

**WETLAND DETERMINATION DATA FORM - Alaska Region**

Project/Site: Susitna-Watana Hydroelectric Project Borough/City: Matanuska-Susitna Borough Sampling Date: 20-Jun-12  
 Applicant/Owner: Alaska Energy Authority Sampling Point: SW12\_T27\_02  
 Investigator(s): JGK Landform (hillside, terrace, hummocks etc.): Floodplain  
 Local relief (concave, convex, none): hummocky Slope: 36.3 % / 20.0 ° Elevation: 920  
 Subregion: Interior Alaska Mountains Lat.: 62.8735993592 Long.: -148.662124745 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 <input checked="" type="radio"/> No <input type="radio"/><br>Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/><br>Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/> | <b>Is the Sampled Area within a Wetland?</b><br>Yes <input type="radio"/> No <input checked="" 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>               |                     |                                     |                     |     |
| 1. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 2. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 3. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 4. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 5. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| <b>Total Cover:</b>               |                     | 0                                   |                     |     |
| <b>Sapling/Shrub Stratum</b>      |                     |                                     |                     |     |
|                                   | 50% of Total Cover: | 0                                   | 20% of Total Cover: | 0   |
| 1. <u>Salix pulchra</u>           | 40                  | <input checked="" type="checkbox"/> | FACW                |     |
| 2. <u>Empetrum nigrum</u>         | 2                   | <input type="checkbox"/>            | FAC                 |     |
| 3. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 4. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 5. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 6. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 7. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 8. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 9. _____                          | 0                   | <input type="checkbox"/>            | _____               |     |
| 10. _____                         | 0                   | <input type="checkbox"/>            | _____               |     |
| <b>Total Cover:</b>               |                     | 42                                  |                     |     |
| <b>Herb Stratum</b>               |                     |                                     |                     |     |
|                                   | 50% of Total Cover: | 21                                  | 20% of Total Cover: | 8.4 |
| 1. <u>Carex bigelowii</u>         | 10                  | <input checked="" type="checkbox"/> | FAC                 |     |
| 2. <u>Arctagrostis latifolia</u>  | 30                  | <input checked="" type="checkbox"/> | FACW                |     |
| 3. <u>Sedum rosea</u>             | 5                   | <input type="checkbox"/>            | FAC                 |     |
| 4. <u>Sanguisorba menziesii</u>   | 2                   | <input type="checkbox"/>            | FAC                 |     |
| 5. <u>Equisetum pratense</u>      | 10                  | <input checked="" type="checkbox"/> | FACW                |     |
| 6. <u>Trientalis europaea</u>     | 1                   | <input type="checkbox"/>            | FACU                |     |
| 7. <u>Chamerion angustifolium</u> | 5                   | <input type="checkbox"/>            | FACU                |     |
| 8. <u>Lupinus arcticus</u>        | 2                   | <input type="checkbox"/>            | FACU                |     |
| 9. <u>Aconitum delphinifolium</u> | 10                  | <input checked="" type="checkbox"/> | FAC                 |     |
| 10. _____                         | 0                   | <input type="checkbox"/>            | _____               |     |
| <b>Total Cover:</b>               |                     | 75                                  |                     |     |
|                                   | 50% of Total Cover: | 37.5                                | 20% of Total Cover: | 15  |

**Dominance Test worksheet:**  
 Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)  
 Total Number of Dominant Species Across All Strata: 5 (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 0 x 1 = 0  
 FACW Species 80 x 2 = 160  
 FAC Species 29 x 3 = 87  
 FACU Species 8 x 4 = 32  
 UPL Species 0 x 5 = 0  
 Column Totals: 117 (A) 279 (B)  
 Prevalence Index = B/A = 2.385

**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) 0  
 % Bare Ground 0  
 Total Cover of Bryophytes 15

**Hydrophytic Vegetation Present?** Yes  No

Remarks: tr rubarc

**SOIL**

Sampling Point: **SW12\_T27\_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> |                 |  |
| 0-1            |               |       |                |   |                   |                  | Fibric Organics |  |
| 1-3            | 10YR          | 3/2   | 80             |   |                   |                  | Loamy Sand      | 20% roots                                |
| 3-3.5          | 10YR          | 2/2   | 95             |   |                   |                  | Sandy Loam      | 5% roots                                 |
| 3.5-6          | 2.5YR         | 2.5/1 | 80             |   |                   |                  | Sandy Loam      | 20% loamy s inclusions                   |
| 6-6.5          | 10YR          | 2/2   | 95             |   |                   |                  | Sandy Loam      | 5% roots                                 |
| 6.5-12         | 10YR          | 2/1   | 98             |   |                   |                  | Sandy Clay Loam | 2% 3-4 in diam./few roots                |
| 12-18          | 10YR          | 2/1   | 40             |   |                   |                  | Sandy Clay Loam | 60% subangular-rounded cobbles 3-4 in di |

<sup>1</sup>Type: C=Concentration. D=Depletion. RM=Reduced Matrix    <sup>2</sup> 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:<sup>3</sup>**

Alaska Color Change (TA4)<sup>4</sup>                       Alaska Gleyed Without Hue 5Y or Redder Underlying Layer  
 Alaska Alpine swales (TA5)                       Other (Explain in Remarks)  
 Alaska Redox With 2.5Y Hue

<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):  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

**Hydric Soil Present?**    Yes     No

Remarks:

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one is sufficient)

Surface Water (A1)                       Inundation Visible on Aerial Imagery (B7)  
 High Water Table (A2)                       Sparsely Vegetated Concave Surface (B8)  
 Saturation (A3)                               Marl Deposits (B15)  
 Water Marks (B1)                             Hydrogen Sulfide Odor (C1)  
 Sediment Deposits (B2)                       Dry-Season Water Table (C2)  
 Drift Deposits (B3)                             Other (Explain in Remarks)  
 Algal Mat or Crust (B4)  
 Iron Deposits (B5)  
 Surface Soil Cracks (B6)

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?    Yes     No                       Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?**    Yes     No

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

Remarks: