WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 04-Aug-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T150_11**

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

Local relief (concave, convex, none): flat | Slope: % / 7.7 ° | Elevation: 736

Subregion : Interior Alaska Mountains | Lat.: 63.3348317147 | Long.: -148.279747487 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1C**

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: floodplain of R3UBH stream

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.	Salix alaxensis	30	☑	FAC
2.	Salix pseudomonticola	10	☐	FAC
3.	Salix barclayi	30	☑	FAC
4.	Salix pulchra	10	☐	FACW
5.	Picea glauca	0.1	☐	FACU
6.	Vaccinium uliginosum	5	☐	FAC
7.	Salix reticulata	2	☐	FAC
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	87.1		
	Herb Stratum	50% of Total Cover: 43.55	20% of Total Cover: 17.42	
1.	Equisetum arvense	10	☑	FAC
2.	Parnassia kotzebuei	0.1	☐	FACW
3.	Swertia perennis	0.1	☐	FACW
4.	Rhodiola integrifolia	11	☑	FAC
5.	Polemonium acutiflorum	0.1	☐	FAC
6.	Galium trifidum	0.1	☐	FACW
7.	Micranthes nelsoniana	1	☐	FAC
8.	Coptidium lapponicum	5	☐	OBL
9.	Luzula parviflora	0.1	☐	FAC
10.	Carex crawfordii	0.1	☐	FAC
	Total Cover:	27.6		
	50% of Total Cover: 13.8	20% of Total Cover: 5.52		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (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	5	x 1 =	5
FACW Species	10.3	x 2 =	20.60
FAC Species	99.3	x 3 =	297.9
FACU Species	0.1	x 4 =	0.400
UPL Species	0	x 5 =	0
Column Totals:	114.7 (A)		323.9 (B)

Prevalence Index = B/A = 2.824

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) 2x5m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground 50

Total Cover of Bryophytes 45

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

Remarks: trace poa (macrocalyx?). trace epilobium glandulosum.

SOIL

Sampling Point: SW13_T150_11

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
0-2	7.5YR	2.5/2	100					Fibric Organics	
2-4	10YR	3/1	100					Coarse Sandy Loam	
4-6	10YR	3/1	100					gravelly, loamy coarse san	Subrounded cobbles 40%, boulders 10%

[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:
Photos of streambank will show this profile. Shallow mixture of fine deposition and organic matter from moss layer over coarse alluvial deposits. Fluvaquentic soil.

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

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
piles of clean coarse sand up to 10in deep in low areas. rafted debris in willow branches. Fluvaquentic soil.