## WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 10-Jul-13

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW13_T135_06**

Investigator(s): JER | Landform (hillside, terrace, hummocks etc.): Toeslope

Local relief (concave, convex, none): concave | Slope: % / 3.9 ° | Elevation: 104

Subregion : Southcentral Alaska | Lat.: 62.889755249 | Long.: -148.905586839 | Datum: NAD83

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 ◉ No ○

Hydric Soil Present? Yes ◉ No ○

Wetland Hydrology Present? Yes ◉ No ○

**Is the Sampled Area within a Wetland?** **Yes ◉ No ○**

Remarks: many small drainage ways thru plot, slow

**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. | Salix pulchra | 55 | ☑ | FACW |
| 2. | Vaccinium vitis-idaea | 10 | ☐ | FAC |
| 3. | Empetrum nigrum | 10 | ☐ | FAC |
| 4. | Vaccinium uliginosum | 10 | ☐ | FAC |
| 5. | Spiraea stevenii | 20 | ☑ | FACU |
| 6. | Salix barclayi | 10 | ☐ | FAC |
| 7. | Salix reticulata | 10 | ☐ | FAC |
| 8. | | 0 | ☐ | |
| 9. | | 0 | ☐ | |
| 10. | | 0 | ☐ | |
| | **Total Cover:** | 125 | | |

50% of Total Cover: 62.5 | 20% of Total Cover: 25

| | Herb Stratum | | | |
|---|---|---|---|---|
| 1. | Rubus arcticus | 5 | ☐ | FAC |
| 2. | Rubus chamaemorus | 8 | ☑ | FACW |
| 3. | Rhodiola integrifolia | 10 | ☑ | FAC |
| 4. | Aconitum delphiniifolium | 5 | ☐ | FAC |
| 5. | Valeriana capitata | 8 | ☑ | FAC |
| 6. | Petasites frigidus | 10 | ☑ | FACW |
| 7. | Luzula arcuata | 2 | ☐ | FACU |
| 8. | Festuca altaica | 3 | ☐ | FAC |
| 9. | Arctagrostis latifolia | 5 | ☐ | FACW |
| 10. | Sanguisorba canadensis | 5 | ☐ | FACW |
| | **Total Cover:** | 61 | | |

50% of Total Cover: 30.5 | 20% of Total Cover: 12.2

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL Species | 0 | x 1 = | 0 |
| FACW Species | 83 | x 2 = | 166 |
| FAC Species | 81 | x 3 = | 243 |
| FACU Species | 22 | x 4 = | 88 |
| UPL Species | 0 | x 5 = | 0 |
| Column Totals: | 186 (A) | | 497 (B) |

Prevalence Index = B/A = 2.672

**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 0

Total Cover of Bryophytes 80

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

Remarks: polacu 2, carpod 5, trispi 3, poaarc 2, aneric 5, verwor 2, carbig 3, thalictrum alpinum 2, spinulum annotinum 2, equisetum arvense 5, dodecatheon frigidum 5, artnor 3

## SOIL

**Sampling Point: SW13_T135_06**

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 % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-3 | | | 100 | | | | | | Fibric Organics | |
| 3-16 | 10YR | 3/2 | 95 | 5YR | 3/4 | 5 | C | PL | Sandy Loam | w gravels |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

[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: frost
Depth (inches): 16

**Hydric Soil Present?** Yes ◉ No ○

Remarks:
positive reaction to alpha, alpha-dipyridyl

## 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): 10
Saturation Present? (includes capillary fringe) Yes ◉ No ○ Depth (inches): 3

**Wetland Hydrology Present?** Yes ◉ No ○

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

Remarks:
many small active drainage tracks w water. positive reaction to alpha, alpha-dipyridyl.