dark Surface (FB)  
 \_\_\_ Sandy Mucky Mineral (S1) \_\_\_ Depleted Dark Surface (F7)  
 \_\_\_ Sandy Gleyed Matrix (S4) \_\_\_ Redox Depressions (FB)  
 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: No indicators

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required, check all that apply)	Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
___ High Water Table (A2)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Aquatic Invertebrates (B13)
___ Sediment Deposits (B2)	___ Hydrogen Sulfide Odor (C1)
___ Drift Deposits (B3)	___ Oxidized Rhizospheres along Living Roots (C3)
___ Algal Mat or Crust (B4)	___ Presence of Reduced Iron (C4)
___ Iron Deposits (B5)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Surface Soil Cracks (B6)	___ Stunted or Stressed Plants (D1) (LRR A)
___ Inundation Visible on Aerial Imagery (B7)	___ Other (Explain in Remarks)
___ Sparsely Vegetated Concave Surface (B8)	___ Frost-Heave Hummocks (D7)

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)  
 Wetland Hydrology Present? Yes \_\_\_\_\_ No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  
 Remarks: NO indicators





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

Project/Site: Hansen sishus City/County: Marysville Sampling Date: 2-28-18  
 Applicant/Owner: \_\_\_\_\_ State: WA Sampling Point: DPE/7  
 Investigator(s): Ed Sewell Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR): \_\_\_\_\_ Let: \_\_\_\_\_ Long: \_\_\_\_\_ Datum: \_\_\_\_\_  
 Soil Map Unit Name: \_\_\_\_\_ NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes \_\_\_\_\_ No  (if no, explain in Remarks.)  
 Are Vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ significantly disturbed? Are "Normal Circumstances" present? Yes  No \_\_\_\_\_  
 Are Vegetation \_\_\_\_\_ Soil \_\_\_\_\_ or Hydrology \_\_\_\_\_ naturally problematic? (if needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: <u>- above normal rainfall at time</u> <u>- Fenced, ditched + planted a rice</u>			

VEGETATION - Use scientific names of plants.

<b>Tree Stratum</b> (Plot size: _____)	Absolute % Cover _____	Dominant Species? _____	Indicator Status _____	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FACU species _____ x 3 = _____ UPL species _____ x 4 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				<b>Hydrophytic Vegetation Indicators:</b> ___ Dominance Test is >50% ___ Prevalence Index is <= 3.0' ___ Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet) ___ Wetland Non-Vascular Plants' ___ Problematic Hydrophytic Vegetation' (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. _____				
2. _____				
3. _____				
_____ = Total Cover				
<b>Herb Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Present?</b> Yes _____ No _____
1. _____				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____				
Remarks: <u>bone ground filled</u>				

SOIL

Sampling Point: \_\_\_\_\_

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
16	10YR3/3						1cm	

Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. <sup>2</sup>Location: PL=Pore Lining, M=Matrix  
 Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils<sup>3</sup>  
 \_\_\_ Histosol (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) \_\_\_ Other (Explain in Remarks)  
 \_\_\_ Hydrogen Sulfide (A4) \_\_\_ Loamy Gleyed Matrix (F2)  
 \_\_\_ Depleted Below Dark Surface (A11) \_\_\_ Depleted Matrix (F3) \_\_\_  
 \_\_\_ Thick Dark Surface (A12) \_\_\_ Redox Dark Surface (F6) \_\_\_ Indicators of hydrophytic vegetation and  
 \_\_\_ Sandy Mucky Mineral (S1) \_\_\_ Depleted Dark Surface (F7) \_\_\_ wetland hydrology must be present,  
 \_\_\_ Sandy Gleyed Matrix (S4) \_\_\_ Redox Depressions (F8) \_\_\_ unless disturbed or problematic.

Restrictive Layer (if present):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_ Hydric Soil Present? Yes \_\_\_\_\_ No

Remarks: no indicators

HYDROLOGY

Wetland Hydrology Indicators:

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

Field Observations:  
 Surface Water Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes \_\_\_\_\_ No \_\_\_\_\_ Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes \_\_\_\_\_ No  Depth (inches): \_\_\_\_\_ Wetland Hydrology Present? Yes \_\_\_\_\_ No   
 (includes capillary fringe)  
 Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: no indicators



Wetland name or number \_\_\_\_\_

Potential offsite wetland to north

## RATING SUMMARY – Western Washington

Name of wetland (or ID #): \_\_\_\_\_ Date of site visit: 2-28-18

Rated by Ed Smith Trained by Ecology? YES No Date of training \_\_\_\_\_

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

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

Source of base aerial photo/map \_\_\_\_\_

OVERALL WETLAND CATEGORY IV (based on functions \_\_\_\_\_ or special characteristics \_\_\_\_\_)

