## WETLAND DETERMINATION DATA FORM - Alaska Region

| Project  | /Site: Susitna-Watana Hydroelectric Project  |                              | Borough/City:              | Matanusk                  | a-Susitna Borough Sampling Date: 02-Jul-13   |  |  |  |  |  |  |  |  |  |
|----------|--|------------------------------|----------------------------|---------------------------|--|--|--|--|--|--|--|--|--|--|
| Applica  | nt/Owner: Alaska Energy Authority  | Sampling Point: SW13_T138_02 |                            |                           |  |  |  |  |  |  |  |  |  |  |
| Investig | gator(s): JER  | ee, hummocks etc.): Hillside |                            |                           |  |  |  |  |  |  |  |  |  |  |
| •        | elief (concave, convex, none): concave   |                              | Slope:                     | % / 9.9                   | -  |  |  |  |  |  |  |  |  |  |
| Subreo   | ion: Southcentral Alaska   | Lat ·                        | 62.89365518                | <br>R12                   | Long.: -149.119625091 Datum: NAD83   |  |  |  |  |  |  |  |  |  |
| _        | p Unit Name:   | Latin                        | 02.03003310                | 312                       | NWI classification: PSS1B  |  |  |  |  |  |  |  |  |  |
|          |  |                              | - 0 Va                     | s • No O                  | <del></del>  |  |  |  |  |  |  |  |  |  |
|          | natic/hydrologic conditions on the site typical for this ti<br>egetation $\square$ , Soil $\square$ , or Hydrology $\square$ : | •                            | ar? re:<br>itly disturbed? |                           | (If no, explain in Remarks.)  Iormal Circumstances" present? Yes ● No ○                              |  |  |  |  |  |  |  |  |  |
|          |  | ŭ                            | •                          |                           | iorniai Oiroaniotarioco present:   |  |  |  |  |  |  |  |  |  |
| Ale v    | egetation 🗌 , Soil 🔲 , or Hydrology 🔲  | naturany                     | problematic?               | (If nee                   | eded, explain any answers in Remarks.)   |  |  |  |  |  |  |  |  |  |
| SUM      | MARY OF FINDINGS - Attach site map show  | wing sa                      | mpling poir                | t locations               | s, transects, important features, etc.   |  |  |  |  |  |  |  |  |  |
|          | Hydrophytic Vegetation Present? Yes No O   |                              |                            |                           |  |  |  |  |  |  |  |  |  |  |
|          | Hydric Soil Present? Yes ● No C  |                              |                            | within a Wetland? Yes  No |  |  |  |  |  |  |  |  |  |  |
|          | Wetland Hydrology Present? Yes   No  |                              | ļ                          |                           | Ottalia i  |  |  |  |  |  |  |  |  |  |
| Rema     | rks: lumpy slope break. castet snowbed above, wet m  | neadow sł                    | hrub fringe be             | low. clumps o             | of willow in forb-rich meadow.   |  |  |  |  |  |  |  |  |  |
|          |  |                              |                            |                           |  |  |  |  |  |  |  |  |  |  |
|          |  |                              |                            |                           |  |  |  |  |  |  |  |  |  |  |
| VEGE     | TATION - Use scientific names of plants. Li  | st all sp                    | ecies in the               | e plot.                   |  |  |  |  |  |  |  |  |  |  |
|          | •  | Absolut                      |                            | Indicator                 | Dominance Test worksheet:  |  |  |  |  |  |  |  |  |  |
| Tree     | e Stratum_   | % Cove                       |                            | Status                    | Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)   |  |  |  |  |  |  |  |  |  |
| 1.       |  | 0                            |                            |                           |  |  |  |  |  |  |  |  |  |  |
| 2.       |  | 0                            |                            |                           | Total Number of Dominant Species Across All Strata:  8 (B)   |  |  |  |  |  |  |  |  |  |
| 3.       |  | _                            |                            |                           | Percent of dominant Species  |  |  |  |  |  |  |  |  |  |
| 4.       |  | 0                            |                            |                           | That Are OBL, FACW, or FAC: 62.5% (A/B)  |  |  |  |  |  |  |  |  |  |
| 5.       |  | 0                            | _                          |                           | Prevalence Index worksheet:  |  |  |  |  |  |  |  |  |  |
|          | Total Cover  | <u> </u>                     | _                          |                           | Total % Cover of: Multiply by:   |  |  |  |  |  |  |  |  |  |
| Sap      | ling/Shrub Stratum 50% of Total Cover:   | 0 20                         | % of Total Cove            | er: <u>0</u>              | OBL Species 0 x 1 = 0  |  |  |  |  |  |  |  |  |  |
| 1.       | Salix barclayi   | 30                           | <b>✓</b>                   | FAC                       | FACW Species 22 x 2 = 44   |  |  |  |  |  |  |  |  |  |
| 2.       | Salix pulchra  | 20                           | <b>✓</b>                   | FACW                      | FAC Species <u>87</u> x 3 = <u>261</u>   |  |  |  |  |  |  |  |  |  |
| 3.       | Vaccinium uliginosum   | 15                           |                            | FAC                       | FACU Species 23 x 4 = 92   |  |  |  |  |  |  |  |  |  |
| 4.       | Salix pseudomonticola  | 10                           |                            | FAC                       | UPL Species <u>3</u> x 5 = <u>15</u>   |  |  |  |  |  |  |  |  |  |
| 5.       | Empetrum nigrum  |                              |                            | FAC                       | Column Totals:135 (A)412 (B)   |  |  |  |  |  |  |  |  |  |
| 6.       | Spiraea stevenii   | 5                            |                            | FACU                      |  |  |  |  |  |  |  |  |  |  |
| 7.       | Betula nana  | 3                            |                            | FAC                       | Prevalence Index = B/A = 3.052   |  |  |  |  |  |  |  |  |  |
| 8.       | Luetkea pectinata  | 1                            | _                          | UPL                       | Hydrophytic Vegetation Indicators:   |  |  |  |  |  |  |  |  |  |
| 9.       | Luetkea pectinata  | 1                            | _ 🖳                        | UPL                       | ✓ Dominance Test is > 50%  |  |  |  |  |  |  |  |  |  |
| 10.      | Luetkea pectinata  | _1                           | _                          | UPL                       | Prevalence Index is ≤3.0   |  |  |  |  |  |  |  |  |  |
|          | Total Cover  |                              |                            |                           | ☐ Morphological Adaptations <sup>1</sup> (Provide supporting data in                                 |  |  |  |  |  |  |  |  |  |
|          |  |                              | 0% of Total Cov            |                           | Remarks or on a separate sheet)  |  |  |  |  |  |  |  |  |  |
| 1.       | Rhodiola integrifolia  | 8                            | _                          | FAC                       | Problematic Hydrophytic Vegetation (Explain)   |  |  |  |  |  |  |  |  |  |
| 2.       | Chamaenerion angustifolium   |                              |                            | FACU                      | Indicators of hydric soil and wetland hydrology must<br>be present, unless disturbed or problematic. |  |  |  |  |  |  |  |  |  |
| 3.       | Calamagrostis canadensis   | <u>5</u> 5                   |                            | FACU                      | be present, unless disturbed of problematic.   |  |  |  |  |  |  |  |  |  |
| 4.       | Anemone narcissiflora  Geranium erianthum  | <u> </u>                     | _ =                        | FACU<br>FACU              | Plot size (radius, or length x width)  |  |  |  |  |  |  |  |  |  |
| 5.       | Valeriana capitata   |                              | _                          | FACU                      | % Cover of Wetland Bryophytes  |  |  |  |  |  |  |  |  |  |
| 6.<br>7. | Aconitum delphiniifolium   | 3                            | - 🗂                        | FAC                       | (Where applicable)   |  |  |  |  |  |  |  |  |  |
| 8.       | Spinulum annotinum   | 3                            | -                          | FACU                      | % Bare Ground  |  |  |  |  |  |  |  |  |  |
| 9.       | Festuca altaica  | 3                            | -                          | FAC                       | Total Cover of Bryophytes  |  |  |  |  |  |  |  |  |  |
| 10.      | Sanguisorba canadensis   | 2                            |                            | FACW                      | Hydrophytic  |  |  |  |  |  |  |  |  |  |
| 10.      | Total Cover  |                              | Hydrophytic<br>Vegetation  |                           |  |  |  |  |  |  |  |  |  |  |
|          | 50% of Total Cover:  |                              | _<br>% of Total Cove       | er: <u>8.8</u>            | Present? Yes   No  |  |  |  |  |  |  |  |  |  |
| Rem      | arks: equarv 2, stramp 2, vervir2, col salbar, sancan  | , dodfri 2                   | vioepi 1, artn             | or 3ok all                |  |  |  |  |  |  |  |  |  |  |
|          |  |                              |                            |                           |  |  |  |  |  |  |  |  |  |  |

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SOIL Sampling Point: SW13\_T138\_02

| Profile Description   | (Describe to   | the donth ne                  | - dad to docu |                     | disease or conf            | the ah  | of indic            | +\                 | • -                                    | 10mt. 51115_1150_01               |  |  |
|---|--|-------------------------------|---------------|---------------------|----------------------------|---|---------------------|--------------------|--|-----------------------------------|--|--|
| Profile Description   |  | the depth ne<br><b>Matrix</b> | eded to docu  | ment the iii        |                            | irm the ab  |                     | cators)            |  |                                   |  |  |
| Depth (inches) Color (mo  |  |                               | %             | Color (moist)       |                            | % Type 1  | Loc <sup>2</sup>    | Texture            | Remarks                                |                                   |  |  |
| 0-5   |  | ,                             | 100           |                     |                            |   | -77-                |                    | Fibric Organics                        |                                   |  |  |
| 5-7   |  |                               | 100           |                     |                            |   |                     |                    | Hemric Organics                        |                                   |  |  |
| 7-9   | 10YR   | 3/2                           | 100           |                     |                            |   |                     |                    | Fine Loamy Silt                        |                                   |  |  |
| 9-12  | 5Y   | 3/2                           | 70            | 10YR                | 4/4                        | 10  |                     |                    | Silt Loam                              | cryoturbated isolated sand        |  |  |
| 12-22   | 2.5Y   | 3/3                           | 70            | 10YR                | 4/4                        | 10  |                     |                    | Silt Loam                              | cryoturbated isolated sand        |  |  |
| 12 22   | 2.51   |                               |               | 1011                |                            |   |                     |                    |  | ci yotui bateu isolateu sanu      |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     | -                  |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| ¹Type: C=Con  | centration. D  | =Depletion.                   | RM=Reduc      |                     |                            |   |                     |                    | annel. M=Matrix                        |                                   |  |  |
| Hydric Soil In  | ndicators:   |                               |               |                     | ors for Pro                |   | 4                   | oils: <sup>3</sup> |  |                                   |  |  |
| Histosol or   | Histel (A1)  |                               |               |                     | ka Color Cha               |   | -                   |                    | Alaska Gleyed Without Hue 5Y or Redder |                                   |  |  |
| Histic Epip   | edon (A2)  |                               |               |                     | Alaska Alpine swales (TA5) |   |                     |                    | Underlying Layer                       |                                   |  |  |
|   | Sulfide (A4)   |                               |               | Alas                | ka Redox Wi                | ith 2.5Y I  | Hue                 |                    | Other (Explain in Remark               | (5)                               |  |  |
|   | Surface (A12   | )                             |               | <sup>3</sup> One ii | ndicator of h              | nydrophy  | tic vegetatio       | on, one prir       | mary indicator of wetland h            | ydrology,                         |  |  |
| ☐ Alaska Gle  |  |                               |               |                     | appropriate                |   |                     |                    |  | , 5,,                             |  |  |
|   | yed Pores (A1  | 5)                            |               | 4 Give              | details of col             | or chang  | e in Remark         | <b>KS</b>          |  |                                   |  |  |
|   | ` `  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| Restrictive Laye  |  |                               |               |                     |                            |   |                     |                    | Under Call Donas and                   | ? Yes • No O                      |  |  |
| Type: <sub>frost</sub><br>Depth (inch   |  |                               |               |                     |                            |   |                     |                    | Hydric Soil Present                    | ? Yes  No                         |  |  |
|   | (3). 37  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| Remarks:  |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| HYDROLO   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| Wetland Hydr  |  |                               |               |                     |                            |   |                     |                    |  | cators (two or more are required) |  |  |
| Primary Indicat   |  | is sufficient                 | :)            |                     |                            |   |                     | (07)               | Water Stained Leaves (B9)              |                                   |  |  |
| ☐ Surface W ✓ High Wate   | ☐ Inundation Visible on Aerial Imagery (B7)                                  |                               |               |                     |                            | ☐ Drainage Patterns (B10) ☐ Oxidized Rhizospheres along Living Roots (C3) |                     |                    |  |                                   |  |  |
| Saturation  | ☐ Sparsely Vegetated Concave Surface (B8) ☐ Marl Deposits (B15)              |                               |               |                     |                            |   | f Reduced Iron (C4) |                    |  |                                   |  |  |
| Water Mar   |  | Hydrogen Sulfide Odor (C1)    |               |                     |                            |   | Salt Depos          | ` ,                |  |                                   |  |  |
|   | . ,  |                               |               |                     | y-Season W                 |   |                     |                    |  | Stressed Plants (D1)              |  |  |
| Sediment Deposits (B2)  |  |                               |               |                     | -                          |   |                     |                    |  | ic Position (D2)                  |  |  |
|   | ☐ Drift Deposits (B3) ☐ Other (Explain in Remarks) ☐ Algal Mat or Crust (B4) |                               |               |                     |                            |   |                     |                    |  | uitard (D3)                       |  |  |
| ☐ Iron Depo   |  |                               |               |                     |                            |   |                     |                    |  | raphic Relief (D4)                |  |  |
|   | oil Cracks (B6)  | ı                             |               |                     |                            |   |                     |                    | FAC-neutra                             |                                   |  |  |
| Field Observa   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| Surface Water   | Present?   | Yes C                         | No •          | De                  | epth (inches               | ): 0  |                     |                    |  |                                   |  |  |
| Water Table P   | resent?  | Yes 💽                         | No O          | De                  | epth (inches               | )· 11   |                     | Wetla              | nd Hydrology Presen                    | t? Yes • No O                     |  |  |
| Saturation Pre  |  |                               |               |                     |                            | •   |                     |                    | ,,                                     |                                   |  |  |
| (includes capil   |  | Yes 🔍                         | No O          | De                  | epth (inches               | ): 10   |                     |                    |  |                                   |  |  |
| Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspection) if available: |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
| Remarks:  |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |
|   |  |                               |               |                     |                            |   |                     |                    |  |                                   |  |  |

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