# APPENDIX A



### APPENDIX A

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#### **APPENDIX**

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## APPENDIX B

Field Data Forms



DATA FURNI	1987 COE I		AND DETERMIN ds Determination	
Project/Site: Applicant/Owner: Applicant/Owner:	<u> </u>		County:	Wil
Investigator: 57			State:	
Do Normal Circumstances exist on this site?	Yes	No	Community ID:	
Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect ID:	- <del>k</del>
Is the area a potential Problem Area?	Yes	No	Plot ID:	<u> </u>
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/·	15		<u></u> <u></u>	
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HYDROLOGY				
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Other	☐ Water M ☐ Drift Lin			
No Recorded Data Available	☐ Sedime		sits	
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Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)			DIĆATORS (2 or i	
Depth to Saturated Soil: (in.)			Channels in Upper	12 Inches
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WEILAND HIDROLOGI INDIONIONO.	Local S FAC-Ne			
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· Plantaged a vert man	$\frac{1}{2}$	9/	- Mullia	Water

\		Taxonomy (Subgroup)PROFILE DESCRIPTION		Drainage Class: UMD Pield Observations Confirm Mapped Type?	Yes (No.)
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		HYDRIC SOIL INDICATO  Histosol  Histo Epipedon  Sulfidic Odor  Aquic Moisture Regime	RS  J Reducing Conditions  J Gleyed or Low-Chroma Colors  J Concretions  J High Organic Streaking in Surface Layer in Sandy Soils	Organic Streaking in Sand Listed on Local Hydric Sol Listed on National Hydric to Other (Explain in Remarks)	ils List
		Hydric Soil Present? Remarks:	Engrapian	Yes (Left (A)	s No
*		WETLAND DETERMINATION Hydrophytic Vegetation Present Wetland Hydrology Present? Hydric Soils Present? Is this sampling point a Wetland Remarks:	?	Yes Yes Yes Yes	No No No No
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DATA FORM Project/Site: 4704-Noxfavul	4007 COF	NETLA Wetlan	ND DETER ds Determin Date:	nation N	lanual OLL
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Investigator:			State:	M	)
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s the site significantly disturbed (Atypical Situation?)	Yes	No	Transect ID	):	<del></del>
s the area a potential Problem Area?	Yes	No	Plot ID:		2_
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Barting Schnetz 430 FAC				<u>-</u>	
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Taxonomy (Subgroup): PROFILE DESCRIPTION Depth Matri	kes Si Hy Cla ix Color ell Moist)  Mottle Colors (Munsell Moist)	Field Observations Confirm Mapped Type?	Yes exture, Cor Structure	
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WETLAND DETERMINATION Hydrophytic Vegetation Preser Wetland Hydrology Present? Hydric Soils Present? Is this sampling point a Wetlar Remarks:	it?		Yes Yes Yes Yes	No No No No
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s the area a potential Problem Area?	Yes	No	Plot ID:		<u> </u>
VEGETATION					
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Remarks:  HYDROLOGY  RECORDED DATA (Describe in Remarks):  A Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	PRIMARY I  I Inundated  Saturated  Water Ma  Drift Line  Sediment  Drainage  SECONDAF	INDICA d I in Upparks es t Depos Patterr	ATORS: per 12 Inches sits ns in Wetland DICATORS (2	s s 2 or more	
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HYDRIC SOIL INDICATORS  Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime Hydric Soil Present?  Hydric Soil Present?  Hydric Soil Present?  Hydric Soil Present?	Organic Streaking in Sandy Soils Soils List Unisted on National Hydric Soils List Union Other (Explain in Remarks)  Yes No
WETLAND DETERMINATION	you puts Ation
Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present? Is this sampling point a Wetland? Remarks:	Yes No Yes No Yes No Yes No

DATA FORM Project/Site: The transfer of the tr	1987 COE	Wetlan	Date:	ination Q	Manual DO
Applicant/Owner:			County: L State:	AYA	$\bigcap$
Investigator:	Yes	No.	Communi	ity ID:	7
Is the site significantly disturbed (Atypical Situation		No	Transect I	•	-
is the area a potential Problem Area?	Yes	No	Plot ID:		A
VEGETATION					
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Map Unit Name (Series and Phase): Expelled Sight Clay  Taxonomy, (Subgroup):  PROFILE DESCRIPTION  Depth (Inches) Horizon (Munsell Moist)  OA OA OA OA OA  A-17 B S 25/1  12 10 B S 75/1  HYDRIC SOIL INDICATORS	Drainage Class:  Field Observations Confirm Mapped Type?  Mottle Abundance/Contrast  Texture, Concretions Structure, etc.	
□ Histosol □ Reducing Conditions □ Histic Epipedon □ Sulfidic Odor □ Concretions □ Aquic Moisture Regime □ High Organic Streaking in Surface Layer in Sandy Soils Hydric Soil Present?	☐ Organic Streaking in Sandy Soils ☐ Listed on Local Hydric Soils List ☐ Listed on National Hydric Soils List ☐ Other (Explain in Remarks)  Yes No	
Remarker Jame Wishafurl u Gan (		
WETLAND DETERMINATION Hydrophytic Vegetation Present?	Yes No.	
Wetland Hydrology Present?	Yes No	
Hydric Soils Present?	Yes No	<del></del>
Is this sampling point a Wetland?	Yes No	
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Applicant/Owner:			. County:	A.	M
Investigator:			State:	1	9
Is the site significantly disturbed (Atypical Situation?)	Yes Yes	No No	Communit Transect IC		
Is the area a potential Problem Area?	Yes	No	Plot ID:	): <u> </u>	17
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	Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect	ID: _	
	Is the area a potential Problem Area?	Yes	No	Plot ID:	· <u> </u>	<u> </u>
<b>₩ ₩</b> 7	VEGETATION					
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	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other	☐ Inundated☐ Saturated i☐ Water Man	in Uppe ks			
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available	☐ Inundated ☐ Saturated i ☐ Water Man ☐ Drift Lines	in Uppe ks	r 12 Inches		
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS:	☐ Inundated ☐ Saturated i ☐ Water Mar ☐ Drift Lines ☐ Sediment I	in Uppe ks Deposits	r 12 Inches		
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:(in.)	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F	in Uppe ks Deposits Patterns	r 12 Inches s in Wetlanc	ts	required).
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:	Inundated Saturated i Water Mar Drift Lines Sediment I Drainage F SECONDARY	in Uppe ks Deposits Patterns Y INDIC	r 12 Inches s in Wetlanc CATORS (	ls 2 or more	
THE PERSON NAMED IN COLUMN TO PAGE 1	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: (in.) Depth to Free Water in Pit: (in.) Depth to Saturated Soil: (in.)	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F SECONDARY □ Oxidized R □ Water Stain	in Uppe ks Deposits Patterns Y INDIC coot Cha ned Lea	r 12 Inches in Wetland CATORS ( Innels in U	ls 2 or more	
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: (in.) Depth to Free Water in Pit: (in.) Depth to Saturated Soil: (in.)	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F SECONDARY □ Oxidized R □ Water Stain	in Uppe ks Deposits Patterns Y INDIC loot Cha ned Lea Survey	r 12 Inches in Wetland CATORS ( Innels in U	ls 2 or more	
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: (in.) Depth to Free Water in Pit: (in.) Depth to Saturated Soil: (in.)	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F SECONDARY □ Oxidized R □ Water Stain □ FAC-Neutr	in Uppe ks Deposits Patterns Y INDIC loot Cha ned Lea Survey al Test	r 12 Inches in Wetlanc CATORS ( innels in U ves Data	ls 2 or more	
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F SECONDARY □ Oxidized R □ Water Stain	in Uppe ks Deposits Patterns Y INDIC loot Cha ned Lea Survey al Test	r 12 Inches in Wetlanc CATORS ( innels in U ves Data	ls 2 or more	
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F SECONDARY □ Oxidized R □ Water Stain □ FAC-Neutr	in Uppe ks Deposits Patterns Y INDIC loot Cha ned Lea Survey al Test	r 12 Inches in Wetlanc CATORS ( innels in U ves Data	ls 2 or more pper 12 lr	
	☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:	□ Inundated □ Saturated i □ Water Mar □ Drift Lines □ Sediment I □ Drainage F SECONDARY □ Oxidized R □ Water Stain □ FAC-Neutr	in Uppe ks Deposits Patterns Y INDIC loot Cha ned Lea Survey al Test	r 12 Inches in Wetland ATORS ( innels in U ves Data	ls 2 or more pper 12 lr	

SOILS  Map Unit Name (Series and Phase): SOPPLIS Silvy Clary Drainage Class: Field Observation Confirm Mapper PROFILE DESCRIPTION Depth (Inches) Horizon (Munsell Moist) Mottle Colors (Munsell Moist)  Abundance/Contri	ons d Type? (Yes	No proceedings, e, etc.
Gleyed or Low-Chroma Colors Listed on Lo	aking in Sandy S cal Hydric Soils I tional Hydric Soi in in Remarks)	List
Hydric Soil Present?	Yes	No
Benjarks: Der and Compact. Of 12 bloomes more moist	" logs	1
WETLAND DETERMINATION  Hydrophytic Vegetation Present?		
Wetland Hydrology Present?	Yes	No.
Hydric Soils Present?	Yes Yes	No No
Is this sampling point a Wetland?	Yes .	No The least
Remarks:		

Applicant/Owner: _ Investigator: _ <	12020	<del></del>		County: <u>i</u> State:	~~~~~~	₹//\ \ }
•	stances exist on this site?	Yes	No	Commun	5,	5
	ntly disturbed (Atypical Situation)		No	Transect		
Is the area a potent		Yes	· No	Plot ID:		A
VEGETATION		17 31 0 170 21		<del></del>		
Dominant Plant Speci 1. 2. COW 3. Nutrition	200, OB	9 10				Indie
4.		12				
56.		13				- —
6 7.		_ 14 _ 15				- —
		16				
	nt Species that are OBL, luding FACU):	_ 10				
Percent of Domina FACW or FAC (exc		(for		Wats		
Percent of Domina FACW or FAC (exc Remarks: S=Sylv H=WWWD HYDROLOGY	pleding FACU):  The policy when	Core		icals	Contraction of the contraction o	
Percent of Domina FACW or FAC (exc Remarks: S=Saftiv H=Wlato HYDROLOGY RECORDED DATA	A (Describe in Remarks):	PRIMARY	i.d.	ica (		
Percent of Domina FACW or FAC (exc Remarks: S=Sulfiv H= WLAD HYDROLOGY RECORDED DATA Stream, Lake,	A (Describe in Remarks):	PRIMARY	INDICA			
Percent of Domina FACW or FAC (exc Remarks: S=Carliv H- WLATO HYDROLOGY RECORDED DATA	A (Describe in Remarks):	PRIMARY	INDICA ed d in Upp	TORS:	€ S	
Percent of Domina FACW or FAC (exc Remarks:  H- WLAD  HYDROLOGY  RECORDED DATA  Stream, Lake, Aerial Photogra	A (Describe in Remarks): or Tide Gauge	PRIMARY Inundate Saturate Water M Drift Lin	INDICA ed d in Upp larks es	er 12 Inches	G (	
Percent of Domina FACW or FAC (exc Remarks:  H- WLAD  HYDROLOGY  RECORDED DATA  Stream, Lake, Aerial Photogra  Other	A (Describe in Remarks): or Tide Gauge	PRIMARY Inundate Saturate Water M Drift Lin	INDICA ed d in Upp larks es nt Depos	er 12 Inches		
Percent of Domina FACW or FAC (exc Remarks:  H- WHO HYDROLOGY RECORDED DATA Stream, Lake, Other Other No Recorded E FIELD OBSERVA Depth of Surface W	A (Describe in Remarks):  or Tide Gauge aphs  bata Available  FIONS:  fater:(in.)	PRIMARY Inundate Saturate Water M Drift Lin Sedimer Drainage	INDICA ed d in Upp larks es es tt Depos e Pattern	er 12 Inches its s in Wetland	ds	·
Percent of Domina FACW or FAC (exc Remarks:  H- NUTO  HYDROLOGY RECORDED DATA  Stream, Lake,  Aerial Photogra  Other  No Recorded E FIELD OBSERVA Depth of Surface W Depth to Free Wate	A (Describe in Remarks):  Or Tide Gauge uphs  Data Available  FIONS:  In Pit:	PRIMARY Inundate Saturate Water M Drift Lin Sedimer Drainage SECONDA	INDICA ed d in Upp larks es nt Depos e Pattern RY IND	er 12 Inches its s in Wetland ICATORS (	ds 2 or more	-
Percent of Domina FACW or FAC (exc Remarks:  H-WHOP STATE OF THE PROPERTY OF T	A (Describe in Remarks):  Tide Gauge aphs  Pata Available  FIONS:  ater:	PRIMARY Inundate Saturate Water M Drift Lin Sedimer Drainage SECONDA Oxidized	INDICA ed d in Upp larks es nt Depos e Pattern RY IND I Root Cl	its s in Wetland ICATORS ( hannels in U	ds 2 or more	-
Percent of Domina FACW or FAC (exc Remarks:  H-WHO PROLOGY  RECORDED DATA  Stream, Lake, Aerial Photogra  Other  No Recorded E  FIELD OBSERVA  Depth of Surface W  Depth to Free Wate  Depth to Saturated	A (Describe in Remarks):  Or Tide Gauge uphs  Data Available  FIONS:  In Pit:	PRIMARY Inundate Saturate Water M Drift Lin Sedimer Drainage SECONDA Oxidizec Water St	INDICA  ad  d in Upp  larks  es  at Depos  Pattern  RY IND  I Root Cl  ained Le  bil Surve	its is in Wetland ICATORS ( hannels in Ueaves y Data	ds 2 or more	
Percent of Domina FACW or FAC (exc Remarks:  H- WITCO  HYDROLOGY  RECORDED DATA  Stream, Lake,  Aerial Photogra  Other  No Recorded E FIELD OBSERVA  Depth of Surface W  Depth to Free Wate  Depth to Saturated	A (Describe in Remarks):  Tide Gauge aphs  Pata Available  FIONS:  ater:	PRIMARY Inundate Saturate Water M Drift Lin Sedimer Drainage SECONDA Oxidized Water Si	INDICA ed d in Upp larks es nt Depos e Pattern RY IND I Root Cl tained Le bil Surve utral Tesi	its is in Wetland ICATORS ( hannels in Ueaves y Data	ds 2 or more	-

SOILS  Map Unit Name (Series and Phase): Solder Site Class Prield Observed Confirm Matrix Color Mottle Colors Mottle Colors Mottle Class Mottle Class Mottle Class Mottle Colors Mottle Class Mottle Cla	rvations apped Type? e· Texti	Yes Yes Otherwise	ncretions.	
☐ Sulfide Odor ☐ Concretions ☐ Listed o	Streaking in San Local Hydric In National Hyd In National Hyd In Rema	Soils L ric Soil	_ist	
WETLAND DETERMINATION Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present? Is this sampling point a Wetland? Remarks:		Yes Yes Yes Yes	No No No	

DATA FORM	ROUTINE WETLAND DETERMINATION  1987 COE Wetlands Determination Manual  Date: OD D D
Project/Site:	County: County
Applicant/Owner:	State:
Investigator:	Yes No Community ID: 3
Is the site significantly disturbed (Atypical Situation?)	Yes No Transect ID:
Is the area a potential Problem Area?	Yes No Plot ID:
VEGETATION	
	Dominant Plant Species · Stratum Indicato
15 10×19914 S 40% OBI	<u> </u>
Conscionation 500 1470	W- 10 OBL
M Sipaca H 30. ABI	HOUPL
5 Dichiam VER NL	13
6	14
7	15
0	
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):	
Remarks: Shrub #	CULTORALO LLOS
H= Westo	-for vericostor
J= Whl	1
HYĎROLOGY	DDIMARY INDICATORS
RECORDED DATA (Describe in Remarks):	PRIMARY INDICATORS:
Stream, Lake, or Tide Gauge	☐ Inundated ☐ Saturated in Upper 12 Inches
☐ Aerial Photographs ☐ Other	☐ Water Marks
No Recorded Data Available	☐ Drift Lines
FIFLD OBSERVATIONS:	☐ Sediment Deposits
Depth of Surface Water:(in.)	☐ Drainage Patterns in Wetlands
Depth to Free Water in Pit:(in.)	SECONDARY INDICATORS (2 or more required
Deput to 1100 Maior III . II.	Oxidized Root Channels in Upper 12 Inches
Deptit to Gatarated com	Water Stained Leaves
WETLAND HYDROLOGY INDICATORS:	Clocal Soil Survey Data
•	FAC-Neutral Test
	Other (Explain in Remarks)
Remarks OL COLLOCAL ()	rea down store of
, MARIONIAN A	rue war of
1 milana de lancell	Literalia Sound

SOILS Map Unit Name		.\0		<b>7</b>
(Series and Phase): ADDIAL SILVANIA (Subgroup): PROFILE DESCRIPTION Depth Matrix Color (Munsell Moist) Mottle Colors (Munsell Moist)	Field Observ Confirm Ma Mottle	vations pped Type? Textu	Yes  Ves  Ves  Ves  Ves  Ves  Ves  Ves	elc.
	<del></del>			
HYDRIC SOIL INDICATORS  Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime  High Organic Streaking in Surface Layer in Sandy Scr	olors Disted o Listed o Other (E	c Streaking in S on Local Hydric on National Hyd Explain in Rema	: Soils L dric Soil	.ist
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Gleyed or Low-Chroma Co ☐ Sulfidic Odor ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in Surface Layer in Sandy So  Hydric Soil Present?	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	: Soils L dric Soil	.ist
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Gleyed or Low-Chroma Co ☐ Sulfidic Odor ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in Surface Layer in Sandy So	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	: Soils L dric Soil arks)	ist s List
□ Histosol □ Reducing Conditions □ Histic Epipedon □ Gleyed or Low-Chroma Co □ Sulfidic Odor □ Concretions □ Aquic Moisture Regime □ High Organic Streaking in Surface Layer in Sandy So Hydric Soil Present?  Remarks: □ H	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	: Soils L dric Soil arks)	ist s List
Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime Hydric Soil Present?  WETLAND DETERMINATION  Reducing Conditions Gleyed or Low-Chroma Co Concretions High Organic Streaking in Surface Layer in Sandy So	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	e Soils L dric Soil arks) Yes	ist s List No
□ Histosol □ Histic Epipedon □ Sulfidic Odor □ Aquic Moisture Regime □ High Organic Streaking in Surface Layer in Sandy So  Hydric Soil Present?  WETLAND DETERMINATION Hydrophytic Vegetation Present?	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	e Soils L dric Soil dric Soil Arks) Yes	No No
Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime High Organic Streaking in Surface Layer in Sandy Schemarks:  WETLAND DETERMINATION Hydrophytic Vegetation Present?  Wetland Hydrology Present?	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	c Soils L dric Soil arks) Yes Yes Yes	No No No No
Histosol	olors Disted o Listed o Other (E	on Local Hydric on National Hyd	e Soils L dric Soil dric Soil Arks) Yes	No No

DATA FORM	1987 COE		ND DETER		
Project/Site: 4 Not four	W_		Date: County:		7X
Applicant/Owner:			State:	TA	<u></u>
Investigator:	Yes	No	Communit	ty ID:	5
Is the site significantly disturbed (Atypical Situation?)	) Yes	No	Transect IC	D:	A
Is the area a potential Problem Area?	Yes	No	Plot ID:	(	<u></u>
VEGETATION					
Dominant Plant species 1. Stratum Indicator  1. The Authority Harry 1. Stratum 2. No. 1. Stratum 1.	10				Indicator
5 Cartenso 10	14.		W		
7	_ 15				
8	_ 16				
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):					
*= gauragate wild	Her	ر (مسل	ucot	Sir Tox	
·	Jær:		úcof	Tita	
HYDROLOGY					
HYDROLOGY RECORDED DATA (Describe in Remarks):	PRIMARY  Inundat	INDIC			
HYDROLOGY	PRIMARY Inundat Saturate	INDIC ed ed in Up			
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other	PRIMARY Inundat Saturate Water M	INDIC ed ed in Up Marks	ATORS:		
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available	PRIMARY Inundat Saturate Water N Drift Lin	INDIC ed in Up Marks nes nt Depo	ATORS:  per 12 Inche		
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS:	PRIMARY Inundat Saturate Water N Drift Li Sedime	INDIC ed ed in Up Marks nes not Depo	ATORS:  oper 12 Inche  sits  ons in Wellan	es ·	·
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	PRIMARY Inundat Inunda	INDIC ed ed in Up Marks nes nt Depo ge Patte	ATORS:  oper \$2 Inche  ssits rns in Wetlan DICATORS	es nds (2 or moi	
HYDROLOGY RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY Inundat Saturat Water N Drift Li Sedime Drainag SECOND	INDIC ed in Up Marks nes nt Depo ge Patte da Root	ATORS:  oper \$2 Inche  osits  rns in Wetlan  DICATORS  Channels in	es nds (2 or moi	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	PRIMARY Inundat Saturate Water M Drift Lie Drainag SECOND Oxidize Water S	INDIC ed ed in Up Marks nes int Depo je Patte dARY IN d Root Stained Soil Sur	ATORS:  sper \$2 Inche  sits  rns in Wetlan  DICATORS  Channels in Inche	es nds (2 or moi	
HYDROLOGY RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY Inundat Inunda	INDIC ed ed in Up Marks nes ont Depo ge Patte ARY IN ed Root Stained Goil Sur-	ATORS:  sper \$2 Inche  sits  rns in Wetlan  DICATORS  Channels in I  Leaves  vey Data  est	es nds (2 or mor Upper 12	
HYDROLOGY RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY Inundat Inunda	INDIC ed ed in Up Marks nes ont Depo ge Patte ARY IN ed Root Stained Goil Sur-	ATORS:  sper \$2 Inche  sits  rns in Wetlan  DICATORS  Channels in Inche	es nds (2 or mor Upper 12	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Wafer:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:	PRIMARY Inundat Saturate Water M Drift Lin Drift Lin Drainag SECONDO Oxidize Water S ALocal S DrAC-N Other (	INDIC ed ed in Up Marks nes ont Depo ge Patte ARY IN ed Root Stained Goil Sur-	ATORS:  sper \$2 Inche  sits  rns in Wetlan  DICATORS  Channels in I  Leaves  vey Data  est	es nds (2 or mor Upper 12	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:	PRIMARY Inundat Saturate Water M Drift Lin Drift Lin Drainag SECONDO Oxidize Water S ALocal S DrAC-N Other (	INDIC ed ed in Up Marks nes ont Depo ge Patte ARY IN ed Root Stained Goil Sur-	ATORS:  sper \$2 Inche  sits  rns in Wetlan  DICATORS  Channels in I  Leaves  vey Data  est	es nds (2 or mor Upper 12	

SOILS   Map Unit Name C   Color   (Series and Phase)   Color   (Series and Phase)   Color   (Munsell Moist)   PROFILE DESCRIPTION   Depth (Inches)   Horizon (Munsell Moist)   (Munsell Moist)   Color   (Munsell Moist)   (Munsell Mo	Drainage Class: Field Observations Confirm Mapped Type  Mottle Abundance/Contrast		oncretions
HYDRIC SOIL INDICATORS			
Histosol  Histic Epipedon  Sulfidic Odor  Aquic Moisture Regime  Hydric Soil Present?  Reducing Conditions  Cisleyed or Low-Chroma Colors  Concretions  High Organic Streaking in  Surface Layer in Sandy Soils	Organic Streaking Clisted on Local Hy Listed on National Other (Explain in F	dric Soils Hydric So	List
I  Histic Epipedon I  Sulfidic Odor Aquic Moisture Regime  Aguic Moisture Regime  Concretions High Organic Streaking in	Listed on Local Hy Listed on National Other (Explain in F	dric Soils Hydric So	List

	987 COE	Wetlan	IND DETERMIN ds Determination	on Manual
Project/Site:	$NU_{-}$		Date:	MAGA
Applicant/Owner:			County County	TULL
nvestigalor: 19	·		State:	1
o Normal Circumstances exist on this site?	Yes	No	Community ID:	4
s the site significantly disturbed (Atypical Situation?)	Yes	No	Transect ID:	12
s the area a potential Problem Area?	Yes	No	Plot ID:	
VEGETATION'			0: 1	um Indicato
Dominant Plant Species Stratum Indicator D	ominant Plai			um muican
Samonau H 20, OB				
12	2			
U				
0	4 5			
I	6			
oPercent of Dominant Species that are OBL,				
FACW or FAC (excluding FACU):				
H= herb *= Surrogate used for	( id			
#= sunogale used to	r inc		MOT	
#= Surrogale used to	PRIMARY			-
HYDROLOGY RECORDED DATA (Describe in Remarks):	PRIMARY	' INDIC	ATORS:	-
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs	PRIMARY □ Inundat ☑ Saturate	' INDIC. ed ed in Up		-
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other	PRIMARY Inundat Saturate Water M	' INDIC. ed ed in Up Marks	ATORS:	-
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available	PRIMARY Inundat Saturate Water M Drift Lin	' INDIC. ed ed in Up Marks nes ent Depo	ATORS: oper 12 Inches	-
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:	PRIMARY Inundat Saturate Water M Drift Lin Sedime	' INDIC. ed in Up Marks nes ent Depo ge Patter	ATORS:  oper 12 Inches  osits  rns in Wetlands	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  (in.)	PRIMARY Inundat Saturate Water M Drift Lin Sedime Drainag	' INDIC. ed ed in Up Marks nes ent Depo ge Patter	ATORS: oper 12 Inches osits rns in Wetlands DICATORS (2 or	
HYDROLOGY RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs Other No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit:  (in.)	PRIMARY Inundat Saturate Saturate Sedime Drainae SECONDO	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN	ATORS: oper 12 Inches osits rns in Wetlands DICATORS (2 or 1) Channels in Upper	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY Inundat Saturate Sturate Drift Li Sedime Drainae SECOND Oxidize Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY INI ed Root ( Stained)	ATORS:  oper 12 Inches  osits  rns in Wetlands  DICATORS (2 or 1)  Channels in Upper Leaves	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY Inundat Saturate Water N Drift Lin Sedime Drainag SECONDo Water S Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN ed Root ( Stained ) Soil Surve	ATORS:  apper 12 Inches  asits  rns in Wetlands  DICATORS (2 or of the content of	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available  FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:  (in.)	PRIMARY Inundat Saturate Water N Drift Lin Sedime Drainag SECONDo Water S Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN ed Root ( Stained ) Soil Surve	ATORS:  oper 12 Inches  osits  rns in Wetlands  DICATORS (2 or 1)  Channels in Upper  Leaves vey Data	
HYDROLOGY RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS	PRIMARY Inundat Saturate Water N Drift Lin Sedime Drainag SECONDo Water S Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN ed Root ( Stained ) Soil Surve	ATORS:  pper 12 Inches  prisits  rns in Wetlands  DICATORS (2 or Inches)  Channels in Upper  Leaves  vey Data  est  in Remarks)	r 12 Inches
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available  FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:  (in.)	PRIMARY Inundat Saturate Water N Drift Lin Sedime Drainag SECONDo Water S Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN ed Root ( Stained ) Soil Surve	ATORS:  apper 12 Inches  asits  rns in Wetlands  DICATORS (2 or of the content of	r 12 Inches
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS	PRIMARY Inundat Saturate Water N Drift Lin Sedime Drainag SECONDo Water S Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN ed Root ( Stained ) Soil Surve	ATORS:  pper 12 Inches  prisits  rns in Wetlands  DICATORS (2 or Inches)  Channels in Upper  Leaves  vey Data  est  in Remarks)	r 12 Inches
HYDROLOGY RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS	PRIMARY Inundat Saturate Water N Drift Lin Sedime Drainag SECONDo Water S Water S	' INDIC. ed ed in Up Marks nes ent Depo ge Patter ARY IN ed Root ( Stained ) Soil Surve	ATORS:  pper 12 Inches  prisits  rns in Wetlands  DICATORS (2 or Inches)  Channels in Upper  Leaves  vey Data  est  in Remarks)	r 12 Inches

SOILS  Map Unit Name (Series and Phase): Society Sithy Clave  Taxonomy (Subgroup):  PROFILE DESCRIPTION  Depth (Inches) Horizon (Munsell Moist)  OH10 Gley 31/578 +5 F4 (1988)	Drainage Class: Field Observations Confirm Mapped Ty  Mottle Abundance/Contrast	rpe? Yes Texture, Conc Structure,	
HYDRIC SOIL INDICATORS  Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime  High Organic Streaking in Surface Layer in Sandy Soils	Organic Streaki Organic Streaki Listed on Local Other (Explain i	l Hydric Soils L nal Hydric Soil:	ist
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Gleyed or Low-Chroma Color ☐ Sulfidic Odor ☐ Concretions ☐ High Organic Streaking in Surface Layer in Sandy Soils ☐ Hydric Soil Present?	s Disted on Local Listed on Natio	l Hydric Soils L nal Hydric Soil:	ist
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Concretions ☐ Sulfidic Odor ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in Surface Layer in Sandy Soils	s Disted on Local Listed on Natio	l Hydric Soils L nal Hydric Soil: in Remarks)	ist s List
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Sulfidic Odor ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in Surface Layer in Sandy Soils ☐ Hydric Soil Present?	s Disted on Local Listed on Natio	l Hydric Soils L nal Hydric Soil: in Remarks)	ist s List
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Gleyed or Low-Chroma Color ☐ Sulfidic Odor ☐ Concretions ☐ High Organic Streaking in Surface Layer in Sandy Soils ☐ High Organic Streaking in Surface Layer in Sandy Soils ☐ High Organic Streaking in Surface Layer in Sandy Soils	s Disted on Local Listed on Natio	I Hydric Soils L nal Hydric Soils in Remarks) Yes Yes	ist s List s List
□ Histosol □ Reducing Conditions □ Histic Epipedon □ Concretions □ Sulfidic Odor □ Concretions □ Aquic Moisture Regime □ High Organic Streaking in Surface Layer in Sandy Soils  Hydric Soil Present?  Remarks:  WETLAND DETERMINATION  Hydrophytic Vegetation Present?  Wetland Hydrology Present?	s Disted on Local Listed on Natio	I Hydric Soils L nal Hydric Soils in Remarks) Yes Yes Yes	ist s List  No  No  No  No No
Histosol Reducing Conditions  Histic Epipedon Goleyed or Low-Chroma Color Concretions High Organic Streaking in Surface Layer in Sandy Soils  Hydric Soil Present?  Remarks:  WETLAND DETERMINATION  Hydrophytic Vegetation Present?	s Disted on Local Listed on Natio	I Hydric Soils L nal Hydric Soils in Remarks) Yes Yes	ist s List s List

DATA FORM Project/Site: 4FC Not COA	1007 OOF M	ETLAND DET etlands Deter Date:	mination !	ION Manual IOU
Project/Site:	W.	County:	7 ~	QIL_
Applicant/Owner:		State:	1 /15	),
Investigator:	Yes		ınity ID:	4_
Do Normal Circumstances exist on this site?		No Transec	t ID:	<del>- 1</del>
Is the site significantly disturbed (Alypical Situation?)	Yes	No Plot ID	: _	<u> </u>
Is the area a potential Problem Area?				
VEGETATION , lodicator	Dominant Plant	Species	Stratum	
Dominant Plant Species	1-tn F	41 +		
X1 H. Julgard 101 FAC	10			
2. <b>D.</b> Chiantella 10 10 10 10 10 10 10 10 10 10 10 10 10	_ 11			
	_ 12			
5	_ 13			
6	_ ' ' '			
7				
Percent of Dominant Species that are OBL,				
FACW or FAC (excluding FACU):	110	dea	1 105	0
HYDROLOGY  RECORDED DATA (Describe in Remarks):	vert 4	of la	$\mathcal{O}_{\mathcal{A}}$	·
Stream, Lake, or Tide Gauge	☐ Saturat	ed in Upper 12	Inches	
Aerial Photographs	🗓 Water I			
<ul><li>Other</li><li>No Recorded Data Available</li></ul>	🗅 Drift Li	ines		
FIELD OBSERVATIONS:	☐ Sedim	ent Deposits	Jetlands	
Depth of Surface Water: (ii	n.) 🗀 Draina	ige Patterns in V DARY INDICAT	ngs (2 or i	more require
Depth to Free Water in Pit:	n.) SECOND	ed Root Channe	urio (2 01 1 de in Linner	12 Inches
Depth to Free water in Fig.	, 🗀 Oxidiz	Chaired Leaves	112 III Ohhei	12 1110/100
Depth to Saturated Soil: (1 WETLAND HYDROLOGY INDICATORS:	i water	Stained Leaves Soil Survey Dat	а	
WETLAND HYDROLOGY INDIOATORIO.	EAC-I	Neutral Test		
	∵ FAO=1 E1 Other	(Explain in Ren	narks)	
	- 1 - 1	O.	1	1 -
		- 1 /	100	. ( 1 1
Remarks: Whank 8 pm	W H	ZI (2001)	illit	70
Remarks: Upland of part land sombtant	where the seller to	Hannya	1200 Y	$\mathcal{I}$

Moltle Te. Abundance/Contrast	xture, C	No No norretions, Jre, etc.
Paris medium Ch	Ruy I	Tall the same
Listed on Local Hydric Listed on National Hydric	: Soils Iric Soi Irks)	l iet
	Yes	No P
	Yes	No
		No 3
		No
	es	No
	Substed on Local Hydric Listed on National Hyd Other (Explain in Rema	Organic Streaking in Sandy S Disted on Local Hydric Soils Listed on National Hydric Soi Other (Explain in Remarks)  Yes  Yes  Yes  Yes  Yes  Yes

Project/Site: Applicant/Owner: Applicant/Owner: Investigator:	+ NOTOOTH	OUTINE 987 COE	Wetland	Date: County:	pination QO	Mary 10/1
Do Normal Circumstances ex Is the site significantly disturt Is the area a potential Problem VEGETATION	bed (Atypical Cityptiana)	Yes Yes Yes	No	State: Communi Transect IE Plot ID: _		) S B
Dorginant Plant Species  152 CUM De de Luga 2. Prunco Turuno 3. 4.	0000	<b>-</b>	· 		シ Stratum	Indicat
5	13. ————————————————————————————————————					
Percent of Dominant Species the FACW or FAC (excluding FACU	10					
Remarks:						
Remarks:  HYDROLOGY  RECORDED DATA (Describe in F						
Remarks:  HYDROLOGY  RECORDED DATA (Describe in F  Stream, Lake, or Tide Gauge  Aerial Photographs  Other	Remarks): PRIMAI □ Inunc >©Satura	ated in Unr				
Remarks:  HYDROLOGY  RECORDED DATA (Describe in F  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:	Remarks): PRIMAI  Inunc Saturi U Water In Drift L Sedim	lated ated in Upp Marks ines ent Deposi	er 12 In	ches		
Remarks:  HYDROLOGY  RECORDED DATA (Describe in F  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit:	Remarks): PRIMAI  Inunc  Satur.  Water  Drift L  Sedim  (in.)  SECOND.	lated ated in Upp Marks ines ent Deposi ge Patterns ARY INDI	oer 12 In ts s in Wetl CATOR:	ches ands	те геант	ed):
Remarks:  HYDROLOGY  RECORDED DATA (Describe in F  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:	Remarks): PRIMAI    Inunc   Satur.   Water   Drift L   Sedim   Cin.) Draina   SECOND.   Cin.) Oxidize   Water S   Water S   Cocal S	lated Ated in Upp Marks Lines Lent Deposi Ge Patterns ARY INDI Ed Root Che Stained Lea	ts in Weti CATORS	ches ands	ore require	ed):
HYDROLOGY  RECORDED DATA (Describe in F  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:	Remarks): PRIMAI    Inunc   Satur.   Water   Drift L   Sedim   Cin.) SECOND.   Cin.) Oxidize   Water S	lated ated in Upp Marks ines ent Deposi ge Patterns ARY INDI ed Root Che Stained Lea foil Survey	ts in Weti CATOR: annels ir ves Data	ches ands S (2 or mo 1 Upper 12	re require	ed):

Map Unit Name (Series and Phase):  Taxonomy (Subgroup):  PROFILE DESCRIPTION  Depth (Inches) Horizon  Matrix Color (Munsell Moist)  Mottle Colors (Munsell Moist)  Abundance/Contrast  Mottle Colors (Munsell Moist)  Abundance/Contrast  Mottle Colors (Munsell Moist)  Abundance/Contrast  Mottle Colors (Munsell Moist)  Mottle Colors (Munsell Moist)	Yes) xture, Concre Structure, e	No stions, to.
HYDRIC SOIL INDICATORS  Histosol Reducing Conditions Organic Streaking Histic Epipedon Cleyed or Low-Chroma Colors Sulfidic Odor Concretions Listed on National Aquic Moisture Regime High Organic Streaking in Other (Explain in F	dric Soils Li Hydric Soils	st
Surface Layer in Sandy Soils	Yes	No I
Hydric Soil Present?  Remarks: Saturafed throughout		E C
WETLAND DETERMINATION		
Hydrophytic Vegetation Present?	Yes	No 🖛
Wetland Hydrology Present?	Yes Yes	No No
Hydric Soils Present?	Yes Yes	. No · ·
Is this sampling point a Wetland?	162	, INO
Remarks:		1

DATA FORM,	ROUTINE	WETL	AND DETERMIN	IATION
Project/Site: AFC - NOTOO	Mali	wenai	nds Determination	on Manual
Applicant/Owner:			County:	JANY.
Investigator:			State:	10
Do Normal Circumstances exist on this site?	Yes	No	Community ID:	5
Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect ID:	
Is the area a potential Problem Area?	Yes	No	Plot ID:	A
VEGETATION				
Dominant Rlant Species Stratum Indicator	Dominant Plan	l Species	Stratur	n Indicator
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	<b>9</b>			
2 Manha nam 2510 The	10		<u> </u>	
THE CALLY THE THE CALLY	11			
5	3			
	4.			
1	5			
01	6			
Percent of Dominant Species that are OBL,			<del>, , , , , , , , , , , , , , , , , , , </del>	<del></del>
FACW or FAC (excluding FACU):				
Remarks:				<del></del>
15.0 EMID				
HYDROLOGY				
RECORDED DATA (Describe in Remarks): P	RIMARY IN	DICATO	ORS:	
☐ Stream, Lake, or Tide Gauge	Inundated			
	Saturated in		12 Inches	
F In CT No Booorded Date At all 11	Water Mark	S		
<del></del>	I Drift Lines I Sediment D	anacite		
Don'th of Continue	Drainage Pa		n Wetlands	
			TORS (2 or more	roquirod\.
- Oth t O t t t O t	Oxidized Bo	ot Chan	nels in Upper 12 I	riedolieo):
WETLAND HYDROLOGY INDICATORS:	Water Staine	ed Leave	ءة 1 افتع 111 Obbet 15 11	nunes.
METERINO ITTORIOZOGI INDICATORS.	⊅ocal Soil S	urvey D		
	FAC-Neutral			
	Other (Expla	in in Re	marks)	
Remarks. A Date of Soil F	SIZ		1. 1.	
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COUNTY (1) (U)	•			1. براج

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S SOILS  N Map Unit Name		F
(( (Series and Phase): Takkol ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) (	lly toos	H
Taxonomy (Subgroup): Confirm Mapped Type PROFILE DESCRIPTION	e? (Yes) No	F
Depth Matrix Color Mottle Colors Mottle	Texture, Concretions,	
(Munsell Moist) Abundance/Contrast	Structure etc.	<b>+</b>
22-10 2543/ 5/R5/ Poplart medium	lan said	
		6
HYDRIC SOIL INDICATORS		
☐ Histosor ☐ Reducing Conditions ☐ Organic Streaking ☐ Sulfidic Odor ☐ Concretions ☐ Used on National ☐ Surface Layer in Sandy Soils ☐ Other (Explain in F	ydric Soils List Hydric Soils List	
Hydric Soil Present?	Yes No	i i
Monthly ucreases will-depth		
,		
WETLAND DETERMINATION		_
Hydrophytic Vegetation Present?	Yes No	
Wetland Hydrology Present?	Yes No	7 1
Hydric Soils Present?  Is this sampling point a Wetland?	Yes No	
Remarks:	Yes No	
The flot transition from	h	11 TE
Wetland To useard	1	
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DATA FORM	1987 COE		AND DETERMI ds Determinat	
Project/Site: + 10000	TILL		Date: Ox	MICH
Applicant/Owner:			County:	attou
Investigator:			State:	MQ_
Do Normal Circumstances exist on this site?	Yes	No	Community IE	): <u>10</u>
Is the site significantly disturbed (Atypical Situation?	) Yes	No	Transect ID:	
Is the area a potential Problem Area?	Yes	No	Plot ID:	<i>t</i> +
VEGETATION				
Dominant Plant Species Stratum Indicator	Dominant Pl	lant Specie	s Stra	atum Indicato
LI CALAMICTOFACTAL 100 12	<b>7</b> 9	:	·	
a tugo mast to o the	Th	<u>·</u>		
3 P. Jang Wanicut 301. He	12			
5.	13			
6	14			
7				
8	_ 16			
Percent of Dominant Species that are OBL,			,	
FACW or FAC (excluding FACU):				
Remarks: Partat Or paltal	and	gel	chat	
Conserved & Zdo	Ward	H.	12.00 i	
Sold and the sold sold		. 00	10mc 2 C	
an plat feld	)	1 6	[ ]	
A CAMPAR WIA	OF th	<del>All</del> a	<del>CTVY</del>	
HYDRULUGY	PRIMAR	V INDIO	TODC.	
RECORDED DATA (Describe in Remarks):	-		AIUNO.	
Stream, Lake, or Tide Gauge	Shrunda 🗔		per 12 Inches	
☐ Aerial Photographs ☐ Other	→ Saturat		OU IE MUNDO	
☐ No Recorded Data Available	u Drift Li			
FIELD OBSERVATIONS:	Sedime			
Depth of Surface Water:(in.)			ns in Wetlands	
Depth to Free Water in Pit: 4 (in.)	SECOND	ARY INC	DICATORS (2 or	more required
Depth to Saterated Soil: (in.)			Channels in Uppe	r 12 Inches
WETLAND HYDROLOGY INDICATORS:	Water !			
LIMBLE WILLIAM OF	A Local S		•	
	☐ FAC-N			
4/000 DC 1/00405#51-55	U Utner (	(Explain I	n Remarks)	
Remarks:	\ ^	<b>^</b> ~	00.	n a
Remarks: Appears to be d	LDTE:	úQu	al ay	Paris
Remarks: Oppears to be de Sorvelar told is to	lpils	4,00 41 h	ex di	la le

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SOILS						-
Map Unit Name	n ,	0 1 00		·		
( (Series and Phase):	200 Vel	Silly	2.6.	0,	772 .	
Tayonomy (College		The state of the s	Prainage Class:	WW	Troop	
Taxonomy (Subgroup):   PROFILE DESCRIPTIO			Confirm Mapped Ty	pe?	(es)) No	
Depth	Matrix Color	Mottle Colors				<del>, , ,</del>
	lunsell Moist)	(Munsell Moist)	Mottle Abundance/Contrast	Texture, (	Concretions, ture, etc.	
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1100				<del></del>		1 10
HYDRIC SOIL INDICAT  Histosof						
☐ Histic Epipedon	Reducing	Conditions	Organic Streaking	in Sandv	Soils	
Sulfidic Odor	Concretio	r Low-Chroma Colors	Listed on Local Hy	dric Soils	liet	,
Aquic Moisture Regime	High Orga	anic Streaking in	☐ Listed on National ☐ Other (Explain in R	Hydric Sc	oils List	0.3
Hydric Soil Present?	Surface L	Layer in Sandy Soils	a onici (Exhigii) IU K	emarks)	1	<i>D:</i> .
Remarks: 0				Yes	No	T ::
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at 17 11 91	WIR	ases with	- alpte	, <i>S</i> O		I ii.
W 12-10 K	MS VU	w/ Mais	+		_	_
WETLAND DETERMINATI	<u> </u>	.0	•		Į.	-
Hydrophytic Vegetation Prese						
Wetland Hydrology Present?	ותנץ.			Yes	No	<del>.,</del>
Hydric Soils Present?				Yes	No -	
Is this sampling point a Wetla	nd2			Yes	No	
Remarks:	nu:			Yes	No .	
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DATA FORM  Project/Site: FC - NOTOO  Applicant/Owner: FC	ROUTINE V 1987 COE V				
Investigator: 193 CFC			-State:	M	0
Do Normal Circumstances exist on this site?	Yes	No	Commu	nity ID: _	7
Is the site significantly disturbed (Atypical Situation?	?) Yes	No	Transect	:ID: _	
Is the area a potential Problem Area?	Yes	No	Plot ID:	_	
VEGETATION		:			
	Dominant Plant  10			Stratum	Indicat
10 Exclination 12/0 Har	TAL TO FE	KLN	V		
7	15				
8	16				
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):				-	
Remarks:	· • •		(f)	▼.	
T=tree #= Sutre V= Line H= herb	igole u	VLC	16	Tu	dia
T=tree #= Sutto V= Line H= Nerb HYDROLOGY	isole v	VLC	16	rù	dia
T=+Tel #= Sutto Y= Line += Welo HYDROLOGY RECORDED DATA (Describe in Remarks):	PRIMARY IN	USC DICATO	DRS:	T'U	dic
T=+TRL Y= LENE H= NURO HYDROLOGY RECORDED DATA (Describe in Remarks):  The stream, Lake, or Tide Gauge	PRIMARY INI			ru	dia
T=+Tel #= Sutto Y= Line += Welo HYDROLOGY RECORDED DATA (Describe in Remarks):	PRIMARY IN	) Upper		s s	dic
T=+Tel	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines	n Upper s		s u	dia
T=+Trel #= Swtte  Y= Line HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available  FIELD OBSERVATIONS:	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D	Dupper S Deposits	12 Inches		dia
T=+Tel  Y= Line  HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D Drainage Pa	n Upper s eposits atterns ii	12 Inches	ds	dia
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D Drainage Pa SECONDARY	n Upper s eposits atterns in	12 Inches 1 Wetland ATORS (2	ds 2 or more	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D Drainage Pa	n Upper s eposits atterns in INDICA not Chan	12 Inches n Wetland ATORS (2 inels in U	ds 2 or more	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D Drainage Pa SECONDARY Oxidized Ro Water Staine	n Upper s deposits atterns in INDICA oot Chan ed Leave Gurvey D	12 Inches  Wetland ATORS (2) Inels in U	ds 2 or more	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY INI Inundated Inundated Water Mark: Inundated In	n Upper s reposits atterns in INDICA oot Chan ed Leave Survey D I Test	n Wetland ATORS (2 anels in U	ds 2 or more	
T=+Tel  Y= Live  HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D Drainage Pa SECONDARY Oxidized Ro Water Staine	n Upper s reposits atterns in INDICA oot Chan ed Leave Survey D I Test	n Wetland ATORS (2 anels in U	ds 2 or more	nches
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	PRIMARY INI Inundated Saturated in Water Mark: Drift Lines Sediment D Drainage Pa SECONDARY Oxidized Ro Water Staine Accol Soil S FAC-Neutral Other (Explain	eposits atterns in INDICA cot Chaned Leaves UT Test ain in Re	n Wetland ATORS (2 anels in U	ds 2 or more	nches

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SOILS				11
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(Series and Phase) Sulway Si	Hn Clan Da	A Dráinage Class:	Yoos	(1) (1)
	<u> </u>	Field Observations		\
Taxonomy (Subgroup):		Confirm Mapped Ty	pe? Yes (No	
PROFILE DESCRIPTION  Depth Matrix Color	Mottle Colors	Mottle	Texture, Gencretions,	
(Inches) Horizon (Munsell Moist)	(Munsell Moist)	Abundance/Contrast	Structure, etc.	25"
U-10 7,5/R3/2	. <u> </u>		4000	1717
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				,195 -55
	rganic Streaking in e Layer in Sandy Soils	Listed on Nation Other (Explain i	Yes No	
WETLAND DETERMINATION				-
Hydrophytic Vegetation Present?			Yes No	<b>T</b> .:
Wetland Hydrology Present?			Yes No	THE.
Hydric Soils Present?			Yes No	(4.0)
Is this sampling point a Wetland?			Yes No	1112
Remarks:	, Outsid	e Hwell	and	
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Surround's secto	x alex	masylit	1 alson I	EII is .
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2	DATA FORM	ROUTINE WETLAND DETERMINATION 1987 COE Wetlands Determination Markal
Investigator:  Do Normal Circumstances exist on this site?  Is the site significantly disturbed (Atypical Situation?)  Is the area a potential Problem Area?  VEGETATION  Dominant Plant Species  Stratum Indicator  Pominant Plant Species  Stratum Indicator  VEGETATION  Dominant Plant Species  Stratum Indicator  11.  12.  5.  13.  6.  14.  7.  15.  8.  16.  Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):  Remarks:  WAY CACHUC FACUS  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:  WETLAND HYDROLOGY INDICATORS:  Other (Explain in Remarks)	Project/Site: 4FC1-NOT1001	
Do Normal Circumstances exist on this sile?  Is the site significantly disturbed (Alypical Situation?)  Is the area a potential Problem Area?  Vegetation  Dominant Plant Species  Stratum Indicator  Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):  Recorded Data Available FIELD OBSERVATIONS: Depth to Saturated Soil: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS:  Is the site significantly disturbed (Alypical Situation?) Yes No Transect ID: Yes No Plot ID:  Yes No Transect ID:  No Plot ID:  Yes No P	Applicant/Owner:	County ATOLL
Is the site significantly disturbed (Atypical Situation?)  Is the area a potential Problem Area?  VEGETATION  Dominant Plant Species  Stratum Indicator  Pominant Plant Species  Stratum Indicator  Indicator  Dominant Plant Species  Stratum Indicator  9  2	Investigator:	State:
Is the area a potential Problem Area?  VEGETATION  Dominant Plant Species  Stratum Indicator Dominant Plant Species Total Indicator Indi	Do Normal Circumstances exist on this site?	Yes No Community ID:
VEGETATION Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 9.  2	ls the site significantly disturbed (Atypical Situation?)	Yes No Transect ID:
Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 99.  2	Is the area a potential Problem Area?	Yes No Plot ID:
9 21	VEGETATION	
2	Dominant Plant, Species Stratum Indicator	
3.		
4		10
5.	a	12
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):  Remarks:  HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:  15.  16.  PRIMARY INDICATORS:  Inundated  Saturated in Upper 12 Inches  Sediment Deposits  Drainage Patterns in Wetlands  SECONDARY INDICATORS (2 or more required waters)  Water Stained Leaves  Accal Soil Survey Data  FAC-Neutral Test  Other (Explain in Remarks)		13
8	6 ·	14
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):  Remarks:  WAS Alack And Only And		• • • • • • • • • • • • • • • • • • • •
FACW or FAC (excluding FACU):  Remarks:  Was allowed to one of the properties of the		16
Remarks:  Was alcourt 40% of the Remarks of the Recorded Data (Posterible in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs Other No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS:  Remarks  PRIMARY INDICATORS: Inundated Saturated in Upper 12 Inches Sediment Deposits Deptit Lines Sediment Deposits Drainage Patterns in Wetlands SECONDARY INDICATORS (2 or more required water Stained Leaves Accal Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)		
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS:  PRIMARY INDICATORS: Inundated Saturated in Upper 12 Inches Sediment Deposits Drainage Patterns in Wetlands SECONDARY INDICATORS (2 or more-required Coxidized Root Channels in Upper 12 Inches Water Stained Leaves Accal Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)		· · · · · · · · · · · · · · · · · · ·
☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS: ☐ Inundated ☐ Saturated in Upper 12 Inches ☐ Drift Lines ☐ Drift Lines ☐ Drainage Patterns in Wetlands SECONDARY INDICATORS (2 or more required ☐ Water Stained Leaves ☐ Water Stained Leaves ☐ Qual Soil Survey Data ☐ FAC-Neutral Test ☐ Other (Explain in Remarks)	has legetation which it is a supposed to the s	the plot (ditch)
☐ Aerial Photographs ☐ Other ☐ No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil: WETLAND HYDROLOGY INDICATORS: ☐ Saturated in Upper 12 Inches ☐ Water Marks ☐ Drift Lines ☐ Sediment Deposits ☐ Drainage Patterns in Wetlands SECONDARY INDICATORS (2 or more required ☐ Water Stained Leaves ☐ Water Stained Leaves ☐ Water Stained Leaves ☐ Other (Explain in Remarks)	RECORDED DATA (Describe in Remarks):	PRIMARY INDICATORS:
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□ No Recorded Data Available FIELD OBSERVATIONS: □ Depth of Surface Water: □ Depth to Free Water in Pit: □ Depth to Saturated Soil: □ WETLAND HYDROLOGY INDICATORS: □ Depth to Saturated Soil: □ Other (Explain in Remarks) □ Other (Explain in Remarks)		, ,
FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:  Sediment Deposits  Drainage Patterns in Wetlands  SECONDARY INDICATORS (2 or more required  Water Stained Leaves  Cocal Soil Survey Data  FAC-Neutral Test  Other (Explain in Remarks)		•
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Depth to Saturated Soil:  WETLAND HYDROLOGY INDICATORS:  (in.)  Water Stained Leaves  Local Soil Survey Data  FAC-Neutral Test  Other (Explain in Remarks)		SECONDARY INDICATORS (2 or more required
WETLAND HYDROLOGY INDICATORS:    Water Stained Leaves   Water Staine		• • • • • • • • • • • • • • • • • • • •
□ FAC-Neutral Test □ Other (Explain in Remarks)		+
Other (Explain in Remarks)	•	
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Hannade de national drainage with	Remarks:	() A
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I'M AMY Santown Lines I'M'S bount is	The state of the s	M The Val Lin
	. Imany Sonton Lin	of I'ms point is

SOILS  Map Unit Name (Series and Phase): EOOLU, Silfy Clay	
Jaxonomy (Subgroup):  PROFILE DESCRIPTION  Depth (Inches) Horizon (Munsell Moist)  Additional Moist (Munsell Moist)  Mottle Colors (Munsell Moist)	Prainage Class: Field Observations Confirm Mapped Type?  Mottle Abundance/Contrast  Texture, Concretions, Structure, etc.  Clausit
D-11e 205/R 205/ 205/R 4/8	endistruction clayofsit
HYDRIC SOIL INDICATORS  ☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in Surface Layer in Sandy Soils  Hydric Soil Present?	Organic Streaking in Sandy Soils Sisted on Local Hydric Soils List Listed on National Hydric Soils List Other (Explain in Remarks)
Remarks of the worlds of the western western determination	depte :
Hydrophytic Vegetation Present?	Yes
Wetland Hydrology Present? Hydric Soils Present?	Yes No
Is this sampling point a Wetland?	Yes No
Remarks:	Yes No
	interes

Applicant/Owner: Investigator: Do Normal Circumstances exist on this	site?	Yes Yes	No No	State: Commun Transect	-	
Is the site significantly disturbed (Atypic Is the area a potential Problem Area?	cai Situation?)	Yes	No	Plot ID:		A
VEGETATION  Domipage Plant Species Stratum  1. 1. 2		<b>9</b> 10				n Indicat
3		11 12 13 14				
6		15 16				
Percent of Dominant Species that are FACW or FAC (excluding FACU):	OBL,					j.
Remarks: Martld Son for	ran f	ield	160	day	bf	lod
Remarks:  Martla Son Ast  NA to Arta  HYDROLOGY	)	ill.			H	led -
Remarks:  HYDROLOGY  RECORDED DATA (Describe in Rem  Stream, Lake, or Tide Gauge	)	PRIMARY Inundat Inundat Inundat Inundat	INDIC		bf nes	led -
HYDROLOGY RECORDED DATA (Describe in Rem  Stream, Lake, or Tide Gauge Aerial Photographs Other	)	☐ Inundat ☐ Saturat ☐ Water M	INDIC ed ed in Up Marks	ATORS:	bf?	held
Remarks:  HYDROLOGY  RECORDED DATA (Describe in Rem  Stream, Lake, or Tide Gauge  Aerial Photographs	)	☐ Inundat ☐ Saturat ☐ Water M ☐ Drift Li ☐ Sedime	' INDIC ed ed in Up Marks nes ent Depo	ATORS:		
Remarks:  HYDROLOGY  RECORDED DATA (Describe in Rem.  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:	arks):	Inundat Saturat Water M Drift Li Sedime Drainae SECOND	INDIC ed ed in Up Marks nes ent Depo	ATORS:  oper 12 Inch osits rns in Wella DICATORS	ands S (2 or m	
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Remarks:  HYDROLOGY  RECORDED DATA (Describe in Rem.  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:	(in.) (in.) (in.)	Inundat Saturat Water M Drift Li Sedime Drainae SECOND	INDIC ed ed in Up Marks nes ent Depo ge Patte ARY IN ed Root Stained Soil Sur	ATORS:  oper 12 Inch osits rns in Wella DICATORS Channels in Leaves vey Data	ands S (2 or m	

SOILS  Map Unit Name (Series and Phase): COOLOGY  Taxonomy (Subgroup): PROFILE DESCRIPTION Depth (Inches) Horizon (Munsell Moist)  O-10	Mottle Colors (Munsell Moist)	Drainage Class: Field Observations Confirm Mapped Ty  Mottle Abundance/Contrast	pe? Yes (No)  Texture, Concretions, Structure, etc.	
☐ Histic Epipedon ☐ Gleyed of ☐ Sulfidic Odor ☐ Concreti ☐ Aquic Moisture Regime ☐ High Org	ng Conditions or Low-Chroma Colors ions ganic Streaking in Layer in Sandy Soils	Organic Streakin Listed on Local I Listed on Nation	Hydric Soils List al Hydric Soils List	110 FT. 110 FT
Hydric Soil Present?  Remarks:  Language Air C	d Sorfold L, south c	u-Pelly lay at b	aljacent offen of	
WETLAND DETERMINATION Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?			Yes No Yes No Yes No	

DATA FORM	1987 COE		ND DETEI Is Determ		
Project/Site: AFCL NOTOO	Anl I		Date:	2010	21010
Applicant/Owner:			County:	1.1-1	DIT
Investigator:			State:	M	(A)
Do Normal Circumstances exist on this site?	Yes	No	Communi	ty ID:	Y.
ls the site significantly disturbed (Atypical Situation)		No	Transect I		
Is the area a potential Problem Area?	Yes	No	Plot ID:		A
VEGETATION	r Dominant Plan	I Snaciae		Stratum	Indica
	<i>i</i> \				
2 The first state of the state	510				
3 The Tens	11				
4	12				
5	13				
6	14 15				
7. <u> </u>	15 16.				
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):					40.5
H= herb	•				
				,-	
HIVEROLOOV					
HYDROLOGY  DECORDED DATA (Describe in Remarks):	DDIMADV	MDICA.	rnrs.		
RECORDED DATA (Describe in Remarks):	PRIMARY		ГORS:		<del></del>
RECORDED DATA (Describe in Remarks):  3 Stream, Lake, or Tide Gauge	🗀 Inundate	t		6	
RECORDED DATA (Describe in Remarks):		d Lin Uppe		5	
RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs	☐ Inundated ☐ Saturated	d Lin Uppe arks		S	
RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other	Inundater Saturated Water Ma Drift Line Sedimen	d I in Uppe urks Is Is I Deposi	er 12 Inche:		
RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available	Inundate Saturated Water Ma Drift Line Sedimen Drainage	d I in Uppe arks s S Deposi Patterns	er 12 Inche ts s in Wetland	ts	
RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available FIELD OBSERVATIONS:	Inundate Saturated Water Ma Driff Line Sedimen Drainage SECONDAI	d I in Uppe arks Is Deposi Patterns RY INDI	er 12 Inche ts in Wetland CATORS (	ts 2 or more	
RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	Inundate Saturated Water Ma Driff Line Sedimen Drainage SECONDAI Oxidized	d I in Uppe arks es t Deposi Patterns RY INDI Root Ch	er 12 Inche ts s in Wetland CATORS ( annels in L	ts 2 or more	
RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:	Inundater Saturated Water Ma Driff Line Sedimen Drainage SECONDAI Doxidized Water St	d I in Uppe arks is Deposi Patterns RY INDI Root Ch ained Le	er 12 Inche ts s in Wetland CATORS ( annels in L aves	ts 2 or more	
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RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs Other  No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water:  Depth to Free Water in Pit:  Depth to Saturated Soil:  (in.)	Inundated Saturated Water Ma Driff Line Sedimen Drainage SECONDAI Doxidized Water St. Acocal So FAC-Neu	d I in Uppo Irks Is Deposi Patterns RY INDI Root Ch Ained Le Il Survey Itral Test	er 12 Inchests s in Wetland CATORS ( annels in U aves r Data	ts 2 or more	
RECORDED DATA (Describe in Remarks):  Distream, Lake, or Tide Gauge Distream, Lake, or Tide Gauge District Aerial Photographs District Other District No Recorded Data Available FIELD OBSERVATIONS: Depth of Surface Water: Depth to Free Water in Pit: Depth to Saturated Soil:  Depth to Saturated Soil:  District No Remarks):  District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks): District No Remarks No Remar	Inundated Saturated Water Ma Driff Line Sedimen Drainage SECONDAI Doxidized Water St. Acocal So FAC-Neu	d I in Uppo Irks Is Deposi Patterns RY INDI Root Ch Ained Le Il Survey Itral Test	er 12 Inchests s in Wetland CATORS ( annels in U aves r Data	ts 2 or more	
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Map Unit Name (Series and Phase): Solution (Subgroup):  PROFILE DESCRIPTION Depth Matrix Color (Munsell Moist)  O-O  Warner Matrix Color (Munsell Moist)  O-O  Warner Matrix Color (Munsell Moist)	Drainage Class: 1007 Field Observations Confirm Mapped Type? 1007  Mottle Abundance/Contrast 10007  Texture, Concretions, Structure, etc. 100000	
HYDRIC SOIL INDICATORS  Histosol Gleyed or Low-Chroma Colors Concretions High Organic Streaking in Surface Layer in Sandy Soils  Hydric Soil Present?  Remarks:	☐ Organic Streaking in Sandy Soils ☐ Disted on Local Hydric Soils List ☐ Listed on National Hydric Soils List ☐ Other (Explain in Remarks) ☐ Yes ☐ No	HELE
WETLAND DETERMINATION Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present? Is this sampling point a Wetland? Remarks:	Yes No Yes No Yes No	HE ONE THE STATE OF THE STATE O

	DATA FORM	ROU 1987	TINE COE	WETL <i>i</i> Wetlan	AND DET	ERMINA Mination	TION Manual
20011	Project/Site: H	DUND	)		Date	2102	1970
-t1-	Applicant/Owner:				County:	TAN	hir
	Investigator:	, 			State: _		A
11	Do Normal Circumstances exist on this site?		Yes	No	Commu	nity ID: 🗓	7
	Is the site significantly disturbed (Atypical Sit	uation?)	Yes	No	Transect	ID:	1
	Is the area a potential Problem Area?		Yes	No	Plot ID:		B
	VEGETATION						
	Dominant Plant Species Stratum	ndicator Domina	ent Plan	Species		Stratum	Indicato
	E. Crugallit Co.	+AZW		·			
	3 A Amentana	<u>UDL</u> 10					
e[]	4 Lyubina	471W2			<del></del>		
	5.						
	6	14			_		
	7	15					
	Percent of Dominant Species that are OBL,	16					-
					,		
	HYDROLOGY						
(在	RECORDED DATA (Describe in Remarks):	PRIMA	RY IN	DICATO	RS:		
	☐ Stream, Lake, or Tide Gauge	🔾 Inund	dated				
	☐ Aerial Photographs ☐ Other				12 Inches		
	☐ No Recorded Data Available	☐ Wate ☐ Drift		S .			
2.6	FIELD OBSERVATIONS:	Sedir		enneite	-		•
	Donth of Conference	in.) 🗀 Drain	age Pa	tterns ir	Wetlands		
E	Donald to Constitution of the					or more re	nuired).
. 50	Dooth to Cot 1 1 0 11	in.) 🗀 Oxidi:	zed Ro	ot Chani	nels in Uni	per 12 Inch	ganoa). 129
	WETLAND HYDROLOGY INDICATORS:	. 🗀 Water	Staine	d Leave	S	· · · · · · · · · · · · · · · · · · ·	100
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-		FAC-1	veutral (Evola	lest in in Dec	-nasls=1		
2.7.	Remarks: \ ( \ \ ( ) \ - \ \ \ )	Other	(EXPIG	iii iii Kel	narks)	<u>·</u>	
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	dritis cracked as	Dais	lt L	the	2000 Lean	l W	

$\chi_{ij}$	Total Control
SOILS	
Map Unit Name (Series and Phase): Pield Observations	( Jul 1000)
Taxonomy (Subgroup): Confirm Mapped Type? Yes (No.)	6
PROFILE DESCRIPTION  Depth Matrix Color Mottle Colors Mottle Texture, Concretions,	(3)North
(Inches) Horizon (Munsell Moist) (Munsell Moist) Abundance/Contrast Structure, etc.	/_
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4 high shifter 200 to shift for	)
	27
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	7 T
HYDRIC SOIL INDICATORS	
☐ Histosol ☐ Reducing Conditions ☐ Organic Streaking in Sandy Solls	78
☐ Histic Epipedon ☐ Concretions ☐ Listed on Local Hydric Soils List☐ ☐ Sulfidic Odor ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ Listed on National Hydric Soils List☐ ☐ Concretions ☐ List ☐ Concretions ☐ Concretions ☐ Concretions ☐ Concretions ☐ Concretion ☐ Concretions ☐ Concret	lar i
Acuic Moisture Regime High Organic Streaking in Other (Explain in Remarks)	219) (
Surface Layer in Sandy Soils	301
Benaries: (MO) of 10 the blust water and	18:1
MANUEL LANCE	HAET
March 1007 4 Oct 1	110
WETLAND DETERMINATION	1
Hydrophytic Vegetation Present?	
Wetland Hydrology Present?	
Hydric Soils Present?  Is this sampling point a Wetland?	17.41
Remarks:	2.5
	(Dage
	15
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Project/Site: AFCI - NOTOOM	1987 COE	Wetian	n <b>ds Deteri</b> Date:		n Manua 7 JP
Applicant/Owner:	, ,		County:	( ** A	TOT
Investigator:			State:	P	10
Do Normal Circumstances exist on this site?	Yes	No	Commun	nity ID: _	
Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect	ID: _	$\sim$
Is the area a potential Problem Area?	Yes	No	Plot ID:		
VEGETATION					
11: A:	Dominant Plan	it Specie:	S	Stratum	n Indi
2 E CAUGALLY HEDE TYCH	9			-	
3 V. DWD VIO FACED	ブ				
1 Mastatal 5% FAW	2t		···		
	3 4				
71	5				
81	6				
Percent of Dominant Species that are OBL,					
1= Jul					
H= herb		•			
7					
H= Werb HYDROLOGY					
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HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge	☐ Inundated	i			
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs		l in Upp		s	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available	Inundated Saturated Water Ma Drift Line	in Upp rks s	er 12 Inche	S	
HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs Other  No Recorded Data Available  FIELD OBSERVATIONS:	Inundated Saturated Water Ma Drift Line Sediment	in Upp rks s Deposi	er 12 Inche		
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HYDROLOGY  RECORDED DATA (Describe in Remarks):  Stream, Lake, or Tide Gauge  Aerial Photographs  Other  No Recorded Data Available  FIELD OBSERVATIONS:  Depth of Surface Water:  Depth to Free Water in Pit:  (in.)	Inundated Saturated Water Ma Drift Line Sediment Drainage	in Upp rks s Deposi Patterns	er 12 Inche ts s in Wetland CATORS (	ds . (2 or mor	
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SOILS	•
Map Unit Name	101 - Page
(Series and Phase): DOULT Sitry Clan	Drainage Class: New 1005
Taxonomy (Subgroup):	Field Observations
PROFILE DESCRIPTION	Confirm Mapped Type? Yes No
Depth Matrix Color Mottle Colors	Mottle Texture, Concretions,
(Inches) Horizon (Munsell Moist) (Munsell Moist)	Abundance/Contrast Structure, etc.
0-10	1020
	_
HYDRIC SOIL INDICATORS	
☐ Histosol ☐ Reducing Conditions	Organic Streaking in Sandy Soils
☐ Histic Epipedon ☐ Gleyed or Low-Chroma Cotors ☐ Sulfidic Odor ☐ Concretions	Listed on Local Hydric Soils List
☐ Sulfidic Odor ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in	☐ Listed on National Hydric Soils List☐ Other (Explain in Remarks)
Surface Layer in Sandy Soils	Cities (Explain in heritains)
Hydric Soit Present?	Yes No
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Remarks: ( day and compac	, —
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WETI AND DETERMINATION	
WETLAND DETERMINATION	III
Hydrophytic Vegetation Present?	Yes No
Wetland Hydrology Present?	Yes No
Hydric Soils Present?	Yes No
Is this sampling point a Wetland2	tat souther the and
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BARRET ON TOTAL TO	ack 200 (10 Sa This
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Bush of what were in	aux 200 (1952 febt)
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	DATA FORM	ROUTINE 1987 COE	WETLA Wetlan	ND DETERMIN ds Determinatio	ATION In Manual
	Project/Site: 444 Company	W		Date: 020	2/0/2
	Applicant/Owner: Investigator:			County:	11011
-				State:	12_
	Do Normal Circumstances exist on this site?	Yes	No	Community ID:	10
	Is the site significantly disturbed (Atypical Situation?) Is the area a potential Problem Area?	Yes	No	Transect ID:	<del></del>
		Yes	No	Plot ID:	
	VEGETATION				
	Dominant Plant Species Or Stratum Indicator I	Oominant Plan	t Species	Stratum	Indicator
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	3 A odorativa H 10% FAVIL				
. 1000 5	4 1.	2			
F ****	<u> </u>	3			
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	Percent of Dominant Species that are OBL,	·			
	FACW or FAC (excluding FACU):				
	Remarks:				
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131 T	V= Vino	·	P.	, and the same of	
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		Inundated Saturated in	linner	10 Inahas	
	C) Other	Water Mark		12 mones	
256	☐ No Recorded Data Available ☐	Drift Lines	· <del>-</del>		À
		Sediment D			
		Drainage Pa			:
	Depth to Free Water in Pit:(in.) SE	CONDARY	INDICA	TORS (2 or more	required):
		Uxidized Ro	ot Chani	nels in Upper 12 In	ches
		Water Stain Local Soil S			
		FAC-Neutral	Test	πα	:
		Other (Expla	in in Rer	narks)	;
<b>E</b>	Remarks: Why an Entoof COV	idor	caln	Jell Just	
<u>-</u>	Son plantillas Cortialer 14	llex	Taste.	d in til	mus ( -
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	a this approach and upg	OPE	, , ,	リンレンフいし	MIST J

SOILS  Map Unit Name (Series and Phase): Salue Sity Clay  Taxonomy (Subgroup): PROFILE DESCRIPTION Depth (Inches) Horizon Matrix Color (Munsell Moist) Mottle Colors (Munsell Moist)	Padramage Class: Field Observations Confirm Mapped T  Mottle Abundance/Contrast	/pe? Texture	Yes (No)  Concretions, ucture, etc.
HYDRIC SOIL INDICATORS  Histosol Histic Epipedon Sulfidic Odor Aquic Moisture Regime Hydric Soil Present?  Remarks:  HYDRIC SOIL INDICATORS Reducing Conditions Gleyed or Low-Chroma Colors Concretions High Organic Streaking in Surface Layer in Sandy Soils	Organic Streaking Sisted on Local Hy Listed on National Other (Explain in Re	dric Soil Hudria c	- 1 · · ·
WETLAND DETERMINATION  Hydrophytic Vegetation Present?  Wetland Hydrology Present?  Hydric Soils Present?  Is, this sampling point a Wetland?  Remarks:		Yes Yes Yes Yes	No Selection No Color

Applicant/Owner:	Jorloon,			Date: County:	ar	FOL
Do Normal Circumstances exist on th	nis site?	Yes	No.	State: Commun		5
Is the site significantly disturbed (Aty		Yes	No	Transect (	-	
Is the area a potential Problem Area?		Yes	No	Plot ID:	· ,	B
VEGETATION						
Dominant Plant Species	um Indicator Doi	ninant Plan	t Species	5	Stratum	Jn.
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2-13 01072+CG12	Da FALLO					
3 Coldinamonth 1	(0. FAC)1.					
5.	13.					
6	14.					
7	15					
8:	16					
Percent of Dominant Species that are	e OBL,					
FACM or FAC (evaluation EACLI).						
FACW or FAC (excluding FACU):  Remarks:	wed for	tùc		and the state of t		
	wyd far	T ÜC	<u> </u>	Hor		
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HYDROLOGY RECORDED DATA (Describe in Rema	Ü	MARY IN	IDICAT	ORS:		
HYDROLOGY  RECORDED DATA (Describe in Rema  Stream, Lake, or Tide Gauge  Aerial Photographs	ا <b>ت</b> 3 <b>ت</b>	MARY IN nundated Saturated i	IDICAT	ORS:	*	,
HYDROLOGY  RECORDED DATA (Describe in Rema  Stream, Lake, or Tide Gauge  Aerial Photographs  Other	□ : □ :3 <b>%</b> ( )	MARY IN nundated Saturated i Vater Mark	IDICAT n Upper	ORS: 12 Inches	ar or	A CON
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Project/Site: Applicant/Owner:		<del></del>	County (		ÅII.
Investigator:			State:	134	
Do Normal Circumstances exist on this site?	Yes	No	Communi	•	W
Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect II	D:	<u></u>
Is the area a potential Problem Area?	Yes	No	Plot ID:		
VEGETATION					1
Donation of the state of the st	Dominant Pla	nt Specie	S	Stratum	Indicato
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FACW or FAC (excluding FACU):					
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WETLAND DETERMINATION Hydrophytic Vegetation Present? Wetland Hydrology Present?	Yes Yes	
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Applicant/Owner:		<del>.</del>	County (	Ma	MI
Investigator: 195 (195)			State:	l <sub>20</sub> [	4-
Do Normal Circumstances exist on this site?	Yes	No	Commun	ity ID: _	11_
Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect I	ID: _	Λ
Is the area a potential Problem Area?	Yes	No	Plot ID:	_	+
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Percent of Dominant Species that are OBL,	<u> </u>				
FACW or FAC (excluding FACU):					
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SOILS  Map Unit Name  (Series and Phase): Booled Strand Clary  Taxonomy (Subgroup): Confirm Matrix Color  (Inches) Horizon (Munsell Moist) Mottle Colors (Munsell Moist) Munsell Moist)  Confirm Matrix Color (Munsell Moist) Mottle Colors (Munsell Moist) Abundance/Colors  (Munsell Moist)	rvations apped Type? Yes No
☐ Sulfidic Odor ☐ Concretions ☐ Listed or ☐ Listed or ☐ Concretions ☐ ☐ Listed or ☐ Concretions ☐ Concretions ☐ Listed or ☐ Concretions ☐ Concret	Streaking in Sandy Soils n Local Hydric Soils List n National Hydric Soils List xplain in Remarks) Yes No
WETLAND DETERMINATION Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Soils Present?	Yes No Yes No Yes No

DATA FORM  Project/Sile: 4Fe1-Norbor	1987 COE		ND DETERMI ds Determinat Date: Date	
Applicant/Owner:			County C	MOIL
Investigator:			State:	10
Do Normal Circumstances exist on this site?	Yes	No	Community 1D	
Is the site significantly disturbed (Atypical Situation?)	Yes	No	Transect ID:	-
Is the area a potential Problem Area?	Yes	No	Piot ID:	B
VEGETATION				
Dominant Plant Species Stratum Indicator  1. Stratum On The Species Stratum Control of the Stratum Control of the Species St	<del>/8</del> 10			atum Indicat
5	12 13.			
6	14			
7	15			
8. Percent of Dominant Species that are OBL,	16			
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HYDROLOGY	PRIMARY	INDIC	ATORS:	
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☐ Stream, Lake, or Tide Gauge ☐ Aerial Photographs			per 12 Inches	
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Depth to Free Water in Pit:(in.)			Channels in Uppe	
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Map Unit Name (Series and Phase): Develope Silver Class Drainag	je Class: LLVZ (	201
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(Inches) Horizon (Munsell Moist) (Munsell Moist) Abundar	nce/Contrast Structure, e	tc.
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		ils. E
HVDDIC COIL INDICATORS		117
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☐ Sulfidic Odor ☐ Concretions ☐ List	ted on National Hydric Soils I	_ist
☐ Aquic Moisture Regime ☐ High Organic Streaking in ☐ Oth Surface Layer in Sandy Soils	er (Explain in Remarks)	13
Hydric Soil Present?	Yes	No.
Remarks: ( A	0 0 0 0	No 🐷
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in much sall house	No 20 20 Est.	()
o o o car is a compact		12
WETLAND DETERMINATION		_
Hydrophytic Vegetation Present?	Yes	No
Wetland Hydrology Present?	*	No us.
Hydric Soils Present?	Yes	No
Is this sampling point a Wetland?	Yes	No 🔐
Remarks:		
		l name
		<b>3</b> 23,

DATA FORM  Project/Site: AFA Norlow			AND DETER Inds Determa Date:		
N PA			County:	7	HI
Applicant/Owner:		·	State:	TA	)
Investigator: Do Normal Circumstances exist on this site?	Yes	No	Communit	<del>t_t_</del> v.ID∙	ÎT-
Is the site significantly disturbed (Atypical Situation?)		No	Transect ID	_	11
Is the area a potential Problem Area?	Yes	No	Plot ID:	,	(
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VEGETATION	0 1 1 1 1			01.1	
Dominant Plant Species Stratum Indicator	Dominant Plan		·S	Stratum 	Indicat
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4	12	<u> </u>			
5	13				· <del></del>
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7	. 13 . 16.				
Percent of Dominant Species that are OBL, FACW or FAC (excluding FACU):					
Remarks of almost complete	eli 6st	ndd •	ed w	ill_	-
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SOILS  Map Unit Name (Series and Phase): Solution (Series and Phase): Solu	Drainage Class: Field Observations Confirm Mapped Type:  Mottle Abundance/Contrast	? Yes exture, Cor	ncretions,
HYDRIC SOIL INDICATORS			
☐ Histosol ☐ Reducing Conditions	Organic Streaking in	n Sandy S	oils
☐ Histosol ☐ Reducing Conditions ☐ Histic Epipedon ☐ Gleyed or Low-Chroma Colors ☐ Sulfidic Odor ☐ Concretions ☐ Aquic Moisture Regime ☐ High Organic Streaking in Surface Layer in Sandy Soils	Organic Streaking ir Disted on Local Hyd Listed on National F Other (Explain in Re	fric Soils L Tydric Soil	List
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# APPENDIX C

Photographic Documentation





Client Name:

Site Location:

Project No.

Associated Electric Cooperative, Inc.

Norborne, Missouri

21561720.00200

Photo No.

**Date:** 8/1/06

#### Description:

From southwest corner of AECI property, looking east. Corridor of volunteer vegetation. Notice rail line on right side of photo.



Photo No.

**Date:** 8/1/06

#### Description:

From intersection of County Roads 111 and 324. Looking along north side of rail line.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/1/06

#### Description:

Plot area 2. Plot 2A is nearest the railroad. Plot 2B is in the center and Plot 2C is nearest the roadway at the base of the photo.



Photo No.

**Date:** 8/1/06

#### Description:

From the intersection of County Road 103 and the north edge of the George Hale Trust property. Looking east at drainage ditch.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/1/06

### Description:

Plot area 4. Plot 4A is upland and 4B is adjacent to the drainage ditch.



Photo No.

**Date:** 8/1/06

#### Description:

Plot area 5. Plot 5A is upland and 5B is downland.





**Client Name:** 

Site Location:

Project No.

Associated Electric Cooperative, Inc.

Norborne, Missouri

21561720.00200

Photo No.

**Date:** 8/1/06

#### Description:

Plot area 6. Looking west.



Photo No.

**Date:** 8/1/06

## Description:

Plot area 7. Looking southeast. Note steep bank on this side of the ditch and more gradual slope on opposite side.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/1/06

#### Description:

Plot area 8. Looking south at ditch through soybean field.



Photo No.

**Date:** 8/2/06

### Description:

Plot area 9. Looking south from County Road 300. Plot 9B is in the drainage ditch, with Plots 9A and 9C upland on either side of the ditch.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/2/06

### **Description:**

Drainage ditch running parallel to County Road 300, immediately south of road. Photo taken from intersection of Road JJ and County Road 300, looking east. Culvert pipe runs under Road JJ.



Photo No.

**Date:** 8/2/06

### Description:

Plot area 10. Looking north from center of drainage way. Plot 10B is within the drainageway. Plots 10A and 10C are on either side of the drainageway.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/2/06

# Description:

Wet area immediately north of County Road 300. A pond lies west of this area. Appears that this area serves as an overflow for the pond to the west. Based on apparent hydrology and visual identification of species present along water's edge, wetland areas do exist here; however they were not field delineated, as this area appears to be outside of the facility property owned by AECI.



Photo No.

**Date:** 8/2/06

#### Description:

Plot area 11. Standing in drainage way, looking north. Plot 11B is in drainage way, Plot 11A is to the east and Plot 11C to the west.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/2/06

### Description:

Farmhouse, shed and pond on Randol Craig property. Looking north from County Road 300. Notice the topography beyond the house. This represents the southernmost extent of the upland topography in the study area.



Photo No.

**Date:** 8/2/06

#### Description:

From the northwest corner of the Kevin Edgar property, looking southeast. Looking over fallow field (appears it was formerly planted in corn). Some topography in area. Elevation dips to the east.





**Client Name:** 

Associated Electric, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/2/06

# Description:

Creek on the Kevin Edgar property.
Standing at north property boundary where creek enters property, looking south. Notice the steep cut of the bank.



Photo No.

**Date:** 8/2/06

### Description:

Creek on the Kevin Edgar property. Further south of creek point pictured in Photo 17. Downed trees at various points of creek may impeded water flow, leading to some of the erosion/cutting observed along the bank. Advanced the soil probe at edge of the creek, at an elevation below opposite bank cut. Soils are hard and dry and do not appear hydric.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/3/06

### Description:

From County Road 121, looking west. Area between Norfolk Southern railroad and **Burlington Northern** Santa Fe railroad. Notice gravel/rock sidings. Vegetation present (primarily volunteer species). Norborne drainage ditch transmits runoff water from north to waterways to south. The drainage ditch crosses through the area between the tracks. Note that this site is associated with one of the railroad connection alternatives and not the facility.



Photo No. 20

**Date:** 8/3/06

#### Description:

Wakenda Creek West Fork. From County Road JJ crossing, looking east.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/3/06

### Description:

From the intersection of County Roads 290 and JJ. Looking southeast at Section 9 R25W T52N.



Photo No. 22

**Date:** 8/3/06

#### Description:

From the intersection of County Roads 280 and JJ. Looking southeast at Section 4 R25W T52N. Tree line bisects this section.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No. 23

**Date:** 8/3/06

### Description:

From the intersection of County Roads 270 and 121. Looking southeast at Section 33 T53N R25W.



Photo No. 24

**Date:** 8/3/06

#### Description:

From the intersection of County Roads 270 and 111. Looking southeast at Section 32 T53N R25W.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No. 25

**Date:** 8/3/06

### Description:

From the intersection of County Roads 260 and 111. Looking southeast at Section 29 T53N R25W.



Photo No. 26

**Date:** 8/3/06

#### Description:

From the intersection of County Roads 260 and 111. Looking southwest at Section 30 T53N R25W.





**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No. 27

**Date:** 8/3/06

### Description:

From the intersection of County Roads 300 and 111. Looking southwest at Section 18 T52N R25W.



Photo No. 28

**Date:** 8/3/06

#### Description:

From the intersection of County Roads 111 and 290. Looking southwest at Section 7 T52N R25W.





### PHOTOGRAPHIC LOG

**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No. 29

**Date:** 8/3/06

### Description:

From the intersection of County Roads 290 and 111. Looking southeast at Section 8 T52N R25W. Notice farm pond.



Photo No. 30

**Date:** 8/3/06

#### Description:

Potential wooded wetland immediately south of County Road 290 between County Roads 111 and 121. This area represents a topographical low, vegetated and mapped drainage way.





### PHOTOGRAPHIC LOG

**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No. 31

**Date:** 8/3/06

### Description:

From the intersection of County Roads JJ and 111. Looking south at Section 5 T52N R25W. Notice tree line in distance, this surrounds the Wakenda Creek West Fork.



Photo No. 32

**Date:** 8/3/06

#### Description:

From the intersection of County Roads 101 and JJ. Looking southeast at Section 6 T52N R25W.





### PHOTOGRAPHIC LOG

**Client Name:** 

Associated Electric Cooperative, Inc.

Site Location:

Norborne, Missouri

Project No.

21561720.00200

Photo No.

**Date:** 8/3/06

### Description:

From the intersection of County Road JJ and an unnamed road. Looking northeast at Section 31 T53N R25W.



Photo No. 34

**Date:** 8/3/06

#### Description:

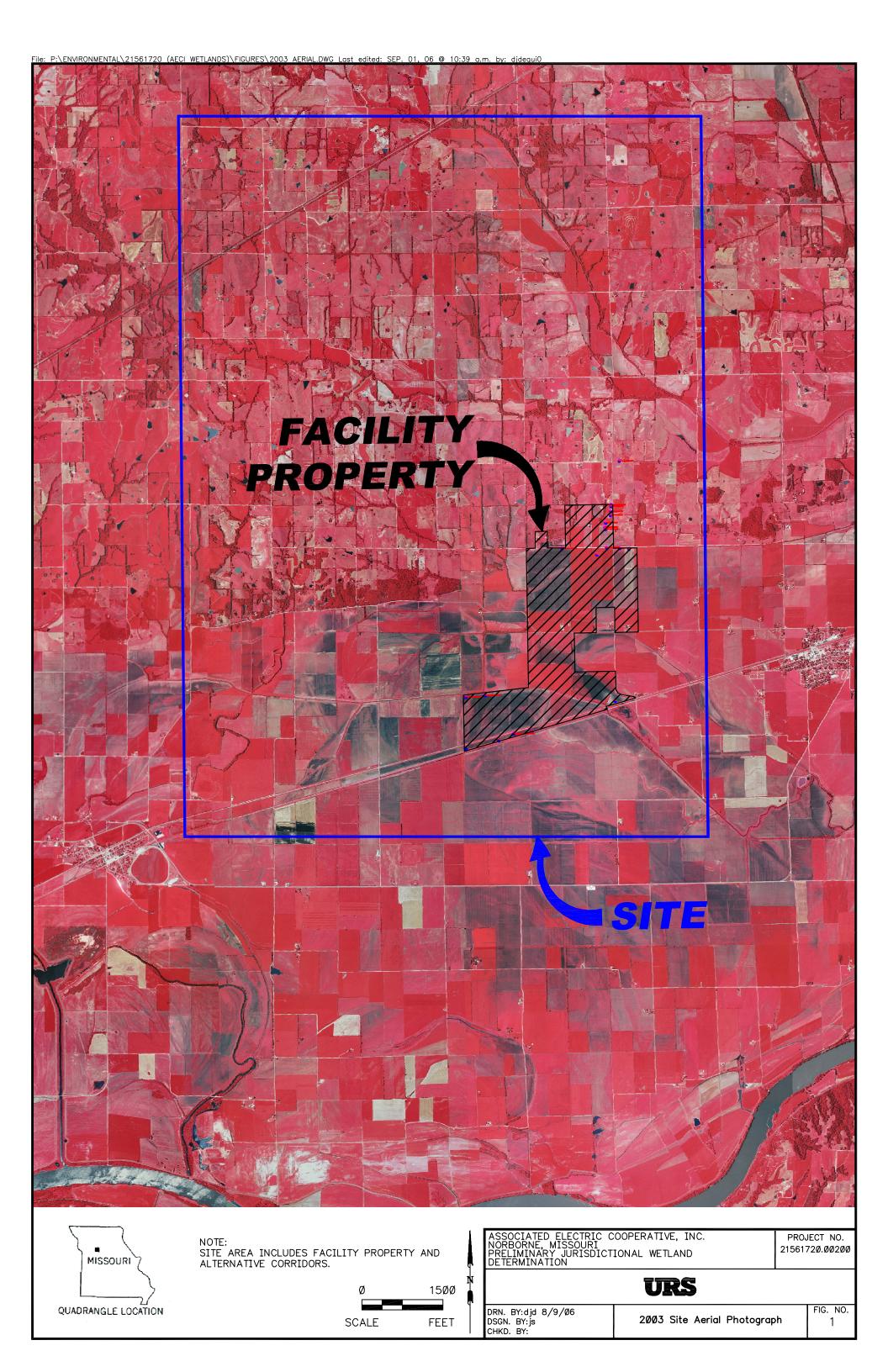
Burlington Northern Santa Fe rail line. Looking east from Road

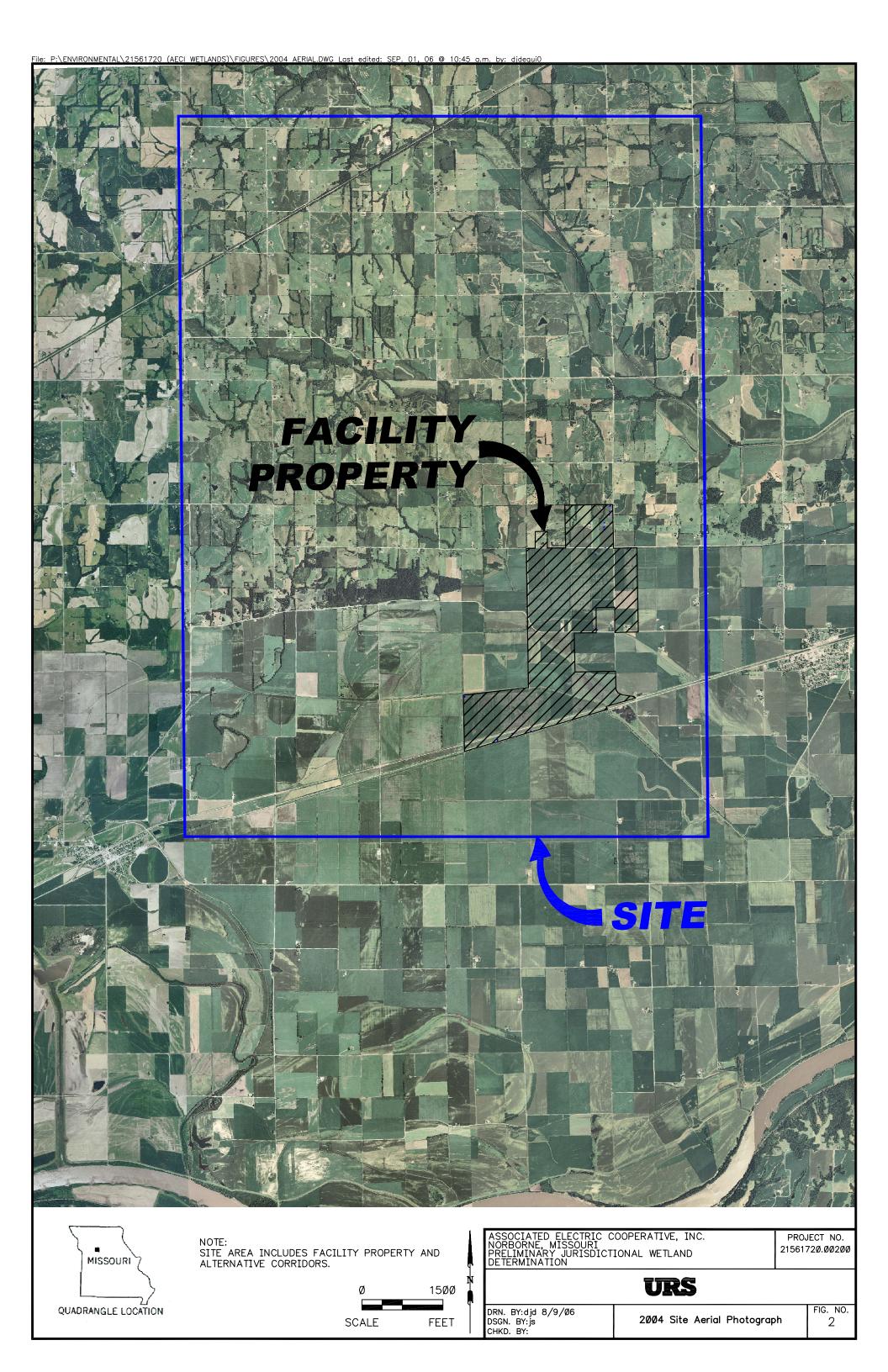


# APPENDIX D

Historical Aerial Photographs (2003 and 2004)







# APPENDIX E

Missouri River Gage Data



TABLE E-1
Missouri River (Waverly, MO) High Water Elevations for 5% and 12.5% of the Carroll County, Missouri Growing Season

	10-Day High Water Elevation	24-Day High Water Elevation
1996	19.58	19.06
1997	22.06	21.13
1998	20.37	14.68
1999	21.74	20.07
2000	13.81	12.83
2001	18.30	16.78
2002	13.94	11.55
2003	12.86	11.87
2004	16.07	13.92
2005	16.66	14.18

#### NOTES:

The 10-day and 24-day elevations represent the high water elevations for 5% and 12.5% of the growing season, respectively.

# APPENDIX F

### Wetland Definitions



#### Wetland Definitions

Active water table - A condition in which the zone of soil saturation fluctuates, resulting in periodic anaerobic soil conditions. active water table often contain bright mottles and matrix chromas of 2 or less.

Adaptation - A modification of a species that makes it more fit for existence under the conditions of its environment. These modifications are the result of genetic selection processes.

Aerenchymous tissue - A type of plant tissue in which cells are unusually large and arranged in a manner that results in air spaces in the plant organ. Such tissues are often referred to as spongy and usually provide increased buoyancy.

<u>Aerobic</u> - A situation in which molecular oxygen is a part of the environment.

Anaerobic - A situation in which molecular oxygen is absent (or effectively so) from the environment.

Aquatic roots - Roots that develop on stems above the normal position occupies by roots in response to prolonged inundation.

Aquic moisture regime - A mostly reducing soil moisture regime nearly free of dissolved oxygen due to saturation by ground water or its capillary fringe and occurring at periods when the soil temperature at 19.7 in. is greater than 5 C.

Arched roots - Roots produces on plant stems in a position above the normal position of roots, which serve to brace the plant during and following periods of prolonged inundation.

Areal cover - A measure of dominance that defines the degree to which above-ground portions of plants (not limited to those rooted in a sample plot) cover the ground surface. It is possible for the total areal cover in a community to exceed 100 percent because (a) most plant communities consists of two or more vegetative strata; (b) areal cover is estimated by vegetative layer; and (C) foliage within a single layer may overlap.

Atypical situation - As used in wetland determinations, this term refers to areas in which one or more parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameters.



Wetland Definitions

<u>Backwater flooding</u> - Situation in which the source of inundation is overbank flooding from a nearby stream.

Basal area - The cross-sectional area of a tree trunk measured in square inches, square centimeters, etc. Basal area is normally measured at 4.5 ft above the ground level and is used as a measure of dominance. This term is also applicable to the cross-sectional area of a clumped herbaceous plant, measured at 1.0 in. above the soil surface.

Bench mark - A fixed, more or less permanent reference point or object, the elevation of which is known. The US Geological Survey (USGS) installs brass caps in bridge abutments or otherwise permanently sets bench marks at The elevations on these marks are convenient locations nationwide. referenced to the National Geodetic Vertical Datum (NGVD), also commonly known as mean sea level (MSL).

Biennial - An event that occurs at 2-year intervals.

Buried Soil - A once-exposed soil now covered by an alluvial, loessal, or other deposit (including man-made).

Canopy Layer - The uppermost layer of vegetation in a plant community. In forested areas, mature trees comprise the canopy layer, while the tallest herbaceous species constitute the canopy layer in a marsh.

Capillary fringe - A zone immediately above the water table (zero gauge pressure) in which water is drawn upward from the water table by capillary action.

<u>Chemical reduction</u> - Any process by which one compound or ion acts as an electron donor. In such cases, the valence state of the electron donor is decreased.

<u>Chroma</u> - The relative purity or saturation of a color; intensity of distinctive hue as related to grayness; one of the three variables of color.

Comprehensive wetland determination - A type of wetland determination that is based on the strongest possible evidence, requiring the significant collection of quantitative data.

Concretion - A local concentration of chemical compounds (e.g. calcium carbonate, iron oxide) in the form of a grain or nodule of varying size, shape, hardness, and color.



#### Wetland Definitions

<u>Contour</u> - An imaginary line of constant elevation on the ground surface. The corresponding line on a map is called a "contour line".

Criteria- Standards, rules, or tests on which a judgment or decision may be based.

<u>Density</u> - The number of individuals of a species per unit area.

<u>Detritus</u> - Minute fragments of plant parts found on the soil surface.

Diameter at breast height (DBH) - The width of plant stem as measured at 4.5 ft. above the ground surface.

<u>Dike</u> - A bank (usually earthen) constructed to control or confine water.

<u>Dominance</u> - A descriptor of vegetation that is related to the standing crop of a species in an area, usually measured by height, areal cover, or basal area (for trees).

Dominant Species - A plant species that exerts a controlling influence on or defines the character of a community.

<u>Drained</u> - A condition in which ground or surface water has been reduced or eliminated from an area by artificial means.

<u>Drift line</u> - An accumulation of debris along a contour (parallel to the water flow) that represents the height of an inundation event.

<u>Duration (inundation/soil saturation)</u> - The length of time during which water stands at or above the soil surface (inundation), or during which the soil is saturated. As used in wetland determinations, duration refers to a period during the growing season.

Ecological tolerance - The range of environmental conditions in which a plant species can grow.

Emergent plant - A rooted herbaceous plant species that has parts extending above water surface.

Field capacity - The percentage of water remaining in a soil after it has been saturated and after free drainage is negligible.

Fill material - Any material placed in an area to increase surface elevation.



#### Wetland Definitions

<u>Flooded</u> - A condition in which the soil surface is temporarily covered with flowing water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, inflow form high tides, or any combination of sources.

Flora - A list of all plant species that occur in an area.

<u>Frequency (inundation or soil saturation)</u> - The periodicity of coverage of an area by surface water or soil saturation. It is usually expressed as the number of years (e.g. 50 years) the soil is inundated or saturated at least once each year during part of the growing season per 100 years or as 1-, 2-, 5-year, etc., inundation frequency.

<u>Frequency (vegetation)</u> - The distribution of individuals of a species in an area. It is quantitatively expressed as

> Number of samples containing species A x 100

> > Total number of samples

More than one species may have a frequency of 100 percent within the same area.

Frequently flooded - A flooding class in which flooding is likely to occur often under normal weather conditions (more than 50-percent chance of flooding in any year or more than 50 times in 100 years).

Gleyed - A soil condition resulting from prolonged soil saturation, which is manifested by the presence of bluish or greenish colors through the soil mass or in mottles (spots or streaks) among other colors.

Ground water - That portion of the water below the ground surface that is under greater pressure than atmospheric pressure.

Growing season - The portion of the year when soil temperatures at 19.7 inches below the soil surface are higher than biologic zero (5 C) (US Department of Agriculture - Soil Conservation Service 1985).

Habitat - The environment occupied by individuals of a particular species, population, or community.

Headwater flooding - A situation in which an area becomes inundated directly by surface runoff from upland areas.



#### Wetland Definitions

Herb - A non-woody individual of a macrophytic species. In this manual, seedlings, of woody plants (including vines) that are less than 3.2 ft in height are considered to be herbs.

Herbaceous layer - Any vegetative stratum of a plant community that is composed predominantly of herbs.

Histic epipedon - An 8- to 16-in. soil layer at of near the surface that is saturated for 30 consecutive days or more during the growing season in most years and contains a minimum of 20 percent organic matter when no clay is present or a minimum of 30 percent organic matter when 60 percent or greater clay is present

Histosols - An order in soil taxonomy composed or organic soils that have organic soil materials in more than half of the upper 80 cm or that are of any thickness if directly overlying bedrock.

Hue - A characteristic of color that denotes a color in relation to red, yellow, blue, etc; one of the three variables of color.

Hydric soil - A soil that is saturated, flooded or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (US Department of Agriculture-Soil Conservation Service 1985). Hydric soils that occur in areas having positive indicators of hydrophytic vegetation and wetland hydrology are wetland soils.

Hydric soil condition - A situation in which characteristics exist that are associated with soil development under reducing conditions.

Hydrologic zone - an area that is inundated or has saturated soils within a specified range of frequency and duration of inundation and soil saturation.

Hydrology - The science dealing with the properties, distribution, and circulation of water.

Hydrophyte - Any macrophyte that grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plant typically found in wet habitats.



#### Wetland Definitions

Hydrophytic vegetation - The sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content. When hydrophytic vegetation comprises a community where indicators of hydric soils and wetland hydrology also occur, the area has wetland vegetation.

Hypertrophied lenticels - An exaggerated (oversized) pore on the surface of stems of woody plants through which gases are exchanged between the plant and the atmosphere.

Importance value - A quantitative term describing the relative influence of a plant species in a plant community, obtained by summing any combination of relative frequency, relative density, and relative dominance.

Indicator - An event, entity, or condition that typically characterizes a prescribed environment or situation; indicators determine or aid in the determining whether or not certain stated circumstances exist.

<u>Indicator status</u> - One of the categories (e.g. OBL) that describes the estimated probability of a plant species occurring in wetlands.

Intercellular air space - A cavity between cells in plant tissues, resulting from variations in cell shape and configuration. Aerenchymous tissue ( a morphological adaptation found in many hydrophytes) often has large intercellular air spaces.

Inundation - A condition in which water from any source temporarily or permanently covers a land surface.

<u>Levee</u> - A natural or man-made feature of the landscape that restricts movements of water into or through and area.

Liana - A layer of vegetation in forested plant communities that consists of woody vines. The term may also be applied to a given species.

Limit of biological activity - In reference to soils, the zone below which conditions preclude normal growth of soil organisms. This term often is used to refer to the temperature (5 C) in a soil below which metabolic processes of soil microorganisms, plant roots, and animals are negligible.

Long duration (flooding) - A flooding class in which the period of inundation for a single event ranges from 7 days to 1 month.



#### Wetland Definitions

Macrophyte - Any plant species that can be readily observed without the aid of optical magnification. This includes all vascular plant species and mosses (e.g., Sphagnum spp.), as well as large algae (e.g. Chara spp., kelp).

Macrophyte - A term referring to a plant species that is a macrophyte.

Major portion of the root zone - The portion of the soil profile in which more than 50 percent of plant roots occur. In wetlands, this usually constitutes the upper 12 in. of the profile.

Man-induced wetland - Any area that develops wetland characteristics due to some activity (e.g. irrigation) of man.

Mapping unit - As used in this manual, some common characteristic of soil, vegetation, and/or hydrology that can be shown at the scale of mapping for the defined purpose and objectives of a survey.

Mean sea level - A datum, or "plane of zero elevation", established by averaging all stages of oceanic tides over a 19-year tidal cycle or "epoch". This plane is corrected for curvature of the earth and is the standard reference for elevations on the earth's surface. The correct term for mean sea level is the National Geodetic Vertical Datum (NGVD).

Mesophytic - Any plant species growing where soil moisture and aeration conditions lie between extremes. These species are typically found in habitats with average moisture conditions, neither very dry nor very wet.

Metabolic processes - The complex of internal chemical reactions associates with life-sustaining functions of an organism.

<u>Method</u> - A particular procedure or set of procedures to be followed.

Mineral soil - A soil consisting predominantly of, and having its properties determined predominantly by, mineral matter usually containing less than 20-percent organic matter.

