

Sewall Wetland Consulting, Inc.

PO Box 880
Fall City, WA 98024

Phone: 253-859-0515

May 7, 2025

Tyler Glahn
Crytly Enterprises Inc.
PO Box 454
Ellensburg, Washington 98926

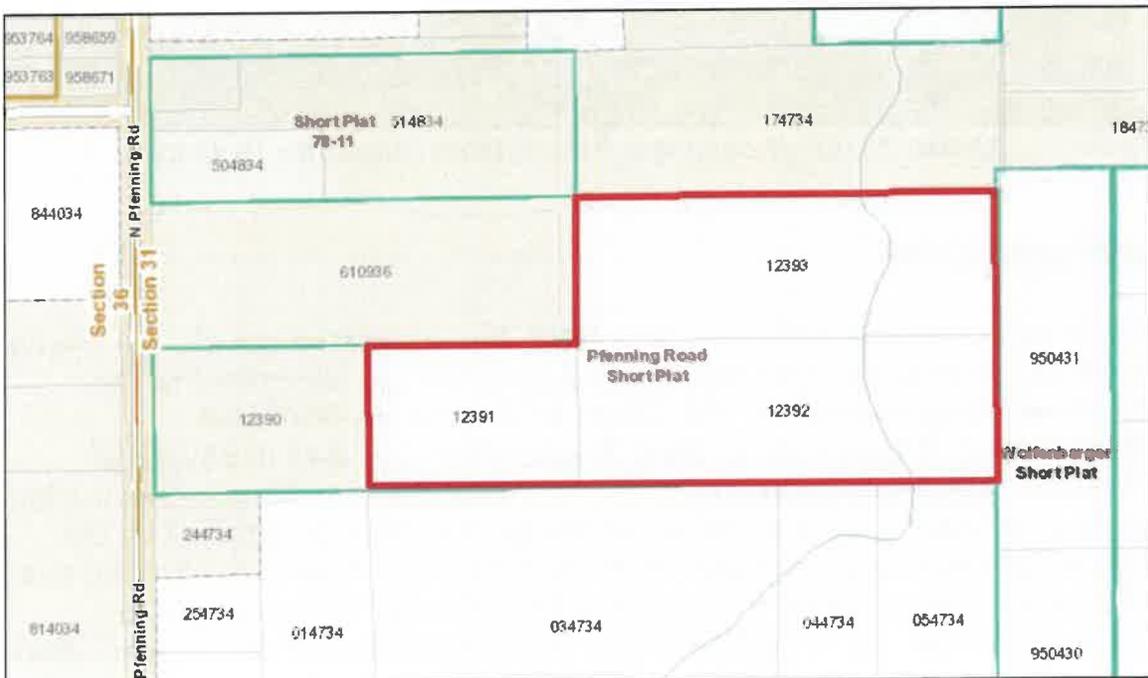
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MAY 07 2025

Kittitas County CDS

RE: Critical Area Report – Parcels #12393, 12392 & 12391
City of Ellensburg, Washington
SWC Job #25-116

Dear Tyler,

This report describes our observations of any jurisdictional wetlands, streams and/or buffers on or within 200' of Parcels #12393, 12392 & 12391, in the City of Ellensburg, Washington (the “site”).



Above: Vicinity Map of site

The site, located east of North Pfenning Road, consists of 3 abutting parcels with a total area of 12.49 acres. The site is located within Section 31, Township 18 North, Range 19 East of the W.M.



Above: Aerial photograph from Kittitas Mapsifter website.

METHODOLOGY

Ed Sewall of Sewall Wetland Consulting, Inc. inspected the site on March 4, 2025. The site was reviewed using methodology described in the ***Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*** (USACOE September 2008) as required by the US Army Corps of Engineers starting in June of 2009. This is the methodology currently recognized by the City of Ellensburg for wetland determinations and delineations. The site was also reviewed using methodology described in Soil colors were identified using the 1990 Edited and Revised Edition of the ***Munsell Soil Color Charts*** (Kollmorgen Instruments Corp. 1990).

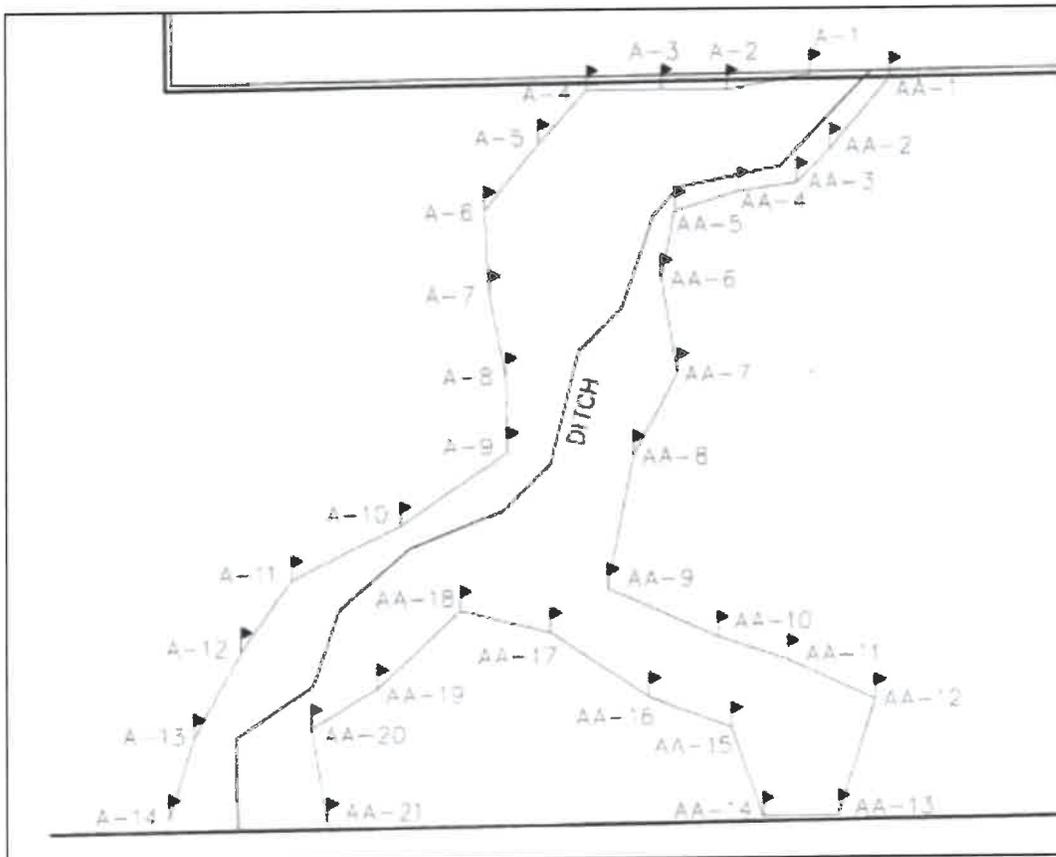
OBSERVATIONS

Existing Site Documentation.

Prior to visiting the site, a review of several natural resource inventory maps was conducted as well as two previous studies of abutting parcels by Sewall wetland Consulting, Inc. Resources reviewed included the National Wetland Inventory Map, the NRCS Soil Survey online mapping and Data and the WDNR Fpars stream mapping website.

Stadler Holdings LLC – June 12, 2018 Critical Area Study, Sewall Wetland Consulting, Inc..

A study of the parcel to the north of the site which included Parcels #514834, 174734, 184734, 864734, 864734, 174734, found a Category III wetland which surrounded Lyle Creek on the eastern end of the site.



Above: Mapping of a Category III wetland and Lyle Creek on Parcel 174734 due north of the site.

Specifically this was located on Parcel 174734 due north of the site. This study was reviewed as part of an approved plat at the time by the City of Ellensburg.

Unpublished Study for Parcel #610936 – Sewall Wetland Consulting, Inc.

Sewall Wetland Consulting conducted a critical area study of Parcel #610936 on November 20, 2019, located immediately to the west of the site. This study revealed no wetlands are present on this parcel. This study was not published.

Kittitas Taxsifter Website



Above: Kittitas Taxsifter mapping of wetlands and streams on the site.

The Kittitas Taxsifter website with wetland, streams and floodplain layers activated depicts Lyle Creek and associated wetlands on the east side of the site. A small finger of wetland is also depicted near the center of the site. Wetlands are depicted west of the site on Parcel #610936 (previously studied by SWC and found not to exist).

National Wetlands Inventory (NWI)

The national wetland inventory mapping of the site depicts the same wetlands shown on the County TaxSifter website. The county mapping is a reproduction of this same inventory data. This map was made using a 2017 aerial photograph.



The wetlands and deepwater habitats in this area were photo interpreted using **1 meter (or less) digital, color infrared** imagery from **2017**. Click [here](#) for project specific mapping conventions and information.

Above: NWI map of the area of the site

Soil Survey

According to the NRCS Soil Mapper website, the site is mapped as a mix of Nanum, Nack-Brickmill ashy loam, and Nack-Opnish ashy loam.



Above: NRCS soil map of the site.

The Nanum ashy loam is a somewhat poorly drained soil formed in alluvial fans. This soil has an irrigation induced water table from -12-28" depth from the surface.

The Nack soil series is a very deep, somewhat poorly drained soil formed in alluvium over flood deposits. This soil series has an irrigation-induced water table between 12-48 inches during the growing season.

The Opnish soil series is a somewhat poorly drained alluvial origin soil. As with the other soils on the site, a Mollic epipedon is present, 60 inches thick in the case of the Opnish series. This soil has an irrigation-induced water table at 24-48 inches during May to October.

The Brickmill series consists of very deep, moderately well drained soils formed in old alluvium with an influence of volcanic ash in the upper part. Brickmill soils are on piedmont slopes grading from mountain footslopes to basin floors. .

City of Ellensburg Wetland Inventory

According to the City of Ellensburg Wetland Inventory report and maps dated August 1992, an emergent wetland with the same configuration as the wetland depicted on the NWI map is shown on the east side of site.

WADNR Fpars stream mapping

The WADNR Fpars stream mapping depicts an unclassified stream on the southeastern portion of the site.



Above: WADNR Fpars stream mapping of the site

Field observations

The site consists of a small fallow pasture on the west with a large central area used for parking construction equipment. The eastern side of the site is a grazed horse pasture. An irrigation ditch passes through the western parcel as well as several diversions off Lyle Creek on the eastern half of the site. These diversions have since been blocked off and no longer divert irrigation water to the site. A small creek known as Lyle Creek passes through the eastern lobe of the site.

The site is vegetated with a mix of typical pasture grasses, primarily fescue (*Festuca rubra*), quackgrass (*Agropyron repens*) and some cheatgrass (*Bromus tectorum*). Other species found on the site include small amounts of Baltic rush, thistle, and tumble mustard.

A series of 8 test pits were excavated across the site to review soil conditions as well as determine if wetland hydrology is present.



Above: location of data pits excavated to -30”.

Soils throughout the site, with the exception of the delineated wetland along Lyle Creek were found to be dry cobbly loam with a soils color of 10YR 3/3-3/4 and 7.5YR 2.5/3 (see attached data sheets). Soil saturation was not seen within any of the pits to a depth of 18” (see attached data sheets).

Wetlands

A single grazed, emergent wetland was identified on the site bordering the east and west sides of Lyle Creek (see attached map). The wetland is generally topographically well-defined and was flagged on the western

edge with pink wire flags A1-A19. The eastern side was gps located as there is no proposed work on that side of the wetland.



Above: GPS location of the wetland on the site. Lyle Creek is located within the center of the wetland.

This wetland has a mix of vegetation including yellow iris, cattail, small fruited bulrush, Baltic rush and an unidentified sedge.

Soil pits excavated within the wetland revealed a black clay loam with a soil color of 10YR 2/1 with redox features within the B-horizon. Soils were saturated within 8" of the soil surface.

Using the 2014 Washington State Department of Ecology Eastern Washington Wetlands Rating form and rating the wetlands as a riverine wetland, the wetland on-site scored 16 points with 5 points for habitat, which indicates a Category III wetland.

City of Ellensburg Municipal Code 15.62.030.10.c indicates a 130' buffer if the components of Table 15.620.030.E.2 are not implemented. If these measures are implemented, a 90' buffer would be utilized.

Table 15.620.030(E)(1) Wetland Buffer Requirements If Table 15.620.030(E)(2) Is Implemented

Wetland Category	Buffer Width Based on Habitat Score (Feet)			
	3 – 4 Habitat Points	5 Habitat Points	6 – 7 Habitat Points	8 – 9 Habitat Points
Category I: Based on total score	75	90	120	150
Category I: Forested	75	90	120	150
Category I: Bogs and <u>wetlands</u> of high conservation value	190			
Category I: Alkali	150			
Category II: Based on total score	75	90	120	150
Category II: Vernal pool	150			
Category II: Forested	75	90	120	150
Category III (all)	60	90	120	150
Category IV (all)	40			

Table 15.620.030(E)(3) Wetland Buffer Requirements If Table 15.620.030(E)(2) Is Not Implemented

Wetland category	Buffer width (feet) based on habitat score			
	3 – 4 habitat points	5 habitat points	6 – 7 habitat points	8 – 9 habitat points
Category I: Based on total score	100	130	180	200
Category I: Forested	100	130	180	200
Category I: Bogs and <u>wetlands</u> of high conservation value	250			
Category I: Alkali	200			
Category II: Based on total score	100	130	180	200
Category II: Vernal pool	200			
Category II: Forested	100	130	180	200
Category III (all)	80	130	180	200
Category IV (all)	50			

Table 15.620.030(E)(2) Required Measures to Minimize Impacts to Wetlands

(Measures are required, where applicable to a specific proposal)

Disturbance	Required measures to minimize impacts
Lights	<ul style="list-style-type: none"> • Direct lights away from wetland
Noise	<ul style="list-style-type: none"> • Locate activity that generates noise away from wetland • If warranted, enhance existing buffer with native vegetation plantings adjacent to noise source • For activities that generate relatively continuous, potentially disruptive noise, such as certain <u>heavy industry</u> or mining, establish an additional 10-foot heavily vegetated buffer strip immediately adjacent to the outer wetland buffer
Toxic runoff	<ul style="list-style-type: none"> • Route all new, untreated runoff away from wetland while ensuring wetland is not dewatered • Establish covenants limiting use of pesticides within 150 feet of wetland • Apply integrated pest management
Stormwater runoff	<ul style="list-style-type: none"> • Retrofit stormwater detention and <u>treatment</u> for roads and existing adjacent <u>development</u> • Prevent channelized flow from lawns that directly enters the buffer • Use low intensity <u>development</u> techniques
Change in water regime	<ul style="list-style-type: none"> • Infiltrate or treat, drain, and disperse into buffers new runoff from <u>impervious surfaces</u> and new lawns
Pets and human disturbance	<ul style="list-style-type: none"> • Use privacy fencing or <u>plant</u> dense vegetation to delineate buffer edge and to discourage disturbance using vegetation appropriate for the ecoregion • Place wetland and its buffer in a separate tract or protect with a conservation <u>easement</u>
Dust	<ul style="list-style-type: none"> • Use best management practices to control dust

Lyle Creek

Lyle Creek was determined to contain fish based upon an April 14, 2006 letter from WDFW biologist Brent Renfrow to Mike Smith, City of Ellensburg Planner. In this letter Mr. Renfrow states the following;

Lyle Creek - Lyle Creek flows through a portion of the project. Lyle Creek is a distributary channel of Wilson Creek. It eventually rejoins Wilson Creek south of town. The stream is perennial, but low flows may be totally captured by the Cascade Canal when the canal flow is minimal in late fall and winter. Lyle Creek is a "fish-bearing" stream and should be presumed to have the same species present as Wilson Creek as it is an integral part of the stream system. I have captured rainbow trout and speckled dace immediately upstream of the project site. There is the potential for the presence of juvenile steelhead in the project area, though at this time the likelihood is not high because of man-made obstructions downstream and upstream of the project.

