

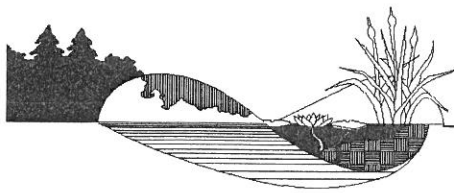
**FREMMERLID CLUSTER  
KITITAS COUNTY  
CRITICAL AREAS REPORT**

**Prepared For:**

**Mark Fremmerlid  
16838 234<sup>th</sup> Way SE  
Maple Valley, Washington 98038**



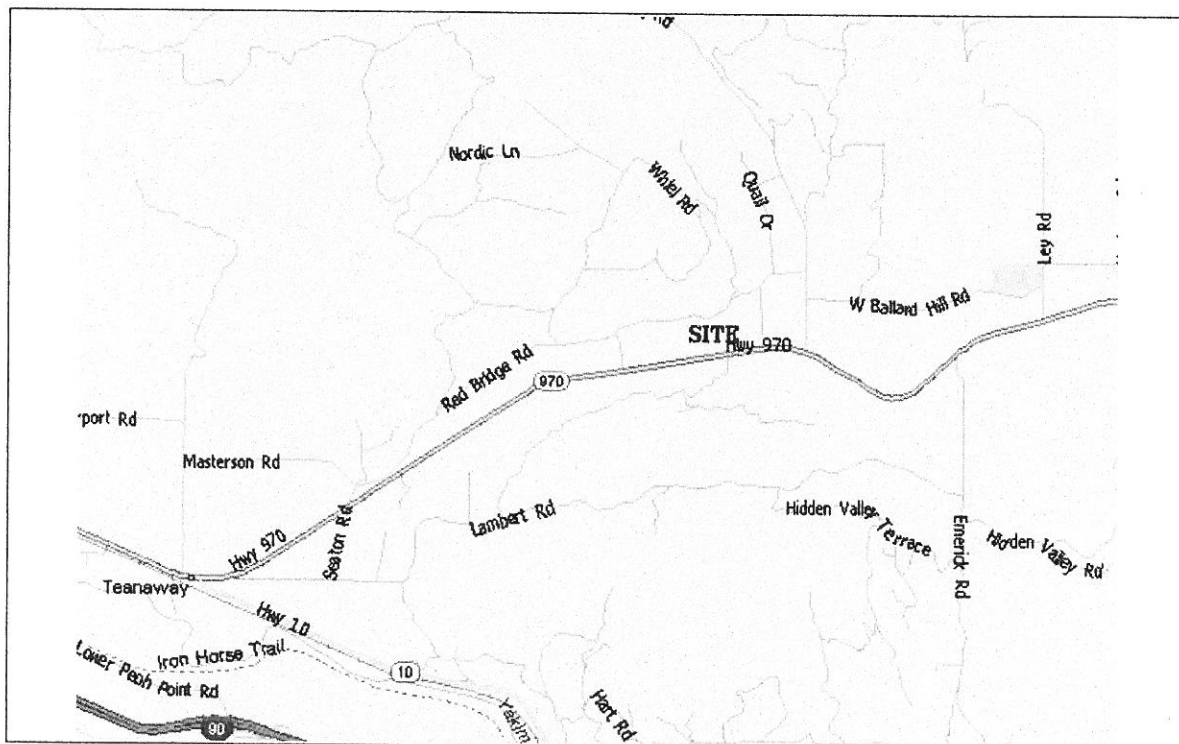
**September 5, 2007  
Job#A7-151**



**FREMMERLID CLUSTER  
KITITAS COUNTY  
CRITICAL AREAS REPORT**

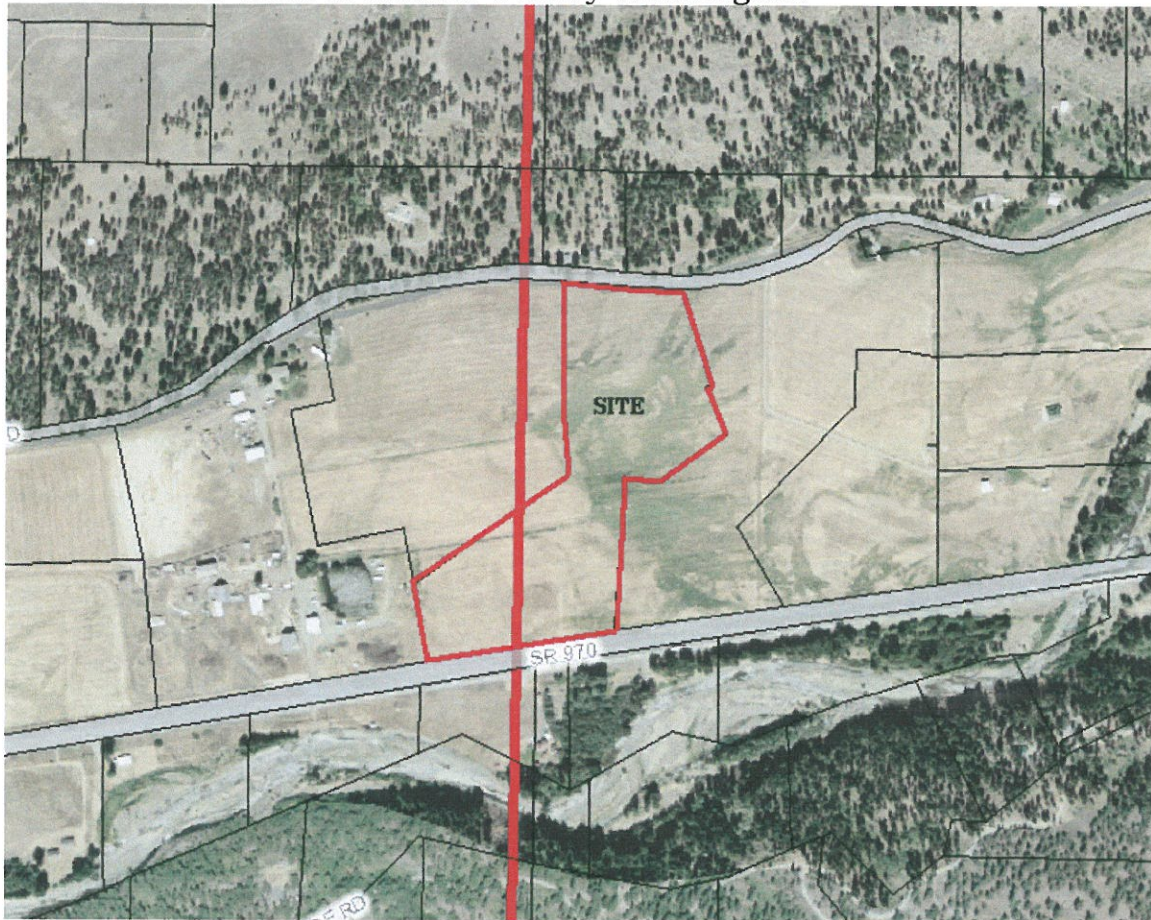
**1.0 INTRODUCTION**

This report describes our observations of any jurisdictional wetlands and streams on or within 100' of the site of the proposed Fremmerlid rural cluster development, located off Red Bridge Road in unincorporated Kittitas County, Washington (the "site"). Specifically, the site is an irregular shaped 21 acre parcel bordered by SR 970 on the south, Red Bridge Road on the north, a U-fish/campground facility on the west and mowed/grazed pasture on the east.



