# Appendix A

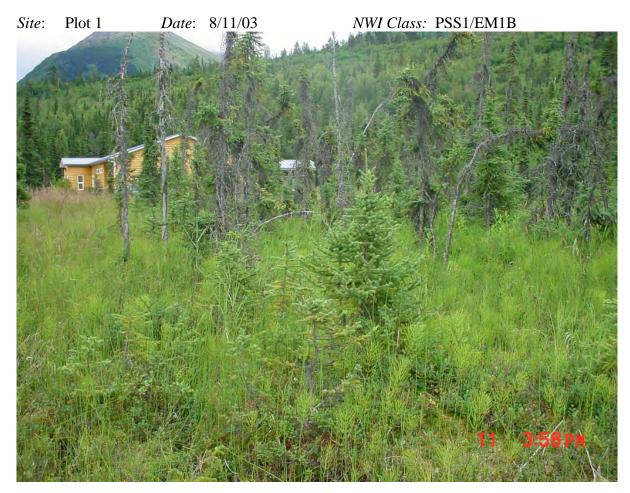
# Wetland Determination Forms and Site Photography

(1987 COE Wetlands Delineation Manual)

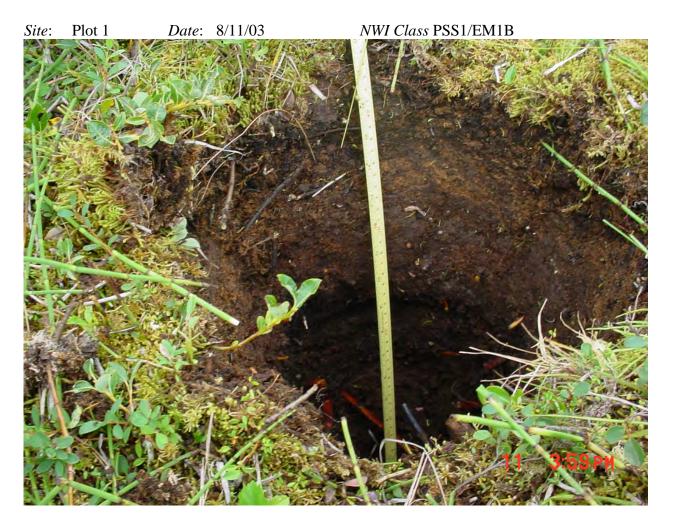
					1			
Project/Site: Sterling Highway Project	ect MP 45 -	60			Date	8/11	1/03	
Applicant / Owner: ADOT&PF					Borough	KPI	3	
Investigators: JDS & MB	State AK							
Do Normal Circumstances exist on t	Community ID	Оре	n blac	k spruce bog				
Is the site significantly disturbed (At	ypical Situ	ation)?	,	□YES ⊠NO	Transect ID	-		
Is the area a potential Problem Area	(If needed, e	xplain o	n reverse)	□YES ⊠NO	Plot ID	Plot	: 1	
Describe Location: Near wayp VEGETATION	rbor Road and	d Sterling	g Hig	hway				
Plant Species	Stratum	%	Indicator	Plant S	pecies	Stratum	%	Indicator
1. Picea mariana*	Т	17	FACW	9. Parnassia pai	lustris	Н	Tr	
2. Vaccinium uliginosum*	S	25	FAC	10. Calamagross canadensis*	tis	Н	15	FAC
3. Betula nana*	S	15	FAC	11. Equisetum ve	ariegatum *	Н	25	FACW
4. Vaccinium vitis-idaea	S	7		12. Equisetum a	rvense*	Н	15	FACU
5. Salix sp.	S	5		13. Empetrum ni	igrum	Н	10	
6. Ledum palustre decumbens	S	5		14. Carex 1		Н	Tr	
7. Rubus chamaemorus	S	5		15. Carex 2		Н	Tr	
8. Comarum palustre	S	6		16. Sphagnum sj	p.	В		
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclu	ding FAC-) 83%				
Remarks: Shrub sized black spruce. * Indicates dominants using 50/20 m								
Describe Vegetation Type: Open, sh	rubby blac	k sprud	ce bog.					
HYDROLOGY	•	•						
Recorded Data (Describe in  Stream, Lake, or Tide C  Aerial Photographs  Other  No Recorded Data Availab	Primary Indicat Int Sat Wa	WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated  Saturated in Upper 12 Inches  Water Marks  Drift Lines  Sediment Deposits						
FIELD OBSER	VATIONS				umage i atterns m	vi cuanas		
Depth of Surface Water	_ i	cators (2 or more)	-	er 12 I	nches			
Depth to Free Water in Pit	Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data FAC-Neutral Test							
Depth to Saturated Soil			8 (i		her (Explain in Re	emarks)		

Remarks: Area seems drier than normal.

