WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 07-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T178_08**

Investigator(s): BAB | Landform (hillside, terrace, hummocks etc.): Outwash plain

Local relief (concave, convex, none): hummocky | Slope: 3.5 % / 2.0 ° | Elevation: 949

Subregion : Interior Alaska Mountains | Lat.: 63.050536871 | Long.: -148.327930808 | 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 ○ Hydric Soil Present? Yes ◉ No ○ Wetland Hydrology Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**

Remarks: several drainage channels running through

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
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. Dasiphora fruticosa	20	☑	FAC
2. Betula nana	10	☐	FAC
3. Vaccinium uliginosum	20	☑	FAC
4. Salix reticulata	5	☐	FAC
5. Salix pulchra	2	☐	FACW
6. Empetrum nigrum	5	☐	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	62		
Herb Stratum (50% of Total Cover: 31 / 20% of Total Cover: 12.4)			
1. Carex rotundata	3	☑	OBL
2. Eriophorum angustifolium	3	☑	OBL
3. Juncus castaneus	1	☐	FACW
4. Calamagrostis canadensis	1	☐	FAC
5. Carex aquatilis	5	☑	OBL
6. Swertia perennis	0.1	☐	FACW
7. Trichophorum caespitosum	0.1	☐	OBL
8. Thalictrum alpinum	0.1	☐	FAC
9. Gentiana glauca	0.1	☐	FAC
10. Rubus chamaemorus	1	☐	FACW
Total Cover:	14.4		
50% of Total Cover: 7.2 / 20% of Total Cover: 2.88			

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (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	11.1	x 1 =	11.1
FACW Species	4.1	x 2 =	8.2
FAC Species	61.2	x 3 =	183.6
FACU Species	0	x 4 =	0
UPL Species	0	x 5 =	0
Column Totals:	76.4 (A)		202.9 (B)

Prevalence Index = B/A = 2.656

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 10

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

Remarks:

SOIL

Sampling Point: SW13_T178_08

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
0-4		100					Fibric Organics	
4-7	2.5Y 3/2	100					Loamy Sand	w course sand
7-11		100					Hemic Organics	w/fines.

[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:
drainage for hgwfs above to creek. layers of sand and organics w large talus underneath.

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): 3
Water Table Present?	Yes ◉	No ○	Depth (inches): 1
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:
small stream flowing through. seems like it migrates a bit. small depressions w standing water as well.