Above: Excerpt of WDFW letter to the City regarding Lyle Creek and the Willow Brook subdivision, dated April 14, 2006.

According to Ellensburg Municipal Code Chapter 15.650.040D.2, Lyle Creek is specifically designated to have a 50' buffer. This buffer is within the wetland buffer of the Category II wetland which surrounds the creek.

Proposed Project

The proposed project is a single family residential subdivision with 39 lots and associated infrastructure known as the "*Pfenning Subdivision*" (see attached site plan). All work is to the west of the wetland and stream on the site. No impacts to the wetland or stream are proposed.

However, buffer averaging of the 90' buffer as allowed by Code is proposed to create a more adequate area for a home on Lots 32, 33, 34, 35 38 & 39 on the eastern side of the property. Per Ellensburg Municipal Code chapter 15.620.030.e;

6. Wetland buffer width averaging. The director may allow modification of the standard wetland buffer width in accordance with an approved critical area report and the best available science on a case-by-case basis by averaging buffer widths. Averaging of buffer widths may only be allowed where a qualified professional wetland scientist demonstrates that:

a. It will not reduce wetland functions or functional performance;

Response: The proposed reduced and averaged buffer will not impact the function of the buffer to protect the wetland. The area is currently a grazed meadow along the wetland. The area is generally flat and will continue to function as needed.

b. The wetland contains variations in sensitivity due to existing physical characteristics or the character of the buffer varies in slope, soils, or vegetation, and the wetland would benefit from a wider buffer in places and would not be adversely impacted by a narrower buffer in other places;

Response: The proposed buffer averaging will reduce the buffer by 8,443sf on the western side of the buffer and add an equal area (8,443sf) to the eastern buffer. This will create one large undisturbed area of wetland and buffer to the east which will not be disturbed and will eliminate any future impacts to this area.

c. The total area contained in the buffer area after averaging is no less than that which would be contained within the standard buffer; and

Response: The proposed buffer averaging will reduce the buffer by 8,443sf on the western side of the buffer and add an equal area to the eastern buffer.

d. The buffer width is not reduced to less than 75 percent of the standard width or 35 feet.

Response: The proposed buffer averaging will reduce the buffer to a minimum width of 67.5' which is 75% of the standard 90' buffer with buffer impact minimization measures meeting this criteria.

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 .

Sincerely,
Sewall Wetland Consulting, Inc.



Ed Sewall
Senior Wetlands Ecologist PWS #212

Attached: Site Plan
Data Sheets & Rating form

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.

Ellensburg Municipal Code Title 15

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

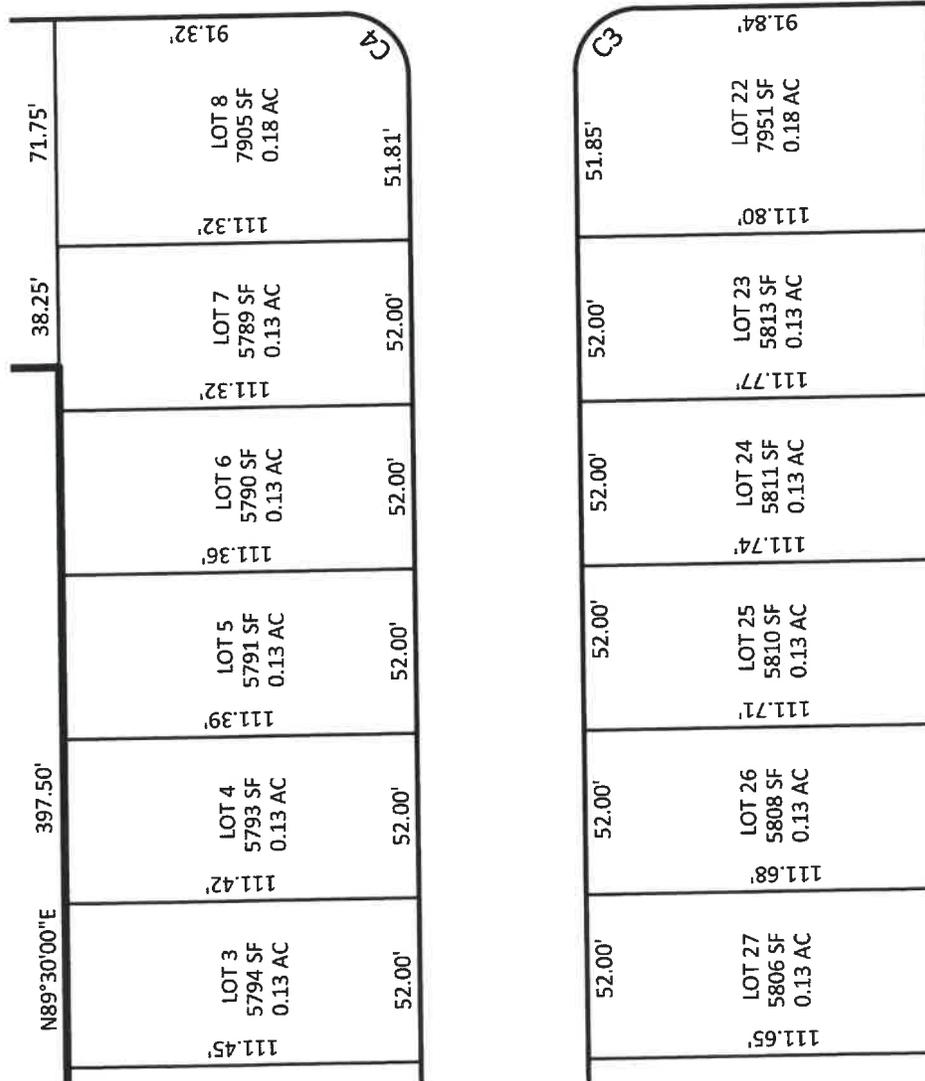
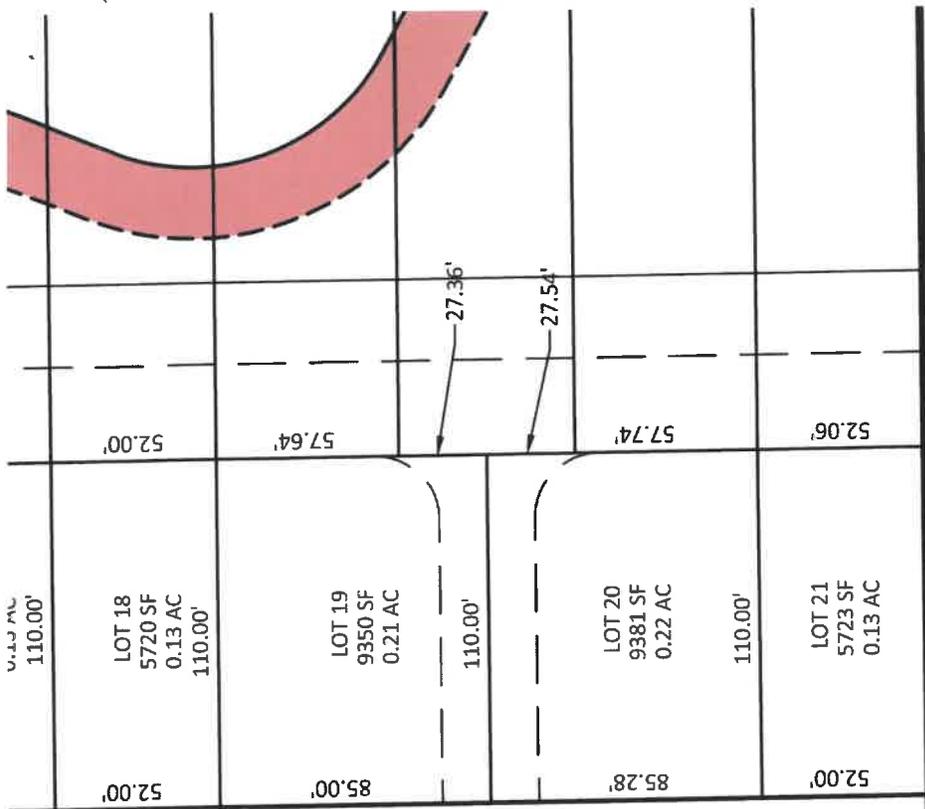
Munsell Color. 1988. Munsell Soil Color Charts. Kollmorgen Instruments Corp., Baltimore, Maryland.

