WETLAND DETERMINATION DATA FORM - Alaska Region

Project/Site: Susitna-Watana Hydroelectric Project | Borough/City: Denali Borough | Sampling Date: 06-Aug-12

Applicant/Owner: Alaska Energy Authority | Sampling Point: **SW12_T04_04**

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

Local relief (concave, convex, none): flat | Slope: % / 0.3 ° | Elevation: 810

Subregion : Interior Alaska Mountains | Lat.: 63.4581082074 | Long.: -148.658655185 | Datum: NAD83

Soil Map Unit Name: | **NWI classification: PEM1E**

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

Remarks: Subarctic lowland wet sedge meadow intermixed w stream channels, scattered tall Salala in larger mappable polygon but <25% cover

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		
	Sapling/Shrub Stratum	50% of Total Cover: 0	20% of Total Cover: 0	
1.	Salix pulchra	0.1	☐	FACW
2.		0	☐	
3.		0	☐	
4.		0	☐	
5.		0	☐	
6.		0	☐	
7.		0	☐	
8.		0	☐	
9.		0	☐	
10.		0	☐	
	Total Cover:	0.1		
	Herb Stratum	50% of Total Cover: 0.05	20% of Total Cover: 0.02	
1.	Carex aquatilis	35	☑	OBL
2.	Comarum palustre	10	☐	OBL
3.	Glyceria pulchella	8	☐	OBL
4.	Equisetum scirpoides	2	☐	FACU
5.	Epilobium palustre	2	☐	OBL
6.	Eriophorum scheuchzeri	1	☐	OBL
7.	Rumex arcticus	0.1	☐	FAC
8.	Ranunculus hyperboreus	0.1	☐	OBL
9.	Luzula rufescens	0.1	☐	FACW
10.	Calamagrostis canadensis	0.1	☐	FAC
	Total Cover:	58.4		
	50% of Total Cover: 29.2	20% of Total Cover: 11.68		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (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	56.1	x 1 =	56.1
FACW Species	0.2	x 2 =	0.400
FAC Species	0.2	x 3 =	0.600
FACU Species	2	x 4 =	8
UPL Species	0	x 5 =	0
Column Totals:	58.5 (A)		65.1 (B)

Prevalence Index = B/A = 1.113

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) 60

% Bare Ground 0

Total Cover of Bryophytes 60

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

Remarks: Glyceria and Eriophorum collected for positive ID. Fesalt = 0.1%. total shrub cover <5%, thus no shrub species dominant.

SOIL

Sampling Point: SW12_T04_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
0-2			100						Fibric Organics	
2-6	2.5Y	3/1	80						Sandy Loam	20% roots
6-13	2.5Y	3/1	40						Sand	coarse rounded gravel and sand
13-16	2.5Y	3/1	50						Sand	rounded gravel and sand

[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:
H2S odor.

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): 4
Water Table Present?	Yes ◉	No ○	Depth (inches): 4
Saturation Present? (includes capillary fringe)	Yes ◉	No ○	Depth (inches): 2

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:
surface water is the stream running on both sides of plots and a little in low spots