OILS					
Map Unit Name (S	Series and Phase):			Drainage Class:	
Taxonomy (Subgr	oup)		Field Observations C	Confirm Mapped Type?	YES NO
		PROFII	LE DESCRIPTION		
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-8	Oi	-			-
8-14	Oe	-			-
14-18	Oa	-			-
		HYDRIC	SOIL INDICATORS:	•	-
Reducing	isture Regime Conditions Low-Chroma Colors		Listed on Listed on	treaking in Sandy Soils Local Hydric Soils List National Hydric Soils Li plain in Remarks)	st
Major root zone: u	upper 18 inches				
WETLAND DE	TERMINATION	<b>N</b>			
Hydrophytic Vege	etation Present?	YES NO			
Wetland Hydrolog	gy Present?	∑YES □ NO	Is this Sampling Poi	int Within a Wetland?	X YES NO
Hydric Soils Prese	ent?	YES NO			
Remarks:					
GPS: Trimble plot Topography: flat NWI Class: PSS1 HGM Type: flat Photos: yes (1-3) Functions: see fun	/EM1B				







(1987 COE Wetlands Delineation Manual)

					T			
Project/Site: Sterling Highway Proje	ect MP 45 -	60			Date	8/12	/03	
Applicant / Owner: ADOT&PF					Borough	KPE	3	
Investigators: JDS & MB	State	AK						
Do Normal Circumstances exist on the	ne site?			⊠YES □NO □YES	Community ID	Black spruce forest		
Is the site significantly disturbed (Aty	Transect ID	-						
Is the area a potential Problem Area?	□YES ⊠NO	Plot ID	Plot	2				
Describe Location: Near waypoversity Near Waypov	grocery store.							
Plant Species	Stratum	%	Indicator	Plant S	pecies	Stratum	%	Indicator
1. Picea mariana*	T	20	FACW	9.				
2. Comarum palustre	Н	5		10.				
3. Equisetum pratense*	Н	50	FACW	11.				
4. Calamagrostis canadensis	Н	5		12.				
5. Rubus chamaemorus*	Н	15	FACW	13.				
6. Empetrum nigrum*	S	5	FAC	14.				
7. Vaccinium vitis-idaea*	S	5	FAC	15				
8.				16.				
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclud	ling FAC-) 100%				
Remarks:  * Indicates dominants using 50/20 me  Describe Vegetation Type: black spr		with ho	orsetail under	story. Adjacent area	as have more black	spruce.		
HYDROLOGY								
Recorded Data (Describe in Stream, Lake, or Tide GA Aerial Photographs Other  No Recorded Data Available	WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated  Saturated in Upper 12 Inches  Water Marks  Drift Lines  Sediment Deposits							
FIELD OBSER	VATIONS				rainage Patterns in	Wettands		
Depth of Surface Water		icators (2 or more ladications)	-	er 12 I1	nches			
Depth to Free Water in Pit	Oxidized Root Channels in Upper 12 Inches  Water-Stained Leaves  Local Soil Survey Data							
Depth to Saturated Soil			6 (ir		FAC-Neutral Test Other (Explain in Remarks)			

OILS									
Map Unit Name	e (Series and Phase):			Drainage Class:					
Taxonomy (Sub	ogroup)		Field Observations	Confirm Mapped Type?	onfirm Mapped Type? YES NO				
		PROFI	LE DESCRIPTION						
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.				
0-6	Oi	-			-				
6-7.5	Oe	-			-				
7.5-8	A	10YR2/2			Clay loam with organics mixed in.				
8-16	В	4/10Y	10YR3/4	Coarse, common	Silty clay loam				
			5N	Fine, few					
		HYDRIC	SOIL INDICATORS:	-					
Reducir	Moisture Regime ng Conditions or Low-Chroma Colors		Listed on	Local Hydric Soils List National Hydric Soils Li xplain in Remarks)	st				
WETLAND D	DETERMINATION	N .							
Hydrophytic Ve	egetation Present?	∑YES □ NO							
Wetland Hydro	logy Present?	⊠YES □ NO	Is this Sampling Po	oint Within a Wetland?	∑ YES □ NO				
Hydric Soils Pr	esent?	⊠YES □ NO							
Remarks:									
GPS: Trimble p Topography: ht NWI Class: PFO HGM Type: fla Photos: yes Functions: see f	ummocky O4/EM2B t								









(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project	ect MP 45 -	60				Date	8/12	2/03		
Applicant / Owner: ADOT&PF	Applicant / Owner: ADOT&PF							gh KPB		
Investigators: JDS & MB	Investigators: JDS & MB							AK		
Do Normal Circumstances exist on t	Community ID	Blac	ck spru	ice bog						
Is the site significantly disturbed (At	ypical Situa	ation)?	,		□YES ⊠NO	Transect ID	-			
Is the area a potential Problem Area	(If needed, e	xplain o	n reverse)		□YES ⊠NO	Plot ID	Plot	: 3		
Describe Location: Near wayp VEGETATION	rk Alt returns	to Sterling Hig	ghway							
Plant Species	Stratum	%	Indicato	r	Plant Sp	pecies	Stratum	%	Indicator	
1. Picea mariana*	Т	25	FACW	9	. Comarum pal	ustre	Н	Tr		
2. Empetrum nigrum*	S	30	FAC	1	0. Calamagrost	is canadensis	Н	Tr		
3 Ledum palustre decumbens *	S	15	FACW	1	1. Carex1		Н	Tr		
4. Equisetum arvense*	Н	20	FACU	1	2. Carex 2		Н	Tr		
5. Rubus chamaemorus	S	12		1	3. Carex utricu	ılata	Н	Tr		
6. Betula nana	S	5		1	4. Eriphorum a	ngustifolium	Н	Tr		
7. Vaccinium uliginosum	S	12		1	5. Salix sp.		S	Tr		
8. Vaccinium vitis-idaea	S	5		1	6. Alnus viridis	sinuata	S	Tr		
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exc	ludin	g FAC-) <b>75%</b>					
Remarks: Shrub sized black spruce * Indicates dominants using 50/20 m  Describe Vegetation Type: Black sp										
HYDROLOGY				-						
Recorded Data (Describe in Remarks)  Stream, Lake, or Tide Gauge Aerial Photographs Other  No Recorded Data Available					WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated  Saturated in Upper 12 Inches  Water Marks  Drift Lines  Sediment Deposits					
FIELD OBSERVATIONS						ainage Patterns in	Wettands (	adjacei	it creek)	
Depth of Surface Water N/a (in)					· —	cators (2 or more l	-	er 12 Iı	nches	
Depth to Free Water in Pit 16 (in)					Local Soil Survey Data					
Depth to Saturated Soil			3	(in)	FAC-Neutral Test Other (Explain in Remarks)					

Map Unit Name (S	Series and Phase):			Drainage Class:	
Taxonomy (Subgr	oup)		Field Observations C	Confirm Mapped Type?	YES NO
		PROFII	LE DESCRIPTION		
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-18	Oi	-			-
		HYDRIC	SOIL INDICATORS:	1	
Reducing Gleyed or	dor (mild) isture Regime Conditions Low-Chroma Colors		Listed on Listed on	treaking in Sandy Soils Local Hydric Soils List National Hydric Soils List plain in Remarks)	st
Remarks:  Major root zone: u	upper 18"				
WETLAND DE	CTERMINATION	J			
Hydrophytic Vege	etation Present?	∑YES □ NO			
Wetland Hydrolog	gy Present?	YES NO	Is this Sampling Poi	int Within a Wetland?	∑ YES □ NO
Hydric Soils Prese	ent?	YES NO			
Remarks:					
GPS: Trimble plo Topography: sligh NWI Class: PSSI HGM Type: flat Photos: yes Functions: see fur	ntly hummocky 1/4B				





Site: Plot 3 Date: 8/12/03 NWI Class: PSS1/4B



(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project	ect MP 45 -	60				Date 8/12/03			
Applicant / Owner: ADOT&PF	Applicant / Owner: ADOT&PF						KPF	3	
Investigators: JDS & MB	State AK								
Do Normal Circumstances exist on t	ne site?			[	⊠YES □NO	Community ID	Birc	h/spru	ce upland
Is the site significantly disturbed (At	ypical Situa	ation)?	,	[	□YES ⊠NO	Transect ID	-		
Is the area a potential Problem Area?	(If needed, e	xplain o	n reverse)	[	□YES ⊠NO	Plot ID	Plot	4	
Describe Location: Near wayp VEGETATION	oint c9, c	off of	transmissi	ion li	ine, close to v	where Cooper	Crk Alt	retur	ns to hwy
Plant Species	Stratum	%	Indicator		Plant Sp	pecies	Stratum	%	Indicator
1. Betula papyrifera*	T	10	FACU	9. <i>I</i>	Equisetum arv	vense*	Н	10	FACU
2. Picea lutzii*	T	15	NI	10.	Linnaea bore	ealis	S	8	
3. Salix sp.	Т	Tr		11.	Calamagrost	is canadensis	Н	5	
4. Rosa acicularis*	S	20	FACU	12. *	Chamerion a	ngustifolium	Н	7	FACU
5. Geocaulon lividum	Н	5		13.	Cornus cana	densis	Н	5	
6. Vaccinium vitis-idaea*	S	10	FAC	14.	Lycopodium	annotinum*	Н	7	FAC
7. Empetrum nigrum	S	7		15 /	Rubus specta	bilis	S	Tr	
8. Ledum palustre decumbens	S	Tr		16.					
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclud	ding F	FAC-) <b>33%</b>				
Remarks : Several cut down trees (fo * Indicates dominants using 50/20 m Describe Vegetation Type: open paper	ethod.	z spru	ce forest						
HYDROLOGY									
Recorded Data (Describe in Remarks)  Stream, Lake, or Tide Gauge Aerial Photographs Other  No Recorded Data Available					WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits				
FIELD OBSERVATIONS						ninage Patterns in	VV Ctiarias		
Depth of Surface Water N/a (in)					<u> </u>	cators (2 or more I	-	er 12 Iı	nches
Depth to Free Water in Pit			N/a (ir	1)	Local Soil Survey Data				
Depth to Saturated Soil			N/a (ir	n)	=	FAC-Neutral Test Other (Explain in Remarks)			

Map Unit Name	(Series and Phase):			Drainage Class:					
Taxonomy (Subg	group)		Field Observations (	ations Confirm Mapped Type? YES NO					
		PROFIL	LE DESCRIPTION						
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.				
0-3	Oi	-			-				
3-4	A	7.5YR3/3			loam				
4-12	B1	2.5Y4/2 (80%)			Clay loam				
		2.5Y4/3 (15%)							
		10YR4/2 (5%)							
12-16	B2	2.5Y4/3			Very gravelly clay loam with rocks and cobbles				
		HYDRIC	SOIL INDICATORS:						
_	g Conditions or Low-Chroma Colors		_	National Hydric Soils Li aplain in Remarks)					
VETLAND D	ETERMINATIO	v							
	getation Present?	YES NO							
Wetland Hydrole		YES NO	Is this Sampling Po	int Within a Wetland?	YES NO				
Hydric Soils Pre		YES NO							
Remarks: Bald eagle, and	evidence of moose bro	wse							
GPS: Trimble pl Topography: NWI Class: U HGM Type: U Photos: yes Functions: wildl									







(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Proj	ect MP 45 -	- 60			Date	8/12	2/03	
Applicant / Owner: ADOT&PF					Borough	KPI	3	
Investigators: JDS & MB					State	AK		
Do Normal Circumstances exist on	Do Normal Circumstances exist on the site?						ck spru ergent b	
Is the site significantly disturbed (A	□YES ⊠NO	Transect ID	-					
Is the area a potential Problem Area	? (If needed, e	xplain o	on reverse)	□YES ⊠NO	Plot ID	Plot	5	
Describe Location: no waypoi VEGETATION	nt, near v	where	G alts ret	turn to highway				
Plant Species	Stratum	%	Indicator	Plant S	pecies	Stratum	%	Indicator
1. Picea mariana*	Т	17	FACW	9. Rubus chama	emorus	S	Tr	
2. Alnus viridis sinuata *	S	7	FAC	10. Ledum palus decumbens	stre	S	Tr	
3. Equisetum arvense*	Н	45	FACU	11. Vaccinium u	liginosum	S	Tr	
4. Carex aquatilis*	Н	12	OBL	12. Vaccinium v	itis-idaea	S	Tr	
5. Betula nana	S	5		13. Calamagros	tis canadensis	Н	Tr	
6. Salix barclayi*	S	10	FAC	14.				
7. Comarum palustre	Н	Tr		15				
8. Empetrum nigrum	S	5		16.				
Percent of Dominant Species that ar	e OBL, FA	CW, or	FAC (exclu	ding FAC-) 80%		•		ı
Remarks: Shrub sized black spruce * Indicates dominants using 50/20 n  Describe Vegetation Type: shrubby	nethod.	e and e	equisetum.					
HYDROLOGY								
Recorded Data (Describe in  Stream, Lake, or Tide of Aerial Photographs Other  No Recorded Data Availal	WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands (small creek							
FIELD OBSE		runnir	ng nearby)					
Depth of Surface Water	n) Secondary Indicators (2 or more Required): Oxidized Root Channels in Upper 12 Inches							
Depth to Free Water in Pit			3 (i	$ \begin{array}{c c} \hline W \\ \hline Lo \end{array} $	Water-Stained Leaves			
Depth to Saturated Soil								

0 (in)

Remarks:

Depth to Saturated Soil

Map Unit Name (S	Series and Phase):			Drainage Class:				
Taxonomy (Subgro	oup)		Field Observations C	ations Confirm Mapped Type? YES NO				
		PROFII	LE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-18	Oi	-			-			
		HYDRIC S	SOIL INDICATORS:					
Sulfidic Oo Aquic Moi Reducing O Gleyed or	isture Regime		Listed on I Listed on I	treaking in Sandy Soils Local Hydric Soils List National Hydric Soils Li plain in Remarks)	st			
Major root zone: u	pper 18"							
WETLAND DE	TERMINATION							
Hydrophytic Vege		YES NO						
Wetland Hydrolog	gy Present?	⊠YES □ NO	Is this Sampling Point	nt Within a Wetland?	∑ YES □ NO			
Hydric Soils Prese	ent?	⊠YES □ NO						
Remarks:								
GPS: Trimble plot Topography: humn NWI Class: PSS4/ HGM Type: flat/ri Photos: yes Functions: see form	mocky /EM2B iverine (Kenai River)							







(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project	ect MP 45 -	60			Date	8/13	3/03		
Applicant / Owner: ADOT&PF					Borough	KPI	KPB		
Investigators: JDS & MB	Investigators: JDS & MB								
Do Normal Circumstances exist on t	Community ID	ity ID Hemlock forest							
Is the site significantly disturbed (At	ypical Situa	ation)?		□YES ⊠NO	Transect ID	-			
Is the area a potential Problem Area?	(If needed, e	xplain o	n reverse)	□YES ⊠NO	Plot ID	Plot	6		
Describe Location: Near wayp VEGETATION									
Plant Species	Stratum	%	Indicator	Plant	Species	Stratum	%	Indicator	
1. Tsuga mertensiana*	T	30	FAC	9.					
2. Rubus pedatus	Н	Tr		10.					
3. Vaccinium vitis-idaea*	S	10	FAC	11.					
4. Ledum palustre decumbens *	S	5	FACW	12.					
5. Geocaulon lividum*	Н	20	FACU	13.					
6. Empetrum nigrum*	S	10	FAC	14.					
7. Betula papyrifera*	T	10	FACU	15					
8.				16.					
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclud	ling FAC-) <b>66%</b>					
Remarks: Several downed trees. * Indicates dominants using 50/20 m  Describe Vegetation Type: hemlock									
HYDROLOGY									
Recorded Data (Describe in  Stream, Lake, or Tide C  Aerial Photographs  Other  No Recorded Data Availab	Primary Indic	WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits							
FIELD OBSER	VATIONS				Prainage Patterns in	wettands			
Depth of Surface Water	_	dicators (2 or more	_	or 10 I	nches				
Depth to Free Water in Pit		Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data			iciics				
Depth to Saturated Soil			N/a (ir		FAC-Neutral Test Other (Explain in Remarks)				

JOILS								
Map Unit Name (S	Series and Phase):			Drainage Class:				
Taxonomy (Subgr	oup)		Field Observations C	Confirm Mapped Type?	onfirm Mapped Type? YES NO			
		PROFI	LE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-4	Oi	-			-			
4-5	A	7.5YR2.5/1			Loam			
5-8	Е	10YR4/2			Sandy clay loam			
8-14	В	7.5YR3/4			Sandy loam			
14-18	B/C	2.5Y3/3			Gravelly sandy loam			
_								
Histosol		HYDRIC	SOIL INDICATORS:					
Reducing Gleyed or	oisture Regime Conditions Low-Chroma Colors o medium sized cobbl	s les in B and B/C horizon	Listed on Listed on Other (Ex	Streaking in Sandy Soils Local Hydric Soils List National Hydric Soils Li xplain in Remarks)	ıst			
Major root zone:								
WETLAND DE	ETERMINATIO	N						
Hydrophytic Vege	etation Present?	⊠YES □ NO						
Wetland Hydrolog	gy Present?	☐YES ⊠ NO	Is this Sampling Po	oint Within a Wetland?	YES NO			
Hydric Soils Prese	ent?	☐YES ⊠ NO	7					
Remarks:								
GPS: Trimble plot Topography: slope NWI Class: U HGM Type: U Photos: yes Functions:								







(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project	Date	8/13	3/03					
Applicant / Owner: ADOT&PF	Borough							
Investigators: JDS & MB		State	AK					
Do Normal Circumstances exist on t	∑YES	Community ID Paper birch upla			h upland			
Is the site significantly disturbed (At		ation)?		□NO □YES	Transect ID	- up		пирини
-				NO □YES		- -		
Is the area a potential Problem Area?				⊠NO	Plot ID	Plot	: 7	
<b>Describe Location: No waypoi</b> VEGETATION	m access road (	Cooper Crk Al	t)					
Plant Species	Stratum	%	Indicator	Plant S	pecies	Stratum	%	Indicator
1. Betula papyrifera*	Т	15	FACU	9. Tsuga hetero	phylla*	T	5	FAC
2. Picea lutzii	T	Tr		10.				
3. Lupinus nootkatensis*	Н	15	FAC	11.				
4. Empetrum nigrum*	S	20	FAC	12.				
5. Arctostaphylos uva-ursi*	S	50	np	13.				
6. Vaccinium vitis-idaea	S	15		14.				
7. Linnaea borealis	S	10		15				
8. Geocaulon lividum*	Н	20	FACU	16. feather moss	S	В		
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclud	ling FAC-) <b>50%</b>				
Remarks : several dead stumps – several fallen trees.  * Indicates dominants using 50/20 method.  Describe Vegetation Type: Open paper birch forest								
HYDROLOGY								
Recorded Data (Describe in Remarks)  Stream, Lake, or Tide Gauge Aerial Photographs Other  No Recorded Data Available				WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands				S
FIELD OBSER		amage ratterns in	Wellanus					
Depth of Surface Water	Depth of Surface Water N/a (in)					Required): nels in Upp	er 12 I	nches
Depth to Free Water in Pit			Oxidized Root Channels in Upper 12 In  Water-Stained Leaves  Local Soil Survey Data					
Depth to Saturated Soil			N/a (ii	FAC-Neutral Test Other (Explain in Remarks)				

OILS					
Map Unit Name	(Series and Phase):			Drainage Class:	
Taxonomy (Subg	roup)		Field Observations C	Confirm Mapped Type?	YES NO
		PROFII	LE DESCRIPTION		
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-2	Oi	-			-
2-2.5	A	10YR2/1			loam
2.5-5.5	Е	10YR4/2			Sandy clay loam
5.5-13.5	В	7.5YR3/4			Gravelly loam
13.5-16	B/C	2.5Y3/2			Very gravelly loam
		INVDDIC	SOIL INDICATORS:		
Reducing Gleyed or	oisture Regime g Conditions r Low-Chroma Colors small and medium siz		Listed on Listed on Other (Ex	Streaking in Sandy Soils Local Hydric Soils List National Hydric Soils Li splain in Remarks)  ma color in A horizon is c	
WETLAND DI	ETERMINATIO	N			
Hydrophytic Veg	getation Present?	☐YES ⊠ NO (50 %)			
Wetland Hydrolo	ogy Present?	YES NO	Is this Sampling Po	oint Within a Wetland?	YES NO
Hydric Soils Pres	sent?	YES NO			
Remarks:  GPS: Trimble plot Topography: top NWI Class: U HGM Type: U Photos: yes Functions:					







(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project		Date	8/13	3/03					
Applicant / Owner: ADOT&PF		Borough	KPI	3					
Investigators: JDS & MB					State	e AK			
Do Normal Circumstances exist on t	he site?			⊠YES □NO	Community ID	hem	hemlock forest		
Is the site significantly disturbed (At	ypical Situa	ation)?	,	□YES ⊠NO	Transect ID	-			
Is the area a potential Problem Area?	(If needed, e	xplain o	on reverse)	□YES ⊠NO	Plot ID	Plot	: 8		
Describe Location: Near wayp VEGETATION	er Creek Alt)								
Plant Species	Stratum	%	Indicator	Plant S <sub>I</sub>	pecies	Stratum	%	Indicator	
1. Geocaulon lividum*	Н	15	FACU	9. Chamerion ar	ngustifolium	Н	Tr		
2. Vaccinium vitis-idaea*	S	25	FAC	10. Orthilia secu	<u> </u>	Н	5		
3. Tsuga mertensiana*	Т	20	FAC	11. Cornus cana	ıdensis	Н	Tr		
4. Empetrum nigrum*	S	10	FAC	12. <i>Salix</i> sp.		Т	Tr		
5. Menziesia ferruginea	S	7		13. Betula papyr	rifera	Т	Tr		
6. Ledum palustre decumbens	S	5		14.					
7. Lycopodium annotinum*	Н	15	FAC	15	15				
8. Alnus viridis sinuata	S	5		16.					
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclu	ding FAC-) <b>80%</b>		<u>.I</u>	1	<u>I</u>	
Remarks: Many dead trees – fallen a * Indicates dominants using 50/20 m  Describe Vegetation Type: hemlock	ethod.	'n							
HYDROLOGY									
Recorded Data (Describe in  Stream, Lake, or Tide C  Aerial Photographs  Other  No Recorded Data Availab	Primary Indicated Into Into Into Into Into Into Into Into	WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands							
FIELD OBSER		umage i unemo m	VV Columbs						
Depth of Surface Water			N/a (in	(in) Secondary Indicators (2 or more Required):  Oxidized Root Channels in Upper 12 Inch				nches	
Depth to Free Water in Pit			N/a (ii	n) \begin{array}{c} \Box Wa \\ \Box Lo \\ \Box \end{array}	ater-Stained Leave cal Soil Survey D	es			
Depth to Saturated Soil			N/a (in		FAC-Neutral Test Other (Explain in Remarks)				

