WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 07-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T134_03**

Investigator(s): WAD, BAB | Landform (hillside, terrace, hummocks etc.): wide drainage

Local relief (concave, convex, none): concave | Slope: 7.0 % / 4.0 ° | Elevation: 855

Subregion : Southcentral Alaska | Lat.: 62.686081409 | Long.: -148.733549953 | 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:

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

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.	Populus balsamifera	25	☑	FACU
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	25		

50% of Total Cover: 12.5 | 20% of Total Cover: 5

	Sapling/Shrub Stratum			
1.	Salix pulchra	30	☑	FACW
2.	Salix barclayi	20	☑	FAC
3.	Dasiphora fruticosa	5	☐	FAC
4.	Populus balsamifera	5	☐	FACU
5.	Vaccinium uliginosum	2	☐	FAC
6.	Linnaea borealis	2	☐	FACU
7.	Spiraea stevenii	1	☐	FACU
8.	Valeriana capitata	0.1	☐	FAC
9.		0	☐	
10.		0	☐	
	Total Cover:	65.1		

50% of Total Cover: 32.55 | 20% of Total Cover: 13.02

	Herb Stratum			
1.	Sanguisorba canadensis	2	☑	FACW
2.	Carex laxa	2	☑	OBL
3.	Galium triflorum	1	☑	FAC
4.	Mertensia paniculata	1	☑	FACU
5.	Chamerion angustifolium	1	☑	FACU
6.	Calamagrostis canadensis	1	☑	FAC
7.	Petasites frigidus	1	☑	FACW
8.	Poa glauca	0.1	☐	UPL
9.	Equisetum sylvaticum	0.1	☐	FAC
10.	Delphinium glaucum	0.1	☐	FACW
	Total Cover:	9.30		

50% of Total Cover: 4.650 | 20% of Total Cover: 1.860

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 70.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	2	x 1 =	2
FACW Species	33	x 2 =	66
FAC Species	29	x 3 =	87
FACU Species	35	x 4 =	140
UPL Species	0.1	x 5 =	0.500
Column Totals:	99.1 (A)		295.5 (B)

Prevalence Index = B/A = 2.982

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

Total Cover of Bryophytes 8

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: cornus suecica 15%

SOIL

Sampling Point: SW13_T134_03

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									Fibric Organics	
2-3									Hemic Organics	
3-5									Sapric Organics	
5-12	7.5YR	3/3	100						Loamy 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: seasonal frost
Depth (inches): 12

Hydric Soil Present? Yes ○ No ◉

Remarks:
no hydric soil indicators observed

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 saturation but the loamy sand is thixotrophic