***Above: Vicinity Map of the site.***

The site is located in the east ½ of Section 26, and a portion of the site is located within the western ½ of Section 25, Township 20 North, Range 16 East of the W.M. in Kittitas County Washington.



***Above: Aerial photograph of the site.***

As previously described, the site is pasture that is occasionally cut and grazed. A spring and associated ditch are located on the southern portion of the site which feeds the U-Fish pond located off-site to the west.

The site is proposed to be developed using clustering into 14 single family lots with associated infrastructure.

## 2.0 METHODOLOGY

### *Wetland and Streams*

Ed Sewall of Sewall Wetland Consulting, Inc. conducted site visits to the property in April, May, June, August and early September of 2007. The site was reviewed using methodology described in the **Washington State Wetlands Identification Manual** (WADOE, March 1997). This is the methodology currently recognized by Kittitas County and the State of Washington for wetland determinations and delineations. The review also used the methodology described in the **Corps of Engineers Wetlands Delineation Manual** (Environmental Laboratory, 1987), as required by the US Army Corps of Engineers. Soil colors were identified using the 1990 Edited and Revised Edition of the **Munsell Soil Color Charts** (Kollmorgen Instruments Corp. 1990).

The *Washington State Wetlands Identification and Delineation Manual* and the *Corps of Engineers Wetlands Delineation Manual* both requires the use of the three-parameter approach in identifying and delineating wetlands. A wetland should support a predominance of hydrophytic vegetation, have hydric soils and display wetland hydrology. To be considered hydrophytic vegetation, over 50% of the dominant species in an area must have an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL), according to the National List of Plant Species That Occur in Wetlands: Northwest (Region 9) (Reed, 1988). A hydric soil is "a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part". Anaerobic conditions are indicated in the field by soils with low chromas (2 or less), as determined by using the Munsell Soil Color Charts; iron oxide mottles; hydrogen sulfide odor and other indicators. Generally, wetland hydrology is defined by inundation or saturation to the surface for a consecutive period of 12.5% or greater of the growing season. Areas that contain indicators of wetland hydrology between 5%-12.5% of the growing season may or may not be wetlands depending upon other indicators. Field indicators include visual observation of soil inundation, saturation, oxidized rhizospheres, water marks on trees or other fixed objects, drift lines, etc. Under normal circumstances, indicators of all three parameters will be present in wetland areas.

## *Habitat*

A general review of existing habitat data on file with agencies as well as on-site observations were made of wildlife usage of the site. This report does not reflect a species-specific study of any wildlife on or near the site. The following tasks were conducted;

- A. A data search was conducted of the *Washington State Priority Habitat (PHS)* data bank for relevant data on listed threatened or endangered species known to use the site and/or surrounding areas.
- B. A search was conducted of the *Washington Department of Natural Resources Natural Heritage* data bank for any relevant information on threatened or endangered plant species and plant communities. All potential listed species were specifically searched for on the site.
- C. A general field survey was conducted to note any wildlife or sign of wildlife using the site. General observation surveys were conducted both on 5 separate days as well as previous observations of wildlife use of the site when in the area. The entire project site was walked to insure all significant features were observed. The field survey included a review for any state or federally listed plant or animal species.

## **3.0 OBSERVATIONS**

### 3.1 Existing Site Documentation.

Prior to visiting the site, a review of several natural resource inventory maps was conducted. Resources reviewed included the National Wetland Inventory Map, Washington Department of Natural Resources (WADNR) FPARS Stream Typing map, the WADNR Natural Heritage data, Washington Department of Fish and Wildlife Priority Habitat data, National Wetlands Inventory Map, the Kittitas County GIS mapping information available on-line, as well as data on file at the Kittitas County NRCS office in regards to soil data for the site.

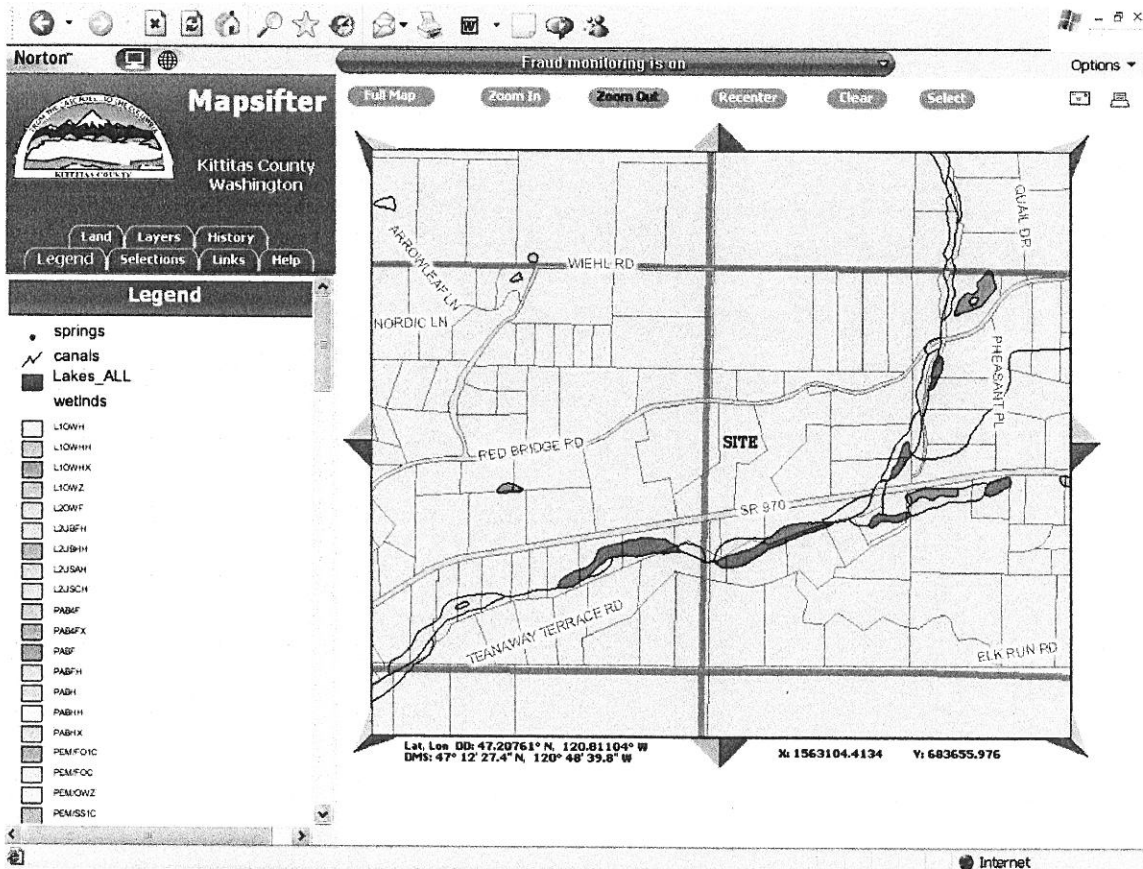
#### 3.1.1 Soil Survey

According to data on file with the Kittitas County NRCS, the site is mapped entirely as Patnish-Mippon-Myzel complex, 0%-3% slopes (*see*

attached). These soils are a mix of alluvium and volcanic ash based soil units, are occasionally flooded, and have a seasonal high water table in the Mippon type soils, of -33". These soils and this complex are *not* considered hydric or wetland soils.

### 3.1.2 National Wetlands Inventory (NWI)/Kittitas County Website

According to the NWI map for the site, there are no wetlands or streams on or near the site. The closest mapped wetlands are narrow bands of wetland along the Teanaway River to the east and south of the site. It should be noted that this inventory mapping was not field verified and was done completely by aerial photograph interpretation. Typically there is a level of error in this type of mapping.



**Above: Kittitas County Website w/ NWI Wetland overlay**

### 3.1.3 Washington Department of Natural Resources FPARS Map

According to the WADNR Forest Practices Application Review System (FPARS) stream typing map overlay, there are no streams on the site (see attached map). The Teanaway River located to the south and east of the site is noted. Additionally, the old irrigation canal along the north side of Red Bridge Road is depicted as a Type F (fish bearing) stream. This canal is no longer functional and does not carry water anymore.

## 3.2 Field observations

### 3.1 Vegetation/Habitat types

The site is comprised of a single landscape type comprised of an agricultural field.

#### 3.1.1 Agricultural Land

The site is vegetated with patches of weedy species and non-native and naturalized grasses including cheatgrass (*Bromus tectorum*), alfalfa (*Medicago sativa*), dandelion (*Taraxacum officinale*), english plantain (*Plantago lanceolata*), thistle (*Cirsium arvense*), quackgrass (*Agropyron repens*), orchard grass (*Dactylis glomerata*), yarrow (*Achillea millefolium*), and cat's ear (*Hypochaeris radicata*).

Soils in the irrigated agricultural lands are cobbly loam with a soil color ranging from 10YR 3/3- 7.5YR 2.5/3. A series of soil pits were placed in a grid pattern across the site as well as 3 deep (4') test holes in order characterize soil and hydrology of the site. The water table was observed on the site in April to be at -36" depth, but observations in July, August and September revealed the test holes to be dry indicating the water table had dropped since the April observation.

The site was historically flood irrigated with water drawn off the Teanaway River near its crossing with Red Bridge Road. The system was damaged in flood events in the 1990's and was never utilized after this period. Water was directed along a ditch line on the opposite side of Red Bridge Road from the site. Turnouts directed water under Red Bridge Road to the site where it was directed across the site in a series of ditches. A 1993 aerial photograph of the site obtained from WDFW Area

Habitat Biologist Brent Renfrow depicts a series of ditches running in an east-west orientation from the dike along the Teanaway River to the east of the site. These ditches historically drained into the U-Fish pond. The eastern portion of this ditch no longer exists.

There is a single east-west ditch on the south side of the site. The southernmost ditch emerges from a pipe on its east end and drains a substantial amount of water westerly to the U-Fish pond. This is reportedly a "spring" of unknown origin. A small pipe drains water from this spring to the second ditch located off-site to the northwest. Water was only observed in the eastern 100' of this ditch.

On May 18<sup>th</sup>, 2007, I met Brent Renfrow (WDFW Area Habitat Biologist) on the site to determine how WDFW, and presumably Kittitas County, would interpret this feature (ditch). Brent determined this ditch does not connect to any water of the state and would not be considered a stream or any water of the state.

The ditch flows perennially from a spring emerging from a man-made spring structure. The ditch is broad (6'-8') and flows approximately 12" deep with cold water that could be and probably is utilized by trout stocked in the U-Fish pond. The feature does not appear to be constructed from any wetland or stream, and therefore, in our opinion should not be considered regulated water in any way.

### ***Wetlands***

No areas meeting wetland criteria were found on or within 200' of the site. Water table monitoring through the irrigation season has revealed water tables on the site stay deeper than -36" and never rise to the -12" depth required to meet wetland hydrology criteria. It is suspected that irrigation has little effect on the sites groundwater hydrology as most irrigated lands are east of the site and separated by the Teanaway River, or down-gradient to the west of the site approximately ¼ mile. As a result, no regional irrigated groundwater rise was noted on the site.

### ***Teanaway River***

The Teanaway River is located on the south side of SR97 approximately 130' south of the site at its closest point and separated by SR97. The Teanaway River is known to contain several species of salmonids



including anadromous species as detailed in section 3.1.4. As a result, The Teanaway River appears to best meet the criteria of a Type 1 water as defined in KCC 17A.02.300 due to the fact it is a Shoreline of the State. Streams in Kittitas County are regulated as "Riparian Habitat" under chapter 17A.07.010 of KCC. Type 1 waters typically have a 40'-200' buffer measured from the ordinary high water mark. As stated in the Code; "*The riparian habitat buffer ranges above have been established to reflect the impact of certain intense land uses on riparian habitat functions and values. The director shall base a buffer size on the following criteria and shall establish the least restrictive width of buffer necessary to accommodate the following considerations:*

- a. *Overall intensity of the proposed use;*
- b. *The presence of a threatened, endangered or sensitive species or anadromous fish;*
- c. *The shoreline's historical and current susceptibility to severe erosion, channel instability, or aggrading;*
- d. *The presence of multiple channels or islands;*
- e. *Use by the applicant of a buffer enhancement plan;*
- f. *The width of a stream or river and the surface area and depth of a lake."*

#### **4.0 Wildlife and Threatened and Endangered Species**

##### ***WDFW Priority Habitat Data***

A review of the WDFW Priority Habitat Maps and associated species specific reports for the area of the site revealed no observations of any priority species or habitats on the site. Approximately ½ mile north of the site has a PHS polygon#6 indicating large concentrations of elk and mule deer.

The closest feature indicated is the Teanaway River, which is listed as priority anadromous and resident fish presence. The priority species include summer steelhead, spring chinook salmon, coho salmon, and Dolly Varden/bull trout. Additionally, an observation during electrofishing of 3 mountain sucker (*Catostomus platyrhynchus*), a state

candidate species is indicated on the Teanaway east of the site where the Teanaway crosses under SR97.

***Washington Department of Natural Resources Natural Heritage Program***

A search was conducted of the WADNR Natural Heritage Information System for any significant features on the site. The WADNR Natural Heritage program records any known observations or know locations of rare plants and high quality ecosystems. The results of the data search of this information revealed know known or recorded rare plants or high quality ecosystems on the site.

*Field Observations*

During our site investigation no wildlife was observed on the site. Several hawks were noted flying over the site (red-tailed hawk & kestrel) but no nests or appropriate habitat exists for much wildlife on the site. Previous observations of the site and area surrounding the site in the fall, spring and winter indicate elk (*Cervus elaphus*) as well as mule deer (*Odocoileus hemionus*) are commonly found in the entire Teanaway Valley. Although we have not observed elk specifically on the site, we have observed herds immediately to the east of the Teanaway River as well as west of the site just west of the U-fish ponds in abutting pastures in and in close proximity to fenced horses. However, WDFW Priority habitat maps do not indicate the site itself as a specific priority habitat area.

Other wildlife undoubtedly utilize the site at some time, primarily passing through the Teanaway Valley or trying to access the Teanaway River from the north or west. Species observed by others in the vicinity of the site include cougar (*Puma concolor*), bobcat (*Lynx rufus*), turkey (*Meleagris gallopavo*), California quail (*Callipepla californica*), tukey vulture (*Cathartes aura*), bear (*Ursus americanus*), coyote (*Canis latrans*). Although these species may pass through the site from time to time, the mowed character of the site and its close proximity to human activity have reduced its habitat value for most of these species other than for grazing or hunting in the case of coyotes and birds of prey.

No rare, threatened or endangered species were observed on the site.

## 5.0 PROPOSED PROJECT

The proposed Fremmerlid Cluster has been designed to cluster the home sites on the north end of the property abutting Red Bridge Road. Approximately 10 acres of open space area is proposed on the south end of the site as well as a proposed group septic system.

No impacts to wetlands, streams, shoreline or their associated buffer areas are proposed by this project.

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

Sincerely,  
*Sewall Wetland Consulting, Inc.*



Ed Sewall  
Senior Wetlands Ecologist PWS #212



## REFERENCES

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

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

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

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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.

Kittitas County Code Title 17A

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

WDFW Priority Habitat Data Search dated April 23, 2007

WDNR Natural Heritage Data Bank

Personal Communication and site visit w/WDFW biologist Brent Renfrow May 2007

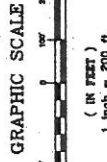
FREMMLERID PERFORMANCE BASED CLUSTER PLAT

A PORTION OF THE EAST 1/2 OF SECTION 26 AND THE WEST 1/2 OF SECTION 25, T.20N., R.16E., W.M., KITTITAS COUNTY, WASHINGTON.

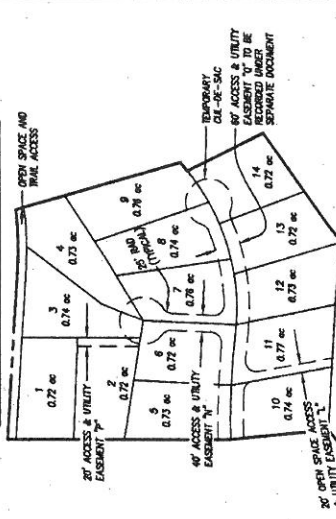
- PERFORMANCE BASED CLUSTER PLATING
OPEN SPACE (61.0%) 10.70 AC 61 POINTS
DEVELOPMENT AREA 10.30 AC
(LOTS = 9.66 AC)
ROAD PRISM = 0.65 AC
CLASS B WELL 25 POINTS
COMMUNITY SEPTIC 10 POINTS
PASSIVE REC. FACILITIES 5 POINTS
ACTIVE REC. FACILITIES 10 POINTS
TOTAL 21.00 AC 101 POINTS

LEGEND

- SECTION CORNER AS NOTED
QUARTER CORNER AS NOTED
SET 1/2" REBAR & CAP
FOUND REBAR & CAP, UNLESS OTHERWISE NOTED
EXISTING WELL
TRAILS
APPROXIMATE 100-YEAR FLOODPLAIN



ACCESS EASEMENTS



INDEX LOCATION: SEC. 26 T. 20N. R. 16E. W.M. SEC. 25 T. 20N. R. 16E. W.M.

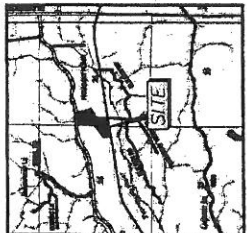


Table with 2 columns: CURVE LENGTH, RADIUS, DELTA. Rows C1 through C7.

Table with 2 columns: LINE, DISTANCE. Rows L1 through L6.

SE CORNER S.26 STANDARD CONCRETE MONUMENT PER DNR BOOK 1, PAGE 253. NOT VISITED THIS SURVEY.

PERFORMANCE BASED CLUSTER PLAT
PREPARED FOR MARK FREMMLERID
A PORTION OF THE EAST 1/2, SEC. 26 & WEST 1/2, SEC. 25, TOWNSHIP 20 NORTH, RANGE 16 EAST, WASHINGTON COUNTY, WASHINGTON.
DATE: 05/20/2007
SCALE: 1"=200'

Encompass ENGINEERING & SURVEYING
108 EAST 2ND STREET
CLE ELUM, WA 98822
PHONE: (509) 874-7433
FAX: (509) 874-7419

SURVEYOR'S CERTIFICATE
This map correctly represents a survey made by me or under my direction in conformance with the requirements of the Survey Recording Act of the request of MARK FREMMLERID in MAY 2007.

APPROVALS
KITITAS COUNTY DEPARTMENT OF PUBLIC WORKS
KITITAS COUNTY HEALTH DEPARTMENT
CERTIFICATE OF COUNTY PLANNING DIRECTOR
CERTIFICATE OF KITITAS COUNTY TREASURER
KITITAS COUNTY PLANNING DIRECTOR
KITITAS COUNTY ASSESSOR
KITITAS COUNTY BOARD OF COMMISSIONERS

RECORDER'S CERTIFICATE
Filed for record this day of 2007 at M in book of page. at the request of DAVID P. NELSON, Surveyor & Notary.
County Auditor Deputy County Auditor



# Forest Practices Application Review System

Select a map

Activity Map

Legal Description

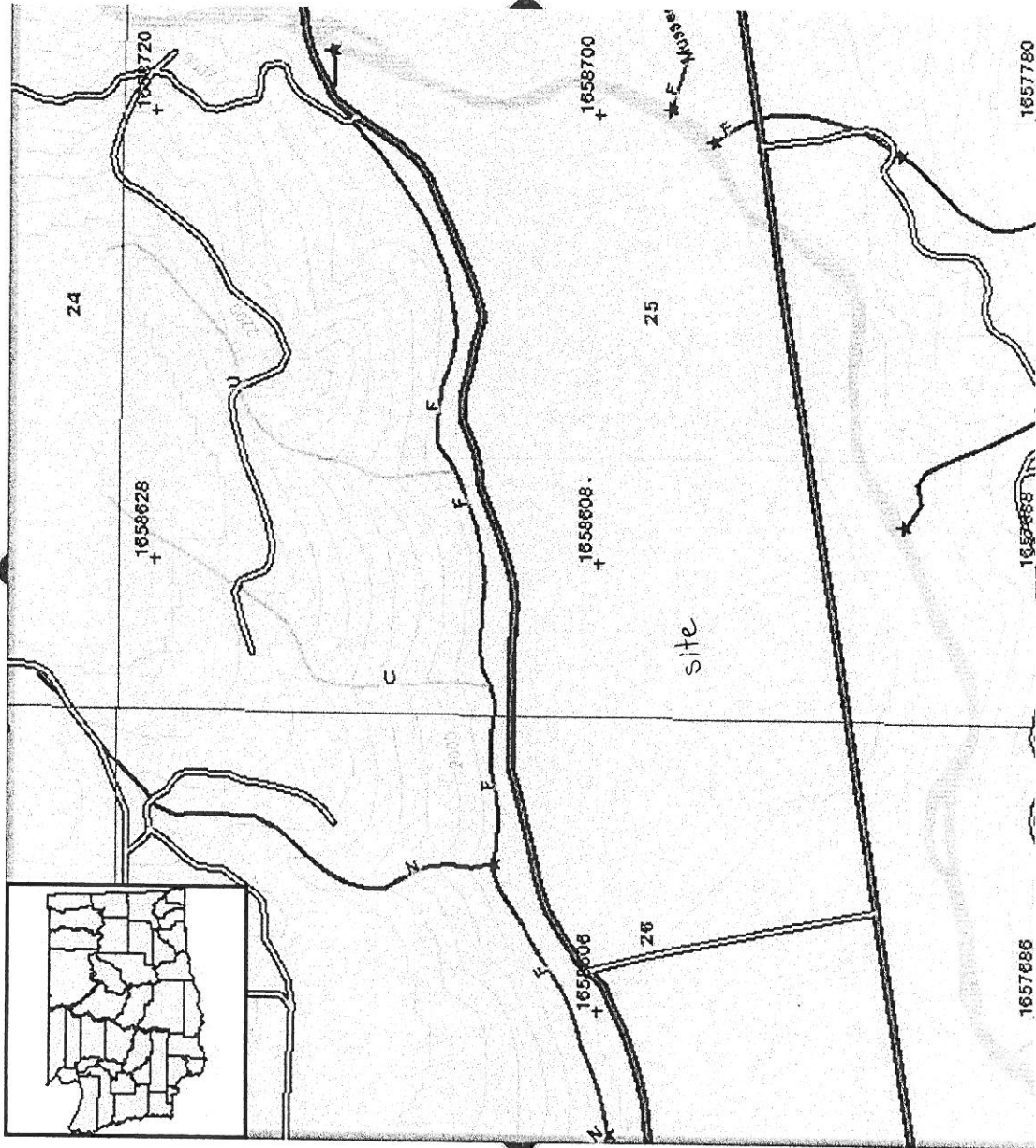
T 20 0 R 16 0 E S 25

Get Map

Refresh Site

Layers

Legend



## Layers

Visible Active

- Townships
- Section Survey Lines
- Map Registration Tics
- Water Type Break
- Transportation
- WAU
- WRIA
- Streams
- Water Bodies
- Fire Shutdown Zones
- Contours - 40ft. interval
- County Boundary

Refresh Map

# Soils Map

Date: 5/08/2007

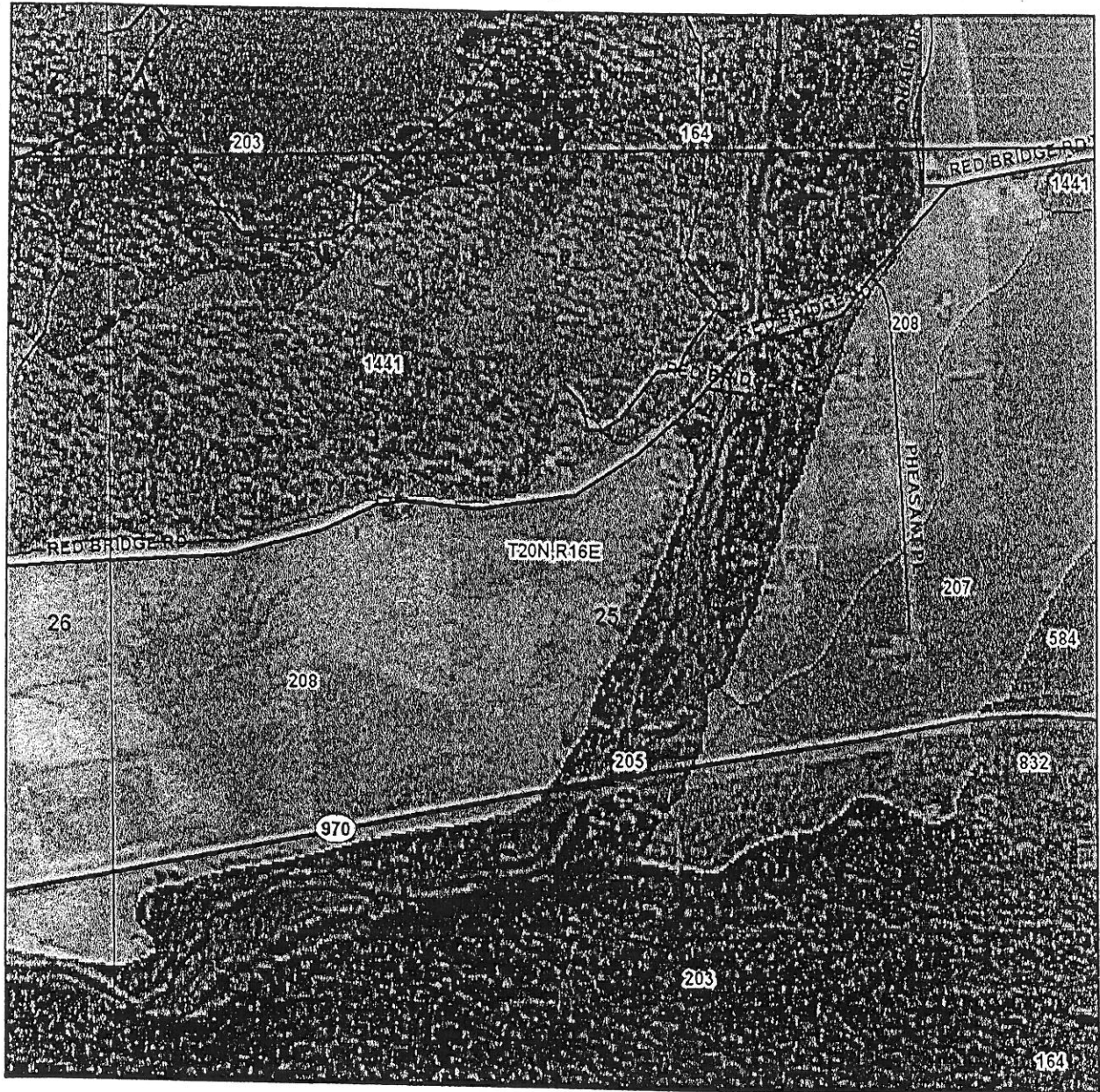
Customer(s): Ed Sewall  
Sec. 25; T20N; R16E



