## WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Matanuska-Susitna Borough | Sampling Date: 22-Jun-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T18_07**

Investigator(s): SLI, EKJ | Landform (hillside, terrace, hummocks etc.): Gulch or Gully

Local relief (concave, convex, none): undulating | Slope: % / 9.2 ° | Elevation: 767

Subregion : Southcentral Alaska | Lat.: 62.849728262 | Long.: -149.210485689 | 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: small intermittent stream flowing through community, above ground portions 2-4in deep, 6-12in wide.

**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. Salix pulchra | 35 | ☑ | FACW |
| 2. Salix commutata | 35 | ☑ | FAC |
| 3. Alnus incana | 5 | ☐ | FAC |
| 4. Empetrum nigrum | 1 | ☐ | FAC |
| 5. Salix reticulata | 3 | ☐ | FAC |
| 6. Spiraea stevenii | 3 | ☐ | FACU |
| 7. Cassiope tetragona | 1 | ☐ | FACU |
| 8. | 0 | ☐ | |
| 9. | 0 | ☐ | |
| 10. | 0 | ☐ | |
| **Total Cover:** | 83 | | |
| **Herb Stratum** | 50% of Total Cover: 41.5 | 20% of Total Cover: 16.6 | |
| 1. Dodecatheon jeffreyi | 7 | ☑ | FACW |
| 2. Calamagrostis canadensis | 10 | ☑ | FAC |
| 3. Sanguisorba officinalis | 3 | ☐ | FACW |
| 4. Pyrola minor | 7 | ☑ | FAC |
| 5. Neottia cordata | 1 | ☐ | FACU |
| 6. Rhodiola integrifolia | 3 | ☐ | FAC |
| 7. Mertensia paniculata | 3 | ☐ | FACU |
| 8. Anemone richardsonii | 5 | ☐ | FAC |
| 9. Equisetum palustre | 5 | ☐ | FACW |
| 10. Geranium bicknellii | 1 | ☐ | UPL |
| **Total Cover:** | 45 | | |
| 50% of Total Cover: 22.5 | 20% of Total Cover: 9 | | |

**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 | 50 | x 2 = | 100 |
| FAC Species | 69 | x 3 = | 207 |
| FACU Species | 8 | x 4 = | 32 |
| UPL Species | 1 | x 5 = | 5 |
| Column Totals: | 128 (A) | | 344 (B) |

Prevalence Index = B/A = 2.688

**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 20

Total Cover of Bryophytes 75

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

Remarks: species comp similar to SW12_T18_02. trace linbor on tops of moss covered boulders. possibly another pyrola included in % cover for p.minor (larger leaves). additional herbs 1% each polemonium acutiflorum, moelat, stramp, spinulum annotimum, veratrum viride, luzula nivalis, unid gram. intermittent stream above/below boulders.

## SOIL

**Sampling Point: SW12_T18_07**

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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 0-1 | | | 100 | | | | | | Fibric Organics | |
| 1-2 | | | 100 | | | | | | Hemic Organics | |
| 2-15 | 5Y | 5/1 | 60 | 10YR | 4/6 | 40 | C | PL | Sandy Clay | few coarse sand to rounded 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:

Depth (inches):

**Hydric Soil Present?** Yes ◉ No ○

Remarks:

old talus field - predominantly moss covered boulders w small areas of thicker mineral soils between. few gleyed pores and oxidized rhizospheres around living roots in upper 12in of mineral soil (<2%).

## 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): |
| 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:

site in a small drainage, near intermittent stream.

alpha alpha dipyridyl reaction - tested soils in upper 12 in change color to 7.5YR4/3.