SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-3	Oi	-			-
3-5	E/B	7.5YR3/3			Sandy clay loam
5-14	B	10YR4/3			Gravelly loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:small cobbles in bottom of B horizon, very hard digging.

Major root zone: upper 12”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☐ YES ☒ NO	

Remarks:
Songbirds and squirrel

GPS: Trimble plot 10
Topography:
NWI Class: U
HGM Type: U
Photos: yes
Functions: wildlife habitat

Site: Plot 10 *Date*: 8/14/03 *NWI Class*: Upland

Site: Plot 10 *Date*: 8/14/03 *NWI Class*: Upland

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Black spruce bog
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 14

Describe Location: Near waypoint jc1, north of Slaughter Ridge Road

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Picea mariana**	T	10	FACW	9. *Equisetum arvense*	H	Tr	
2. *Dasiphora floribunda **	S	25	FAC	10. *Calamagrostis canadensis*	H	Tr	
3. *Salix barclayi*	S	5		11. *Iris setosa**	H	12	FAC
4. *Equisetum variegatum**	H	10	FACW	12. *Arctostaphylos alpina**	S	10	FAC
5. *Empetrum nigrum*	S	5		13. *Carex aquatilis**	H	15	OBL
6. *Vaccinium oxycoccos*	S	Tr		14. *Andromeda polifolia*	S	Tr	
7. *Parnassia palustris*	H	Tr		15 *Betula nana**	S	10	FAC
8. *Ledum palustre decumbens*	S	Tr		16. *Alnus viridis sinuata*	S	Tr	

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **100%**

Remarks : Traces of cotton grass, grass sp. and Rumex sp.
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Black spruce bog (spruce less than 20 feet on average).

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	13	(in)
Depth to Saturated Soil	3	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☒Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☒Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☒FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-16	Oi				
16-19	Oe				

HYDRIC SOIL INDICATORS:

- ☒ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Major root zone: upper 14”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ YES ☐ NO	Is this Sampling Point Within a Wetland? ☒ YES ☐ NO
Wetland Hydrology Present?	☒ YES ☐ NO	
Hydric Soils Present?	☒ YES ☐ NO	

Remarks:

GPS: Trimble plot 14
Topography: flat
NWI Class: PSS1/EM1B
HGM Type: flat, depressionial
Photos: yes
Functions: see form

Site: Plot 14 *Date*: 8/15/03 *NWI Class*: PSS1/EM1B

Site: Plot 14 *Date*: 8/15/03 *NWI Class*: PSS1/EM1B

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/14/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Horsetail, fireweed, grass meadow
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 11

Describe Location: No waypoint, off Sterling Highway near Gwinn's.

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Betula papyrifera**	T	10	FACU	9. *Cornus canadensis*	H	5	
2. *Picea lutzii**	T	10	NI	10. *Calamagrostis Canadensis**	H	15	FAC
3. *Rosa acicularis*	S	5		11. *Rubus pedatus*	H	Tr	
4. *Vaccinium vitis-idaea**	S	15	FAC	12. *Ledum palustre decumbens*	S	5	
5. *Empetrum nigrum**	S	10	FAC	13. *Equisetum arvense**	H	25	FACU
6. *Lycopodium annotinum*	H	5		14. *Spireaea stevenii*	S	Tr	
7. *Chamerion angustifolium* *	H	15	FACU	15.			
8. *Geocaulon lividum*	H	5		16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **50%**

Remarks :
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Horsetail, fireweed, grass meadow with some birch and spruce

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	N/a	(in)
Depth to Saturated Soil	N/a	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☐Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☐Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☐FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Oi	-			-
4-6	A	10YR 3/3			loam
6-18	B	2.5Y3/2	10YR3/4	Medium, common	Clay loam
			10YR4/1	Fine, few	

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Major root zone: upper 9”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☒ YES ☐ NO	

Remarks: moose pellets in plot

GPS: Trimble plot 11
Topography:
NWI Class: U
HGM Type: U
Photos: yes
Functions: wildlife habitat

Site: Plot 11 *Date*: 8/14/03 *NWI Class*: Upland

Site: Plot 11 *Date*: 8/14/03 *NWI Class*: Upland

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/14/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Birch/aspen forest
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 12

Describe Location: Near waypoint n1, across highway from Sunrise Grill

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Populus tremuloides**	T	15	FACU	9. *Shepherdia canadensis*	S	5	
2. *Betula papyrifera**	T	15	FACU	10. *Vaccinium vitis-idaea*	S	Tr	
3. *Empetrum nigrum**	S	10	FAC	11. *Lupinus* sp.	H	Tr	
4. *Linnaea borealis**	S	20	FACU	12. *Ledum palustre decumbens*	S	Tr	
5. *Cornus canadensis*	H	Tr		*13. Viburum edule*	S	5	
6. *Geocaulon lividum**	H	20	FACU	14. *Picea lutzii**	T	10	NI
7. *Rosa acicularis*	S	5		15. Grass sp.	H	Tr	
8. *Chamerion angustifolium* *	H	15	FACU	16. *Salix* sp.	S	Tr	

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **17%**

Remarks :
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Paper birch and aspen forest.

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS		
Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	N/a	(in)
Depth to Saturated Soil	N/a	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☐Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☐Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☐FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-4	Oi	-			-
4-6	A	5YR3/1			loam
6-8	E	10YR4/1			Clay loam
8-15	B	10YR4/4			Gravelly loam
15-16	B/C	2.5Y3/2			Very gravelly loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Lots of medium and large cobbles in B and B/C horizons. Low chroma color in A horizon is due to organics.

Major root zone: upper 10”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☐ YES ☒ NO	

Remarks:
songbirds

GPS: Trimble plot 12
Topography:
NWI Class: U
HGM Type: U
Photos: yes
Functions:

Site: Plot 12 *Date*: 8/14/03 *NWI Class*: Upland

Site: Plot 12 *Date*: 8/14//03 *NWI Class*: Upland

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Black spruce bog
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 15

Describe Location: Near waypoint jc2, north of Slaughter Ridge Road

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Picea mariana**	T	15	FACW	9. *Calamagrostis canadensis*	H	Tr	
2. *Salix barclayi**	S	15	FAC	10. *Drosera* sp.	H	Tr	
3. *Betula nana*	S	5		11. *Dasiphora floribunda*	S	7	
4. *Ledum palustre decumbens* *	S	10	FACW	12. *Geocaulon lividum*	H	Tr	
5. *Empetrum nigrum**	S	15	FAC	13. *Alnus viridis* sp. *sinuata*	S	Tr	
6. *Vaccinium vitis-idaea*	S	5		14.Grass sp.	H	Tr	
7. *Vaccinium uliginosum**	S	10	FAC	15			
8. *Equisetum arvense**	H	30	FACU	16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **83%**

Remarks : Lots of Sphagnum moss
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Black spruce bog. Trees 20 feet or taller. Surrounding areas have more black spruce.

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	N/a	(in)
Depth to Saturated Soil	10	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☒Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☒Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☒FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	Oi				
6-8	Oe				
8-10	Oa				
10-11	A	10YR2/2			Loam with organics mixed in
11-18	B	2.5Y3/1	10YR3/3	Common, coarse	Very gravelly loam
			5Y4/1	Few, fine	

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☒ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☒ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: A horizon has organics mixed in. Small cobbles and gravels in B-horizon.

Major root zone: upper 10”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ YES ☐ NO	Is this Sampling Point Within a Wetland? ☒ YES ☐ NO
Wetland Hydrology Present?	☒ YES ☐ NO	
Hydric Soils Present?	☒ YES ☐ NO	

Remarks:

GPS: Trimble plot 15
Topography: flat
NWI Class: PFO4/SS1/EM2B
HGM Type: flat, depressional
Photos: yes
Functions: see form

Site: Plot 15 *Date*: 8/15/03 *NWI Classs:* PFO4/SS1/EM2B

Site: Plot 15 *Date*: 8/15/03 *NWI Classs:* PFO4/SS1/EM2B

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/14/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Lutz spruce/alder forest
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 13

Describe Location: Near waypoint n2, across highway from Kenai Lake

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Picea lutzii**	T	12	NI	9. *Lycopodium annotinum**	H	5	FAC
2. *Betula papyrifera**	T	10	FACU	10.			
3. *Alnus viridis sinuata **	S	15	FAC	11.			
4. *Populus balsamifera*	T	5		12.			
5. *Viburum edule**	S	15	FACU	13.			
6. *Chamerion angustifolium **	H	10	FACU	14.			
7. *Geocaulon lividum**	H	10	FACU	15			
8. *Cornus canadensis*	H	Tr		16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **33%**

Remarks : Many downed trees in plot.
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Lutz spruce, alder upland.

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	N/a	(in)
Depth to Saturated Soil	N/a	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☐Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☐Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☐FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE 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	10YR2/2			loam
5-9	B	10YR4/2			Loam
9-12	B/C	2.5Y3/2			Very gravelly loam

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Small and medium sized cobbles in B1 and B2. Soil is very compacted – hard digging.

Major root zone: upper 9”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☐ YES ☒ NO	

Remarks:
Old bear scat in plot.

GPS: Trimble plot 13
Topography: slight slope towards highway
NWI Class: U
HGM Type: U
Photos: yes
Functions: wildlife habitat

Site: Plot 13 *Date*: 8/14/03 *NWI Class*: Upland

Site: Plot 13 *Date*: 8/14/03 *NWI Class*: Upland

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Black spruce, willow thicket
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 16

Describe Location: Near waypoint n8, north of Slaughter Ridge Road

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Picea mariana**	T	20	FACW	9. *Rubus artticus stellatus*	H	Tr	
2. *Salix barclayi**	S	30	FAC	10. *Vaccinium uliginosum*	S	Tr	
3. *Alnus viridis sinuata **	S	15	FAC	11.			
4. *Dasiphora floribunda*	S	7		12.			
5. *Equisetum pratense**	H	55	FACW	13.			
6. *Calamagrostis canadensis*	H	Tr		14.			
7. *Cornus Canadensis**	H	15	FACU	15			
8. *Betula nana*	S	Tr		16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **80%**

Remarks :
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Black spruce greater or = to 20 feet. Surrounding areas have more black spruce.

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	12	(in)
Depth to Saturated Soil	1.5	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☒Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☒Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☒FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks: Creek nearby plot

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-6	Oi				
6-16	Oe				
16-18	Oa				
18-20	A	7.5YR2.5/1			loam

HYDRIC SOIL INDICATORS:

- ☒ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: Small cobbles in A horizon

Major root zone: upper 9”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ YES ☐ NO	Is this Sampling Point Within a Wetland? ☒ YES ☐ NO
Wetland Hydrology Present?	☒ YES ☐ NO	
Hydric Soils Present?	☒ YES ☐ NO	

Remarks:

GPS: Trimble plot 16
Topography: flat
NWI Class: PSS1/EM2B
HGM Type: riverine
Photos: yes
Functions: see form

Site: Plot 16 *Date*: 8/15/03 *NWI Class*: PSS1/EM2B

Site: Plot 16 *Date*: 8/15/03 *NWI Class*: PSS1/EM2B

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	8/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & MB		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Sedge meadow
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 17

Describe Location: Near waypoint n6, north of Slaughter Ridge Road

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Carex utriculata**	H	25	OBL	9. *Dasiphora floribunda* *	S	5	FAC
2. *Eriphorum angustifolium*	H	10		10. *Parnassia palustris*	H	tr	
3. *Eriphorum chamissonis*	H	Tr		11. *Rubus pedatus*	S	tr	
4. *Carex aquatilis**	H	25	OBL	12. *Rumex* sp.	H	tr	
5. *Equisetum variegatum**	H	25	FACW	13.			
6. *Betula nana*	S	Tr		14.			
7. *Andromeda polifolia*	S	Tr		15			
8. *Picea mariana**	T	7	FACW	16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **100%**

Remarks : Black spruce less than 20 feet. There is a black spruce wetland on along the edge of this emergent wetland
* Indicates dominants using 50/20 method.
C. utriculata is formerly known as *C. rostrata*

Describe Vegetation Type: Sedge meadow.

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	8	(in)
Depth to Saturated Soil	0	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☒Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☒Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☒FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-15	Oi				
15-20	Oe				

HYDRIC SOIL INDICATORS:

- ☒ Histosol
- ☐ Histic Epipedon
- ☒ Sulfidic Odor
- ☒ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:

Major root zone:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☒ YES ☐ NO	Is this Sampling Point Within a Wetland? ☒ YES ☐ NO
Wetland Hydrology Present?	☒ YES ☐ NO	
Hydric Soils Present?	☒ YES ☐ NO	

Remarks:

GPS: Trimble plot 17
Topography: flat
NWI Class: PEM1C
HGM Type: flat
Photos: yes
Functions: see form

Site: Plot 17 *Date*: 8/15/03 *NWI Class*: PEM1C

Site: Plot 17 *Date*: 8/15/03 *NWI Class*: PEM1C

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	9/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & AA		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Open lutz spruce forest
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 18

Describe Location: Near waypoint c11, just north of highway and east of Schooner Bend Bridge

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Picea lutzii**	T	25	NI	9. *Arctostaphylos uva-ursi*	S	tr	
2. *Vaccinium vitis-idaea**	S	10	FAC	10. *Lycopodium annotinum*	H	tr	
3. *Cornus canadensis**	H	10	FACU	11. *Salix* spp	S	tr	
4. *Chamerion angustifolium **	H	8	FACU	12. *Equisetum pratense*	H	tr	
5. *Geocaulon lividum*	H	5		13. *Rosa acicularis*	S	tr	
6. *Betula papyrifera*	T	5		14. *Linnaea borealis**	S	6	FACU
7. *Calamagrostis canadensis**	H	7		15. *Carex* sp.	H	tr	
8. *Empetrum nigrum**	S	7	FAC	16.			

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **40%**

Remarks :
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Open lutz spruce forest

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a (in)
Depth to Free Water in Pit	N/a (in)
Depth to Saturated Soil	N/a (in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☐Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☐Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☐FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color* (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR4/3	7.5YR3/4	Few, fine, distinct	loam
9-19	B	7.5YR3/1			sand

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: *Soil colors taken dry. Low chroma color of B horizon is due to parent material.
Soil seems alluvial in nature.
Major root zone: upper 13”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☐ YES ☒ NO	

Remarks:

GPS: Trimble plot 18
Topography: flat
NWI Class:U
HGM Type:U
Photos: yes
Functions:

Site: Plot 18 *Date*: 9/15/03 *NWI Class*: Upland

Site: Plot 18 *Date*: 9/15/03 *NWI Class*: Upland

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	9/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & AA		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Black spruce forest
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 19

Describe Location: Near waypoint c12, north of highway, west of Resurrection Pass trailhead. Area seems to be a little low spot that may be wet.

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Picea mariana**	T	20	FACW	9. *Lupinus nootkatensis*	H	tr	
2. *Vaccinium vitis-idaea**	S	5	FAC	10. *Populus tremuloides**	T	5	FACU
3. *Cornus canadensis**	H	9	FACU	11. *Picea lutzii*	T	tr	
4. *Chamerion angustifolium*	H	Tr		12.			
5. *Empetrum nigrum**	S	5	FAC	13.			
6. *Salix* sp.	S	Tr		14.			
7. *Carex* sp.	H	Tr		15. lichen	B	tr	
8. *Geocaulon lividum**	H	5	FACU	16. feather moss	B	70	

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **50%**

Remarks : Area is a little black spruce pocket surrounded by aspen forest.
* Indicates dominants using 50/20 method.

Describe Vegetation Type: black spruce forest

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a	(in)
Depth to Free Water in Pit	N/a	(in)
Depth to Saturated Soil	N/a	(in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☐Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☐Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☐FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks:

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color* (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-9	A	10YR4/4			Silt loam
9-16	B	7.5YR3/2			Coarse sand with gravels

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks:
* soil colors taken dry

Major root zone: upper 9”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☐ YES ☒ NO	

Remarks:

GPS: Trimble plot 19
Topography: flat
NWI Class: U
HGM Type: U
Photos: yes
Functions:

Site: Plot 19 *Date*: 9/15/03 *NWI Class*: Upland

Site: Plot 19 *Date*: 9/15/03 *NWI Class*: Upland

DATA FORM

ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Sterling Highway Project MP 45 - 60		Date	9/15/03
Applicant / Owner: ADOT&PF		Borough	KPB
Investigators: JDS & AA		State	AK
Do Normal Circumstances exist on the site?	☒YES ☐NO	Community ID	Mixed forest
Is the site significantly disturbed (Atypical Situation)?	☐YES ☒NO	Transect ID	-
Is the area a potential Problem Area? (If needed, explain on reverse)	☐YES ☒NO	Plot ID	Plot 20

Describe Location: Near waypoint A7, south of highway, across from Fuller Lake trailhead, near Kenai River

VEGETATION

Plant Species	Stratum	%	Indicator	Plant Species	Stratum	%	Indicator
1. *Populus tremuloides**	T	17	FACU	9. *Linnaea borealis*	S	5	
2. *Betula papyrifera**	T	7	FACU	10. *Empetrum nigrum*	S	Tr	
3. *Picea lutzii**	T	10	NI	11. *Pyrola asarifolia**	H	5	FAC
4. *Viburum edule**	S	12	FACU	12. *Chamerion angustifolium*	H	Tr	
5. *Rosa acicularis*	S	5		13. *Lycopodium annotinum**	H	5	FAC
6. *Geocaulon lividum**	H	6	FACU	14. feather moss	B	50	
7. *Cornus canadensis**	H	6	FACU	15. *Shepherdia canadensis**	S	10	UPL
8. *Vaccinium vitis-idaea*	S	6		16. *Polemonium* sp.	H	tr	
				17. *Menziesia ferruginea*	S	5	

Percent of Dominant Species that are OBL, FACW, or FAC (excluding FAC-) **25%**

Remarks :
* Indicates dominants using 50/20 method.

Describe Vegetation Type: Aspen, lutz spruce, and birch forest

HYDROLOGY

☒Recorded Data (Describe in Remarks)
- ☐Stream, Lake, or Tide Gauge
- ☒Aerial Photographs
- ☐Other

☐ No Recorded Data Available

FIELD OBSERVATIONS

Depth of Surface Water	N/a (in)
Depth to Free Water in Pit	N/a (in)
Depth to Saturated Soil	N/a (in)

WETLAND HYDROLOGY INDICATORS

Primary Indicators:
- ☐Inundated
- ☐Saturated in Upper 12 Inches
- ☐Water Marks
- ☐Drift Lines
- ☐Sediment Deposits
- ☐Drainage Patterns in Wetlands

Secondary Indicators (2 or more Required):
- ☐Oxidized Root Channels in Upper 12 Inches
- ☐Water-Stained Leaves
- ☐Local Soil Survey Data
- ☐FAC-Neutral Test
- ☐Other (Explain in Remarks)

Remarks: Area is very dry

SOILS

Map Unit Name (Series and Phase):				Drainage Class:	
Taxonomy (Subgroup)			Field Observations Confirm Mapped Type? ☐ YES ☐ NO		
PROFILE DESCRIPTION					
Depth (inches)	Horizon	Matrix Color* (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
0-11	A	10YR4/4			silt
11-16	B	10YR3/2			Sand with gravels

HYDRIC SOIL INDICATORS:

- ☐ Histosol
- ☐ Histic Epipedon
- ☐ Sulfidic Odor
- ☐ Aquic Moisture Regime
- ☐ Reducing Conditions
- ☐ Gleyed or Low-Chroma Colors
- ☐ Concretions
- ☐ High Organic Content in Surface Layer in Sandy Soils
- ☐ Organic Streaking in Sandy Soils
- ☐ Listed on Local Hydric Soils List
- ☐ Listed on National Hydric Soils List
- ☐ Other (Explain in Remarks)

Remarks: *soil colors taken dry
Lots of rocks especially in B-horizon.

Major root zone: upper 15”

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	☐ YES ☒ NO	Is this Sampling Point Within a Wetland? ☐ YES ☒ NO
Wetland Hydrology Present?	☐ YES ☒ NO	
Hydric Soils Present?	☐ YES ☒ NO	

Remarks:

GPS: Trimble plot 20
Topography: slight slope towards river
NWI Class: U
HGM Type: U
Photos: yes
Functions:

Site: Plot 20 *Date*: 9/15/03 *NWI Class*: Upland

Site: Plot 20 *Date*: 9/15/03 *NWI Class*: Upland