Field Office: ELLENSBURG SERVICE CENTER

Agency: USDA-NRCS

Assisted By: Allen A Aronica



The data used for this map/exhibit is provided "as is" without warranty of any kind. Further, the Natural Resource Conservation Service does not warrant, guarantee, or make any representations regarding the use of, or results from, the use of the data in terms of correctness, accuracy, reliability, currentness, or otherwise.

S25 Mapunit Description - MO1.txt

Map Unit Description (WA)

Kittitas County Area, Washington

208 - Patnish-Mippon-Myzel complex, 0 to 3 percent slopes

Mean annual precipitation: 25 to 40 inches

Frost-free period: 80 to 110 days

Mean annual temperature: 43 to 45 degrees F

Farmland class: Not prime farmland

Patnish and similar soils

Extent: about 40 percent of the unit

Landform(s): flood plains

Soil loss tolerance (T factor):

Slope gradient: 0 to 3 percent

erodibility group (WEG):

Wind erodibility index (WEI): 6

Parent material: alluvium mixed with volcanic ash in the upper  
non-irrigated: 3c part

Land capability subclass,

Land capability subclass, irrigated: 3c

Restrictive feature(s): strongly contrasting textural stratification at

ed

Flooding frequency: occasional

Hydric soil class: no

Ponding frequency: none

Hydrologic group: B

Kf	Representative soil profile:	Texture	Available Permeability	Water	pH	Kw
.32	H1 -- 0 to 7 in ashy loam		moderate	1.1 to 1.3 in	6.1 to 7.3	.32
.37	H2 -- 7 to 14 in ashy loam		moderate	0.8 to 1.3 in	6.1 to 7.3	.28
.37	H3 -- 14 to 27 in loam		moderate	1.4 to 2.3 in	6.1 to 7.3	.28
	H4 -- 27 to 35 in very gravelly sandy loam		moderately	0.5 to 0.9 in	6.1 to 7.3	



S25 Mapunit Description - MO1.txt

.20 .37

.05 .20 H5 -- 35 to 60 in extremely cobbly loamy sand rapid 0.5 to 1.2 in 6.1 to 7.3

Ecological Site / Plant Association: Douglas-fir/common snowberry/pinegrass (CDS638)

Mippon and similar soils

Extent: about 30 percent of the unit

Landform(s): stream terraces

Soil loss tolerance (T factor):

Slope gradient: 0 to 3 percent

Wind erodibility index (WEI): 8

Parent material: alluvium

Land capability subclass, non-irrigated:

6w

Restrictive feature(s): strongly contrasting textural stratification at Land capability subclass, irrigated:

Seasonal high water table: approximately 33 inches well drained

Drainage class: moderately

Flooding frequency: occasional

Hydric soil class: no

Ponding frequency: none

Hydrologic group: C

Kittitas County Area, Washington

Representative soil profile:	Texture	Available Permeability	Water	pH	Kw
Kf	Oe -- 0 to 1 in moderately decomposed plant material	very rapid	0.4 to 0.7 in	4.5 to 5.5	
.32	H1 -- 1 to 12 in very cobbly loam	moderate	0.9 to 1.1 in	6.1 to 7.3	.15
.10	.32 H2 -- 12 to 18 in very gravelly sandy loam	very rapid	0.4 to 0.5 in	6.1 to 7.3	
7.3	.05 .20 H3 -- 18 to 60 in extremely cobbly loamy sand	very rapid	1.3 to 2.5 in	6.1 to	

Ecological Site / Plant Association: Douglas-fir/common snowberry/pinegrass (CDS638)

Myzel and similar soils

Extent: about 25 percent of the unit  
Landform(s): alluvial fans

Soil loss tolerance (T factor):

flood plains

erodibility group (WEG):  
erodibility index (WEI): 6

Slope gradient: 0 to 3 percent

Land capability subclass, non-irrigated:

3w

Parent material: alluvium with an influence of volcanic ash in  
irrigated: 3w the upper part

Land capability subclass,  
ed

Restrictive feature(s): none

Hydric soil class: no

Flooding frequency: none

Hydrologic group: C

Ponding frequency: none

Available

S25 Mapunit Description - MO1.txt

Kf	Representative soil profile:	Texture	Permeability	Water	pH	Kw
.28	H1 -- 0 to 6 in	ashy sandy clay loam	moderately	1.0 to 1.2 in	6.1 to 7.3	
.28	H2 -- 6 to 22 in	ashy sandy clay loam	moderately	2.7 to 3.4 in	6.1 to 7.3	
.28	H3 -- 22 to 38 in	ashy sandy clay loam	moderately	2.7 to 3.4 in	6.1 to 7.3	
.28	H4 -- 38 to 57 in	sandy clay loam	moderately	3.0 to 4.0 in	6.1 to 7.3	.20
.28	H5 -- 57 to 60 in	sandy clay loam	moderately	0.2 to 0.6 in	6.1 to 7.3	.17

Ecological Site / Plant Association: Douglas-fir/common snowberry/pinegrass (CDS638)



**ROUTINE WETLAND DETERMINATION DATA FORM**  
*(Washington State Wetlands Identification & Delineation Manual, 1997)*

**SEWALL WETLAND CONSULTING, INC.**  
 1103 West Meeker Street  
 Kent, Washington 98032  
 (253) 859-0515

Project Name/ #: Fremmerild Date: April - Sept 2007 Investigator: Ed Sewall Data Point: DP# 1  
 Jurisdiction: Kittitas County State: WA Atypical Analysis: Problem Area:

**VEGETATION**

Dominant plant species	Stratum	Indicator	Coverage %
1. Bromus tectorum		NI	
2. Medicago sativa		NE	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

% of species OBL, FACW and/or FAC: 0 Hydrophytic vegetation criteria met: Yes  No  Marginal   
 Comments:

**SOILS**

Mapped Soil Series: Patnish-Mippon-Myzel On Hydric Soils List?: No Drainage Class:  
 Depth (0 in) Matrix color Redox concentration color Texture  
 4 in. 10YR 3/3 sandy loam  
 16 in. 7.5YR 2.5/3  
 in.  
 in.

Organic soil \_\_, Histic epipedon \_\_, Hydrogen sulfide \_\_, gleyed \_\_, redox concentrations \_\_, redox depletions \_\_, pore linings \_\_, iron concretions \_\_, manganese concretions \_\_, organic matter in surface horizon (sandy soil) \_\_, organic streaking (sandy soils) \_\_, organic pan (sandy soil) \_\_.

Hydric soil criteria met: Yes  No  Basis: no indicators  
 Comments:

**HYDROLOGY**

Recorded data \_\_, inundation \_\_, saturation \_\_, watermarks \_\_, drift lines \_\_, sediment deposits \_\_, drainage patterns \_\_.

Wetland hydrology criteria met: No Basis: no indicators throughout growing season  
 Comments:

**SUMMARY OF CRITERIA**

Soil Temp. at 19.7" depth: Growing Season?  Y  N  
 Hydrophytic vegetation:  Y  N Hydric soils:  Y  N Wetland hydrology:  Y  N  
 Data point meets the criteria of a jurisdictional wetland?: No

**ROUTINE WETLAND DETERMINATION DATA FORM**  
*(Washington State Wetlands Identification & Delineation Manual, 1997)*

**SEWALL WETLAND CONSULTING, INC.**  
 1103 West Meeker Street  
 Kent, Washington 98032  
 (253) 859-0515

Project Name/ #: Fremmerild Date: April - Sept 2007 Investigator: Ed Sewall Data Point: DP# 2  
 Jurisdiction: Kittitas County State: WA Atypical Analysis: Problem Area:

**VEGETATION**

Dominant plant species	Stratum	Indicator	Coverage %
1. <u>Phlox pratensis</u>		<u>FAC</u>	
2. <u>Taraxacum officinale</u>		<u>FACU</u>	
3. <u>Medicago sativa</u>		<u>NF</u>	
4.			
5.			
6.			
7.			
8.			
9.			
10.			

% of species OBL, FACW and/or FAC: 33 Hydrophytic vegetation criteria met: Yes  No  Marginal  
 Comments:

**SOILS**

Mapped Soil Series: Patnish-Mippon-Myzel On Hydric Soils List?: No Drainage Class:  
 Depth(0 in) Matrix color Redox concentration color Texture  
9 in. 10YR 2/2  loam  
20 in. 2.5Y 3/2.5  silty clay  
 in.  
 in.

Organic soil \_\_, Histic epipedon \_\_, Hydrogen sulfide \_\_, gleyed \_\_, redox concentrations \_\_, redox depletions \_\_, pore linings \_\_, iron concretions \_\_, manganese concretions \_\_, organic matter in surface horizon (sandy soil) \_\_, organic streaking (sandy soils) \_\_, organic pan (sandy soil) \_\_.

Hydric soil criteria met: Yes  No  Basis: no indicators  
 Comments:

**HYDROLOGY**

Recorded data \_\_, inundation \_\_, saturation \_\_, watermarks \_\_, drift lines \_\_, sediment deposits \_\_, drainage patterns \_\_.

Wetland hydrology criteria met: No  Basis: no indicators throughout growing season

Comments: prt dry to -20" or all site observation

**SUMMARY OF CRITERIA**

Soil Temp. at 19.7" depth: Growing Season?:  Y  N  
 Hydrophytic vegetation:  Y  N Hydric soils:  Y  N Wetland hydrology:  Y  N  
 Data point meets the criteria of a jurisdictional wetland?: No

**ROUTINE WETLAND DETERMINATION DATA FORM**  
*(Washington State Wetlands Identification & Delineation Manual, 1997)*

**SEWALL WETLAND CONSULTING, INC.**  
 1103 West Meeker Street  
 Kent, Washington 98032  
 (253) 859-0515

Project Name/#: Fremmerild Date: Apr - Sept <sup>2007</sup> Investigator: Ed Sewall Data Point: DP# 3  
 Jurisdiction: Kittitas County State: WA Atypical Analysis: Problem Area:

**VEGETATION**

Dominant plant species	Stratum	Indicator	Coverage %
1. <u>Agropyron repens</u>		<u>FACW</u>	
2. <u>Melilotus sp. fls</u>		<u>NF</u>	
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

% of species OBL, FACW and/or FAC: 50 Hydrophytic vegetation criteria met:  Yes  No  Marginal  
 Comments:

**SOILS**

Mapped Soil Series: Patnish-Mippon-Myzel On Hydric Soils List?: No Drainage Class:  
 Depth(0 in) Matrix color Redox concentration color Texture  
1/2 in. 7.5/12 2.5/3 granul. con  
 in.  
 in.  
 in.

Organic soil \_\_, Histic epipedon \_\_, Hydrogen sulfide \_\_, gleyed \_\_, redox concentrations \_\_, redox depletions \_\_, pore linings \_\_, iron  
 concretions \_\_, manganese concretions \_\_, organic matter in surface horizon (sandy soil) \_\_, organic streaking (sandy soils) \_\_,  
 organic pan (sandy soil) \_\_.  
 Hydric soil criteria met:  Yes  No Basis: no indicators  
 Comments:

**HYDROLOGY**

Recorded data \_\_, inundation \_\_, saturation \_\_, watermarks \_\_, drift lines \_\_, sediment deposits \_\_, drainage  
 patterns \_\_.  
 Wetland hydrology criteria met: No Basis: no indicators throughout growing season  
 Comments: dry

**SUMMARY OF CRITERIA**

Soil Temp. at 19.7" depth: Growing Season?:  Y  N  
 Hydrophytic vegetation:  Y  N Hydric soils:  Y  N Wetland hydrology:  Y  N  
 Data point meets the criteria of a jurisdictional wetland?: No

**ROUTINE WETLAND DETERMINATION DATA FORM**  
*(Washington State Wetlands Identification & Delineation Manual, 1997)*

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 Kent, Washington 98032  
 (253) 859-0515

Project Name/#: Fremmerild Date: April - Sept 2007 Investigator: Ed Sewall Data Point: DP# 4  
 Jurisdiction: Kittitas County State: WA Atypical Analysis: Problem Area:

**VEGETATION**

Dominant plant species	Stratum	Indicator	Coverage %
1. <i>Poa bulbosa</i>		NF	
2. <i>Taraxacum officinale</i>		FAC	
3. <i>Medicago sativa</i>		NF	
4.			
5.			
6.			
7.			
8.			
9.			
10.			

% of species OBL, FACW and/or FAC: 0 Hydrophytic vegetation criteria met: Yes  No  Marginal  
 Comments:

**SOILS**

Mapped Soil Series: Patnish-Mippon-Myzel On Hydric Soils List?: No Drainage Class:  
 Depth(0 in) Matrix color Redox concentration color Texture  
 1/6 in. 7.5YR 2.5/2 sandy loam  
 in.  
 in.  
 in.

Organic soil \_\_, Histic epipedon \_\_, Hydrogen sulfide \_\_, gleyed \_\_, redox concentrations \_\_, redox depletions \_\_, pore linings \_\_, iron concretions \_\_, manganese concretions \_\_, organic matter in surface horizon (sandy soil) \_\_, organic streaking (sandy soils) \_\_, organic pan (sandy soil) \_\_.  
 Hydric soil criteria met: Yes  No  Basis: no indicators  
 Comments:

**HYDROLOGY**

Recorded data \_\_, inundation \_\_, saturation \_\_, watermarks \_\_, drift lines \_\_, sediment deposits \_\_, drainage patterns \_\_.  
 Wetland hydrology criteria met: No  Basis: no indicators throughout growing season  
 Comments: test pit nearby dry to -30 on all visits. pit was dry

**SUMMARY OF CRITERIA**

Soil Temp. at 19.7" depth: Growing Season?:  N  
 Hydrophytic vegetation:  N Hydric soils:  N Wetland hydrology:  N  
 Data point meets the criteria of a jurisdictional wetland?: No



**ROUTINE WETLAND DETERMINATION DATA FORM**  
*(Washington State Wetlands Identification & Delineation Manual, 1997)*

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 1103 West Meeker Street  
 Kent, Washington 98032  
 (253) 859-0515

Project Name/#: Fremmerild Date: April<sup>28</sup> - Sept 3<sup>2007</sup> Investigator: Ed Sewall Data Point: DP# 5+6  
 Jurisdiction: Kittitas County State: WA Atypical Analysis: Problem Area:

**VEGETATION**

Dominant plant species	Stratum	Indicator	Coverage %
1. <i>Agropyron repens</i>		FAC	
2. <i>Melissa sylvia</i>		NE	
3. <i>Poa bulbosa</i>		NE	
4.			
5.			
6.			
7.			
8.			
9.			
10.			

% of species OBL, FACW and/or FAC: 33 Hydrophytic vegetation criteria met: Yes  No  Marginal  
 Comments:

**SOILS**

Mapped Soil Series: Patnish-Mippon-Myzel On Hydric Soils List?: No Drainage Class:  
 Depth(0 in) Matrix color Redox concentration color Texture  
 14 in. 10YR 3/3 cobbly loam  
 in.  
 in.  
 in.

Organic soil \_\_, Histic epipedon \_\_, Hydrogen sulfide \_\_, gleyed \_\_, redox concentrations \_\_, redox depletions \_\_, pore linings \_\_, iron concretions \_\_, manganese concretions \_\_, organic matter in surface horizon (sandy soil) \_\_, organic streaking (sandy soils) \_\_, organic pan (sandy soil) \_\_.  
 Hydric soil criteria met: Yes  No  Basis: no indicators  
 Comments:

**HYDROLOGY**

Recorded data \_\_, inundation \_\_, saturation \_\_, watermarks \_\_, drift lines \_\_, sediment deposits \_\_, drainage patterns \_\_.  
 Wetland hydrology criteria met: No Basis: no indicators throughout growing season  
 Comments: nearby test pit dry to bottom -38" on all visits

**SUMMARY OF CRITERIA**

Soil Temp. at 19.7" depth: Growing Season?  Y  N  
 Hydrophytic vegetation:  Y  N Hydric soils:  Y  N Wetland hydrology:  Y  N  
 Data point meets the criteria of a jurisdictional wetland?: No

**ROUTINE WETLAND DETERMINATION DATA FORM**  
*(Washington State Wetlands Identification & Delineation Manual, 1997)*

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 1103 West Meeker Street  
 Kent, Washington 98032  
 (253) 859-0515

Project Name/#: Fremmerild Date: April - Sept 2007 Investigator: Ed Sewall Data Point: DP# 7  
 Jurisdiction: Kittitas County State: WA Atypical Analysis: Problem Area:

**VEGETATION**

Dominant plant species	Stratum	Indicator	Coverage %
1. <u>Cirsium arvense</u>		<u>FAC-</u>	
2. <u>Phleum pratense</u>		<u>FAC-</u>	
3. <u>Traxacum affine</u>		<u>FACU</u>	
4.			
5.			
6.			
7.			
8.			
9.			
10.			

% of species OBL, FACW and/or FAC: 44 Hydrophytic vegetation criteria met: Yes No Marginal  
 Comments:

**SOILS**

Mapped Soil Series: Patnish-Mippon-Myzel On Hydric Soils List?: No Drainage Class:  
 Depth(0 in) Matrix color Redox concentration color Texture  
4 in. 10YR 3/3  
1/4 in. 10YR 2/2  
 in.  
 in.

Organic soil \_\_, Histic epipedon \_\_, Hydrogen sulfide \_\_, gleyed \_\_, redox concentrations \_\_, redox depletions \_\_, pore linings \_\_, iron concretions \_\_, manganese concretions \_\_, organic matter in surface horizon (sandy soil) \_\_, organic streaking (sandy soils) \_\_, organic pan (sandy soil) \_\_.  
 Hydric soil criteria met: Yes (N) Basis: no indicators  
 Comments:

**HYDROLOGY**

Recorded data \_\_, inundation \_\_, saturation \_\_, watermarks \_\_, drift lines \_\_, sediment deposits \_\_, drainage patterns \_\_.  
 Wetland hydrology criteria met: No Basis: no indicators throughout growing season  
 Comments: dry

**SUMMARY OF CRITERIA**

Soil Temp. at 19.7" depth: Growing Season?: Y (N)  
 Hydrophytic vegetation: Y (N) Hydric soils: Y (N) Wetland hydrology: Y (N)  
 Data point meets the criteria of a jurisdictional wetland?: No