

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Matanuska-Susitna Borough Sampling Date: 29-Aug-15  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW15\_T341\_09  
 Investigator(s): AFW Landform (hillside, terrace, hummocks etc.): Flat  
 Local relief (concave, convex, none): hummocky Slope: 0.0 % / 0.0 ° Elevation: \_\_\_\_\_  
 Subregion: Interior Alaska Mountains Lat.: \_\_\_\_\_ Long.: \_\_\_\_\_ Datum: WGS84  
 Soil Map Unit Name: \_\_\_\_\_ **NWI classification: PSS1B**

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 <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	<b>Is the Sampled Area within a Wetland?</b> Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: _____	

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

	Absolute % Cover	Dominant Species?	Indicator Status	
<b>Tree Stratum</b>				<b>Dominance Test worksheet:</b> Number of Dominant Species That are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
1. _____	_____	<input type="checkbox"/>	_____	
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
<b>Total Cover:</b>		<u>0</u>		<b>Prevalence Index worksheet:</b> Total % Cover of: Multiply by: OBL Species <u>15</u> x 1 = <u>15</u> FACW Species <u>33</u> x 2 = <u>66</u> FAC Species <u>108</u> x 3 = <u>324</u> FACU Species <u>0</u> x 4 = <u>0</u> UPL Species <u>0</u> x 5 = <u>0</u> Column Totals: <u>156</u> (A) <u>405</u> (B) Prevalence Index = B/A = <u>2.596</u>
<b>Sapling/Shrub Stratum</b> 50% of Total Cover: <u>0</u> 20% of Total Cover: <u>0</u>				
1. <u>Betula nana</u>	<u>35</u>	<input checked="" type="checkbox"/>	FAC	
2. <u>Vaccinium uliginosum</u>	<u>20</u>	<input checked="" type="checkbox"/>	FAC	
3. <u>Rhododendron tomentosum</u>	<u>15</u>	<input type="checkbox"/>	FACW	
4. <u>Vaccinium vitis-idaea</u>	<u>10</u>	<input type="checkbox"/>	FAC	
5. <u>Empetrum nigrum</u>	<u>8</u>	<input type="checkbox"/>	FAC	
6. <u>Betula glandulosa</u>	<u>5</u>	<input type="checkbox"/>	FAC	
7. <u>Vaccinium oxycoccos</u>	<u>3</u>	<input type="checkbox"/>	OBL	
8. _____	<u>0</u>	<input type="checkbox"/>	_____	
9. _____	<u>0</u>	<input type="checkbox"/>	_____	
10. _____	<u>0</u>	<input type="checkbox"/>	_____	
<b>Total Cover:</b>		<u>96</u>		
<b>Herb Stratum</b> 50% of Total Cover: <u>48</u> 20% of Total Cover: <u>19.2</u>				
1. <u>Carex bigelowii</u>	<u>30</u>	<input checked="" type="checkbox"/>	FAC	
2. <u>Rubus chamaemorus</u>	<u>18</u>	<input checked="" type="checkbox"/>	FACW	
3. <u>Carex aquatilis</u>	<u>7</u>	<input type="checkbox"/>	OBL	
4. <u>Eriophorum angustifolium</u>	<u>5</u>	<input type="checkbox"/>	OBL	
5. _____	<u>0</u>	<input type="checkbox"/>	_____	
6. _____	<u>0</u>	<input type="checkbox"/>	_____	
7. _____	<u>0</u>	<input type="checkbox"/>	_____	
8. _____	<u>0</u>	<input type="checkbox"/>	_____	
9. _____	<u>0</u>	<input type="checkbox"/>	_____	
10. _____	<u>0</u>	<input type="checkbox"/>	_____	
<b>Total Cover:</b>		<u>60</u>		
50% of Total Cover:		<u>30</u>	20% of Total Cover: <u>12</u>	
Remarks: <u>unidentifiable Pedicularis spp. 5%</u>				

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is > 50%  
 Prevalence Index is ≤ 3.0  
 Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation (Explain)  
<sup>1</sup> 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

**SOIL**

Sampling Point: SW15\_T341\_09

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-4		100					Peat	
4-13		100					Mucky Peat	
13-17	5Y	4/2	100				Silty Clay Loam	

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix <sup>2</sup> Location: PL=Pore Lining. RC=Root Channel. M=Matrix

<p><b>Hydric Soil Indicators:</b></p> <input type="checkbox"/> Histosol or Histel (A1) <input checked="" type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Alaska Gleyed (A13) <input type="checkbox"/> Alaska Redox (A14) <input type="checkbox"/> Alaska Gleyed Pores (A15)	<p><b>Indicators for Problematic Hydric Soils:<sup>3</sup></b></p> <input type="checkbox"/> Alaska Color Change (TA4) <sup>4</sup> <input type="checkbox"/> Alaska Alpine swales (TA5) <input type="checkbox"/> Alaska Redox With 2.5Y Hue <input type="checkbox"/> Alaska Gleyed Without Hue 5Y or Redder Underlying Layer <input type="checkbox"/> Other (Explain in Remarks)
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<sup>3</sup> One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present  
<sup>4</sup> Give details of color change in Remarks

<p>Restrictive Layer (if present):                  Type: silty clay loam                  Depth (inches): 13</p>	<p><b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/></p>
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Remarks:

**HYDROLOGY**

<p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one is sufficient)</p> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Other (Explain in Remarks)	<p>Secondary Indicators (two or more are required)</p> <input type="checkbox"/> Water Stained Leaves (B9) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Salt Deposits (C5) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-neutral Test (D5)
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<p><b>Field Observations:</b></p> <p>Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches):</p> <p>Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 8</p> <p>Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 4</p>	<p><b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/></p>
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Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available:

Remarks: