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: 5.2 % / 3.0 ° | Elevation: 739

Subregion : Interior Alaska Mountains | Lat.: 63.334831715 | Long.: -148.279747486 | Datum: WGS84

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 ○ Hydric Soil Present? Yes ◉ No ○ Wetland Hydrology Present? Yes ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**

Remarks: floodplain of R3UBH stream

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. 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. Sedum rosea	11	☑	FAC
5. Polemonium acutiflorum	0.1	☐	FAC
6. Galium trifidum	0.1	☐	FACW
7. Saxifraga nelsoniana	1	☐	FAC
8. Ranunculus lapponicus	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) 2m x 5m

% 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.