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



WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Crytal - PFENNING City/County: Elleensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: DP#1
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 <input type="checkbox"/>	Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Wetland Hydrology Present? Yes _____ No _____		
Remarks: <u>site previously irrigated, currently grazed</u>		

VEGETATION – Use scientific names of plants.

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

Remarks: _____

SOIL

Sampling Point: DP#1

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
18	7.5YR	2.5/3					gs ^L	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

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

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

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:

wet A

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Crytal - Pfennig City/County: Ellensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: DP#2
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>site previously irrigated, currently grazed</u>	

VEGETATION - Use scientific names of plants.

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

Remarks: _____

SOIL

Sampling Point: DP#2

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
4	10YR 2/2							
18	10YR 3/1		FFF				loamy sand	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)	Indicators for Problematic Hydric Soils ³ :
<input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR C) <input type="checkbox"/> 1 cm Muck (A9) (LRR D) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8) <input type="checkbox"/> Vernal Pools (F9)
	<input type="checkbox"/> 1 cm Muck (A9) (LRR C) <input type="checkbox"/> 2 cm Muck (A10) (LRR B) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Other (Explain in Remarks)
	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

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

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) (Nonriverine) <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Biotic Crust (B12) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Water Marks (B1) (Riverine) <input type="checkbox"/> Sediment Deposits (B2) (Riverine) <input type="checkbox"/> Drift Deposits (B3) (Riverine) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

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

Wetland Hydrology Present? Yes No

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Crytal - PFennery City/County: Ellensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: D #3
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No _____					
Remarks: <u>site previously irrigated, currently grazed</u>						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)			
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)			
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)			
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____			
= Total Cover							
Sapling/Shrub Stratum (Plot size: _____)							
1. _____	_____	_____	_____				
2. _____	_____	_____	_____				
= Total Cover							
Herb Stratum (Plot size: _____)							
1. <u>Festuca spp</u>	<u>80</u>	<u>FAC</u>	_____	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
2. _____	_____	_____	_____				
3. _____	_____	_____	_____				
4. _____	_____	_____	_____				
5. _____	_____	_____	_____				
6. _____	_____	_____	_____				
7. _____	_____	_____	_____				
8. _____	_____	_____	_____				
= Total Cover							
Woody Vine Stratum (Plot size: _____)							
1. _____	_____	_____	_____				
2. _____	_____	_____	_____				
= Total Cover							
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____					
<table style="width:100%;"> <tr> <td style="width:35%;">Hydrophytic Vegetation Present?</td> <td style="width:15%;">Yes <input checked="" type="checkbox"/> No _____</td> <td colspan="2"></td> </tr> </table>				Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____		
Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/> No _____						
Remarks: _____							

SOIL

Sampling Point: D P 3

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
18	7.5Y	2.5/3					sandy loam	

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

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

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5) (LRR C)
- 1 cm Muck (A9) (LRR D)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)

- Sandy Redox (S5)
- Stripped Matrix (S6)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- 1 cm Muck (A9) (LRR C)
- 2 cm Muck (A10) (LRR B)
- Reduced Vertic (F18)
- Red Parent Material (TF2)
- Other (Explain in Remarks)

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

Restrictive Layer (if present):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1) (Nonriverine)
- Sediment Deposits (B2) (Nonriverine)
- Drift Deposits (B3) (Nonriverine)
- Surface Soil Cracks (B6)
- Inundation Visible on Aerial Imagery (B7)
- Water-Stained Leaves (B9)

- Salt Crust (B11)
- Biotic Crust (B12)
- 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)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- Water Marks (B1) (Riverine)
- Sediment Deposits (B2) (Riverine)
- Drift Deposits (B3) (Riverine)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Shallow Aquitard (D3)
- FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes _____ No

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

Remarks:

WET A

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Crytal - PFENNING City/County: Elleensburg Sampling Date: 3-4-25
Applicant/Owner: _____ State: WA Sampling Point: DP#4
Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
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 _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Remarks: <u>site previously irrigated, currently grazed</u>			

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	Prevalence Index worksheet:
= Total Cover				Total % Cover of: _____ Multiply by: _____
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	OBL species _____ x 1 = _____
1. _____	_____	_____	_____	FACW species _____ x 2 = _____
2. _____	_____	_____	_____	FAC species _____ x 3 = _____
3. _____	_____	_____	_____	FACU species _____ x 4 = _____
4. _____	_____	_____	_____	UPL species _____ x 5 = _____
5. _____	_____	_____	_____	Column Totals: _____ (A) _____ (B)
= Total Cover				Prevalence Index = B/A = _____
Herb Stratum (Plot size: _____)	_____	_____	_____	Hydrophytic Vegetation Indicators:
1. <u>Carex spp</u>	<u>100</u>	<u>FACW</u>	_____	<input checked="" type="checkbox"/> Dominance Test is >50%
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
= Total Cover				
Woody Vine Stratum (Plot size: _____)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
= Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			

Remarks: _____

SOIL

Sampling Point: DP# 4

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
8	10YR 3/2							
16	10YR 2/2		Feu Feu Feu				loamy silt	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

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

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

Saturation Present? Yes No Depth (inches): 0"

Wetland Hydrology Present? Yes No

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Crytch - PFenning City/County: Ellensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: DP#5
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 _____	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>		Yes _____	No <input checked="" type="checkbox"/>
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>		Yes _____	No <input checked="" type="checkbox"/>
Remarks: <u>site previously irrigated, currently grazed</u>					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
2. _____	_____	_____	_____	OBL species _____ x 1 = _____	
3. _____	_____	_____	_____	FACW species _____ x 2 = _____	
4. _____	_____	_____	_____	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
= Total Cover				UPL species _____ x 5 = _____	
Herb Stratum (Plot size: _____)				Column Totals: _____ (A) _____ (B)	
1. <u>Carex spp</u>	<u>20</u>		<u>FACU</u>	Prevalence Index = B/A = _____	
2. <u>Festuca arvensis</u>	<u>80</u>		<u>FAC</u>	Hydrophytic Vegetation Indicators:	
3. _____	_____	_____	_____	<input checked="" type="checkbox"/> Dominance Test is >50%	
4. _____	_____	_____	_____	____ Prevalence Index is ≤3.0 ¹	
5. _____	_____	_____	_____	____ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
6. _____	_____	_____	_____	____ Problematic Hydrophytic Vegetation ¹ (Explain)	
7. _____	_____	_____	_____	____	
8. _____	_____	_____	_____	____	
= Total Cover				____	
Woody Vine Stratum (Plot size: _____)				____	
1. _____	_____	_____	_____	____	
2. _____	_____	_____	_____	____	
= Total Cover				____	
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: _____					

Remarks: _____

SOIL

Sampling Point: DP#5

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
18	7.5YR	2.5/3					cc bby	lw

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
<u>Primary Indicators (minimum of one required; check all that apply)</u>	<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Water Marks (B1) (Riverine)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Drift Deposits (B3) (Riverine)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> FAC-Neutral Test (D5)	<input type="checkbox"/> FAC-Neutral Test (D5)

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:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Crytal - PFENNING City/County: Elleensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: D#6
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 _____ 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>site previously irrigated, currently grazed</u>	

VEGETATION – Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)	
4. _____	_____	_____	_____	Prevalence Index worksheet:	
= Total Cover					
<u>Sapling/Shrub Stratum</u> (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____	
3. _____	_____	_____	_____	OBL species _____ x 1 = _____	
4. _____	_____	_____	_____	FACW species _____ x 2 = _____	
5. _____	_____	_____	_____	FAC species _____ x 3 = _____	
= Total Cover				FACU species _____ x 4 = _____	
<u>Herb Stratum</u> (Plot size: _____)				UPL species _____ x 5 = _____	
1. <u>Agropyron repens</u>	<u>80</u>	<u>FAC</u>	<u>FACU</u>	Column Totals: _____ (A) _____ (B)	
2. <u>Juncus balticus</u>	<u>20</u>	<u>FACU</u>	<u>FACU</u>	Prevalence Index = B/A = _____	
3. _____	_____	_____	_____	Hydrophytic Vegetation Indicators:	
4. _____	_____	_____	_____		<input checked="" type="checkbox"/> Dominance Test is >50%
5. _____	_____	_____	_____		<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
6. _____	_____	_____	_____		<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
7. _____	_____	_____	_____		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
8. _____	_____	_____	_____		¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
= Total Cover					
<u>Woody Vine Stratum</u> (Plot size: _____)					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
1. _____	_____	_____	_____		
2. _____	_____	_____	_____	Remarks:	
= Total Cover					
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			

SOIL

Sampling Point: DP#6

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
18	7.5YR	2.5/3					gsL	

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

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

<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Vernal Pools (F9)	

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations:

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

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Crytch - PFenning City/County: Ellensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: DP#7
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present?	Yes _____ No _____	
Remarks: <u>site previously irrigated, currently grazed</u>		

VEGETATION – Use scientific names of plants.

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

SOIL

Sampling Point: DP#7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
18	10YR 3/3						coarse	

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

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

<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

<u>Primary Indicators (minimum of one required; check all that apply)</u>		<u>Secondary Indicators (2 or more required)</u>
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)

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:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Crytch - PFennig City/County: Ellensburg Sampling Date: 3-4-25
 Applicant/Owner: _____ State: WA Sampling Point: DPR
 Investigator(s): Ed Small Section, Township, Range: S31 T18N R19E
 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 <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes _____	No <input checked="" type="checkbox"/>	
Hydric Soil Present?	Yes _____	No <input checked="" type="checkbox"/>				
Wetland Hydrology Present?	Yes _____	No <input checked="" type="checkbox"/>				
Remarks: <u>site previously irrigated, currently grazed</u>						

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)	
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)	
4. _____	_____	_____	_____		
_____ = 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. _____	_____	_____	_____	FAC species _____ x 3 = _____	
5. _____	_____	_____	_____	FACU species _____ x 4 = _____	
_____ = Total Cover				UPL species _____ x 5 = _____	
				Column Totals: _____ (A) _____ (B)	
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:	
1. <u>Agropyron minus</u>	<u>50</u>	<u>FAC</u>	<u>FAC</u>	<input checked="" type="checkbox"/> Dominance Test is >50%	
2. _____	_____	_____	_____	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹	
3. _____	_____	_____	_____	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
_____ = Total Cover					
Woody Vine Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?	
1. _____	_____	_____	_____	Yes <input checked="" type="checkbox"/> No _____	
2. _____	_____	_____	_____		
_____ = Total Cover					
% Bare Ground in Herb Stratum _____		% Cover of Biotic Crust _____			
Remarks: _____					

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

SOIL

Sampling Point: DP#8

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

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
18	10R3/2						cobbly	

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)	
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Vernal Pools (F9)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)		

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

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

Hydric Soil Present? Yes _____ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one required; check all that apply)	Secondary Indicators (2 or more required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)

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:

Wetland name or number A

RATING SUMMARY – Eastern Washington

Name of wetland (or ID #): Cryptol - P Fenning Date of site visit: 5-4-25
 Rated by Ed Seidl Trained by Ecology? Yes No Date of training 2017
 HGM Class used for rating Riverine 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 Google Earth

OVERALL WETLAND CATEGORY III (based on functions or special characteristics)

1. Category of wetland based on FUNCTIONS

- Category I – Total score = 22-27
- Category II – Total score = 19-21
- Category III – Total score = 16-18
- Category IV – Total score = 9-15

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

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

FUNCTION	Improving Water Quality	Hydrologic	Habitat	
<i>Circle the appropriate ratings</i>				
Site Potential	H (M) L	H M (L)	H (M) L	
Landscape Potential	(H) M L	H (M) L	H M (L)	
Value	H M (L)	H (M) L	H (M) L	TOTAL
Score Based on Ratings	6	5	5	16

2. Category based on SPECIAL CHARACTERISTICS of wetland

CHARACTERISTIC	CATEGORY
	<i>Circle the appropriate category</i>
Vernal Pools	II III
Alkali	I
Wetland of High Conservation Value	I
Bog and Calcareous Fens	I
Old Growth or Mature Forest – slow growing	I
Aspen Forest	I
Old Growth or Mature Forest – fast growing	II
Floodplain forest	II
None of the above	<input checked="" type="checkbox"/>

Wetland name or number A

Maps and figures required to answer questions correctly for Eastern Washington Depressional Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	D 1.3, H 1.1, H 1.5	
Hydroperiods (including area of open water for H 1.3)	D 1.4, H 1.2, H 1.3	
Location of outlet (<i>can be added to map of hydroperiods</i>)	D 1.1, D 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	D 2.2, D 5.2	
Map of the contributing basin	D 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 wetland is found (website)	D 3.3	

Riverine Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Ponded depressions	R 1.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	R 2.4	
Map of the contributing basin	R 2.2, R 2.3, R 5.2	
Plant cover of trees, shrubs, and herbaceous plants	R 1.2, R 4.2	
Width of wetland vs. width of stream (<i>can be added to another figure</i>)	R 4.1	
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)	R 3.1	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	R 3.2, R 3.3	

Lake Fringe Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	L 1.1, L 4.1, H 1.1, H 1.5	
Plant cover of trees, shrubs, and herbaceous plants	L 1.2	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	L 2.2	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	L 3.1, L 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	L 3.3	

Slope Wetlands

Map of:	To answer questions:	Figure #
Cowardin plant classes and classes of emergents	H 1.1, H 1.5	
Hydroperiods	H 1.2, H 1.3	
Plant cover of dense trees, shrubs, and herbaceous plants	S 1.3	
Plant cover of dense, rigid trees, shrubs, and herbaceous plants (<i>can be added to figure above</i>)	S 4.1	
Boundary of area within 150 ft of the wetland (<i>can be added to another figure</i>)	S 2.1, S 5.1	
1 km Polygon: Area that extends 1 km from entire wetland edge - including polygons for accessible habitat and undisturbed habitat	H 2.1, H 2.2, H 2.3	
Screen capture of map of 303(d) listed waters in basin (from Ecology website)	S 3.1, S 3.2	
Screen capture of list of TMDLs for WRIA in which wetland is found (website)	S 3.3	

HGM Classification of Wetland in Eastern Washington

For questions 1-4, 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 1-4 apply, and go to Question 5.

1. Does the entire unit **meet both** of the following criteria?

The vegetated part of the wetland is on the water side of the Ordinary High Water Mark of a body of permanent open water (without any plants on the surface) that is at least 20 ac (8 ha) in size
 At least 30% of the open water area is deeper than 10 ft (3 m)

NO - go to 2

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

2. 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 3

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 foot deep).

3. 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 10 years.

NO - go to 4

YES - The wetland class is **Riverine**

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

4. 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 5

YES - The wetland class is **Depressional**

5. 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 1-4 APPLY TO DIFFERENT AREAS IN THE WETLAND 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.

Wetland name or number A

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 wetland 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 (the riverine portion is within the boundary of depression)	Depressional
Depressional + Lake Fringe	Depressional
Riverine + Lake Fringe	Riverine

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

Wetland name or number A

RIVERINE WETLANDS

Points
(only 1 score per box)

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

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

R 1.1. Area of surface depressions within the Riverine wetland that can trap sediments during a flooding event: Depressions cover $> \frac{1}{3}$ area of wetland points = 6 Depressions cover $> \frac{1}{10}$ area of wetland points = 3 Depressions present but cover $< \frac{1}{10}$ area of wetland points = 1 No depressions present points = 0		6
R 1.2. Structure of plants in the wetland (areas with >90% cover at person height; not Cowardin classes): Forest or shrub $> \frac{2}{3}$ the area of the wetland points = 10 Forest or shrub $\frac{1}{3} - \frac{2}{3}$ area of the wetland points = 5 Ungrazed, herbaceous plants $> \frac{2}{3}$ area of wetland points = 5 Ungrazed herbaceous plants $\frac{1}{3} - \frac{2}{3}$ area of wetland points = 2 Forest, shrub, and ungrazed herbaceous $< \frac{1}{3}$ area of wetland points = 0		2
Total for R 1 Add the points in the boxes above		8

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

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

R 2.1. Is the wetland within an incorporated city or within its UGA? Yes = 2 No = 0		2
R 2.2. Does the contributing basin include a UGA or incorporated area? Yes = 1 No = 0		0
R 2.3. Does at least 10% of the contributing basin contain tilled fields, pastures, or forests that have been clearcut within the last 5 years? Yes = 1 No = 0		0
R 2.4. Is > 10% of the area within 150 ft of wetland in land uses that generate pollutants? Yes = 1 No = 0		0
R 2.5. Are there other sources of pollutants coming into the wetland that are not listed in questions R 2.1-R 2.4? Source <u>5 ra mng</u> Yes = 1 No = 0		1
Total for R 2 Add the points in the boxes above		3

Rating of Landscape Potential If score is: 3-6 = H 1 or 2 = M 0 = L

Record the rating on the first page

R 3.0. Is the water quality improvement provided by the site valuable to society?

R 3.1. Is the wetland along a stream or river that is on the 303(d) list or on a tributary that drains to one within 1 mi? Yes = 1 No = 0		0
R 3.2. Does the river or stream have TMDL limits for nutrients, toxics, or pathogens? Yes = 1 No = 0		0
R 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 drainage in which wetland is found. Yes = 2 No = 0		0
Total for R 3 Add the points in the boxes above		0

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number A

RIVERINE WETLANDS

Points
(only 1 score
per box)

Hydrologic Functions - Indicators that site functions to reduce flooding and stream erosion

R 4.0. Does the site have the potential to reduce flooding and erosion?

<p>R 4.1. Characteristics of the overbank storage the wetland provides: <i>Estimate the average width of the wetland perpendicular to the direction of the flow and the width of the stream or river channel (distance between banks). Calculate the ratio: (average width of wetland)/(average width of stream between banks).</i> If the ratio is more than 2 points = 10 If the ratio is 1-2 points = 8 If the ratio is 1/2-1 points = 4 If the ratio is 1/2 < 1/2 points = 2 If the ratio is < 1/2 points = 1</p>		2
<p>R 4.2. Characteristics of plants that slow down water velocities during floods: <i>Treat large woody debris as forest or shrub. Choose the points appropriate for the best description (polygons need to have > 90% cover at person height. These are NOT Cowardin classes).</i> Forest or shrub for more than 2/3 the area of the wetland points = 6 Forest or shrub for > 1/3 area OR emergent plants > 2/3 area points = 4 Forest or shrub for > 1/10 area OR emergent plants > 1/3 area points = 2 Plants do not meet above criteria points = 0</p>		0
<p>Total for R 5</p>		2

Add the points in the boxes above

Rating of Site Potential If score is: 12-16 = H 6-11 = M 0-5 = L

Record the rating on the first page

R 5.0. Does the landscape have the potential to support the hydrologic functions of the site?

<p>R 5.1. Is the stream or river adjacent to the wetland downcut? Yes = 0 No = 1</p>		1
<p>R 5.2. Does the up-gradient watershed include a UGA or incorporated area? Yes = 1 No = 0</p>		0
<p>R 5.3. Is the up-gradient stream or river controlled by dams? Yes = 0 No = 1</p>		1
<p>Total for R 5</p>		2

Add the points in the boxes above

Rating of Landscape Potential If score is: 3 = H 1 or 2 = M 0 = L

Record the rating on the first page

R 6.0. Are the hydrologic functions provided by the site valuable to society?

<p>R 6.1. Distance to the nearest areas downstream that have flooding problems? <i>Choose the description that best fits the site.</i> The sub-basin immediately down-gradient of site has surface flooding problems that result in damage to human or natural resources points = 2 Surface flooding problems are in a basin farther down-gradient points = 1 No flooding problems anywhere downstream points = 0</p>		1
<p>R 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</p>		0
<p>Total for R 6</p>		1

Add the points in the boxes above

Rating of Value If score is: 2-4 = H 1 = M 0 = L

Record the rating on the first page

Wetland name or number A

These questions apply to wetlands of all HGM classes.

(only 1 score per box)

HABITAT FUNCTIONS - Indicators that site functions to provide important habitat

<p>H 1.0. Does the wetland have the potential to provide habitat for many species?</p>		
<p>H 1.1. Structure of the plant community: <i>Check the Cowardin vegetation classes present and categories of emergent plants. Size threshold for each category is $\geq \frac{1}{4}$ ac or $\geq 10\%$ of the wetland if wetland is < 2.5 ac.</i></p> <p><input type="checkbox"/> Aquatic bed <input type="checkbox"/> Emergent plants 0-12 in (0-30 cm) high are the highest layer and have $> 30\%$ cover <input checked="" type="checkbox"/> Emergent plants >12-40 in (>30-100 cm) high are the highest layer with $>30\%$ cover <input checked="" type="checkbox"/> Emergent plants > 40 in (> 100 cm) high are the highest layer with $>30\%$ cover <input type="checkbox"/> Scrub-shrub (areas where shrubs have $>30\%$ cover) <input type="checkbox"/> Forested (areas where trees have $>30\%$ cover)</p>	<p>4 or more checks: points = 3 3 checks: points = 2 2 checks: points = 1 1 check: points = 0</p>	<p>1</p>
<p>H 1.2. Is one of the vegetation types Aquatic Bed?</p>	<p>Yes = 1 No = 0</p>	<p>0</p>
<p>H 1.3. Surface water</p> <p>H 1.3.1. Does the wetland have areas of open water (without emergent or shrub plants) over at least $\frac{1}{4}$ ac OR 10% of its area during the March to early June OR in August to the end of September? <i>Answer YES for Lake Fringe wetlands.</i></p> <p>H 1.3.2. Does the wetland have an intermittent or permanent, and unvegetated stream within its boundaries, or along one side, over at least $\frac{1}{4}$ ac or 10% of its area? <i>Answer yes only if H 1.3.1 is No.</i></p>	<p>Yes = 3 points & go to H 1.4 No = go to H 1.3.2 Yes = 3 No = 0</p>	<p>3</p>
<p>H 1.4. Richness of plant species</p> <p>Count the number of plant species in the wetland that cover at least 10 ft². <i>Different patches of the same species can be combined to meet the size threshold. You do not have to name the species. Do not include Eurasian milfoil, reed canarygrass, purple loosestrife, Russian olive, Phragmites, Canadian thistle, yellow-flag iris, and saltcedar (Tamarisk)</i></p> <p># of species _____</p>	<p>Scoring: > 9 species: points = 2 4-9 species: points = 1 < 4 species: points = 0</p>	<p>1</p>
<p>H 1.5. Interspersion of habitats</p> <p>Decide from the diagrams below whether interspersion among types of plant structures (described in H 1.1), and unvegetated areas (open water or mudflats) is high, moderate, low, or none.</p> <p><i>Use map of Cowardin and emergent plant classes prepared for questions H 1.1 and map of open water from H 1.3. If you have four or more plant classes or three classes and open water, the rating is always high.</i></p>	<p>None = 0 points Low = 1 point Moderate = 2 points</p> <p>All three diagrams in this row are High = 3 points</p> <p>Riparian braided channels with 2 classes</p>	<p>Figure__</p> <p>0</p>

