## WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 08-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T44_04**

Investigator(s): CTS, EKJ | Landform (hillside, terrace, hummocks etc.): Lowland

Local relief (concave, convex, none): flat | Slope: 0.0 % / 0.0 ° | Elevation: 757

Subregion : Interior Alaska Mountains | Lat.: 62.8981999082 | Long.: -148.471519971 | Datum: WGS84

Soil Map Unit Name: | **NWI classification:** **PEM1F**

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 ○<br>Hydric Soil Present? Yes ◉ No ○<br>Wetland Hydrology Present? Yes ◉ No ○ | **Is the Sampled Area within a Wetland?** **Yes ◉ No ○** |

Remarks:

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

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| **Tree Stratum** | | | |
| 1. | 0 | ☐ | |
| 2. | 0 | ☐ | |
| 3. | 0 | ☐ | |
| 4. | 0 | ☐ | |
| 5. | 0 | ☐ | |
| **Total Cover:** | 0 | | |
| **Sapling/Shrub Stratum** (50% of Total Cover: 0 / 20% of Total Cover: 0) | | | |
| 1. Dasiphora fruticosa | 7 | ☑ | FAC |
| 2. Betula nana | 2 | ☐ | FAC |
| 3. Ledum decumbens | 0.1 | ☐ | FACW |
| 4. Andromeda polifolia (IAM) | 1 | ☐ | OBL |
| 5. Vaccinium uliginosum | 0.1 | ☐ | FAC |
| 6. Empetrum nigrum | 0.1 | ☐ | FAC |
| 7. | 0 | ☐ | |
| 8. | 0 | ☐ | |
| 9. | 0 | ☐ | |
| 10. | 0 | ☐ | |
| **Total Cover:** | 10.3 | | |
| **Herb Stratum** (50% of Total Cover: 5.15 / 20% of Total Cover: 2.06) | | | |
| 1. Trichophorum alpinum | 35 | ☑ | OBL |
| 2. Carex livida | 3 | ☐ | OBL |
| 3. Swertia perennis | 1 | ☐ | FACW |
| 4. Dodecatheon frigidum | 1 | ☐ | FACW |
| 5. Solidago canadensis | 1 | ☐ | FACU |
| 6. Spiranthes romanzoffiana | 0.1 | ☐ | OBL |
| 7. Carex limosa | 3 | ☐ | OBL |
| 8. Eriophorum viridicarinatum | 2 | ☐ | OBL |
| 9. Triantha glutinosa | 0.1 | ☐ | FACW |
| 10. Parnassia palustris | 0.1 | ☐ | FACW |
| **Total Cover:** | 46.3 | | |
| 50% of Total Cover: 23.15 / 20% of Total Cover: 9.26 | | | |

**Dominance Test worksheet:**

Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (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 | 44.1 | x 1 = | 44.1 |
| FACW Species | 2.3 | x 2 = | 4.6 |
| FAC Species | ####: | x 3 = | 27.60 |
| FACU Species | 1 | x 4 = | 4 |
| UPL Species | 0 | x 5 = | 0 |
| Column Totals: | 56.6 | (A) | 80.30 (B) |

Prevalence Index = B/A = 1.419

**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): 15

% Bare Ground: 0

Total Cover of Bryophytes: 15

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

Remarks: Astalp, Utrint, Carrot, Thaalp = 0.1 cover

## SOIL

**Sampling Point: SW12_T44_04**

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 | | 85 | | | | | Fibric Organics | 15% roots |
| 3-16 | | 90 | | | | | Hemic Organics | 10% roots |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1] Type: C=Concentration. D=Depletion. RM=Reduced Matrix [2] Location: PL=Pore Lining. RC=Root Channel. M=Matrix

**Hydric Soil Indicators:**

- [x] 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:

## HYDROLOGY

**Wetland Hydrology Indicators:**

Primary Indicators (any one is sufficient)

- [x] Surface Water (A1)
- [x] High Water Table (A2)
- [x] 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)
- [x] FAC-neutral Test (D5)

**Field Observations:**

| | | | |
|---|---|---|---|
| Surface Water Present? | Yes ◉ | No ○ | Depth (inches): 2 |
| Water Table Present? | Yes ◉ | No ○ | Depth (inches): |
| Saturation Present? (includes capillary fringe) | Yes ◉ | No ○ | Depth (inches): |

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

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

Remarks: