WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 11-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T139_06**

Investigator(s): WAD, BAB | Landform (hillside, terrace, hummocks etc.): bank of active channel

Local relief (concave, convex, none): concave | Slope: 8.7 % / 5.0 ° | Elevation: 418

Subregion : Southcentral Alaska | Lat.: 62.821903706 | Long.: -149.613819957 | 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 ○	**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks: bank of small permanently flooded creek. channel 1ft wide 3in deep.
photo num 1283, 1284. photo time 1024.

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

	Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.	Picea glauca	15	☑	FACU
2.	Betula neoalaskana	10	☑	FACU
3.		0	☐	
4.		0	☐	
5.		0	☐	
	Total Cover:	25		

	Sapling/Shrub Stratum	Absolute % Cover	Dominant Species?	Indicator Status
	50% of Total Cover: 12.5	20% of Total Cover: 5		
1.	Salix pulchra	65	☑	FACW
2.	Salix barclayi	15	☐	FAC
3.	Viburnum edule	5	☐	FACU
4.	Ribes hudsonianum	2	☐	FAC
5.		0	☐	
6.		0	☐	
7.		0	☐	
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	87		

	Herb Stratum	Absolute % Cover	Dominant Species?	Indicator Status
	50% of Total Cover: 43.5	20% of Total Cover: 17.4		
1.	Athyrium filix-femina	20	☑	FAC
2.	Gymnocarpium dryopteris	15	☑	FACU
3.	Sanguisorba canadensis	5	☐	FACW
4.	Equisetum sylvaticum	5	☐	FAC
5.	Calamagrostis canadensis	3	☐	FAC
6.	Streptopus amplexifolius	2	☐	FACU
7.	Mertensia paniculata	2	☐	FACU
8.	Galium trifidum	2	☐	FACW
9.	Equisetum arvense	2	☐	FAC
10.	Trientalis europaea	1	☐	FACU
	Total Cover:	57		
	50% of Total Cover: 28.5	20% of Total Cover: 11.4		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL Species	0	x 1 =	0
FACW Species	72	x 2 =	144
FAC Species	47	x 3 =	141
FACU Species	50	x 4 =	200
UPL Species	0	x 5 =	0
Column Totals:	169 (A)		485 (B)

Prevalence Index = B/A = 2.870

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) 5m x 10m

% Cover of Wetland Bryophytes (Where applicable)

% Bare Ground

Total Cover of Bryophytes 5

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

Remarks: unk viola 3

SOIL

Sampling Point: SW13_T139_06

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
0-4			100						Fibric Organics	
4-9			100						Hemic Organics	
9-12	2.5Y	3/2	90	7.5YR	4/3	10	RM	PL	Loam	rock beneath

[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:
borderline hydric soil but given landscape position consider wetland.

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): 10

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
soil pit dug on raised hummock betwween two channels. still likely to be seasonally flooded.