Wetland name or number A

5

H 1.6. Special habitat features <i>Check the habitat features that are present in the wetland. The number of checks is the number of points.</i>		
<input checked="" type="checkbox"/> Loose rocks larger than 4 in OR large, downed, woody debris (> 4 in diameter) within the area of surface ponding or in stream. <input checked="" type="checkbox"/> Cattails or bulrushes are present within the wetland. <input type="checkbox"/> Standing snags (diameter at the bottom > 4 in) in the wetland or within 30 m (100 ft) of the edge. <input type="checkbox"/> Emergent or shrub vegetation in areas that are permanently inundated/ponded. <input type="checkbox"/> Stable steep banks of fine material that might be used by beaver or muskrat for denning (> 45 degree slope) OR signs of recent beaver activity <input type="checkbox"/> Invasive species cover less than 20% in each stratum of vegetation (<i>canopy, sub-canopy, shrubs, herbaceous, moss/ground cover</i>)		2
Total for H 1	Add the points in the boxes above	7

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

H 2.0. Does the landscape have the potential to support habitat functions of the site?		
H 2.1. Accessible habitat (only area of habitat abutting wetland). If total accessible habitat is: <i>Calculate:</i> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>5</u> = <u>5</u> % > 1/3 (33.3%) of 1 km Polygon points = 3 20-33% of 1km Polygon points = 2 10-19% of 1km Polygon points = 1 <10% of 1km Polygon <u>points = 0</u>		0
H 2.2. Undisturbed habitat in 1 km Polygon around wetland. <i>Calculate:</i> <u>0</u> % undisturbed habitat <u>0</u> + [(% moderate and low intensity land uses)/2] <u>2</u> = <u>2</u> % Undisturbed habitat > 50% of Polygon points = 3 Undisturbed habitat 10 - 50% and in 1-3 patches points = 2 Undisturbed habitat 10 - 50% and > 3 patches <u>points = 1</u> Undisturbed habitat < 10% of Polygon points = 0		1
H 2.3. Land use intensity in 1 km Polygon: > 50% of Polygon is high intensity land use <u>points = (-2)</u> Does not meet criterion above points = 0		-2
H 2.4. The wetland is in an area where annual rainfall is less than 12 in, and its water regime is not influenced by irrigation practices, dams, or water control structures. Generally, this means outside boundaries of reclamation areas, irrigation districts, or reservoirs Yes = 3 <u>No = 0</u>		0
Total for H 2	Add the points in the boxes above	-1

Rating of Landscape Potential If score is: 4-9 = H 1-3 = M <1 = L Record the rating on the first page

H 3.0. Is the habitat provided by the site valuable to society?		
H 3.1. Does the site provide habitat for species valued in laws, regulations, or policies? Choose the highest score that applies to the wetland being rated Site meets ANY of the following criteria: points = 2 — It has 3 or more priority habitats within 100 m (see Appendix B) — It provides habitat for Threatened or Endangered species (any plant or animal on state or federal lists) — It is mapped as a location for an individual WDFW species — It is a Wetland of High Conservation Value as determined by the Department of Natural Resources — It has been categorized as an important habitat site in a local or regional comprehensive plan, in a Shoreline Master Plan, or in a watershed plan Site has 1 or 2 priority habitats within 100 m (see Appendix B) <u>points = 1</u> Site does not meet any of the criteria above points = 0		

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

Wetland name or number A

CATEGORIZATION BASED ON SPECIAL CHARACTERISTICS

Please determine if the wetland meets the attributes described below and circle the appropriate category. NOTE: A wetland may meet the criteria for more than one set of special characteristics. Record all those that apply. NOTE: All wetlands should also be characterized based on their functions.

Wetland Type	Category
<p><i>Check off any criteria that apply to the wetland. Circle the category when the appropriate criteria are met.</i></p> <p>SC 1.0. Vernal pools Is the wetland less than 4000 ft², and does it meet at least two of the following criteria? — Its only source of water is rainfall or snowmelt from a small contributing basin and has no groundwater input. — Wetland plants are typically present only in the spring; the summer vegetation is typically upland annuals. <i>If you find perennial, obligate, wetland plants, the wetland is probably NOT a vernal pool.</i> — The soil in the wetland is shallow [< 1 ft (30 cm) deep] and is underlain by an impermeable layer such as basalt or clay. — Surface water is present for less than 120 days during the wet season. Yes – Go to SC 1.1 No = Not a vernal pool</p> <p>SC 1.1. Is the vernal pool relatively undisturbed in February and March? Yes – Go to SC 1.2 No = Not a vernal pool with special characteristics</p>	
<p>SC 1.2. Is the vernal pool in an area where there are at least 3 separate aquatic resources within 0.5 mi (other wetlands, rivers, lakes etc.)? Yes = Category II No = Category III</p>	Cat. II Cat. III
<p>SC 2.0. Alkali wetlands Does the wetland meet one of the following criteria? — The wetland has a conductivity > 3.0 mS/cm. — The wetland has a conductivity between 2.0 and 3.0 mS, and more than 50% of the plant cover in the wetland can be classified as “alkali” species (see Table 4 for list of plants found in alkali systems). — If the wetland is dry at the time of your field visit, the central part of the area is covered with a layer of salt. OR does the wetland unit meet two of the following three sub-criteria? — Salt encrustations around more than 75% of the edge of the wetland — More than $\frac{3}{4}$ of the plant cover consists of species listed on Table 4 — A pH above 9.0. All alkali wetlands have a high pH, but please note that some freshwater wetlands may also have a high pH. Thus, pH alone is not a good indicator of alkali wetlands. Yes = Category I No = Not an alkali wetland</p>	Cat. I
<p>SC 3.0. Wetlands of High Conservation Value (WHCV) SC 3.1. Has the WA Department of Natural Resources updated their website to include the list of Wetlands of High Conservation Value? Yes – Go to SC 3.2 No – Go to SC 3.3 SC 3.2. Is the wetland listed on the WDNR database as a Wetland of High Conservation Value? Yes = Category I No = Not a WHCV SC 3.3. Is the wetland in a Section/Township/Range that contains a Natural Heritage wetland? http://www1.dnr.wa.gov/nhp/refdesk/datasearch/wnhp/wetlands.pdf Yes – Contact WNHP/WDNR and go to SC 3.4 No = Not a WHCV SC 3.4. Has WDNR identified the wetland within the S/T/R as a Wetland of High Conservation Value and it is listed on their website? Yes = Category I No = Not a WHCV</p>	Cat. I

