

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Matanuska-Susitna Borough Sampling Date: 04-Aug-12  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW12\_T91\_02  
 Investigator(s): CTS, EKJ Landform (hillside, terrace, hummocks etc.): Footslope  
 Local relief (concave, convex, none): flat Slope: 3.5 % / 2.0 ° Elevation: 577  
 Subregion: Southcentral Alaska Lat.: 62.6879499088 Long.: -148.921589968 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"/><br>Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/><br>Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/> | <b>Is the Sampled Area within a Wetland?</b><br>Yes <input checked="" type="radio"/> No <input type="radio"/> |
| Remarks: <u>Fnwbs w dense willow understory</u>   |   |

**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><br>Number of Dominant Species That are OBL, FACW, or FAC: <u>5</u> (A)<br>Total Number of Dominant Species Across All Strata: <u>5</u> (B)<br>Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)  |
| 1. <u>Picea mariana</u>  | <u>15</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |   |
| 2. _____   | <u>0</u>         | <input type="checkbox"/>            | _____            |   |
| 3. _____   | <u>0</u>         | <input type="checkbox"/>            | _____            |   |
| 4. _____   | <u>0</u>         | <input type="checkbox"/>            | _____            |   |
| 5. _____   | <u>0</u>         | <input type="checkbox"/>            | _____            |   |
| <b>Total Cover:</b> <u>15</u>  |                  |                                     |                  | <b>Prevalence Index worksheet:</b><br>Total % Cover of: Multiply by:<br>OBL Species <u>11</u> x 1 = <u>11</u><br>FACW Species <u>68</u> x 2 = <u>136</u><br>FAC Species <u>157</u> x 3 = <u>471</u><br>FACU Species <u>2</u> x 4 = <u>8</u><br>UPL Species <u>0</u> x 5 = <u>0</u><br>Column Totals: <u>238</u> (A) <u>626</u> (B)<br>Prevalence Index = B/A = <u>2.630</u> |
| <b>Sapling/Shrub Stratum</b> 50% of Total Cover: <u>7.5</u> 20% of Total Cover: <u>3</u> |                  |                                     |                  |   |
| 1. <u>Salix pulchra</u>  | <u>35</u>        | <input checked="" type="checkbox"/> | <u>FACW</u>      |   |
| 2. <u>Salix barclayi</u>   | <u>30</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       |   |
| 3. <u>Vaccinium uliginosum</u>   | <u>30</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       |   |
| 4. <u>Betula nana</u>  | <u>8</u>         | <input type="checkbox"/>            | <u>FAC</u>       |   |
| 5. <u>Vaccinium vitis-idaea</u>  | <u>3</u>         | <input type="checkbox"/>            | <u>FAC</u>       |   |
| 6. <u>Ledum decumbens</u>  | <u>2</u>         | <input type="checkbox"/>            | <u>FACW</u>      |   |
| 7. <u>Empetrum nigrum</u>  | <u>2</u>         | <input type="checkbox"/>            | <u>FAC</u>       |   |
| 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>110</u>   |                  |                                     |                  |   |
| <b>Herb Stratum</b> 50% of Total Cover: <u>55</u> 20% of Total Cover: <u>22</u>          |                  |                                     |                  |   |
| 1. <u>Equisetum arvense</u>  | <u>80</u>        | <input checked="" type="checkbox"/> | <u>FAC</u>       |   |
| 2. <u>Comarum palustre</u>   | <u>10</u>        | <input type="checkbox"/>            | <u>OBL</u>       |   |
| 3. <u>Sanguisorba canadensis</u>   | <u>10</u>        | <input type="checkbox"/>            | <u>FACW</u>      |   |
| 4. <u>Rumex arcticus</u>   | <u>3</u>         | <input type="checkbox"/>            | <u>FAC</u>       |   |
| 5. <u>Cornus canadensis</u>  | <u>2</u>         | <input type="checkbox"/>            | <u>FACU</u>      |   |
| 6. <u>Carex aquatilis</u>  | <u>1</u>         | <input type="checkbox"/>            | <u>OBL</u>       |   |
| 7. <u>Rubus chamaemorus</u>  | <u>2</u>         | <input type="checkbox"/>            | <u>FACW</u>      |   |
| 8. <u>Calamagrostis canadensis</u>   | <u>1</u>         | <input type="checkbox"/>            | <u>FAC</u>       |   |
| 9. <u>Arctagrostis latifolia</u>   | <u>2</u>         | <input type="checkbox"/>            | <u>FACW</u>      |   |
| 10. <u>Petasites frigidus</u>  | <u>2</u>         | <input type="checkbox"/>            | <u>FACW</u>      |   |
| <b>Total Cover:</b> <u>113</u>   |                  |                                     |                  |   |
| 50% of Total Cover: <u>56.5</u> 20% of Total Cover: <u>22.6</u>                          |                  |                                     |                  |   |
| Remarks: _____   |                  |                                     |                  |   |