### 1. Category of wetland based on FUNCTIONS

\_\_\_\_\_ Category I – Total score = 23 - 27

\_\_\_\_\_ Category II – Total score = 20 - 22

✓ Category III – Total score = 16 - 19

\_\_\_\_\_ Category IV – Total score = 9 - 15

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
Circle the appropriate 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)	
Score Based on Ratings	6	4	5	15

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

9 = H,H,H

8 = H,H,M

7 = H,H,L

7 = H,M,M

6 = H,M,L

6 = M,M,M

5 = H,L,L

5 = M,M,L

4 = M,L,L

3 = L,L,L

### 2. Category based on SPECIAL CHARACTERISTICS of wetland

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

Wetland name or number \_\_\_\_\_

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

### Depressional Wetlands

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

### Riverine Wetlands

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

### Lake Fringe Wetlands

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

### Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes	H 1.1, H 1.4	
Hydroperiods	H 1.2	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (can be added to figure above)	S 4.1	
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 polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which unit is found (from web)	S 3.3	

Wetland name or number \_\_\_\_\_

## HGM Classification of Wetlands in Western Washington

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

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

NO - go to 2

YES - the wetland class is **Tidal Fringe** - go to 1.1

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

NO - **Saltwater Tidal Fringe (Estuarine)**

YES - **Freshwater Tidal Fringe**

*If your wetland can be classified as a Freshwater Tidal Fringe use the forms for Riverine wetlands. If it is Saltwater Tidal Fringe it is an Estuarine wetland and is not scored. This method cannot be used to score functions for estuarine wetlands.*

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

NO - go to 3

YES - The wetland class is **Flats**

*If your wetland can be classified as a Flats wetland, use the form for Depressional wetlands.*

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

The vegetated part of the wetland is on the shores of a body of permanent open water (without any plants on the surface at any time of the year) at least 20 ac (8 ha) in size;

At least 30% of the open water area is deeper than 6.6 ft (2 m).

NO - go to 4

YES - The wetland class is **Lake Fringe (Lacustrine Fringe)**

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

The wetland is on a slope (*slope can be very gradual*),

The water flows through the wetland in one direction (unidirectional) and usually comes from seeps. It may flow subsurface, as sheetflow, or in a swale without distinct banks,

The water leaves the wetland **without being impounded**.

NO - go to 5

YES - The wetland class is **Slope**

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

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

The unit is in a valley, or stream channel, where it gets inundated by overbank flooding from that stream or river,

The overbank flooding occurs at least once every 2 years.

Wetland name or number \_\_\_\_\_

NO - go to 6

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

YES - The wetland class is **Riverine**

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

NO - go to 7

YES - The wetland class is **Depressional**

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

NO - go to 8

YES - The wetland class is **Depressional**

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

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

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

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

Wetland name or number \_\_\_\_\_

<b>DEPRESSIONAL AND FLATS WETLANDS</b>	
<b>Water Quality Functions - Indicators that the site functions to improve water quality</b>	
<b>D 1.0. Does the site have the potential to improve water quality?</b>	
<b>D 1.1. Characteristics of surface water outflows from the wetland:</b>	
Wetland is a depression or flat depression (QUESTION 7 on key) with no surface water leaving it (no outlet). points = 3	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet. points = 2	
Wetland has an unconstricted, or slightly constricted, surface outlet that is permanently flowing points = 1	
Wetland is a flat depression (QUESTION 7 on key), whose outlet is a permanently flowing ditch. points = 1	2
<b>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</b>	
No = 0	
<b>D 1.3. Characteristics and distribution of persistent plants (Emergent, Scrub-shrub, and/or Forested Cowardin classes):</b>	
Wetland has persistent, ungrazed, plants > 95% of area points = 5	
Wetland has persistent, ungrazed, plants > 1/2 of area points = 3	
Wetland has persistent, ungrazed plants > 1/10 of area points = 1	
Wetland has persistent, ungrazed plants < 1/10 of area points = 0	5
<b>D 1.4. Characteristics of seasonal ponding or inundation:</b>	
<i>This is the area that is ponded for at least 2 months. See description in manual.</i>	
Area seasonally ponded is > 1/2 total area of wetland points = 4	
Area seasonally ponded is > 1/4 total area of wetland points = 2	
Area seasonally ponded is < 1/4 total area of wetland points = 0	0
<b>Total for D 1</b> Add the points in the boxes above	
7	
<b>Rating of Site Potential</b> If score is: <u>12-16 = H</u> <del>6-11 = M</del> <del>0-5 = L</del> Record the rating on the first page	

<b>D 2.0. Does the landscape have the potential to support the water quality function of the site?</b>	
D 2.1. Does the wetland unit receive stormwater discharges? Yes = 1 No = 0	No = 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	No = 0
D 2.3. Are there septic systems within 250 ft of the wetland? Yes = 1 No = 0	No = 0
D 2.4. Are there other sources of pollutants coming into the wetland that are not listed in questions D 2.1-D 2.3? Source _____ Yes = 1 No = 0	No = 0
<b>Total for D 2</b> Add the points in the boxes above	
0	
<b>Rating of Landscape Potential</b> If score is: <u>3 or 4 = H</u> <del>1 or 2 = M</del> <del>0 = L</del> Record the rating on the first page	

<b>D 3.0. Is the water quality improvement provided by the site valuable to society?</b>	
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	Yes = 1
D 3.2. Is the wetland in a basin or sub-basin where an aquatic resource is on the 303(d) list? Yes = 1 No = 0	Yes = 1
D 3.3. Has the site been identified in a watershed or local plan as important for maintaining water quality (answer YES if there is a TMDL for the basin in which the unit is found)? Yes = 2 No = 0	Yes = 2
<b>Total for D 3</b> Add the points in the boxes above	
4	
<b>Rating of Value</b> If score is: <u>2-4 = H</u> <u>1 = M</u> <del>0 = L</del> Record the rating on the first page	

Wetland name or number \_\_\_\_\_

<b>DEPRESSIONAL AND FLATS WETLANDS</b>	
<b>Hydrologic Functions - Indicators that the site functions to reduce flooding and stream degradation</b>	
<b>D 4.0. Does the site have the potential to reduce flooding and erosion?</b>	
<b>D 4.1. Characteristics of surface water outflows from the wetland:</b>	
Wetland is a depression or flat depression with no surface water leaving it (no outlet) points = 4	
Wetland has an intermittently flowing stream or ditch, OR highly constricted permanently flowing outlet points = 2	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	
<b>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.</b>	
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
<b>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.</b>	
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
<b>Total for D 4</b> Add the points in the boxes above	
5	
<b>Rating of Site Potential</b> If score is: <u>12-16 = H</u> <del>6-11 = M</del> <del>0-5 = L</del> Record the rating on the first page	

<b>D 5.0. Does the landscape have the potential to support hydrologic functions of the site?</b>	
D 5.1. Does the wetland receive stormwater discharges? Yes = 1 No = 0	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	No = 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	No = 0
<b>Total for D 5</b> Add the points in the boxes above	
0	
<b>Rating of Landscape Potential</b> If score is: <u>3 = H</u> <u>1 or 2 = M</u> <del>0 = L</del> Record the rating on the first page	

<b>D 6.0. Are the hydrologic functions provided by the site valuable to society?</b>	
<b>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.</b>	
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. • Surface flooding problems are in a sub-basin farther down-gradient. Flooding from groundwater is an issue in the sub-basin. points = 2 points = 1 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	1
<b>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</b>	
No = 0	
<b>Total for D 6</b> Add the points in the boxes above	
1	
<b>Rating of Value</b> If score is: <u>2-4 = H</u> <u>1 = M</u> <del>0 = L</del> Record the rating on the first page	



