WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 08-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T128_01**

Investigator(s): JER | Landform (hillside, terrace, hummocks etc.): Flat

Local relief (concave, convex, none): hummocky | Slope: % / 2.6 ° | Elevation: 104

Subregion : Southcentral Alaska | Lat.: 62.9432165616 | Long.: -148.866890429 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1/4B**

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: flat margin adjacent pond, but not classic lacustrine fringe, water in pit above lake level, prob downslope v. lacustrine

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	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix pulchra	12	☑	FACW
2. Empetrum nigrum	35	☑	FAC
3. Spiraea stevenii	5	☐	FACU
4. Salix fuscescens	3	☐	FACW
5. Cassiope tetragona	5	☐	FACU
6. Vaccinium uliginosum	10	☐	FAC
7. Salix rotundifolia	2	☐	FAC
8. Rhododendron tomentosum	3	☐	FACW
9. Vaccinium vitis-idaea	5	☐	FAC
10. Picea glauca	0.1	☐	FACU
Total Cover:	80.1		

50% of Total Cover: 40.05 | 20% of Total Cover: 16.02

Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Carex bigelowii	8	☑	FAC
2. Rubus chamaemorus	3	☑	FACW
3. Diphasiastrum alpinum	1	☐	FACU
4. Saxifraga tricuspidata	0.1	☐	FACU
5. Gentiana glauca	0.1	☐	FAC
6. Anemone narcissiflora	1	☐	FACU
7. Rhodiola integrifolia	2	☐	FAC
8. Artemisia norvegica	1	☐	FACU
9.	0	☐	
10.	0	☐	
Total Cover:	16.2		

50% of Total Cover: 8.1 | 20% of Total Cover: 3.24

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	0	x 1 =	0
FACW Species	21	x 2 =	42
FAC Species	62.1	x 3 =	186.3
FACU Species	13.2	x 4 =	52.80
UPL Species	0	x 5 =	0
Column Totals:	96.3 (A)		281.1 (B)

Prevalence Index = B/A = 2.919

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 9

Total Cover of Bryophytes 70

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

Remarks: hylspl, pticri, polyt, cladi 20, nepartc, stereo, surf water 2

SOIL

Sampling Point: SW13_T128_01

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

Depth (inches)	Matrix Color (moist)		Matrix %	Redox Features Color (moist)		Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-7			100						Fibric Organics	fibric w sand and silt within matrix
7-8	7.5YR	2.5/2	100						Loamy Sand	high organic content
8-16	10YR	3/4	100						Sand	course sand and grvl w few cobble and som

[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: frost

Depth (inches): 23

Hydric Soil Present? Yes ◉ No ○

Remarks:

very high organic content in 7-8in layer, believe this meets histic epipedon requirements. see notes in hydro section.

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): 5
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 2

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

really course substrate below organics. water level above lake level probbably moree influenced by slope, but ocassionaally flooded by the lake (from sands and silts found in the organic layer).