**Hydrophytic Vegetation Indicators:**  
 Dominance Test is > 50%  
 Prevalence Index is ≤ 3.0  
 Morphological Adaptations<sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)  
 Problematic Hydrophytic Vegetation<sup>1</sup> (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) 80  
 % Bare Ground 0  
 Total Cover of Bryophytes 80

**Hydrophytic Vegetation Present?** Yes  No

**SOIL**

Sampling Point: **SW12\_T91\_02**

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> |                 |                               |
| 0-5            |               | 85 |                |   |                   |                  | Fibric Organics | 15% roots                     |
| 5-12           |               | 85 |                |   |                   |                  | Hemic Organics  | 15% roots                     |
| 12-18          | 10YR 2/2      | 80 |                |   |                   |                  | Silt Loam       | 20% Rounded-ang cobble-gravel |
|                |               |    |                |   |                   |                  |                 |                               |
|                |               |    |                |   |                   |                  |                 |                               |
|                |               |    |                |   |                   |                  |                 |                               |
|                |               |    |                |   |                   |                  |                 |                               |

<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)<br><input checked="" type="checkbox"/> Histic Epipedon (A2)<br><input type="checkbox"/> Hydrogen Sulfide (A4)<br><input type="checkbox"/> Thick Dark Surface (A12)<br><input type="checkbox"/> Alaska Gleyed (A13)<br><input type="checkbox"/> Alaska Redox (A14)<br><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><br><input type="checkbox"/> Alaska Alpine swales (TA5)<br><input type="checkbox"/> Alaska Redox With 2.5Y Hue<br><input type="checkbox"/> Alaska Gleyed Without Hue 5Y or Redder Underlying Layer<br><input type="checkbox"/> Other (Explain in Remarks) |
|--|---|

<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

|   |   |
|---|---|
| Restrictive Layer (if present):<br>Type:<br>Depth (inches): | <b>Hydric Soil Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
|---|---|

Remarks:

**HYDROLOGY**

|   |  |
|---|--|
| <p><b>Wetland Hydrology Indicators:</b></p> <p>Primary Indicators (any one is sufficient)</p> <input type="checkbox"/> Surface Water (A1)<br><input checked="" type="checkbox"/> High Water Table (A2)<br><input checked="" type="checkbox"/> Saturation (A3)<br><input type="checkbox"/> Water Marks (B1)<br><input type="checkbox"/> Sediment Deposits (B2)<br><input type="checkbox"/> Drift Deposits (B3)<br><input type="checkbox"/> Algal Mat or Crust (B4)<br><input type="checkbox"/> Iron Deposits (B5)<br><input type="checkbox"/> Surface Soil Cracks (B6) | <p>Secondary Indicators (two or more are required)</p> <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)<br><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)<br><input type="checkbox"/> Marl Deposits (B15)<br><input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1)<br><input type="checkbox"/> Dry-Season Water Table (C2)<br><input type="checkbox"/> Other (Explain in Remarks) |
|---|--|

|  |
|--|
| <input type="checkbox"/> Water Stained Leaves (B9)<br><input type="checkbox"/> Drainage Patterns (B10)<br><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)<br><input type="checkbox"/> Presence of Reduced Iron (C4)<br><input type="checkbox"/> Salt Deposits (C5)<br><input type="checkbox"/> Stunted or Stressed Plants (D1)<br><input type="checkbox"/> Geomorphic Position (D2)<br><input type="checkbox"/> Shallow Aquitard (D3)<br><input type="checkbox"/> Microtopographic Relief (D4)<br><input checked="" type="checkbox"/> FAC-neutral Test (D5) |
|--|

|  |   |
|--|---|
| <p><b>Field Observations:</b></p> Surface Water Present?    Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches):<br>Water Table Present?    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 6<br>Saturation Present? (includes capillary fringe)    Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 3 | <b>Wetland Hydrology Present?</b> Yes <input checked="" type="radio"/> No <input type="radio"/> |
|--|---|

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

Remarks: