## WETLAND DETERMINATION DATA FORM - Alaska Region

| Projec   | t/Site: Susitna-Watana Hydroelectric Project                | E                                      | Borough/City:    | Matanusk     | ka-Susitna Borough Sampling Date: 11-Jul-13  |
|----------|---|--|------------------|--------------|--|
| Applica  | ant/Owner: Alaska Energy Authority                          |  |                  |              | Sampling Point: SW13_T126_11   |
| Investi  | gator(s): SLI, SCB  |  | Landform (hill   | side, terrac | ce, hummocks etc.): Hillside   |
| Local    | relief (concave, convex, none): none                        |  | Slope:           | % /          | ° Elevation: 740   |
| Subre    | gion : Southcentral Alaska                                  | Lat.:                                  | 62.885967614     |              | Long.: -149.384024306 Datum: WGS84   |
|          | ap Unit Name:   |  | 02.00000101-     |              | NWI classification: Upland   |
|          | matic/hydrologic conditions on the site typical for this ti | mo of voor                             | ·2 Vac           | ● No ○       |  |
|          |   | •                                      | y disturbed?     |              | Normal Circumstances" present? Yes  No  No   |
|          |   | -                                      | roblematic?      |              | eded, explain any answers in Remarks.)   |
|          |   |  |                  |              |  |
| SUMI     | MARY OF FINDINGS - Attach site map show                     |  | npling point     | locations    | s, transects, important features, etc.   |
|          | Hydrophytic Vegetation Present? Yes O No @                  | )                                      | la la            | tha Cam      | and ad Ave a   |
|          | Hydric Soil Present? Yes No •                               |  |                  |              | npled Area<br>/otland? Yes ○ No ◉  |
|          | Wetland Hydrology Present? Yes O No •                       | )                                      | WI               | thin a W     | retiand? res or no or  |
| Rem      | narks: photo time 1115, #s 1603-1605. sparrows chirp        | nina wilson                            | n's warhler see  | n            |  |
|          | prioce time 1115/ #5 1005 1005/ Sparrows crimp              | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 15 Walbiel Sec   |              |  |
|          |   |  |                  |              |  |
| VEG      | <b>ETATION -</b> Use scientific names of plants. Li         | st all spe                             | ecies in the     | plot.        |  |
|          |   | Absolute                               | Dominant         | Indicator    | Dominance Test worksheet:  |
|          | e Stratum   | % Cover                                |                  | Status       | Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)                                       |
| 1.       | -   | 0                                      |                  |              | Total Number of Dominant   |
| 2.       |   | 0                                      |                  |              | Species Across All Strata: 2 (B)   |
| 3.       |   |  |                  |              | Percent of dominant Species  |
| 4.       |   | 0                                      |                  |              | That Are OBL, FACW, or FAC: 50.0% (A/B)  |
| 5.       |   |  |                  |              | Prevalence Index worksheet:  |
|          | Total Cover   |  |                  |              | Total % Cover of: Multiply by:   |
| Sap      | oling/Shrub Stratum 50% of Total Cover:                     | 0 20%                                  | of Total Cover:  | 0            | OBL Species x 1 =  |
| 1.       | Alnus viridis   | 80                                     | ✓                | FAC          | FACW Species 0 x 2 = 0   |
| 2.       |   | 0                                      |                  |              | FAC Species <u>80.1</u> x 3 = <u>240.3</u>   |
| 3.       |   | 0                                      |                  |              | FACU Species 82.1 x 4 = 328.4  |
| 4.       |   |  |                  |              | UPL Species 0 x 5 = 0  |
| 5.       |   | -                                      |                  |              | Column Totals: <u>162.2</u> (A) <u>568.7</u> (B)   |
| 6.       |   |  |                  |              | Prevalence Index = B/A = 3.506   |
| 7.       |   |  |                  |              |  |
| 8.       |   | 0                                      |                  |              | Hydrophytic Vegetation Indicators:   |
| 9.       |   | 0                                      |                  |              | Dominance Test is > 50%  |
| 10.      | Total Cover   |  |                  |              | ☐ Prevalence Index is ≤3.0   |
| Hei      | b Stratum_ 50% of Total Cover:                              |  | % of Total Cover | : 16         | Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) |
|          |   | 70                                     | <b>✓</b>         | FACU         | Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)  |
|          | Streptopus amplexifolius                                    | 10                                     |                  | FACU         | <sup>1</sup> Indicators of hydric soil and wetland hydrology must                                  |
| 3.       | Gymnocarpium dryopteris                                     | 2                                      |                  | FACU         | be present, unless disturbed or problematic.   |
| 4.       | Trientalis europaea   | 0.1                                    |                  | FACU         | Plot cize (radius or length y width)   |
| 5.       | Rubus arcticus  | 0.1                                    |                  | FAC          | Plot size (radius, or length x width)  |
| 6.       |   |  |                  |              | (Where applicable)   |
|          |   |  |                  |              | % Bare Ground <u>80</u>  |
| '-       |   |  |                  |              | Total Cover of Bryophytes5   |
|          |   |  | 1 1              |              |  |
| 8.       |   |  |                  |              |  |
| 8.<br>9. |   |  |                  |              | Hydrophytic  |
| 8.<br>9. |   | 0<br>82.2                              |                  |              | Hydrophytic Vegetation Present?  Yes No   No   |

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SOIL Sampling Point: SW13\_T126\_11

| Depth  |  | Matrix                     |                |                       | Red  | ox i cutu  | res                                   |           |   |   |
|--|--|----------------------------|----------------|-----------------------|--|--|---------------------------------------|-----------|---|---|
| (inches)   | Color (me  | oist)                      | %              | Color (m              | oist)  | %  | Type <sup>1</sup>                     | _Loc_2    | Texture   | Remarks   |
| 0-6  |  |                            | 100            |                       |  |  |                                       |           | Sapric Organics   |   |
| 6-9  | 7.5YR  | 3/3                        | 100            |                       |  |  |                                       |           | Silt Loam   |   |
| 9-16   | 5Y   | 5/1                        | 95             | 10YR                  | 3/4  | 10   | С                                     | PL        | Silt Loam   |   |
|  |  |                            |                |                       |  |  |                                       |           |   |   |
|  |  |                            |                |                       |  |  |                                       |           |   |   |
|  |  |                            |                |                       |  |  |                                       |           |   |   |
|  |  |                            |                |                       |  | -  |                                       |           |   |   |
|  |  |                            |                |                       |  | -  |                                       |           | -   |   |
| 1<br>Type: C=Con   |  | =Denletion                 |                | red Matrix            | 2 Location   | . PI =Pore   | - Lining RC                           | =Root Cha | nnel. M=Matrix  |   |
| Hydric Soil In   |  | -реріссіої                 | i. Ki-Keduc    |                       |  |  | Hydric So                             |           | inner. Pi-Piduix  |   |
|  | Histel (A1)  |                            |                |                       | ka Color Ch  |  | 4                                     | J.1.3.    | Alaska Gleyed Without H   | ie 5V or Redder   |
| Histic Epipe   | ` ,  |                            |                |                       | ka eolor en<br>ka Alpine sv  |  | •                                     |           | Underlying Layer  | de 31 of Neddel   |
| =  | Sulfide (A4)   |                            |                |                       | ka Redox W   | •  | •                                     |           | Other (Explain in Remark  | s)  |
| _ ′ -  | Surface (A12   | )                          |                |                       |  |  |                                       |           |   |   |
| Alaska Gley  | •  | ,                          |                |                       |  |  |                                       |           | nary indicator of wetland h   | ydrology,   |
| Alaska Red   |  |                            |                |                       |  |  | e position r                          | •         | esent   |   |
| Alaska Gley  | yed Pores (A1  | 5)                         |                | 4 Give o              | letails of co  | lor change   | e in Remark                           | is .      |   |   |
| Restrictive Laye   | r (if present):  |                            |                |                       |  |  |                                       |           |   |   |
| Typor  |  |                            |                |                       |  |  |                                       |           | Hydric Soil Present   | ? Yes ○ No •  |
| Type:  |  |                            |                |                       |  |  |                                       |           |   |   |
| Depth (inch<br>demarks:<br>ubrnd boulders  |  | soil profile.              | . no hydric so | oil indicato          | rs   |  |                                       |           |   |   |
| Depth (inche   |  | soil profile.              | . no hydric s  | oil indicato          | rs   |  |                                       |           |   |   |
| Depth (inchesternation) Depth  | s throughout   |                            | . no hydric sı | oil indicato          | rs   |  |                                       |           |   |   |
| Depth (inchesternation) Depth  | GY   | ators:                     |                | oil indicato          | rs   |  |                                       |           |   | cators (two or more are required)   |
| Depth (inchestemarks: ubrnd boulders  IYDROLOG  Wetland Hydr  Primary Indicat  | GY rology Indicators (any one  | ators:                     |                |                       |  |  |                                       |           | Water Stair   | ned Leaves (B9)   |
| Depth (inchestemarks: ubrnd boulders  IYDROLOG  Wetland Hydr  Primary Indicat  Surface We  | GY rology Indicators (any one later (A1)   | ators:                     |                |                       | undation Vi  |  | erial Image                           |           | Water Stain Drainage P  | ned Leaves (B9)<br>atterns (B10)  |
| Depth (inchesternation) Depth  | GY rology Indicators (any one later (A1) er Table (A2)   | ators:                     |                | ☐ In:                 | undation Vi<br>arsely Vege   | etated Con   | erial Image<br>scave Surfac           |           | Water Stain Drainage P Oxidized R   | ned Leaves (B9)<br>latterns (B10)<br>hizospheres along Living Roots (C3)  |
| Depth (inchestemarks: ubrnd boulders  IYDROLOG  Wetland Hydr  Primary Indicat  Surface W: High Wate  Saturation  | GY rology Indicators (any one later (A1) er Table (A2)   | ators:                     |                | ☐ Ini                 | undation Vi<br>arsely Vege<br>arl Deposits   | etated Con<br>(B15)  | cave Surfac                           |           | Water Stain Drainage P Oxidized R Presence o  | ned Leaves (B9)<br>latterns (B10)<br>hizospheres along Living Roots (C3)<br>f Reduced Iron (C4)   |
| Depth (inchesternation)  Depth (inchesternatio | GY rology Indicators (any one later (A1) er Table (A2) (A3) eks (B1)   | ators:<br>is sufficier     |                | ☐ Ini<br>☐ Sp<br>☐ Ma | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul   | etated Con<br>(B15)<br>fide Odor                                       | cave Surfac                           |           | Water Stail Drainage P Oxidized R Presence o Salt Depos   | ned Leaves (B9)<br>atterns (B10)<br>hizospheres along Living Roots (C3)<br>f Reduced Iron (C4)<br>its (C5)  |
| Depth (inchested in the latest properties of the latest period in the la | GY  rology Indicators (any one later (A1)  re Table (A2)  (A3)  rks (B1)  Deposits (B2)  | ators:<br>is sufficier     |                | Ini Sp Ma             | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W                                 | etated Con<br>(B15)<br>fide Odor<br>Vater Table                        | cave Surfac<br>(C1)<br>e (C2)         |           | Water Stail Drainage P Oxidized R Presence o Salt Depos Stunted or  | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1)   |
| Depth (inchesternation)  Depth (inchesternatio | GY  rology Indicators (any one later (A1)  re Table (A2)  (A3)  rks (B1)  Deposits (B2)  | ators:<br>is sufficier     |                | Ini Sp Ma             | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul   | etated Con<br>(B15)<br>fide Odor<br>Vater Table                        | cave Surfac<br>(C1)<br>e (C2)         |           | Water Stain Drainage P Oxidized R Presence o Salt Depos Stunted or Geomorphi                                  | ned Leaves (B9)<br>atterns (B10)<br>hizospheres along Living Roots (C3)<br>f Reduced Iron (C4)<br>its (C5)  |
| Depth (inchesternation)  Depth (inchesternatio | GY rology Indicators (any one ater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4)  | ators:<br>is sufficier     |                | Ini Sp Ma             | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W                                 | etated Con<br>(B15)<br>fide Odor<br>Vater Table                        | cave Surfac<br>(C1)<br>e (C2)         |           | Water Stair Drainage P Oxidized R Presence of Salt Depos Stunted or Geomorphi Shallow Ag                      | ned Leaves (B9) hatterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) hits (C5) Stressed Plants (D1) c Position (D2)   |
| Depth (inchesternation)  Depth (inchesternatio | GY rology Indicators (any one ater (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4)  | ators:<br>is sufficier     |                | Ini Sp Ma             | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W                                 | etated Con<br>(B15)<br>fide Odor<br>Vater Table                        | cave Surfac<br>(C1)<br>e (C2)         |           | Water Stair Drainage P Oxidized R Presence of Salt Depos Stunted or Geomorphi Shallow Ag                      | ned Leaves (B9) hitzospheres along Living Roots (C3) f Reduced Iron (C4) hits (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4)                         |
| Depth (inchesternation)  Depth (inchesternatio | GY rology Indicators (any one later (A1) er Table (A2) er (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) bil Cracks (B6)  | ators:<br>is sufficier     | nt)            | Ini Sp Ma             | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W                                 | etated Con<br>(B15)<br>fide Odor<br>Vater Table                        | cave Surfac<br>(C1)<br>e (C2)         |           | Water Stail Drainage P Oxidized R Presence of Salt Depos Stunted or Geomorphi Shallow Aq Microtopog           | ned Leaves (B9) hitzospheres along Living Roots (C3) f Reduced Iron (C4) hits (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4)                         |
| Depth (inchestemarks: ubrnd boulders  IYDROLOG  Wetland Hydr  Primary Indicat  Surface W.  High Wate  Saturation  Water Mar  Sediment I  Drift Depo  Algal Mat of  Iron Depos  Surface So  | GY rology Indicators (any one later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6)   | ators:<br>is sufficier     | nt)            | Ini Sp Ma Hy Dr       | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W                                 | etated Con<br>(B15)<br>fide Odor<br>Vater Tablo<br>n in Remai          | cave Surfac<br>(C1)<br>e (C2)         |           | Water Stail Drainage P Oxidized R Presence of Salt Depos Stunted or Geomorphi Shallow Aq Microtopog           | ned Leaves (B9) hitzospheres along Living Roots (C3) f Reduced Iron (C4) hits (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4)                         |
| Depth (inchesternation)  Surface Water Market M | GY  rology Indicators (any one ater (A1)  re Table (A2)  re (A3)  reks (B1)  Deposits (B2)  sits (B3)  or Crust (B4)  sits (B5)  oil Cracks (B6)  resent?  | ators:<br>is sufficier     | nt)            | Ini Sp Ma Hy Dr       | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W<br>her (Explair                 | etated Con<br>(B15)<br>fide Odor<br>Vater Table<br>n in Remai          | cave Surfac<br>(C1)<br>e (C2)         | te (B8)   | Water Stail Drainage P Oxidized R Presence of Salt Depos Stunted or Geomorphi Shallow Aq Microtopog           | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4) I Test (D5) |
| Depth (inchesternal)  Surface Water Market Mater Market Mater Market Market Market Market Mater Market Mater Table Pressaturation Pressatu | GY  ology Indicators (any one ater (A1)  or Table (A2)  (A3)  or (A3)  or Crust (B4)  sits (B5)  oil Cracks (B6)  itions:  Present?  sent?   | ators: is sufficier  Yes ( | nt)            | Ini Sp Ma Hy Dr Ot    | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W<br>her (Explain<br>epth (inches | etated Con<br>(B15)<br>fide Odor<br>Vater Table<br>n in Remain<br>(S): | cave Surfac<br>(C1)<br>e (C2)         | te (B8)   | Water Stail Drainage F Oxidized R Presence o Salt Depos Stunted or Geomorphi Shallow Aq Microtopog FAC-neutra | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4) I Test (D5) |
| Depth (inchestemarks: aubrnd boulders bubrnd boulders bubrnd boulders bubrnd boulders bubrnd boulders bubrnd boulders bubrnd bub | GY rology Indicators (any one later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) tions: Present? resent? lary fringe)                            | Yes Yes                    | No O No O No O | Ini Sp Ma Hy Dr Ot    | undation Viarsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W<br>her (Explain<br>epth (inches     | etated Con<br>(B15)<br>fide Odor<br>/ater Tablo<br>n in Remai          | cave Surfac<br>(C1)<br>e (C2)<br>rks) | Wetla     | Water Stail Drainage F Oxidized R Presence o Salt Depos Stunted or Geomorphi Shallow Aq Microtopog FAC-neutra | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4) I Test (D5) |
| Depth (inchesternal)  Surface Water Market Mater Market Mater Market Market Market Market Mater Market Mater Table Pressaturation Pressatu | GY rology Indicators (any one later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) tions: Present? resent? lary fringe)                            | Yes Yes                    | No O No O No O | Ini Sp Ma Hy Dr Ot    | undation Viarsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W<br>her (Explain<br>epth (inches     | etated Con<br>(B15)<br>fide Odor<br>/ater Tablo<br>n in Remai          | cave Surfac<br>(C1)<br>e (C2)<br>rks) | Wetla     | Water Stail Drainage F Oxidized R Presence o Salt Depos Stunted or Geomorphi Shallow Aq Microtopog FAC-neutra | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4) I Test (D5) |
| Depth (inchestemarks: aubrnd boulders bubrnd boulders bubrnd boulders bubrnd boulders bubrnd boulders bubrnd boulders bubrnd bub | GY rology Indicators (any one later (A1) er Table (A2) (A3) eks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6) tions: Present? resent? lary fringe)                            | Yes Yes                    | No O No O No O | Ini Sp Ma Hy Dr Ot    | undation Viarsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W<br>her (Explain<br>epth (inches     | etated Con<br>(B15)<br>fide Odor<br>/ater Tablo<br>n in Remai          | cave Surfac<br>(C1)<br>e (C2)<br>rks) | Wetla     | Water Stail Drainage F Oxidized R Presence o Salt Depos Stunted or Geomorphi Shallow Aq Microtopog FAC-neutra | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4) I Test (D5) |
| Depth (inchestemarks: ubrnd boulders  IYDROLOG  Wetland Hydr  Primary Indicat  Surface Water  Saturation  Water Mar  Sediment I  Drift Depo  Algal Mat of  Iron Deposition  Surface So  Field Observa  Surface Water  Water Table Prosaturation Prese  (includes capillosescribe Record  | GY  rology Indicators (any one later (A1)  rater (A3)  rks (B1)  Deposits (B2)  sits (B3)  or Crust (B4)  sits (B5)  oil Cracks (B6)  tions:  Present?  resent?  sent?  lary fringe)  ded Data (stre | Yes Yes Yes                | No O No O No O | Ini Sp Ma Hy Dr Ot    | undation Vi<br>arsely Vege<br>arl Deposits<br>drogen Sul<br>y-Season W<br>her (Explain<br>epth (inches | etated Con<br>(B15)<br>fide Odor<br>/ater Tablo<br>n in Remai          | cave Surfac<br>(C1)<br>e (C2)<br>rks) | Wetla     | Water Stail Drainage F Oxidized R Presence o Salt Depos Stunted or Geomorphi Shallow Aq Microtopog FAC-neutra | ned Leaves (B9) atterns (B10) hizospheres along Living Roots (C3) f Reduced Iron (C4) its (C5) Stressed Plants (D1) c Position (D2) uitard (D3) rraphic Relief (D4) I Test (D5) |

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