Wetland name or number A

<p>SC 4.0 Bogs and Calcareous Fens Does the wetland (or any part of the wetland unit) meet both the criteria for soils and vegetation in bogs or calcareous fens? <i>Use the key below to identify if the wetland is a bog or calcareous fen. If you answer yes you will still need to rate the wetland based on its functions.</i></p> <p>SC 4.1. Does an area within the wetland have organic soil horizons (i.e., layers of organic soil), either peats or mucks, that compose 16 in or more of the first 32 in of the soil profile? <i>See Appendix C for a field key to identify organic soils.</i> Yes – Go to SC 4.3 No – Go to SC 4.2</p> <p>SC 4.2. Does an area within the wetland have organic soils, either peats or mucks, that are less than 16 in deep over bedrock or an impermeable hardpan such as clay or volcanic ash, or that are floating on top of a lake or pond? Yes – Go to SC 4.3 No = Is not a bog for rating</p> <p>SC 4.3. Does an area within the wetland have more than 70% cover of mosses at ground level AND at least 30% of the total plant cover consists of species in Table 5? Yes = Category I bog No – Go to SC 4.4 NOTE: If you are uncertain about the extent of mosses in the understory, you may substitute that criterion by measuring the pH of the water that seeps into a hole dug at least 16 in deep. If the pH is less than 5.0 and the plant species in Table 5 are present, the wetland is a bog.</p> <p>SC 4.4. Is an area with peats or mucks forested (> 30% cover) with subalpine fir, western red cedar, western hemlock, lodgepole pine, quaking aspen, Engelmann spruce, or western white pine, AND any of the species (or combination of species) listed in Table 5 provide more than 30% of the cover under the canopy? Yes = Category I bog No – Go to SC 4.5</p> <p>SC 4.5. Do the species listed in Table 6 comprise at least 20% of the total plant cover within an area of peats and mucks? Yes = Is a Calcareous Fen for purpose of rating No – Go to SC 4.6</p> <p>SC 4.6. Do the species listed in Table 6 comprise at least 10% of the total plant cover in an area of peats and mucks, AND one of the two following conditions is met: — Marl deposits [calcium carbonate (CaCO₃) precipitate] occur on the soil surface or plant stems — The pH of free water is ≥ 6.8 AND electrical conductivity is ≥ 200 uS/cm at multiple locations within the wetland Yes = Is a Category I calcareous fen No = Is not a calcareous fen</p>	<p>Cat. I</p> <p>Cat. I</p>
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<p>SC 5.0. Forested Wetlands Does the wetland have an area of forest rooted within its boundary that meets at least one of the following three criteria? <i>(Continue only if you have identified that a forested class is present in question H 1.1)</i></p> <ul style="list-style-type: none"> — The wetland is within the 100 year floodplain of a river or stream — Aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species — There is at least ¼ ac of trees (even in wetlands smaller than 2.5 ac) that are “mature” or “old-growth” according to the definitions for these priority habitats developed by WDFW <i>(see definitions in question H3.1)</i> <p>Yes – Go to SC 5.1 No = Not a forested wetland with special characteristics</p> <p>SC 5.1. Does the wetland have a forest canopy where more than 50% of the tree species (by cover) are slow growing native trees <i>(see Table 7)?</i> Yes = Category I No – Go to SC 5.2</p> <p>SC 5.2. Does the wetland have areas where aspen (<i>Populus tremuloides</i>) represents at least 20% of the total cover of woody species? Yes = Category I No – Go to SC 5.3</p> <p>SC 5.3. Does the wetland have at least ¼ acre with a forest canopy where more than 50% of the tree species (by cover) are fast growing species <i>(see Table 7)?</i> Yes = Category II No – Go to SC 5.4</p> <p>SC 5.4. Is the forested component of the wetland within the 100 year floodplain of a river or stream? Yes = Category II No = Not a forested wetland with special characteristics</p>	<p>Cat. I</p> <p>Cat. I</p> <p>Cat. II</p> <p>Cat. II</p>
<p>Category of wetland based on Special Characteristics Choose the highest rating if wetland falls into several categories If you answered No for all types, enter “Not Applicable” on Summary Form</p>	<p>NA</p>

Appendix B: WDFW Priority Habitats in Eastern Washington

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

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

- **Aspen Stands:** Pure or mixed stands of aspen greater than 1 ac (0.4 ha).
- **Biodiversity Areas and Corridors:** Areas of habitat that are relatively important to various species of native fish and wildlife (full descriptions in WDFW PHS report).
- **Old-growth/Mature forests:** Old-growth east of Cascade crest – Stands are highly variable in tree species composition and structural characteristics due to the influence of fire, climate, and soils. In general, stands will be >150 years of age, with 10 trees/ac (25 trees/ha) that are > 21 in (53 cm) dbh, and 1-3 snags/ac (2.5-7.5 snags/ha) that are > 12-14 in (30-35 cm) diameter. Downed logs may vary from abundant to absent. Canopies may be single or multi-layered. Evidence of human-caused alterations to the stand will be absent or so slight as to not affect the ecosystem's essential structures and functions. Mature forests – Stands with average diameters exceeding 21 in (53 cm) dbh; crown cover may be less than 100%; decay, decadence, numbers of snags, and quantity of large downed material is generally less than that found in old-growth; 80-200 years old west and 80-160 years old east of the Cascade crest.
- **Oregon White Oak:** Woodland stands of pure oak or oak/conifer associations where canopy coverage of the oak component is important (full descriptions in WDFW PHS report p. 158 – see web link above).
- **Riparian:** The area adjacent to aquatic systems with flowing water that contains elements of both aquatic and terrestrial ecosystems which mutually influence each other.
- **Instream:** The combination of physical, biological, and chemical processes and conditions that interact to provide functional life history requirements for instream fish and wildlife resources.
- **Caves:** A naturally occurring cavity, recess, void, or system of interconnected passages under the earth in soils, rock, ice, or other geological formations and is large enough to contain a human.
- **Cliffs:** Greater than 25 ft (7.6 m) high and occurring below 5000 ft elevation.
- **Talus:** Homogenous areas of rock rubble ranging in average size 0.5 - 6.5 ft (0.15 - 2.0 m), composed of basalt, andesite, and/or sedimentary rock, including riprap slides and mine tailings. May be associated with cliffs.
- **Snags and Logs:** Trees are considered snags if they are dead or dying and exhibit sufficient decay characteristics to enable cavity excavation/use by wildlife. Priority snags have a diameter at breast height of > 12 in (30 cm) in eastern Washington and are > 6.5 ft (2 m) in height. Priority logs are > 12 in (30 cm) in diameter at the largest end, and > 20 ft (6 m) long.
- **Shrub-steppe:** A nonforested vegetation type consisting of one or more layers of perennial bunchgrasses and a conspicuous but discontinuous layer of shrubs (see Eastside Steppe for sites with little or no shrub cover).
- **Eastside Steppe:** Nonforested vegetation type dominated by broadleaf herbaceous flora (i.e., forbs), perennial bunchgrasses, or a combination of both. Bluebunch wheatgrass (*Pseudoroegneria spicata*) is often the prevailing cover component along with Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), rough fescue (*F. campestris*), or needlegrasses (*Achnatherum* spp.).
- **Juniper Savannah:** All juniper woodlands.

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



Polygon Circle 3D path 3D polygon

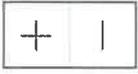
Distance between two points on the ground

1st: 151.85 Feet

2nd: 151.87

Bearing: 253.15 degrees

Save Clear



Find address or place



Clear filters

Filter Applied

Find	Listing ID	Assessment Unit ID	Category	Medium	Parameter
	3724	17060108000228_001_001	5	Water	Temperature
	3726	17030003000236_001_001	5	Water	Temperature