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_T196_08**

Investigator(s): SLI, EAC | Landform (hillside, terrace, hummocks etc.): Valley bottom

Local relief (concave, convex, none): flat | Slope: 3.5 % / 2.0 ° | Elevation: 757

Subregion : Interior Alaska Mountains | Lat.: 63.309717417 | Long.: -148.190484405 | 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: valley bottom, no channelized features

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	50	☑	FAC
2. Salix pulchra	10	☐	FACW
3. Salix reticulata	30	☑	FAC
4. Andromeda polifolia (IAM)	0.1	☐	OBL
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	90.1		
Herb Stratum	50% of Total Cover: 45.05	20% of Total Cover: 18.02	
1. Carex lachenalii	7	☑	OBL
2. Carex membranacea	2	☑	FACW
3. Thalictrum alpinum	2	☑	FAC
4. Swertia perennis	1	☐	FACW
5. Equisetum scirpoides	0.1	☐	FACU
6. Equisetum variegatum	0.1	☐	FACW
7. Sedum rosea	0.1	☐	FAC
8. Juncus castaneus	1	☐	FACW
9. Equisetum arvense	1	☐	FAC
10. Carex aquatilis	1	☐	OBL
Total Cover:	15.3		
50% of Total Cover: 7.65	20% of Total Cover: 3.06		

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	8.1	x 1 =	8.1
FACW Species	14.1	x 2 =	28.20
FAC Species	83.1	x 3 =	249.3
FACU Species	0.1	x 4 =	0.400
UPL Species	0	x 5 =	0
Column Totals:	105.4 (A)		286 (B)

Prevalence Index = B/A = 2.713

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 20

Total Cover of Bryophytes 85

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: trace carex gynocrates.

SOIL

Sampling Point: SW13_T196_08

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	5YR	2.5/2	100					Sapric Organics	
5-13	10YR	3/1	100					Coarse Sand	30% cobble, 30% gravel

[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 redox features visible in 2nd horizon because coarse sand texture with high cobble-gravel content. Many cobbles are granite (or a slightly metamorphosed granitic) and thus are weathering to a very coarse texture.

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): 11
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 9

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks: