WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 19-Jun-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T29_15**

Investigator(s): SLI, EKJ | Landform (hillside, terrace, hummocks etc.): Kettle

Local relief (concave, convex, none): undulating | Slope: % / 6.4 ° | Elevation: 672

Subregion : Southcentral Alaska | Lat.: 62.7861281909 | Long.: -148.81136574 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PSS1E**

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: kettle wetland. drainages from adjacent alder community (see SW12_T29_14) run into and through this wetland.

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		

50% of Total Cover: 0 | 20% of Total Cover: 0

Sapling/Shrub Stratum			
1. Dasiphora fruticosa	15	☑	FAC
2. Betula nana	7	☐	FAC
3. Vaccinium uliginosum	10	☐	FAC
4. Salix pulchra	10	☐	FACW
5. Salix reticulata	5	☐	FAC
6. Salix glauca	20	☑	FAC
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
Total Cover:	67		

50% of Total Cover: 33.5 | 20% of Total Cover: 13.4

Herb Stratum			
1. Equisetum fluviatile	3	☐	OBL
2. Comarum palustre	5	☑	OBL
3. Carex utriculata	10	☑	OBL
4. Viola palustris	1	☐	FACW
5. Sanguisorba officinalis	1	☐	FACW
6. Thalictrum sparsiflorum	1	☐	FACU
7. Anemone richardsonii	1	☐	FAC
8. Rubus arcticus	1	☐	FAC
9.	0	☐	
10.	0	☐	
Total Cover:	23		

50% of Total Cover: 11.5 | 20% of Total Cover: 4.6

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	18	x 1 =	18
FACW Species	12	x 2 =	24
FAC Species	59	x 3 =	177
FACU Species	1	x 4 =	4
UPL Species	0	x 5 =	0
Column Totals:	90 (A)		223 (B)

Prevalence Index = B/A = 2.478

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 25

Total Cover of Bryophytes 70

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

Remarks: trace picgla. no seed head on carex, but large yellow-green leaves in shallow water, assume carutr. possibly also caraqu, as some leaves have gray-green cast. trace unidentified herbs. bare ground includes standing water.

SOIL

Sampling Point: SW12_T29_15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type [1]	Loc [2]	Texture	Remarks

[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:
no soil pit due to standing water throughout site. assume hydric soil due to primary hydrology indicators and hydrophytic vegetation.

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): 8
Water Table Present?	Yes ◉	No ○	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 0

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
water depth varies from 2in to >16in. pooled water throughout site, interspersed with shrubby hummocks. one larger channelized stream through northern portion - 12in wide at bankfull, 12in deep.