Wetland name or number \_\_\_\_\_

These questions apply to wetlands of all HGM classes.	
HABITAT FUNCTIONS - Indicators that site functions to provide important habitat	
H 1.0. Does the site have the potential to provide habitat?	
<p>H 1.1. Structure of plant community: 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.</p> <p> <input type="checkbox"/> Aquatic bed 4 structures or more: points = 4  <input type="checkbox"/> Emergent 3 structures: points = 2  <input checked="" type="checkbox"/> Scrub-shrub (areas where shrubs have &gt; 30% cover) 2 structures: points = <u>1</u>  <input type="checkbox"/> Forested (areas where trees have &gt; 30% cover) 1 structure: points = 0                      If the unit has a Forested class, check if:  <input type="checkbox"/> The Forested class has 3 out of 5 strata (canopy, sub-canopy, shrubs, herbaceous, moss/ground-cover) that each cover 20% within the Forested polygon                 </p>	
H 1.2. Hydroperiods	
<p>Check the types of water regimes (hydroperiods) present within the wetland. The water regime has to cover more than 10% of the wetland or ¼ ac to count (see text for descriptions of hydroperiods).</p> <p> <input type="checkbox"/> Permanently flooded or inundated 4 or more types present: points = 3  <input type="checkbox"/> Seasonally flooded or inundated 3 types present: points = 2  <input type="checkbox"/> Occasionally flooded or inundated 2 types present: points = 1  <input checked="" type="checkbox"/> Saturated only 1 type present: points = <u>0</u>  <input type="checkbox"/> Permanently flowing stream or river in, or adjacent to, the wetland  <input type="checkbox"/> Seasonally flowing stream in, or adjacent to, the wetland  <input type="checkbox"/> Lake Fringe wetland 2 points  <input type="checkbox"/> Freshwater tidal wetland 2 points                 </p>	
H 1.3. Richness of plant species	
<p>Count the number of plant species in the wetland that cover at least 10 ft<sup>2</sup>. 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</p> <p>                     If you counted: &gt; 19 species points = 2                      5 - 19 species points = <u>1</u>                      &lt; 5 species points = 0                 </p>	
H 1.4. Interspersion of habitats	
<p>Decide from the diagrams below whether interspersions 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.</p> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  None = 0 points                 </div> <div style="text-align: center;">  Low = 1 point                 </div> <div style="text-align: center;">  Moderate = 2 points                 </div> </div> <div style="display: flex; justify-content: space-around; align-items: flex-end; margin-top: 10px;"> <div style="text-align: center;">  All three diagrams in this row are HIGH = 3 points                 </div> <div style="text-align: center;"> </div> <div style="text-align: center;"> </div> </div>	

Wetland name or number \_\_\_\_\_

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



Wetland name or number \_\_\_\_\_

<p><b>SC 4.0. Forested Wetlands</b></p> <p>Does the wetland have at least <u>1 contiguous acre</u> of forest that meets one of these criteria for the WA Department of Fish and Wildlife's forests as priority habitats? <i>If you answer YES you will still need to rate the wetland based on its functions.</i></p> <ul style="list-style-type: none"> <li>— <b>Old-growth forests</b> (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.</li> <li>— <b>Mature forests</b> (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).</li> </ul> <p>Yes = Category I    No = <u>Not a forested wetland for this section</u></p>	<p>Cat. I</p>
<p><b>SC 5.0. Wetlands in Coastal Lagoons</b></p> <p>Does the wetland meet all of the following criteria of a wetland in a coastal lagoon?</p> <ul style="list-style-type: none"> <li>— 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</li> <li>— The lagoon in which the wetland is located contains ponded water that is saline or brackish (&gt; 0.5 ppt) during most of the year in at least a portion of the lagoon <i>(needs to be measured near the bottom)</i></li> </ul> <p>Yes – Go to SC 5.1    No = <u>Not a wetland in a coastal lagoon</u></p> <p>SC 5.1. Does the wetland meet all of the following three conditions?</p> <ul style="list-style-type: none"> <li>— 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).</li> <li>— At least ¼ of the landward edge of the wetland has a 100 ft buffer of shrub, forest, or un-grazed or un-mowed grassland.</li> <li>— The wetland is larger than 1/10 ac (4350 ft<sup>2</sup>)</li> </ul> <p>Yes = Category I    No = Category II</p>	<p>Cat. I</p> <p>Cat. II</p>
<p><b>SC 6.0. Interdunal Wetlands</b></p> <p>Is the wetland west of the 1889 line (also called the Western Boundary of Upland Ownership or WBUO)? <i>If you answer yes you will still need to rate the wetland based on its habitat functions.</i></p> <p>In practical terms that means the following geographic areas:</p> <ul style="list-style-type: none"> <li>— Long Beach Peninsula: Lands west of SR 103</li> <li>— Grayland-Westport: Lands west of SR 105</li> <li>— Ocean Shores-Copalis: Lands west of SR 115 and SR 109</li> </ul> <p>Yes – Go to SC 6.1    No = <u>not an interdunal wetland for rating</u></p> <p>SC 6.1. Is the wetland 1 ac or larger and scores an 8 or 9 for the habitat functions on the form (rates H,H,H or H,H,M for the three aspects of function)? Yes = Category I    No – Go to SC 6.2</p> <p>SC 6.2. Is the wetland 1 ac or larger, or is it in a mosaic of wetlands that is 1 ac or larger? Yes = Category II    No – Go to SC 6.3</p> <p>SC 6.3. Is the unit between 0.1 and 1 ac, or is it in a mosaic of wetlands that is between 0.1 and 1 ac? Yes = Category III    No = Category IV</p>	<p>Cat. I</p> <p>Cat. II</p> <p>Cat. III</p> <p>Cat. IV</p>
<p><b>Category of wetland based on Special Characteristics</b> If you answered No for all types, enter "Not Applicable" on Summary Form</p>	<p>NA</p>