Morphological adaptation - A feature of structure and form that aids in fitting a species to its particular environment (e.g. buttressed base, adventitious roots, aerenchymous tissue).

Mottles - Spots or blotches of different color or shades of color interspersed within the dominant color in a soil layer, usually resulting from the presence or periodic reducing soil conditions.



Wetland Definitions

Muck - Highly decomposed organic material in which the original plant parts are not recognizable.

Multi-trunk - A situation in which a single individual of woody plant species has several stems.

Non-hydric soil - A soil that has developed under predominantly aerobic soil conditions. These soils normally support mesophytic or xerophytic species.

Non-wetland - Any area that has sufficiently dry conditions that indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology are lacking. As used in the COE Wetlands Delineation Manual, any area that is neither a wetland, a deepwater aquatic habitat, nor other special aquatic site.

Organic pan - A layer usually occurring at 12 to 30 inches below the soil surface in coarse-textured soils, in which organic mater and aluminum (with or without iron) accumulate at the point where the top of the water table most often occurs. Cementing of the organic matter slightly reduces permeability of this layer.

Organic soil - A soil is classified as an organic soil when it is: (1) saturated for prolonged periods (unless artificially drained) and has more than 30percent organic matter if the mineral fraction is more than 50-percent clay, or more than 20-percent organic matter if the mineral fraction has no clay; or (2) never saturated with water for more than a few days and having more than 34-percent organic matter.

Overbank flooding - Any situation in which inundation occurs as a result of the water level of a stream rising above bank level.

Oxidation -reduction process - A complex of biochemical reactions in soil that influences the valence state of component elements and their ions. Prolonged soil saturation during the growing season elicits anaerobic conditions that shift the overall process to reducing condition.

Oxygen pathway - The sequence of cells, intercellular spaces, tissues, and organs, through which molecular oxygen is transported in plants.

Parameter - A characteristic component of a unit that can be defined. Vegetation soil, and hydrology are three parameters that may be used to define wetlands.



#### Wetland Definitions

Parent material - The unconsolidated and more or less weathered mineral or organic matter form which a soil profile develops.

Ped - A unit of soil structure (e.g. aggregate, crumb, prism, block, or granule) formed by natural processes.

Peraguic moisture regime - A soil condition in which a reducing environment always occurs due to the presence of ground water at or near the soil surface.

Periodically - A term used in soils or wetland situations to define detectable regular or irregular saturated soil conditions or inundation, resulting from ponding of ground water, precipitation, overland flow, stream flooding, or tidal influences that occur(s) with hours, days, weeks, month, or even years between events.

Permeability - A soil characteristic that enables water or air to move through the profile, measured as the number of inches per hour that water moves downward through the saturated soil.

Physiognomy - A term used to describe a plant community based on the growth habit (e.g., trees, herbs, lianas) of the dominant species.

Physiological adaptation - A feature of the basic physical and chemical activities that occurs in cells and tissues of a species, which results in it being better fitted to its environment (e.g. ability to absorb nutrients under low oxygen tensions).

Plant community - All of the plant populations occurring in a shared habitat or environment.

Plant cover - See areal cover.

Pneumatophore - Modified roots that may function as a respiratory organ in species subjected to frequent inundation or soil saturation (e.g., cypress knees).

Ponded - A condition in which water stands in a closed depression. Water may be removed only by percolation, evaporation, and/or transpiration.

Poorly drained - Soils that commonly are wet at or near the surface during a sufficient part of the year that field crops cannot be grown under natural conditions.



#### Wetland Definitions

Positive wetland indicator - Any evidence of the presence of hydrophytic vegetation, hydric soil, and/or wetland hydrology in an area.

Prevalent vegetation - The plant community or communities that occur in an area during a given period. In wetland determinations, the prevalent vegetation is characterized by the dominant macrophytic species that comprise the plant community.

Quantitative - A precise measurement or determination expressed numerically.

Range - When applied to vegetation, the geographical area in which a plant species is known to occur.

Redox potential - A measure of the tendency of a system to donate or accept electrons, which is governed by the nature and proportions of the oxidizing and reducing substances contained in the system.

Reducing environment - An environment conducive to the removal of oxygen and chemical reduction of ions in the soils.

Relative density - A quantitative descriptor, expressed as a percent, of the relative number of individuals of a species in an area; it is calculated by

> Number of individuals of species A x 100

Total number of individuals of all species

Relative dominance - A quantitative descriptor, expressed as a percent, of the relative size or cover of individuals of a species in an area; it is calculated by

Amount\* of species A x 100

Total amount of all species

\* The "amount" of a species may be based on percent areal cover, basal area, or height.



#### Wetland Definitions

Relative frequency - A quantitative descriptor, expressed as a percent of the relative distribution of individuals of a species in an area; it is calculated by

Frequency of species A x 100

Total frequency of all species

Relief - The change in elevation of a land surface between two points; collectively, the configuration of the earth's surface, including such features as hills and valley.

Reproductive adaptation - A feature of the reproductive mechanism of a species that results in it being better fitted to its environment (e.g. ability for seed germination under water).

Respiration - The sum total of metabolic processes associated with conversion of stored (chemical) energy into kinetic (physical) energy for use by an organism.

Rhizosphere - The zone of soil in which interactions between living plant roots and microorganisms occur.

Root zone - The portion of a soil profile in which plant roots occur.

Routine wetland determination - A type of wetland determination in which office data and/or relatively simple, rapidly applied onsite methods are employed to determine whether or not an area is a wetland.

Sample plot - An area of land used for measuring or observing existing conditions.

Sapling/shrub - A layer of vegetation composed of woody plants diameter at breast height but greater than 3.2 ft in height, exclusive of woody vines.

Saturated soil conditions - A condition in which all easily drained voids (pores) between soil particles in the root zone are temporarily or permanently filled with water to the soil surface at pressures greater than atmospheric.



#### Wetland Definitions

Soil - Unconsolidated mineral and organic material that supports, or is capable of supporting, plants, and which has recognizable properties due to the integrated effect of climate and living matter acting upon parent material, as conditioned by relief over time.

Soil horizon - A layer of soil or soil material approximately parallel to the land surface and differing from adjacent genetically related layers in physical, chemical, and biological properties or characteristics (e.g. color, structure, texture, etc.)

Soil matrix - The portion of a given soil having the dominant color. In most cases, the matrix will be the portion of the soil having more than 50 percent of the same color.

Soil permeability - The ease with which gases, liquids, or plant roots penetrate or pass through a layer of soil.

Soil phase - A subdivision of a soil series having features (e.g. slope, surface texture, and stoniness) that affect the use and management of the soil, but which do not vary sufficiently to differentiate it as a separate series.

Soil pore - An area within soil occupied by either air or water, resulting from the arrangement of individual soil particles or peds.

Soil profile - A vertical section of a soil through all its horizons and extending into the parent material.

Soil series - A group of soils having horizons similar in differentiating characteristics and arrangement in the soil profile, except for texture of the surface horizon.

Soil structure - The combination or arrangement of primary soil particles into secondary particles, units, or peds.

Soil surface - The upper limits of the soil profile. For mineral soils, this is the upper limit of the highest (A1) mineral horizon. For organic soils, it is the upper limit of undercomposed, dead organic matter.

Soil texture - The relative proportions of the various size of particles in a soil



#### Wetland Definitions

Somewhat poorly drained - Soils that are wet near enough to the surface or long enough that planting or harvesting operations or crop growth is markedly restricted unless artificial drainage is provided. Somewhat poorly drained soils commonly have a layer with low hydraulic conductivity, wet conditions high in the profile, additions of water through seepage, or a combination of these conditions.

Stilted roots - Aerial roots arising from stems (e.g., trunk and branches), presumably providing plant support (e.g., Rhizophora mangle).

Stooling - A form of asexual reproduction in which new shoots are produced at the base of senescing stems, often resulting in a multi-trunk growth habit.

Stratigraphy - Features of geology dealing with the origin, composition, distribution, and succession of geologic strata (layers).

Substrate - The base or substance on which an attached species is growing.

Surface water - Water present above the substrate or soil surface.

<u>Tidal</u> - A situation in which the water level periodically fluctuates due to the action of lunar and solar forces upon the rotating earth.

Topography - The configuration of a surface, including its relief and the position of its natural and man-made features.

Transect - A line on the ground along which observations are made at some interval.

Transition zone - The area in which a change from wetlands to non-wetlands occurs.

<u>Transpiration</u> - The process in plants by which water vapor is released into the gaseous environment, primarily through stomata.

Tree - A woody plant plan 3.0 in. in diameter at breast height, regardless of height (exclusive of woody vines).

<u>Typical</u> - That which normally, usually, or commonly occurs.

Typically adapted - A term that refers to a species being normally or commonly suited to a given set of environmental conditions, due to some feature of its morphology, physiology, or reproduction.



Wetland Definitions

<u>Unconsolidated parent material</u> - Material from which a soil develops, usually formed by weathering of rock or placement in an area by natural forces (e.g. water, wind, or gravity).

Under normal circumstances - As used in the definition of wetlands, this term refers to situations in which the vegetation has not been substantially altered by man's activities.

Uniform vegetation - A situation in which the same group of dominant species generally occurs throughout a given area.

Upland - Any area that does not qualify as a wetland because the associated hydrologic regime is not sufficiently wet to elicit development of vegetation, soils, an/or hydrologic characteristics associated with wetlands. Such areas occurring within floodplains are more appropriately termed non-wetlands.

Value (soil color) - The relative lightness or intensity of color, approximately a function of the square root of the total amount of light reflected from a surface: one of the three variables of color.

<u>Vegetation</u> - The sum total of macrophytes that occupy a given area.

Vegetation layer - A sub-unit of a plant community in which all component species exhibit the same growth form (e.g., trees, saplings/shrubs, herbs).

Very long duration (flooding) - A duration class in which the length of a single inundation event is greater than 1 month.

Very poorly drained - Soils that are wet to the surface most of the time. These soils are wet enough to prevent the growth of important crops (except rice) unless artificially drained.

Watermark - A line on a tree or other upright structure that represents the maximum static water level reached during an inundation event.

Waters of the United States - The term "waters of the United States" means [1] All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; [2] All interstate waters including interstate wetlands; [3] All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or



#### Wetland Definitions

foreign commerce including an such waters: [I] Which are or could be used by interstate or foreign travelers for recreational or other purposes; or [ii] From which fish or shellfish are or could be taken and sold by industries in interstate commerce; or [iii] Which are used or could be used for industrial purpose by industries in interstate commerce; [4] All impoundments of waters otherwise defined as waters of the United States under the definition; [5] Tributaries of waters identified in parts 1-4 above; [6] The territorial seas; and [7] Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in parts 1-6 above.

Water table - The upper surface of ground water or that level below which the soil is saturated with water. It is at least 6 in. thick and persists in the soil for more than a few weeks.

Wetlands -Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Wetland boundary - The point on the ground at which a shift from wetlands to non-wetlands or aquatic habitats occurs. These boundaries usually follow contours.

Wetland determination - The process or procedure by which an area is adjudged a wetland or non-wetland.

Wetland hydrology - The sum total of wetness characteristics in areas that are inundated or have saturated soils for a sufficient duration to support hydrophytic vegetation.

Wetland plant association - Any grouping of plant species that recurs wherever certain wetland conditions occur.

Wetland soil - A soil that has characteristics developed in a reducing atmosphere, which exists when periods of prolonged soil saturation result in anaerobic conditions. Hydric soils that are sufficiently wet to support hydrophytic vegetation are wetland soils.



#### Wetland Definitions

Wetland vegetation - The sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present. Hydrophytic vegetation occurring in areas that also have hydric soils and wetland hydrology may be properly referred to as wetland vegetation.

Woody vine - See liana.

Xerophytic - A plant species that is typically adapted for life in conditions where a lack of water is a limiting factor for growth and/or reproduction. These species are capable of growth in extremely dry conditions as a result of morphological, physiological, and/or reproductive adaptation.



# APPENDIX G

Project Team

<u>Name</u>	Role	<u>Capacity</u>
Mark Felton, PWS	Project Manager	Technical Review
Jennifer Schwent	Biologist	Vegetation, Hydrology and Soils
Brent Crafton	Technicican	Vegetation



March 21, 2006

U.S. Army Corps of Engineers Missouri State Regulatory Office 221 Bolivar Street, Suite 103 Jefferson City, MO 65101 Attn: Kenny Pointer

Re: Associated Electric Cooperative. Request for Approved Jurisdictional Determination;

Adaptive Ecosystems Project Number 2006-117.

Mr. Pointer,

Mr. Jerry Bindel of Associated Electric Cooperative has recently request a No Permit Required determination from your office for work to be performed on the property assessed in the enclosed Preliminary Jurisdictional Report. Please note that no fill activities will occur within waters of the U.S. described in the enclosed Report. I have contacted Mr. Bindel regarding his obligation to provide you with a graphic or written description of activities and relative locations of jurisdictional waters in order for your review of his No Permit Required request.

We appreciate your coordination and look forward to hearing from you. If you have any questions I can be reached at (816) 966-8199 ext 104, or by e-mail <a href="mailto:jrichter@adaptiveecosystems.com">jrichter@adaptiveecosystems.com</a>.

Sincerely,

John C. Richter

Adaptive Ecosystems, Inc.

Enclosure

CC:

Mr. Jerry Bindel, Principle Environmental Scientist Associated Electric Cooperative P.O. Box 754 Springfield, MO 65801

John C. Richter

# **Preliminary Jurisdictional Report**

# Carroll County, Missouri

Prepared for:

# **Associated Electric Cooperative**

March, 2006

Prepared by:



ADAPTIVE ECOSYSTEMS, INC.

A N A T U R A L S O L U T I O N M
801 Main Street, Suite 103 Grandview, MO 64030

### 1.0 Introduction

Adaptive Ecosystems, Inc. has been contracted by Associated Electric Cooperative to prepare a Preliminary Jurisdictional Report for a proposed site in Carroll County, Missouri (Figure 1). This report is a discussion of wetlands and other jurisdictional waters of the U.S. located on the property. Support documentation including figures, photographs, and data sheets are included as supporting materials.

### 2.0 Preliminary Site Review

Adaptive Ecosystems, Inc. completed an in-house review of available resource data to assist in the identification of jurisdictional wetlands and other Waters of the United States on the project property. The site is described as an approximately 16 acre tract of land located between the Missouri River and an agricultural levee in Sections 19 and 20, Township 51 north, Range 25 west, one mile east of the Ray/Carroll County line. Resource maps and aerial photography reviewed prior to conducting the on-site survey included; a USGS 7.5' topographic map, Carroll County Soils Survey, National Wetlands Inventory map, and an aerial photo of the project area. A summary of the in-house review is provided below.

### 2.1 USGS 7.5' Topographic Survey, Dover, Missouri Quad. (Figure 2)

The USGS topographic survey for the Dover, Missouri quadrangle shows a large forested area within the boundaries of the project site. The site drains towards the agricultural levee which forms the northern border of the project limits. Elevations range from approximately 685.4 ft. at the river edge to approximately 680 ft. at the northeast corner of the property.

### 2.2 Carroll County Soil Survey (Figure 3)

The Carroll County Soil Survey shows a single map unit to occur within the boundaries of the project site. The soil map unit is described as follows:

■ 68 – Haynie very fine sandy loam. A deep, nearly level, moderately well drained soil found on the slightly higher areas on flood plains along the Missouri River. This soil unit is listed as a Hydric Soil for the State of Missouri. Typical pedon of Haynie very fine sandy loam, 750 feet west and 4,250 feet south of the northeast corner of sec. 20, T. 51 N., R. 25 W. This location is approximately ¾ mile east of the project site.

### 2.3 National Wetlands Inventory, Dover, Missouri Quad. (Figure 4)

Review of the National Wetlands Inventory (NWI) map for the Dover, Missouri quadrangle identified four wetland features to occur within the project boundaries. They are described as follows:

- Inland Forested Wetland Polygon covers the eastern half of project site.
- Inland Herbaceous Wetland Polygon covers the wetstern half of project site.
- Inland Shrub Swamp Polygons found along toe of agricultural levee.
- Pond Polygon found in the northeast corner of project site.

### 2.4 Aerial Photography (Figure 5)

An aerial photograph (source: 2004 DOQQs) is provided as Figure 5. Photo shows western half of project site as tilled cropland and the eastern half of the project site as forested. No wetland signatures are observed in the aerial photograph.

### 3.0 Field Site Visit

On March 17, 2006, Adaptive Ecosystems, Inc. conducted a pedestrian survey of the entire project area to identify jurisdictional waters including wetlands, streams, and tributaries. The wetland identification for the proposed site was made using the methodology outlined in the 1987 Corps of Engineers Wetland Delineation Manual (USACE, 1987).

Site photographs and data sheets recorded from the field survey are provided as supporting materials. The results of the field survey are shown on the Jurisdictional Waters Map (Figure 6). Dimensions of jurisdictional waters based on scaled measurements from spatially referenced aerial photographs.

#### 4.0 Results

Figure 6 shows location of sampling points. Data sheets were recorded for each sampling point. Data show that the Field and Forest locations did not meet wetland criteria. The Levee sampling point data sheet indicated the area to be within a wetland.

#### 4.1 Tributary

No tributaries were found to occur within the boundaries of the project site.

### 4.2 Wetlands/Open Water (Figure 6)

To better understand the dynamics of the project area the hydrology was evaluated as it applies to the 1987 Corps of Engineers Wetland Delineation Manual. The hydrology evaluation is as follows:

The '87 Manual requires that within Carroll County the soils must be saturated for a minimum of 9.5 days (5% of the growing season) in most years (5 of 10 years). The project property is adjacent to Missouri River mile 307.7, OHWM elevation 675.0 m.s.l. The NRCS 7-day elevation at Missouri River mile 308 was extrapolated from an NRCS data set to be approximately 677.5 m.s.l. A 9.5 day elevation is assumed to be approximately located at 677.0 m.s.l. The lowest regions of the project area appear as Inland Shrub Swamp and Pond polygons on the National Wetlands Inventory Map (Figure 4). The Pond polygon (Figure 4) may be approximately located between elevations 678.0 m.s.l. and 680.0 m.s.l. The Inland Shrub Swamp polygon may be located at elevations slightly higher than the Pond polygon and as a result display a greater variety of hydrophytic vegetation species.

Elevations of the project site range from approximately 685.4 at the river edge to approximately 680.0 or less at the toe of the levee. The project site is bound by agricultural levees on the north and east borders, the Missouri River on the south border, and a roadway on the west border. The project area encompasses 16 acres. Approximately 8 acres are under cultivation while the remaining 8 acres is second growth forest. Run-off from precipitation events is expected to flow from the river edge towards the agricultural levee which forms the north border.

<u>Open Water</u> - A single open water feature was determined to occur in the northeastern corner of the project site. Elevations indicate site drainage is towards the northeast corner of the project site. At the time of sampling the feature described as open water was dry. Soils were composed predominately of clayey materials in the upper horizon and were determined to be poorly drained. Vegetation was sparse due to a prescribed burn in the area. It is believe that this feature becomes inundated in late spring as hydrology is supplied by local run-off and the rising water table of the adjacent river. Inundation is assumed sufficient to suppress the growth of emergent wetland vegetation during spring and early summer. The open water feature was determined to be approximately 0.06 acre in size.

### Preliminary Jurisdictional Report Carroll County, Missouri

Palustrine Emergent Wetland - The toe of the agricultural levee is slightly depressional. The construction of the levee may also be responsible for the high clay content of sampled soils along the toe of the levee slope. Combined, a slight depressional area has been formed along the toe of the levee which contains poorly drained soils, with drainage trending towards the northeast corner of the project site. A variety of wetland indicators were found along the toe of the agricultural levee. The soils in wetland sampling areas were composed predominately of clay in the upper horizon, had some manganese streaking, and contained oxidized root channels. Vegetation was dominated by hydrophytic species, most notably panicled aster (Aster simplex) - a FACW indicator species. Hydrology may be supplied by both the Missouri River 9.5 day elevation and local run-off from precipitation events. The wetland area parallels the toe of the agricultural levee for approximately 690 linear feet and is approximately 15 feet wide. The total wetland area is approximately 0.24 acre.

# 5.0 Summary

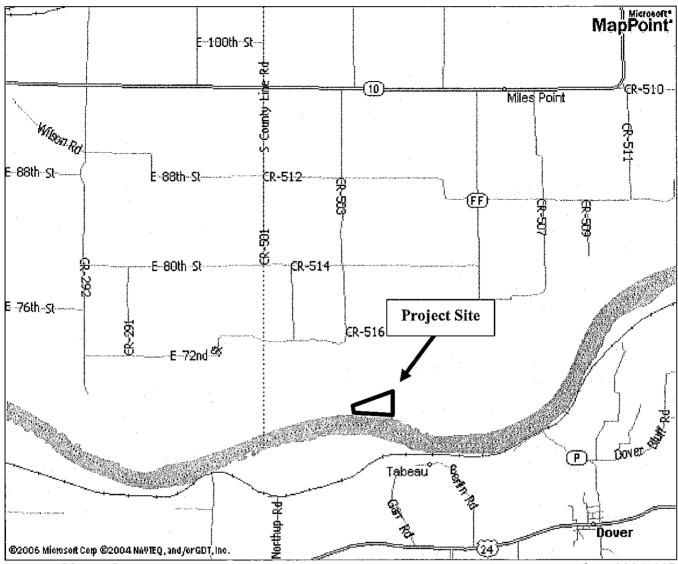
Jurisdictional wetlands and waters of the U.S. identified on the property consist of: one open water and one palustrine emergent wetland. A total of 0.30 acre of jurisdictional waters was found to occur on the project site (Table 1).

Table 1: Summary of Jurisdictional Waters On-Site.

Type of Jurisdictional Water	Acreage
Open Water	0.06
Palustrine Emergent Wetlands	0.24
Total Acreage of Jurisdictional Resources	0.30 ac.

Maps and Figures

Source: MSN - Mapblast



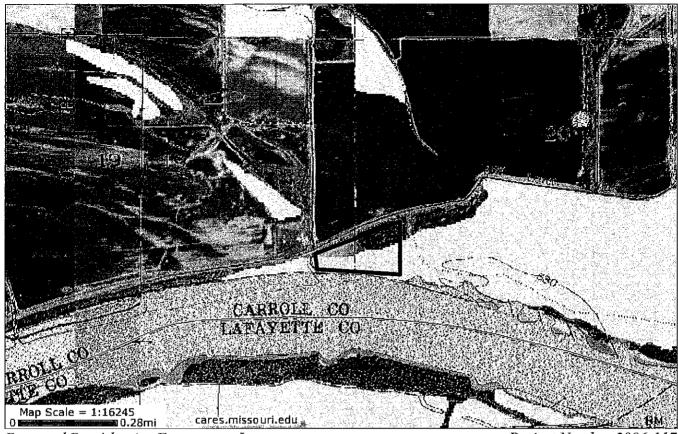
Prepared by: Adaptive Ecosystems, Inc.

Project number: 2006-117

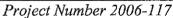




Source: USGS 7.5' Topographic Survey, Carroll County, Missouri



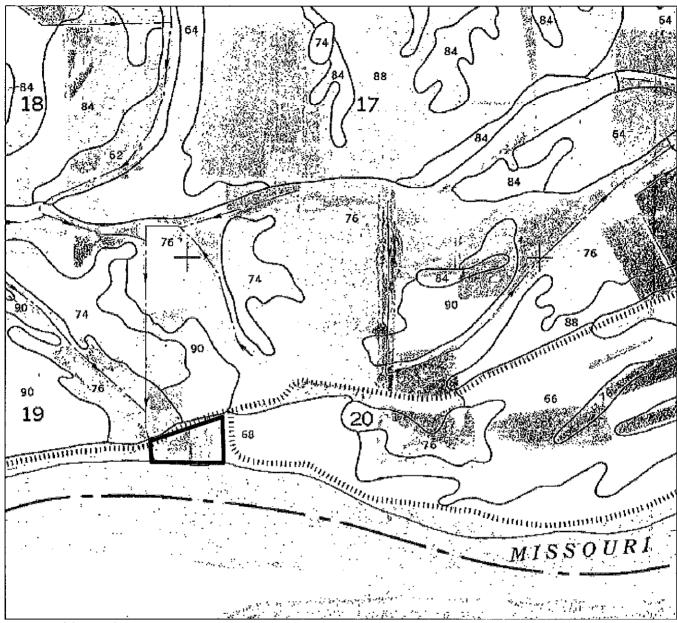
Prepared By: Adaptive Ecosystems, Inc.







Source: NRCS Soil Survey, Carroll County, Missouri



Prepared by: Adaptive Ecosystems, Inc.

Project number: 2006-117





Source: NWI Map, Carroll County, Missouri



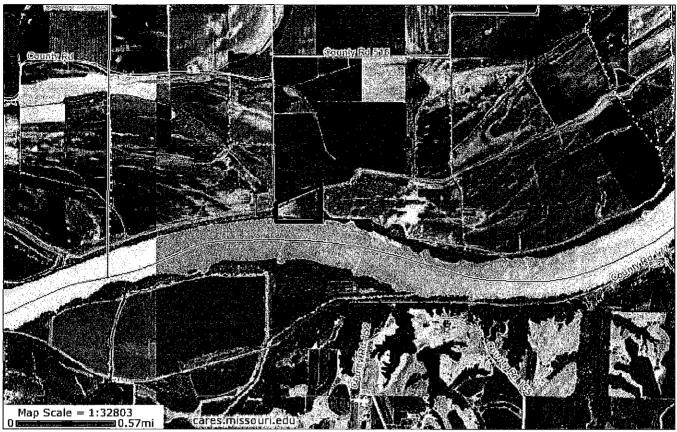
Prepared By: Adaptive Ecosystems, Inc.

Project Number 2006-117









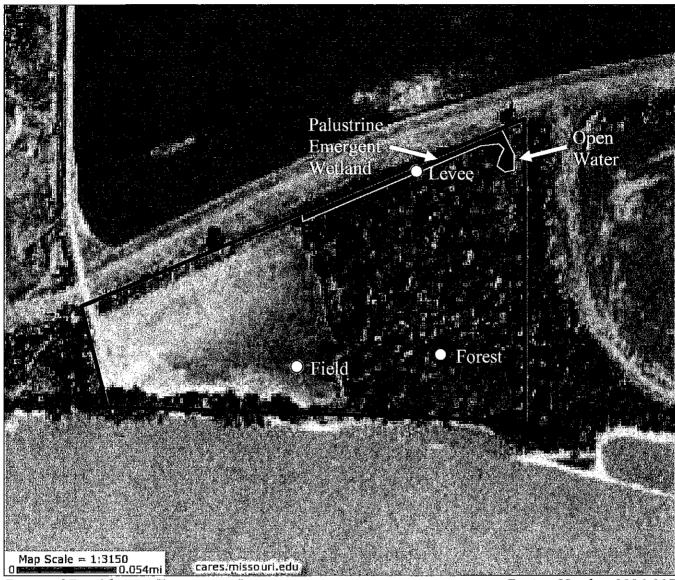
Prepared By: Adaptive Ecosystems, Inc.

Project Number 2006-117





Source: 2004 DOQQ, Carroll County, Missouri



Prepared By: Adaptive Ecosystems, Inc.

Project Number 2006-117

O = Data Sampling Point









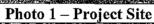




Photo 2 – Levee Sampling Point







Photo 4 - Field Sampling Point



Photo 5 – Left Bank of Missouri River



Photo 6 - Haynie very fine sandy loam

Preliminary Jurisdictional Report: Associated Electric, Carroll County, Missouri

Adaptive Ecosystems, Inc., 801 Main Street, Suite 103, Grandview, MO 64030 (816) 966-8199

**Data Sheets** 

## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: Associated Electric Applicant/Owner: Investigator: Toky C. Richter	Date: 3/17/06 County: Carroll State: (70				
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situal Is the area a potential Problem Area? (If needed, explain on reverse.)	tion)? Yes No Community ID: Transect ID: Plot ID:				
VEGETATION					
Dominant Plant Species  1 Lamium amplexicante H  2. 3. 4. 5. 8. 7. 8. Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).  Remarks: (ranke H	Dominant Plant Species   Stratum   Indicator   9.				
YDROLOGY					
Recorded Data (Describe in Remerka):Stream, Lake, or Tide GaugeAerial PhotographsOther No Recorded Data Available	Wetland Hydrology Indicators: Primery Indicators: Inundated Saturated in Upper 12 Inches Water Marks Drift Lines				
Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)  Depth to Saturated Soil: (in.)	Sediment Deposits Drainage Patterns in Wetlands Secondary Indicators (2 or more required): Oxidized Root Channels in Upper 12 inches Water-Stainad Leaves Local Soil Survey Data FAC-Neutral Test Other (Explain in Remarks)				
Ramarks:					

		<del></del>				
Map Unit Name (Series and Phase): Hownie Van fine Sandy loam Drainage Class: Mod. Well  Taxonomy (Subgroup): Mesic Mollic Udifluvents  Confirm Mapped Type? Yes No						
Profile Description: Depth (inches) Horizon 0-12" 1	Matrix Color (Munsell Moist) 10 YR 3/2	Mottle Colors [Munsell Maist	·Mottle	ea/Contrast	Texture, Can Structure, et	oretions,
Hydric Soll Indicators:    Histosol						
VETLAND DETERMINATION  Hydrophytic Vegetation Present? Yes (No (Circle) (Circle) (Circle) Wetland Hydrology Present? Yes (No Is this Sampling Point Within a Wetland?)						
Romarks:		,	o and warrhing	· ·	o watang/	Yes (No.)
				Approv	ed by HQUSA	CE 3/92

## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: Associated Electric Applicant/Owner: Investigator: Sohn C. Richter  Do Normal Circumstances exist on the site?	Date: 3/17/06 County: Carroll State: Mo Community ID: Forest	
Is the site significantly disturbed (Atypical Situates Is the area a potential Problem Area?  (If needed, explain on reverse.)	tion)? Yes (6) Yes (6)	Transect ID: Plot ID:
VEGETATION		
Dominant Plant Species  1. Morus a/ba T FAC  2. Fraxing genns from T FACW  3. Mean negando T FACW-  4. Platanus orci Londali T FACW  5.  6.  7.  8.  Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-).  Remarks: 2 nd grow 12 (orest - 4)  while mulberry & green and  HYDROLOGY	9	
Recorded Data (Describe in Remarks): Stream, Lake, or Tide GaugeAerial PhotographsOther No Recorded Data Available  Field Observations:  Depth of Surface Water:(in.)  Depth to Free Water in Pit:(in.)  Depth to Saturated Soil:(in.)	Water Mark Drift Lines Sediment D Drainage Po Secondary Indicators Oxidized Ro Water-Stain Local Soil S FAC-Neutre Other (Expl	n Upper 12 Inches ks Deposits atterns in Wetlands {2 or more required}: oot Channels in Upper 12 Inches ned Leaves Survey Data ai Test ain in Remarks)

SOILS	•			
Map Unit Name (Series and Phase): Haybie very 42	ne Sandy loom	- Filane		
Texonomy (Suhgroup): Field Observations				
Profile Description: Depth Matrix Color Mc	ottle Colors Mottle Nunsell Moist) Abundance/Contrast	Texture, Congretions.		
Hydric Sail Indicators:  Histosol Histoc Epipadon Sulfidic Odor Aquic Moisture Regime Reducing Conditions Gleyed or Low-Chroma Colors  Remarks:	Concretions High Organic Content in S Organic Streaking in Sand Listed on Local Hydric Sci Listed on National Hydric Other (Explain in Remarks	ils List Soils List		
Hydrophytic Vegetation Present?  Weltand Hydrology Present?  Hydric Soils Present?  Yes No	(Circle)	(Circle)		
Gemarks:				

Approved by HQUSACE 3/92

## DATA FORM ROUTINE WETLAND DETERMINATION (1987 COE Wetlands Delineation Manual)

Project/Site: Associated Electric Applicant/Owner: Investigator: John C. Richter	5 page 1	Date: 3/17/06 County: Carroll State: MD			
Do Normal Circumstances exist on the site? Is the site significantly disturbed (Atypical Situs Is the area a potential Problem Area? (If needed, explain on reverse.)	Yes No ation)? Yes (No Yes (No	Community ID: <u>Le vee</u> Transact ID: Plot ID:			
VEGETATION					
Dominant Plant Species  1. Aster Simplex  2. Setana faberi H FACUT  3. Rumer obtusitolius H FACUT  4. Echipach has municitate OBL  5. Phalaris arunding cea H FACUT  6. Panicum Cou. Hare H FACUT  7.  8.  Percent of Dominant Species that are OBL, FACW or FAC  (excluding FAC-).	9. 10. 11. 12. 13. 14. 15. 16.	(5/6)			
remarks: Hydric vegetation occurring in upland areas as well as areas of low relief					
Racorded Data (Describe in Remarks): Stream, Lake, or Tide Gauge Aerial Photographs Other No Recorded Data Available  Field Observations:  Depth of Surface Water: (in.)  Depth to Free Water in Pit: (in.)	Water Mark: Drift Lines Sediment De Drainage Pa Secondary Indicators (	Upper 12 Inches s s s s s s s s s s s s s s s s s s			
Mo. River or run-olf from adjace	iero Apography ent level or	· Hydrology from project site. At fine			
of sampling - No ponding in found in this area. Of ponding / saturated soils	rater or sa	turated soils were			

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Map Unit Name (Series and Phase): // Alphie Very fine Sandy logen Drainage Class: Field Observations Confirm Mapped Type? Yes No	
Profile Description: Depth (inches) Horizon (Munsell Moist)  3-12' 2 10 YR 3/1  3-12" 2 10 YR 3/1  Matrix Color (Munsell Moist) Mottle Colors (Munsell Moist) Mottle Abundance/Contrast  8/oct or fever upp  5//ty Clay Sand  5//ty Clay Sand  5//ty Clay	in Smg. (few)
Histosol  Histo Epipedon Sulfidio Odor Aquio Moisture Regime Histo Gleyed or Low-Chroma Colors  Histo Epipedon Sulfidio Odor Organic Streaking in Sandy Soils Listed on Local Hydric Soils List Listed on National Hydric Soils List Other (Explain in Remarks)  Semarks: Soils Pecsumed Imported Sor Servetion	

## WETLAND DETERMINATION

Hydrophytic Vegetation Present? Wetland Hydrology Present? Hydric Scils Present?	Yas No Yas No Yas No	(Cirale)	(Circle) Is this Sampling Point Within a Wetland? Yes No	The state of the s
Presumably  + site run-off su  Vegetation exp  topographic	poorly dicient vessed	dra for in c	wet land culteria. Hydrophytic layey soils regardless of	from River
.,			Approved by HQUSACE 3/92	ļ