WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 19-Aug-15

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW15_T322_01**

Investigator(s): BAB | Landform (hillside, terrace, hummocks etc.): hummocky slope

Local relief (concave, convex, none): hummocky | Slope: 21.2 % / 12.0 ° | Elevation:

Subregion : Cook Inlet Mountains | Lat.: | Long.: | Datum: WGS84

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

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: slope composed of large (3 ft diameter) moss covered boulders

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Betula kenaica	30	☑	FACU
2. Picea glauca	20	☑	FACU
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	50		
Sapling/Shrub Stratum	50% of Total Cover: 25	20% of Total Cover: 10	
1. Empetrum nigrum	25	☑	FAC
2. Vaccinium uliginosum	15	☑	FAC
3. Betula kenaica	8	☐	FACU
4. Picea glauca	5	☐	FACU
5. Spiraea stevenii	4	☐	FACU
6. Linnaea borealis	2	☐	FACU
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	59		
Herb Stratum	50% of Total Cover: 29.5	20% of Total Cover: 11.8	
1. Cornus suecica	8	☑	FAC
2. Calamagrostis canadensis	6	☑	FAC
3. Gymnocarpium dryopteris	2	☐	FACU
4. Chamaenerion angustifolium	2	☐	FACU
5. Dryopteris expansa	0.1	☐	FACU
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	18.1		
50% of Total Cover: 9.05	20% of Total Cover: 3.62		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	0	x 2 =	0
FAC Species	54	x 3 =	162
FACU Species	73.1	x 4 =	292.4
UPL Species	0	x 5 =	0
Column Totals:	127.1 (A)		454.4 (B)

Prevalence Index = B/A = 3.575

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) 0

% Bare Ground 10

Total Cover of Bryophytes 80

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks:

SOIL

Sampling Point: SW15_T322_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
0-3									Fibric Organics	Oi
3-3.5	7.5YR	6/3							Silt Loam	E1
3.5-4	7.5YR	7/2							Sapric Organics	Oa buried organics due to colluvial event
4-5	7.5YR	7/3							Very Fine Sandy Loam	E2
5-9	5YR	2.5/2	100						Sandy Loam	Bsh
9-15	7.5YR	3/3	85	10YR	4/3	10	D	M	Silt Loam	5% 7.5yr 4/6 C M remnant redox due to seasonal f
15-20										bouldery

[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:
no hydric soil indicators observed

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): 0
Water Table Present?	Yes ○	No ◉	Depth (inches): 0
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:
no wetland hydrology indicators observed