WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 06-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T148_07**

Investigator(s): SLI, EAC | Landform (hillside, terrace, hummocks etc.): Swale

Local relief (concave, convex, none): convex | Slope: % / 2.8 ° | Elevation: 739

Subregion : Interior Alaska Mountains | Lat.: 63.3844370838 | Long.: -148.590752362 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1B**

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: wet fnwws with slow understory. appears to be downslope end of drainage off hillside.

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea glauca	7	☑	FACU
2. Picea mariana	3	☑	FACW
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	10		

50% of Total Cover: 5 | 20% of Total Cover: 2

Sapling/Shrub Stratum			
1. Salix reticulata	40	☑	FAC
2. Salix barclayi	25	☑	FAC
3. Salix pulchra	15	☐	FACW
4. Vaccinium vitis-idaea	7	☐	FAC
5. Picea glauca	5	☐	FACU
6. Betula glandulosa	5	☐	FAC
7. Empetrum nigrum	3	☐	FAC
8. Vaccinium uliginosum	3	☐	FAC
9. Vaccinium oxycoccos	0.1	☐	OBL
10.	0	☐	
Total Cover:	103		

50% of Total Cover: 51.55 | 20% of Total Cover: 20.62

Herb Stratum			
1. Equisetum arvense	40	☑	FAC
2. Petasites frigidus	2	☐	FACW
3. Orthilia secunda	1	☐	FACU
4. Bistorta vivipara	0.1	☐	FAC
5. Rubus chamaemorus	0.1	☐	FACW
6. Arctagrostis latifolia	0.1	☐	FACW
7. Parnassia palustris	0.1	☐	FACW
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	43.4		

50% of Total Cover: 21.7 | 20% of Total Cover: 8.68

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	20	x 2 =	40
FAC Species	123.1	x 3 =	369.3
FACU Species	13	x 4 =	52
UPL Species	0	x 5 =	0
Column Totals:	156.1 (A)		461.3 (B)

Prevalence Index = B/A = 2.955

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 5

Total Cover of Bryophytes 90

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

Remarks:

SOIL

Sampling Point: SW13_T148_07

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
0-3	5YR	4/2	100					Fibric Organics	
3-14	7.5YR	3/1	100					Sapric Organics	

[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: active layer
Depth (inches): 16

Hydric Soil Present? Yes ◉ No ○

Remarks:
Cobbles at 14 in.

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):
Water Table Present?	Yes ◉	No ○	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 4

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: