WETLAND DETERMINATION DATA FORM - Alaska Region

Applicant/Owner: Alaska Energy Authority Sampling Point: SW13_T155_10	Project	t/Site: Susitna-Watana Hydroelectric Project		Bor	ough/City:	Matanusk	a-Susitna Borough Sampling Date: 31-Jul-13
Local relief (concave, convex, none); convex Slope: 14.0 % / 8.0 ° Elevation: 1080	Applica	ant/Owner: Alaska Energy Authority					Sampling Point: SW13 T155 10
Lat:: 63.213706493 Long:: -148.406042576 Datum: WGS84				La	ndform (hill	side, terrac	
Lat:: 63.213706493 Long:: -148.406042576 Datum: WGS84	Local r	relief (concave, convex, none): convex		SI	ope: 14.0	% / 8.0	° Elevation: 1080
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 "Normal Circumstances" present? Yes No No No Normal Circumstances" present? Yes No No Normal Circumstances" present? Yes No Normal Circumstances present? Yes Normal Circumstances, present yes Normal Circumstances present yes Normal Circumstances present yes Normal Circumstances present yes Normal Circumst	Subrec		l a				
Are climatic/hydrologic conditions on the site typical for this time of year? Are Vegetation	_			05	.213700430	,	
Are Vegetation						■ Na ○	
Sthe Sampled Area within a Wetland? Yes No ● No	Are V Are V	/egetation , Soil , or Hydrology /egetation , Soil , or Hydrology MARY OF FINDINGS - Attach site map s	signific natural	antly d	isturbed? lematic?	Are "N (If nee	ormal Circumstances" present? Yes No O ded, explain any answers in Remarks.)
Wetland Hydrology Present? Yes No					ls	the Sam	pled Area
Remarks:		.,,	_				_
/EGETATION - Use scientific names of plants. List all species in the plot. Indicator Species Dominant Species Indicator Species Number of Dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0% (A/B) Percent of dominant Species That are OBL, FACW, or FAC: 75.0%		Wetland Hydrology Present? Yes O No	0 •		W 1	tiiii a vv	etiana:
Tree Stratum			. List all	speci	es in the	plot.	Dominana Task waytekask
That are OBL, FACW, or FAC: 3 (A) 1.	_						
2.		e Stratum	<u>% Co</u>		Species?	Status	
3.							
4.							Species Across All Strata: 4 (B)
5.	-						
Total Cover: One of Total Cover of: Multiply by: 1. Empetrum nigrum 45 ✓ FAC FACW Species 0.1 x 1 = 0.1 2. Spiraea stevenii 5 FACU FAC Species 63 x 3 = 189 3. Vaccinium uliginosum 5 FAC FACU Species 10 x 4 = 40 4. Salix pulchra 25 ✓ FACW UPL Species 0 x 5 = 0				_			
Sapling/Shrub Stratum 50% of Total Cover: 0 20% of Total Cover: 0 BL Species 0.1 x 1 = 0.1 1. Empetrum nigrum 45 ✓ FAC FACW Species 25 x 2 = 50 2. Spiraea stevenii 5 FACU FAC Species 63 x 3 = 189 3. Vaccinium uliginosum 5 FAC FACU Species 10 x 4 = 40 4. Salix pulchra 25 ✓ FACW UPL Species 0 x 5 = 0	0.	Total Co	ver:				
1. Empetrum nigrum 45	San				Total Cover:	0	0.01.0
2. Spiraea stevenii	Бар	milg/ Sili ub Structuri					011
3. Vaccinium uliginosum 5							
4. Salix pulchra 25 FACW UPL Species 0 x 5 = 0		- <u>'</u>					
		Calinandahaa					
0. Column Totals: QR 1 (Δ) 270 1 (R)		·				FACW	
							Column Totals: <u>98.1</u> (A) <u>279.1</u> (B)
6	1						Prevalence Index = B/A =
8 Hydrophytic Vegetation Indicators:				0			Hydrophytic Vacatation Indicators
0				0			
9	40						
Total Cover: 80		Total Co			f Total Cover	: 16	Morphological Adaptations (Provide supporting data in
1. Festuca altaica 10 ✓ FAC □ Problematic Hydrophytic Vegetation ¹ (Explain)	_			10	✓	FAC	
2. Artemisia norvegica 4 ✓ FACU ¹ Indicators of hydric soil and wetland hydrology must							
3. Sedum rosea 2 FAC be present, unless disturbed or problematic.		Sodum rosoa					be present, unless disturbed or problematic.
4 Carex bigelowii 1 FAC		Corox bigolowii		1		FAC	
5 Pinguicula villosa OBL Plot size (radius, or length x width) 10m		Diserviewle villege		0.1		OBL	
6. Sibbaldia procumbens 1 Sabaldia procumbens 6. Sibbaldia procumbens 5. Sibbaldia procumbens 6. Sibbaldia procumbens 7. Sibbaldia procumbens 7. Sibbaldia procumbens 8. Sibbaldia procumbens 9. Sibba	6.	Cibboldia progumbana		1		FACU	
7	7.			0			% Bare Ground
8 O Total Cover of Bryophytes				0			Total Cover of Bryophytes
9				0			
10	10.			0			
Total Cover: 18.1 Vegetation 50% of Total Cover: 9.05 20% of Total Cover: 3.62 Present? Yes No							Vegetation
50% of Total Cover: 9.05 20% of Total Cover: 3.62 Present? Yes No	<u> </u>	50% of Total Cover:	9.05	20% of	ıotal Cover:	3.62	LIESCHIFT IES ON MO

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SOIL Sampling Point: SW13_T155_10

Depth (inches)	Color (m	nist)	%	Color (moist)	% Ty	pe ¹ <u>Loc</u> ²	Texture	Remarks
0-4	COIOI (III	Jisty	100	color (moist)		<u> </u>	Fibric Organics	
4-6			100				Hemic Organics	-
6-9	7.5YR	3/4	100				Loamy Sand	-
9-14	2.5Y	3/2	100				Sand	
711	2.51	3/2					-	-
							_	
							_	
Type: C=Cond	centration. D	=Depletior	n. RM=Reduce	d Matrix ² Locatio	n: PL=Pore Lini	ing. RC=Root Ch	annel. M=Matrix	-
lydric Soil In		<u> </u>		Indicators for P		_		
Histosol or				Alaska Color C	4		Alaska Gleyed Without H	lue 5Y or Redder
Histic Epipe	` '			Alaska Alpine		_	Underlying Layer	ide 51 of Redder
	Sulfide (A4)			Alaska Redox			\square Other (Explain in Remar	ks)
Thick Dark	Surface (A12	<u>2</u>)		_				
Alaska Gley	yed (A13)			³ One indicator of and an appropria			mary indicator of wetland l	hydrology,
Alaska Red	ox (A14)					-	. 656.110	
Alaska Gley	yed Pores (A	.5)		⁴ Give details of o	olor change in F	Remarks		
estrictive Laye	r (if present)	:						
							Hydric Soil Present	:? Yes ○ No •
Type:							-	
Type: Depth (inche emarks: b hydric soil inc		rved						
Depth (inche		rved						
Depth (inche	dicators obse	rved						
Depth (inche emarks: b) hydric soil incomplete ypprocessing the state of the state	dicators obse	ators:						icators (two or more are required)
Depth (inche emarks: b) hydric soil incomplete of the property	GY Ology Indicors (any one	ators:	ıt)				Water Sta	ined Leaves (B9)
Depth (inche emarks: b) hydric soil incomplete of hydric soil incomplete of hydric soil incomplete of hydrode	GY rology Indictors (any one ater (A1)	ators:	nt)		/isible on Aerial		Water Sta Drainage	ined Leaves (B9) Patterns (B10)
Depth (inche emarks: b hydric soil inco YDROLOG Yetland Hydro Trimary Indicat Surface Wa High Wate	GY ology Indictors (any one ater (A1) or Table (A2)	ators:	nt)	Sparsely Veg	jetated Concave		Water Sta Drainage Oxidized F	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3
Depth (inche emarks: b hydric soil inco YDROLOG Vetland Hydro Surface Wa High Water Saturation	GY ology Indicators (any one ater (A1) or Table (A2) (A3)	ators:	ıt)	Sparsely Veg Marl Deposit	getated Concave s (B15)	Surface (B8)	Water Sta Drainage Oxidized F	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4)
Depth (inche emarks: b hydric soil inco YDROLOG Yetland Hydric soil inco Surface Wa High Water Saturation Water Mar	GY ology Indic cors (any one ater (A1) or Table (A2) (A3) ks (B1)	ators: is sufficien	nt)	Sparsely Veg Marl Deposit Hydrogen Su	getated Concave s (B15) ulfide Odor (C1)	Surface (B8)	Water Sta Drainage Oxidized F Presence Salt Depo:	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5)
Pepth (inche emarks: b hydric soil inco YDROLOG Yetland Hydromary Indicat Surface Wa High Wate Saturation Water Mari Sediment [GY ology Indictors (any one ater (A1) or Table (A2) (A3) Peks (B1) Deposits (B2)	ators: is sufficien	ıt)	Sparsely Veg Marl Deposit Hydrogen St Dry-Season	getated Concave s (B15) ulfide Odor (C1) Water Table (C2	Surface (B8)	Water Sta Drainage Oxidized F Presence Salt Depo	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5) r Stressed Plants (D1)
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Pepth (inche emarks: b hydric soil inco YDROLOG Yetland Hydrogrimary Indicat Surface Wa High Water Saturation Water Mari Sediment I Drift Depos	GY Ology Indictors (any one ater (A1) or Table (A2) (A3) rks (B1) Deposits (B2) sits (B3) or Crust (B4)	ators: is sufficien	nt)	Sparsely Veg Marl Deposit Hydrogen St Dry-Season	getated Concave s (B15) ulfide Odor (C1) Water Table (C2	Surface (B8)	Water Sta Drainage Oxidized F Presence of Salt Deport Stunted of Geomorph Shallow A	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) nic Position (D2) quitard (D3)
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Pepth (inche emarks: b) hydric soil inco Primary Indicat Surface Wa High Water Saturation Water Mar Sediment I Drift Depos Algal Mat c Iron Depos	GY ology Indicators (any one ater (A1) or Table (A2) (A3) oks (B1) Deposits (B2) sits (B3) or Crust (B4) sits (B5) oil Cracks (B6	ators: is sufficien		Sparsely Veg Marl Deposit Hydrogen St Dry-Season	getated Concave s (B15) ulfide Odor (C1) Water Table (C2	Surface (B8)	Water Sta Drainage Oxidized F Presence of Stunted of Geomorph Shallow Ar	ined Leaves (B9) Patterns (B10) Rhizospheres along Living Roots (C3 of Reduced Iron (C4) sits (C5) r Stressed Plants (D1) nic Position (D2) quitard (D3) graphic Relief (D4)
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