WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 09-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T123_03**

Investigator(s): WAD, BAB | Landform (hillside, terrace, hummocks etc.): drainage

Local relief (concave, convex, none): hummocky | Slope: 14.0 % / 8.0 ° | Elevation: 960

Subregion : Southcentral Alaska | Lat.: 62.751841426 | Long.: -149.384998679 | Datum: WGS84

Soil Map Unit Name: | **NWI classification:** **PSS4E**

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: photo num 1245,1246
photo time 1219

VEGETATION - Use scientific names of plants. List all species in the plot.

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.		0	☐	
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	0		

Sapling/Shrub Stratum — 50% of Total Cover: 0 — 20% of Total Cover: 0

1.	Cassiope tetragona	5	☐	FACU
2.	Salix pulchra	1	☐	FACW
3.	Vaccinium vitis-idaea	2	☐	FAC
4.	Empetrum nigrum	25	☑	FAC
5.	Salix reticulata	10	☑	FAC
6.	Vaccinium uliginosum	8	☐	FAC
7.	Ledum decumbens	2	☐	FACW
8.	Dasiphora fruticosa	8	☐	FAC
9.	Chamaedaphne calyculata	1	☐	FACW
10.		0	☐	
	Total Cover:	62		

Herb Stratum — 50% of Total Cover: 31 — 20% of Total Cover: 12.4

1.	Anemone parviflora	2	☑	FACU
2.	Festuca altaica	1	☐	FAC
3.	Carex bigelowii	5	☑	FAC
4.	Trichophorum caespitosum	0.1	☐	OBL
5.	Equisetum arvense	0.1	☐	FAC
6.	Pedicularis labradorica	0.1	☐	FACW
7.	Sedum rosea	0.1	☐	FAC
8.	Bistorta plumosa	0.1	☐	FACU
9.	Comarum palustre	1	☐	OBL
10.	Eriophorum angustifolium	0.1	☐	OBL
	Total Cover:	9.60		

50% of Total Cover: 4.800 — 20% of Total Cover: 1.920

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	1.2	x 1 =	1.2
FACW Species	4.1	x 2 =	8.2
FAC Species	59.2	x 3 =	177.6
FACU Species	7.1	x 4 =	28.4
UPL Species	0	x 5 =	0
Column Totals:	71.6 (A)		215.4 (B)

Prevalence Index = B/A = 3.008

Hydrophytic Vegetation Indicators:

☑ Dominance Test is > 50%

☐ Prevalence Index is ≤3.0

☐ Morphological Adaptations [1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation [1] (Explain)

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

Plot size (radius, or length x width) 10m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground

Total Cover of Bryophytes 15

Hydrophytic Vegetation Present? **Yes ◉ No ○**

Remarks: rubus chamaemorus 2%

SOIL

Sampling Point: SW13_T123_03

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-2									Fibric Organics	
2-4									Hemic Organics	
4-9									Sapric Organics	
9-11	7.5YR	3/3	10						Sandy Loam	90% >8 inch cobbles

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] Location: PL=Pore Lining. RC=Root Channel. M=Matrix

Hydric Soil Indicators:

- ☐ Histosol or Histel (A1)
- ☑ Histic Epipedon (A2)
- ☐ Hydrogen Sulfide (A4)
- ☐ Thick Dark Surface (A12)
- ☐ Alaska Gleyed (A13)
- ☐ Alaska Redox (A14)
- ☐ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils:[3]

- ☐ Alaska Color Change (TA4)[4]
- ☐ Alaska Alpine swales (TA5)
- ☐ Alaska Redox With 2.5Y Hue
- ☐ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ☐ Other (Explain in Remarks)

[3] One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present

[4] Give details of color change in Remarks

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

Hydric Soil Present? Yes ◉ No ○

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one is sufficient)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Marl Deposits (B15)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry-Season Water Table (C2)
- ☐ Other (Explain in Remarks)

Secondary Indicators (two or more are required)

- ☐ Water Stained Leaves (B9)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Salt Deposits (C5)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ Microtopographic Relief (D4)
- ☐ FAC-neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ◉	No ○	Depth (inches): 2
Water Table Present?	Yes ◉	No ○	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:

Remarks:
surface water in scattered depressions