WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 05-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T34_04**

Investigator(s): SLI, KMK | Landform (hillside, terrace, hummocks etc.): Bench

Local relief (concave, convex, none): concave | Slope: 5.2 % / 3.0 ° | Elevation: 1221

Subregion : Southcentral Alaska | Lat.: 62.895893245 | Long.: -148.689354978 | 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: species-rich bench adjacent to spring. spring captured by SW12_T34_V03. spring runs along southern bound of community, water drops below ground surface before shoulder of slope to reappear at next small bench (ca 50m downslope).

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

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum			
1. Carex nigricans	1	☐	FACW
2. Aster alpinus var. vierhapperi	1	☐	UPL
3. Lycopodium annotinum var. pungens	1	☐	UPL
4. Festuca altaica	5	☑	FAC
5. Luzula wahlenbergii	2	☑	OBL
Total Cover:	10		
Sapling/Shrub Stratum	50% of Total Cover: 5	20% of Total Cover: 2	
1. Salix rotundifolia	10	☑	FAC
2. Salix polaris	5	☐	FACW
3. Harrimanella stelleriana	15	☑	FACW
4. Luetkea pectinata	10	☑	UPL
5. Empetrum nigrum	5	☐	FAC
6. Salix reticulata	5	☐	FAC
7. Vaccinium uliginosum	10	☑	FAC
8. Cassiope tetragona	2	☐	FACU
9. Vaccinium vitis-idaea	1	☐	FAC
10. Poa alpina	3	☐	FACU
Total Cover:	66		
Herb Stratum	50% of Total Cover: 33	20% of Total Cover: 13.2	
1. Leptarrhena pyrolifolia	3	☑	FACW
2. Veronica wormskjoldii	3	☑	FAC
3. Sedum rosea	1	☐	FAC
4. Sanguisorba canadensis	7	☑	FACW
5. Artemisia norvegica	3	☑	FACU
6. Antennaria rosea	3	☑	UPL
7. Anemone narcissiflora	3	☑	FACU
8. Trisetum spicatum	2	☐	FAC
9. Carex microchaeta	5	☑	FAC
10. Bistorta vivipara	1	☐	FAC
Total Cover:	31		
	50% of Total Cover: 15.5	20% of Total Cover: 6.2	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 9 (A)

Total Number of Dominant Species Across All Strata: 13 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 69.2% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	2	x 1 =	2
FACW Species	31	x 2 =	62
FAC Species	48	x 3 =	144
FACU Species	11	x 4 =	44
UPL Species	15	x 5 =	75
Column Totals:	107 (A)		327 (B)

Prevalence Index = B/A = 3.056

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 2

Total Cover of Bryophytes 30

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: additional herbs listed in tree stratum. trace viola sp, pyrola minor. no flower on anemone, unsure of sp.

SOIL

Sampling Point: SW12_T34_04

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-.5								Fibric Organics	
.5-1.5								Hemic Organics	
1.5-9	7.5YR	3/4	100					Silt Loam	
9-9.5								Sapric Organics	
9.5-18	7.5YR	3/4	60					Sandy Loam	40% angular gravels and 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:
no hydric soil indicators

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): 15
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 15

Wetland Hydrology Present? Yes ○ No ◉

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

Remarks:
no wetland hydrology indicators