WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 08-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T146_01**

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

Local relief (concave, convex, none): concave | Slope: 5.2 % / 3.0 ° | Elevation: 693

Subregion : Interior Alaska Mountains | Lat.: 63.382701993 | Long.: -148.741217852 | Datum: WGS84

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: bright green in aerial photo

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		

50% of Total Cover: 0 | 20% of Total Cover: 0

	Sapling/Shrub Stratum			
1.	Picea glauca	2	☐	FACU
2.	Dasiphora fruticosa	5	☐	FAC
3.	Salix richardsonii	30	☑	FACW
4.	Betula glandulosa	7	☐	FAC
5.	Salix pulchra	5	☐	FACW
6.	Salix barclayi	15	☑	FAC
7.	Salix reticulata	1	☐	FAC
8.	Vaccinium uliginosum	2	☐	FAC
9.		0	☐	
10.		0	☐	
	Total Cover:	67		

50% of Total Cover: 33.5 | 20% of Total Cover: 13.4

	Herb Stratum			
1.	Moneses uniflora	0.1	☐	FACU
2.	Rubus chamaemorus	5	☑	FACW
3.	Petasites frigidus	1	☐	FACW
4.	Equisetum arvense	5	☑	FAC
5.	Polemonium acutiflorum	0.1	☐	FAC
6.	Parnassia palustris	0.1	☐	FACW
7.	Arctagrostis latifolia	2	☐	FACW
8.	Ranunculus lapponicus	3	☐	OBL
9.	Swertia perennis	0.1	☐	FACW
10.	Aconitum delphinifolium	0.1	☐	FAC
	Total Cover:	16.5		

50% of Total Cover: 8.25 | 20% of Total Cover: 3.3

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	3	x 1 =	3
FACW Species	43.2	x 2 =	86.4
FAC Species	35.2	x 3 =	105.6
FACU Species	2.1	x 4 =	8.4
UPL Species	0	x 5 =	0
Column Totals:	83.5 (A)		203.4 (B)

Prevalence Index = B/A = 2.436

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) 5m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 40

Total Cover of Bryophytes 50

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

Remarks: 1% dodecatheon sp (not flowering), trace valerianna sitchensis

SOIL

Sampling Point: SW13_T146_01

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
0-4	7.5YR	3/2	100						fibric organics	
4-8	2.5Y	2.5/1	100						sapric organics	w high very fine sand content
8-15	10Y	3/1	90	5Y	4/6	10	C	PL	sapric organics	w high very fine sand content

[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 (frozen)

Depth (inches): 15

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):
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, monitor well, aerial photos, previous inspection) if available:

Remarks:

soils moist but not saturated. stream deeply incised, suspect it is relatively disconnected from this community thus not checking geomorphic position. sediments observed on wetland substrates, possibly from unusual breakup this spring? Two secondary hydrology indicators give wetland hydrology, regardless of whether or not sediment deposits are typical.