WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 08-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T44_01**

Investigator(s): CTS, EKJ | Landform (hillside, terrace, hummocks etc.): Lowland

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 752

Subregion : Interior Alaska Mountains | Lat.: 62.8985399087 | Long.: -148.474689971 | 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: Lowland Fnwws near Deadman Creek

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

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Picea glauca	20	☑	FACU
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
Total Cover:	20		

50% of Total Cover: 10 | 20% of Total Cover: 4

Sapling/Shrub Stratum			
1. Salix pulchra	15	☑	FACW
2. Betula nana	20	☑	FAC
3. Vaccinium uliginosum	30	☑	FAC
4. Empetrum nigrum	5	☐	FAC
5. Ledum decumbens	1	☐	FACW
6. Vaccinium vitis-idaea	10	☐	FAC
7. Spiraea stevenii	15	☑	FACU
8. Ledum groenlandicum	2	☐	FAC
9. Rosa acicularis	1	☐	FACU
10. Ribes triste	1	☐	FAC
Total Cover:	100		

50% of Total Cover: 50 | 20% of Total Cover: 20

Herb Stratum			
1. Calamagrostis canadensis	15	☑	FAC
2. Cornus canadensis	15	☑	FACU
3. Chamerion angustifolium	3	☐	FACU
4. Rubus chamaemorus	1	☐	FACW
5. Petasites frigidus	1	☐	FACW
6. Rubus arcticus (IAM)	8	☐	FACU
7. Polemonium acutiflorum	0.1	☐	FAC
8. Equisetum sylvaticum	5	☐	FAC
9. Equisetum arvense	2	☐	FAC
10.	0	☐	
Total Cover:	50.1		

50% of Total Cover: 25.05 | 20% of Total Cover: 10.02

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 57.1% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	18	x 2 =	36
FAC Species	90.1	x 3 =	270.3
FACU Species	62	x 4 =	248
UPL Species	0	x 5 =	0
Column Totals:	170.1 (A)		554.3 (B)

Prevalence Index = B/A = 3.259

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) 65

% Bare Ground 0

Total Cover of Bryophytes 65

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: 5% linbor

SOIL

Sampling Point: SW12_T44_01

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			90						Fibric Organics	10% roots
2-4	7.5YR	3/2	95						Silt Loam	5% roots and organic layer at bottom
4-6	10YR	3/3	95	10YR	3/4	5	C	PL	Sandy Loam	few roots and organic layer at bottom
6-8	2.5Y	4/2	90	7.5YR	3/4	10	C	PL	Fine Sandy Loam	few roots and organic layer at bottom
8-10	10Y	4/1	90	7.5YR	3/3	10	C	PL	Fine Loamy Silt	few root casts and organic inclusions
10-11	10YR	3/4	100						Fine Loamy Silt	thin organic layer at bottom
11-13	10YR	4/4	100						Sand	
13-20	2.5Y	5/3	100						Sand	

[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:

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:
no wetland hydrology indicators