SOILS				1				
Map Unit Name (	(Series and Phase):	Drainage Class:	Drainage Class:					
Taxonomy (Subg	roup)		Field Observations Confirm Mapped Type?  YES NO					
		PROFI	LE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-5	Oi	-			-			
5-6	A	10YR2/2			loam			
6-9	Е	10YR4/2			Sandy clay loam			
9-15	В	10YR3/4			Gravelly loam			
15-18	B/C	2.5Y4/4			Very gravelly loam			
		HYDRIC	SOIL INDICATORS:					
Reducing Gleyed or		bles in B and B/C horize	Listed on Other (Ex	Local Hydric Soils List National Hydric Soils Li plain in Remarks)	st			
•								
WETLAND DI	ETERMINATIO	N						
Hydrophytic Veg	getation Present?	YES NO						
Wetland Hydrolo	ogy Present?	☐YES ⊠ NO	Is this Sampling Po	int Within a Wetland?	YES NO			
Hydric Soils Pres	sent?	YES NO						
Remarks:		-						
GPS: Trimble plo Topography: slig NWI Class: U HGM Type: U Photos: yes Functions: Aspect: 4 degrees	ht slope							







(1987 COE Wetlands Delineation Manual)

[ <del></del>					т				
Project/Site: Sterling Highway Project	Date	ate 8/13/03							
Applicant / Owner: ADOT&PF					Borough	KPE	3		
Investigators: JDS & MB					State	AK			
Do Normal Circumstances exist on t	he site?			⊠YES □NO	Community ID	nmunity ID Fern horsetail upland			
Is the site significantly disturbed (At	ypical Situa	ation)?	!	□YES ⊠NO	Transect ID	-			
Is the area a potential Problem Area	? (If needed, e	xplain o	on reverse)	 □YES ⊠NO	Plot ID	Plot	9		
Describe Location: Near wayp VEGETATION	_	eek campgroui	ıd (next p	pullou	ıt)				
Plant Species	Stratum	%	Indicator	Plant S <sub>I</sub>	pecies	Stratum	%	Indicator	
1. Betula papyrifera*	T	10	FACU	9. Calamagrosti	is canadensis	Н	10		
2. Picea sitchensis*	Т	12	FACU	10. Equisetum a	rvense*	Н	30	FACU	
3. Tsuga mertensiana	Т	Tr		11. Rosa acicula	ıris	S	Tr		
4. Alnus viridis sinuata *	S	5	FAC	12. Cornus cana	ıdensis	Н	Tr		
5. Chamerion angustifolium	Н	15		13. Gymnocarpi dryopteris*	13. Gymnocarpium dryopteris*			FACU	
6. Linnaea borealis*	S	5	FACU	14. Rubus pedat	14. Rubus pedatus				
7. Vaccinium vitis-idaea	S	Tr		15. Lycopodium	15. Lycopodium annotinum				
8. Sanguisorba stipulata	Н	5		16. Trientalis eu		Н	Tr		
		<u> </u>		17. <i>Oplopanax l</i>	horridus	Н	Tr		
Percent of Dominant Species that are Remarks: Lots of downed trees, Sittle				•					
* Indicates dominants using 50/20 m		Эреаг і	.0 be planted	(beene minganon:)					
Describe Vegetation Type: Oak fern	n horsetail i	ınland	with paper b	irch and Sitka spruce	<b>1</b>				
HYDROLOGY	, norseum e	рин	With paper 5.	nen and bicka spiace	<u>′</u>				
Recorded Data (Describe in	Damarke)			WETLAND HYDROLOGY INDICATORS					
				Primary Indicat					
Stream, Lake, or Tide C  Aerial Photographs	Jauge				undated turated in Upper 1	2 Inches			
Other				_	Saturated in Upper 12 Inches Water Marks				
No Recorded Data Availab	مام				rift Lines				
NO recorded Data rivariae	ic				diment Deposits				
FIELD OBSER		rainage Patterns in	Wetlands						
Depth of Surface Water			N/a (ir	2) 6					
Depui of Surface water			14/a (11	<u> </u>	icators (2 or more ladicators)	-	er 12 Iı	nches	
Depth to Free Water in Pit			N/a (ir	$\square$ Wa	ater-Stained Leave	es			
Deput to Fice water in Fit				Local Soil Survey Data					
Depth to Saturated Soil			N/a (ir		FAC-Neutral Test Other (Explain in Remarks)				

OILS								
Map Unit Name (	Series and Phase):	Drainage Class:	Drainage Class:					
Taxonomy (Subgr	oup)		Field Observations C	Confirm Mapped Type?	YES NO			
		PROFIL	LE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.			
0-4	Oi	-			-			
4-6	Е	10YR4/2			loam			
6-12	B1	10YR3/3			loam			
12-18	B2	2.5Y4/3			loam			
		HYDRIC	SOIL INDICATORS:					
Reducing	isture Regime Conditions Low-Chroma Colors		Listed on	Local Hydric Soils List National Hydric Soils Li plain in Remarks)	st			
Major root zone: u	ıpper 12"							
WETLAND DE	ETERMINATIO	N						
Hydrophytic Veg		YES NO						
Wetland Hydrolo	gy Present?	☐YES ⊠ NO	Is this Sampling Po	int Within a Wetland?	YES NO			
Hydric Soils Present?								
Remarks:		·	•					
GPS: Trimble plo Topography: NWI Class: U HGM Type: U Photos: yes	t 9							







(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60						Date	8/14	1/03	
Applicant / Owner: ADOT&PF	Borough	КРВ							
Investigators: JDS & MB	State	AK							
Do Normal Circumstances exist on t	Community ID	Fireweed, grass, birch meadow							
Is the site significantly disturbed (At	ypical Situa	ation)?	•		□YES ⊠NO	Transect ID	-		
Is the area a potential Problem Area?	(If needed, e	xplain o	on reverse)		□YES ⊠NO	Plot ID	Plot	10	
Describe Location: Near waypoint c4 along Cooper Creek Alt. New VEGETATION						ransmission li	ne.		
Plant Species	Stratum	%	Indicator		Plant Sp	pecies	Stratum	%	Indicator
1. Betula papyrifera*	Т	15	FACU	9.	Linnaea bored	alis*	S	5	FACU
2. Alnus viridis sinuata *	S	10	FAC	10	. Sambucus ra	cemosa	S	Tr	
3. Chamerion angustifolium *	Н	20	FACU	11.	. Rubus pedati	us	S	5	
4. Rosa acicularis*	S	5	FACU	12.	. Trientalis eu	ropaea	Н	5	
5. Picea lutzii	Т	Tr			. Gymnocarpii yopteris*	um	Н	15	FACU
6. Streptopus amplexifolius	Н	Tr		14.	. Cornus cana	densis	Н	Tr	
7. Equisetum arvense*	Н	15	FACU	15.	. Orthilia secu	ında	Н	Tr	
8. Calamagrostis Canadensis*	H 15 FAC 16. Athyrium fi				. Athyrium fili	x-femina	Н	Tr	
Percent of Dominant Species that are	OBL, FAC	CW, or	FAC (exclud	ding	FAC-) <b>25%</b>				
Remarks: * Indicates dominants using 50/20 m									
Describe Vegetation Type: upland m <b>HYDROLOGY</b>	eadow								
Recorded Data (Describe in Remarks)  Stream, Lake, or Tide Gauge Aerial Photographs Other  No Recorded Data Available					WETLAND HYDROLOGY INDICATORS  Primary Indicators:  Inundated Saturated in Upper 12 Inches Water Marks Drift Lines Sediment Deposits Drainage Patterns in Wetlands				
FIELD OBSERVATIONS						amage 1 atterns m	Wetlands		
Depth of Surface Water N/a (in) Sec					<u> </u>	cators (2 or more lidized Root Chan	-	er 12 Iı	nches
Depth to Free Water in Pit N/a (in)					Oxidized Root Channels in Upper 12 Inches Water-Stained Leaves Local Soil Survey Data				
Depth to Saturated Soil			N/a (ii	1)		.C-Neutral Test her (Explain in Re	marks)		