WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 10-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T127_06**

Investigator(s): SLI, SCB | Landform (hillside, terrace, hummocks etc.): Shoreline

Local relief (concave, convex, none): flat | Slope: % / 1.0 ° | Elevation: 128

Subregion : Southcentral Alaska | Lat.: 62.943912029 | Long.: -148.963386178 | 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:

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.	Harrimanella stelleriana	10	☑	FACW
2.	Salix rotundifolia	10	☑	FAC
3.	Luetkea pectinata	3	☐	UPL
4.	Cassiope tetragona	0.1	☐	FACU
5.	Salix pulchra	0.1	☐	FACW
6.		0	☐	
7.		0	☐	
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	23.2		
	Herb Stratum	50% of Total Cover: 11.6	20% of Total Cover: 4.64	
1.	Sibbaldia procumbens	3	☑	FACU
2.	Equisetum variegatum	2	☑	FACW
3.	Petasites frigidus	1	☐	FACW
4.	Carex bigelowii	1	☐	FAC
5.	Rhodiola integrifolia	1	☐	FAC
6.	Eriophorum russeolum	0.1	☐	FACW
7.	Viola palustris	0.1	☐	FACW
8.	Eriophorum angustifolium	0.1	☐	OBL
9.	Micranthes nelsoniana	0.1	☐	FAC
10.	Claytonia sarmentosa	0.1	☐	FAC
	Total Cover:	8.50		
	50% of Total Cover: 4.250	20% of Total Cover: 1.700		

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	0.1	x 1 =	0.1
FACW Species	13.3	x 2 =	26.60
FAC Species	12.2	x 3 =	36.60
FACU Species	3.1	x 4 =	12.4
UPL Species	3	x 5 =	15
Column Totals:	31.7 (A)		90.70 (B)

Prevalence Index = B/A = 2.861

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 40

Total Cover of Bryophytes 25

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

Remarks: trace lycopodium selago, ranunculus nivalis, eriophorum russeolum, antennaria monocephala, dodec frigidum, artarc, gengla, rumex, carex circinnata, taraxacum sp, salix sp, luzulz whalenbergii, arclat

SOIL

Sampling Point: SW13_T127_06

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
0-3							Hemic Organics	
3-6	5Y 3/2	20					Silt Loam	80% ang-subang gravels-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:

refusal at 6in, boulder. very little soil development at this site. assume hydric due to hydrophytic veg, wetland hydrology, and geomorphic position (high ground water level due to lake proximity).

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): 4
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:

adjacent to alpine lake.