

August 1, 2014

Mr. Garrett Hollingsworth Strata Solar, LLC 50101 Governors Drive, Suite 280 Chapel Hill, North Carolina 27517

Reference: Wetland Delineation

Pit 64 Solar Farm

Approximate 47.027 Acre Tract Paynes Road/Highway 64 Pittsboro, North Carolina PEI Project No. 1055

Dear Mr. Hollingsworth:

Pilot Environmental, Inc. (PEI) is pleased to submit this report of the wetland delineation for the approximate 47.027 acre tract located north of Highway 64 at the intersection of Paynes Road in Pittsboro, Chatham County, North Carolina.

## **Background**

Wetlands are defined by the United States Army Corps of Engineers (USACE) and the United States Environmental Protection Agency (EPA) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions." In order for an area to be classified as wetland, hydrophytic vegetation, hydric soils, and wetland hydrology indicators must be present.

Section 404 of the Clean Water Act regulates the discharge of dredge and fill materials into waters of the United States (lakes, rivers, ponds, streams, etc.), including wetlands. Waters of the United States include the territorial seas, navigable coastal and inland lakes, rivers and streams, intermittent streams, and wetlands. The EPA and the USACE jointly administer the Section 404 program. Section 401 of the Clean Water Act grants each state the authority to approve, condition, or deny any Federal permits that could result in a discharge to State waters.

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Jurisdictional features include wetlands, open waters, ponds, lakes and perennial/intermittent streams. Jurisdictional features are regulated by the USACE and North Carolina Department of Environment and Natural Resources-Division of Water Resources (NCDENR-DWR). Permits are required prior to impacting any jurisdictional feature. The type of permit required is specific to the type, location and amount of impacts. Stormwater management plans and/or mitigation for proposed impacts could be a requirement of the permit approval process.

The findings and conclusions found in this report are our opinions based on field conditions encountered at the time of the site visit. Changes including, but not limited to, regulations, weather, timber/vegetation removal and usage/development of the site or nearby properties can alter the findings and opinions presented in this report. We recommend that this report only be used for preliminary planning purposes. Agency verifications, followed by a survey of jurisdictional features is required to determine the exact extent and locations of jurisdictional features for a period of up to five years following issuance of a USACE Jurisdictional Determination (JD) and/or NCDENR-DWR Site Determination Letter.

## **Scope of Services**

PEI was contracted to perform a wetland delineation for the approximate 47.027 acre tract located north of Highway 64 at the intersection of Paynes Road in Pittsboro, Chatham County, North Carolina. The site is identified by the Chatham County Geographical Information Systems (GIS) as Parcel Identification Number (PIN) 971200034471. The site is being evaluated for the proposed development of the site with a solar farm. The scope of services included a delineation of jurisdictional features (streams, wetlands and other surface waters) located on the site. The site boundaries were not surveyed at the time of our field delineation.

PEI was also contracted to perform a Phase I Environmental Site Assessment (ESA) and a Limited National Environmental Policy Act (NEPA) Review in conjunction with the stream/wetland delineation. Details of these investigations are included in separate reports.

#### **Literature Review**

We reviewed the U.S. Geological Survey (USGS) Topographic Map, the U.S. Department of Agriculture (USDA) Soil Survey of Chatham County, the U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM).

 The USGS Topographic Map (Drawing 1) identifies an unnamed tributary to Landrum Creek crossing the southwestern corner of the site. An additional unnamed tributary to Landrum Creek is located immediately adjacent to southeastern boundary. Other surface waters or wetlands are not shown on the site. However, drainage swales that could contain other surface waters or wetlands are depicted on the site. • The USDA Web Soil Survey of Chatham County (Drawing 2) identifies the following mapping units on the site: Cid-Lignum Complex (CmB), Georgeville silt loam (GaC) and Georgeville silty clay loam (GeB2 and GeC2). The Cid series consists of moderately well to somewhat poorly drained, slowly permeable soils that occur on Piedmont uplands. The Georgeville series consists of well drained, moderately permeable soils that occur on piedmont uplands. The Lignum series consists of moderately well to somewhat poorly drained, moderately permeable soils that occur on piedmont uplands. The Cid-Lignum Complex soil mapping unit is identified on the Chatham County Hydric Soils List as having inclusions of hydric soil series. The remainder of the soil mapping units are not identified on the Chatham County Hydric Soils List.

Additionally, the last published USDA Soil Survey of Chatham County (Drawing 2A) identifies unnamed tributaries to Landrum Creek on the along the southeastern and western site boundaries, consistent with streams shown on the USGS Topographic Map of the site.

- The USFWS NWI Map (Drawing 3) identifies a freshwater pond on the southern-central portion of the site. Other surface waters or wetlands are not shown on the site.
- The FEMA FIRM (Drawing 4) of the site identifies the site as an area that has been designated as Zone X, an area outside the 500 year floodplain.

## **Field Delineation**

PEI personnel conducted the field delineation on July 4, 2014. The site contains fields and wooded land. An agricultural structure is centrally located on the site. Ponds are not located on the site.

A stream is located on the western portion of the site. The stream originates off-site. The stream has a defined bed and banks, meanders, moderate substrate sorting and evidence of an ordinary high water mark. Standing water was observed in the deeper pools. Aquatic life consisting of crayfish and frogs were observed in the stream. Based on our field observations and the NCDENR-DWR Stream Identification Form, Version 4.11 (attached), the stream is classified as intermittent. The centerline of the stream was marked in the field with blue and white striped surveyor tape.

Wetlands are located in pockets adjacent to the stream on the western portion of the site and in drainage swales located on the eastern portion of the site. The wetland pocket located on the east-central portion of the site has a surface water connection to down-gradient wetlands by a non-jurisdictional channel. PEI rated the surface water connection channel a 15.5-ephemeral on the NCDENR-DWR Stream Identification Form, Version 4.11 (attached). Due to the non-jurisdictional hydrologic connection of this wetland pocket to other down-gradient jurisdictional features, this wetland pocket is considered jurisdictional/non-isolated by the USACE. The wetlands located on the site are separated from uplands by distinct breaks in topography,

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vegetation and/or soils. USACE Wetland Determination Data Forms, supporting our opinions, are included as attachments. The boundaries of the wetlands were marked in the field with red and white striped surveyor tape.

## **Watershed Classification/Buffer Requirements**

According to the NCDENR-DWR, the site is located in the Cape Fear River Basin in an area that has been designated as Class C. Based on the designated NCDENR-DWR classification of surface waters located on the site, mandatory vegetative buffers and/or development setbacks are not required by the NCDENR-DWR for surface waters located on the site.

PEI consulted with Ms. Natalie Landry of the Chatham County Planning Department to determine if Chatham County has buffer requirements that apply to jurisdictional features located on the site. Ms. Landry reported to PEI that if the site meets the following criteria: 1) the lot of land has existed since 2008; 2) sub-division of the lot is not proposed; and, 3) the lot is located outside the Lake Jordan Watershed, then 50 foot mandatory vegetative buffers are required adjacent to intermittent and perennial surface waters shown on the most recent version of the USGS Topographic Map. Therefore, based on PEI's knowledge of the site and understanding of the proposed project, a 50 foot mandatory vegetative buffer is required adjacent to the stream located on the western portion of the site by Chatham County.

According to the NCDENR-DWR Interactive Stormwater Map, the site is located in an area of jurisdiction identified as Local Permitting Authority. Therefore, we recommend consultation with Chatham County to determine if the site requires post construction vegetative buffers and/or development setbacks from surface waters for compliance with state and local stormwater requirements.

### **Agency Verification**

The field delineation was verified in the field by Mr. Andrew Williams with the USACE on July 30, 2014. Ms. Natalie Landry with Chatham County accompanied Mr. Williams during the site visit. Ms. Cherri Smith the NCDENR-DWR did not attend the field verification. However Ms. Smith reported to PEI that features that were determined to be subject to Section 404 of the Clean Water Act would subsequently be subject to Section 401 of the Clean Water Act.

Mr. Williams agreed with the field delineation as depicted on the attached Drawing 5. Drawing 5 shows the approximate locations of the site, stream, wetlands, data points, surface water vegetative buffers and our flag numbers. Drawing 5 should only be used for preliminary planning purposes. We understand that our flags will be surveyed to determine the exact extent and location of jurisdictional features and subsequent vegetative buffers. Upon receipt of a wetland plat prepared by a N.C. Licensed Surveyor, PEI will review it and submit it to the USACE for final

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written concurrence. If a wetland plat is not provided, PEI can request that the USACE issue a jurisdictional determination (JD).

## Closing

We appreciate the opportunity to provide our services to you. Please contact us at (336) 708-4997 if you have questions or require additional information.

Sincerely,

Bradley S. Luckey

Project Manager

Michael T. Brame, PWS

Principal

Attachments: Drawing 1 – USGS Topographic Map

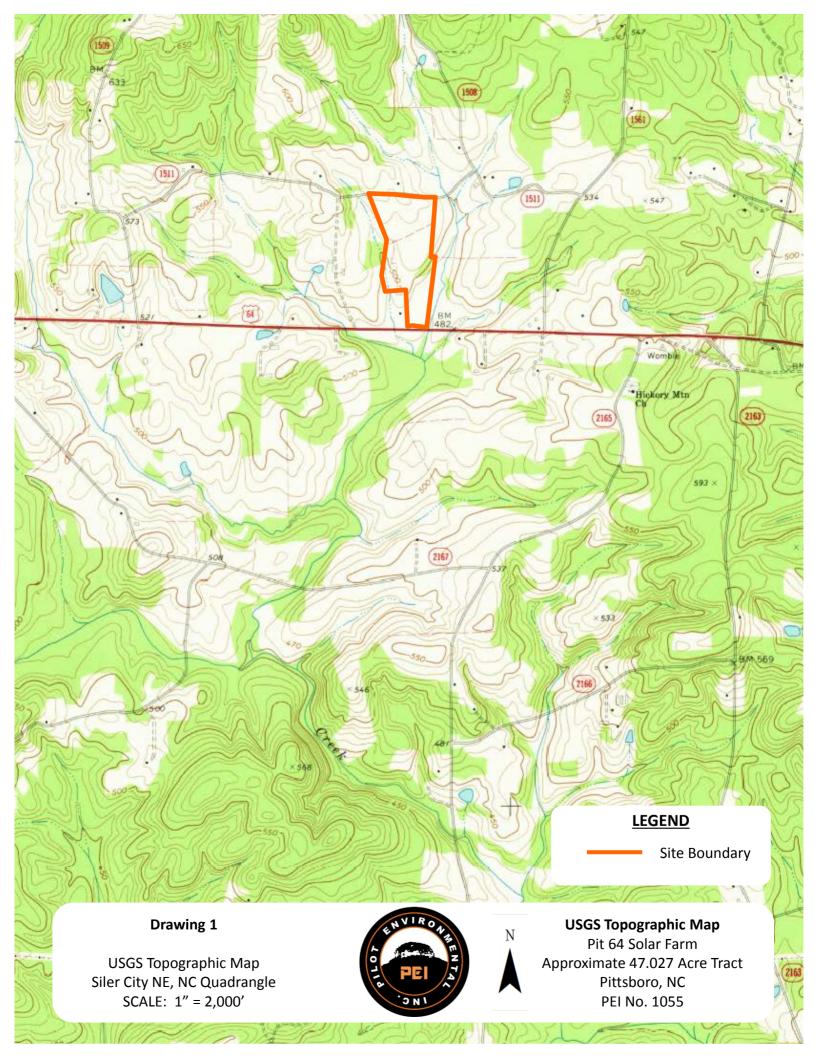
Drawing 2 – USDA Web Soil Map

Drawing 2A – USDA Published Soil Map

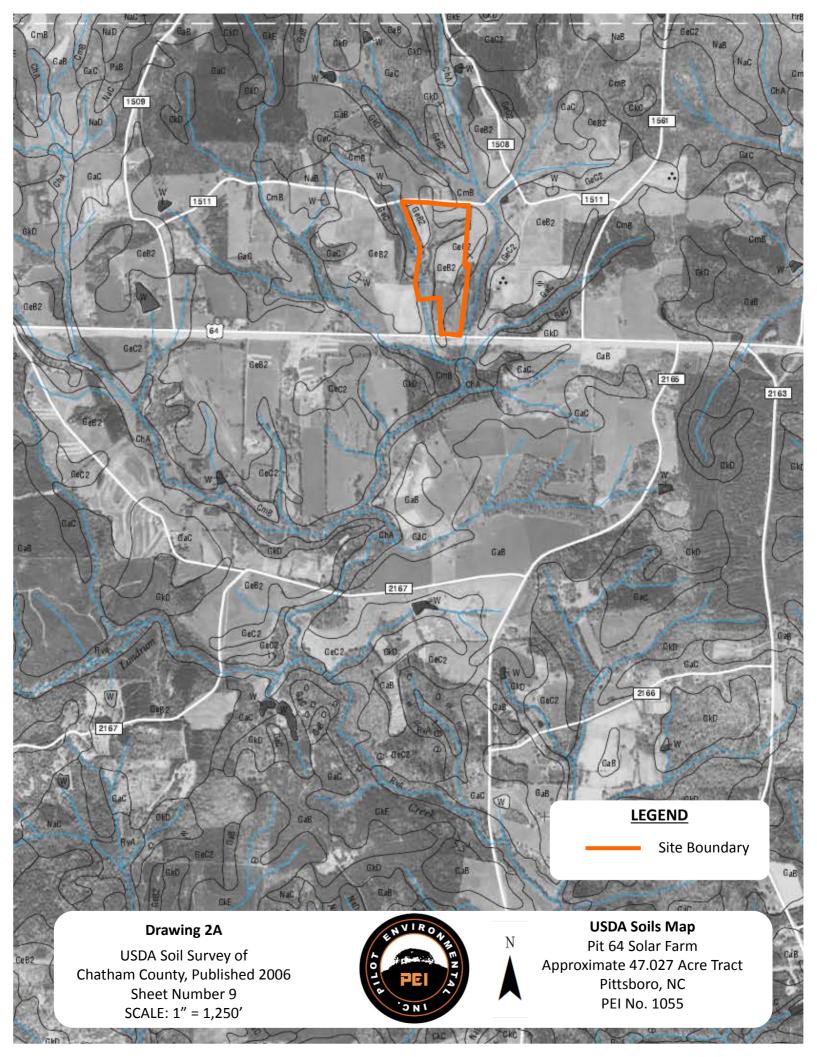
Drawing 3 – NWI Map Drawing 4 – FEMA FIRM

Drawing 5 – Wetland Flag Map Wetland Determination Data Forms

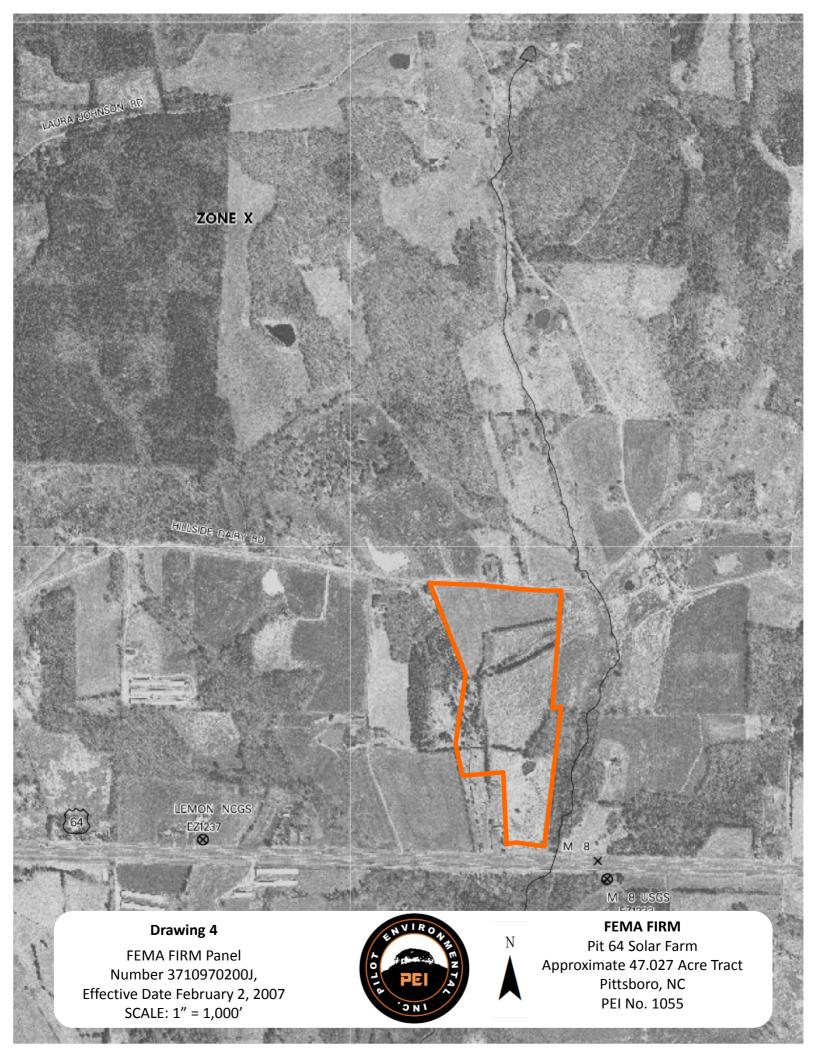
NCDENR-DWR Stream Identification Forms, Version 4.11

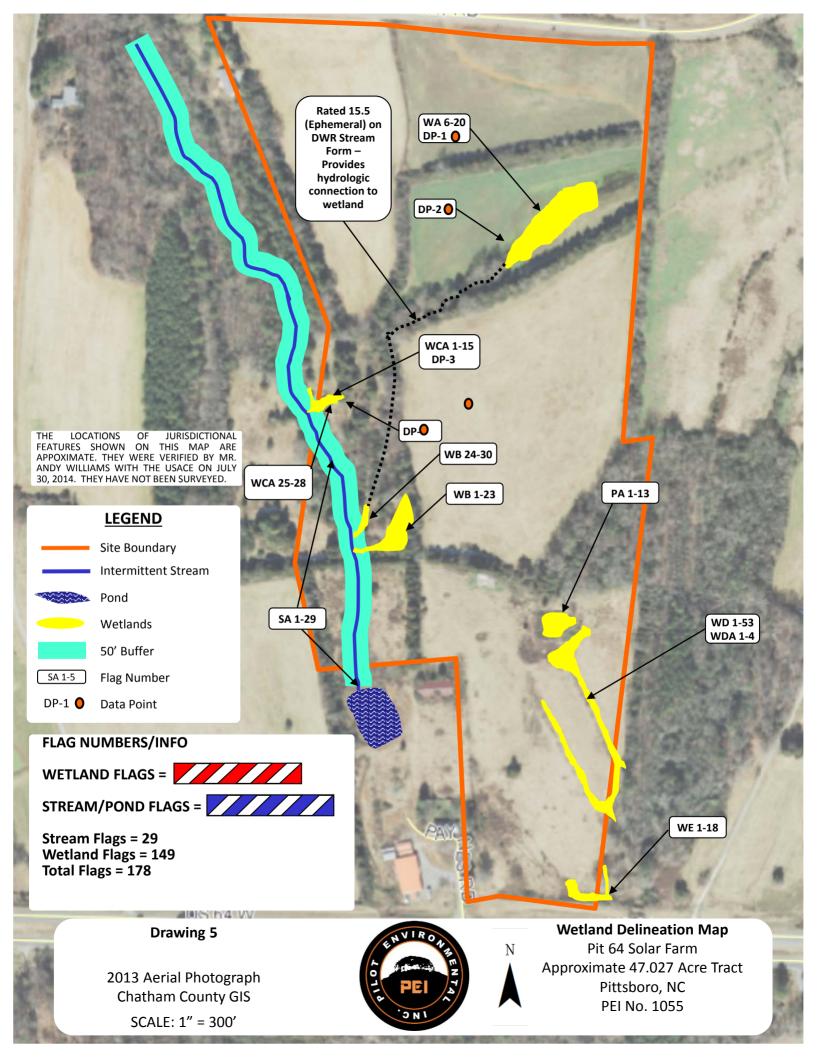












Project/Site: Pit 64 Farm	<del>-</del> · · · <del> </del>
Applicant/Owner:	State: North Carolina Sampling Point: DP-1
Investigator(s): Luckey/Brame, PEI	Section, Township, Range:
	cal relief (concave, convex, none):
Slope (%): 2 Lat:	Long: Datum:
Soil Map Unit Name: CmB	NWI Classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil , or Hydrology significantly disturbed	d? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problematic	? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Lhudsonhudia Vanatatian Drasant?	
Hydrophytic Vegetation Present?  Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	
Wetland Hydrology Present? Yes X No	
Remarks: The three sampling criteria are present. Vegetation has been impacted from	om agricultural activities
	ani agriculturai activities.
For wetlands flagged WA, WD, WDA and WE	
LIVEROLOGY	
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants High Water Table (A2) Hydrogen Sulfide C	Sparsely Vegetated Concave Surface (B8) Odor (C1)  X Drainage Patterns (B10)
Saturation (A3)  Oxidized Rhizosphe	eres on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) Presence of Reduc	ed Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2) Recent Iron Reduct Thin Muck Surface	tion in Tilled Soils (C6) Crayfish Burrows (C8) (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Algal Mat or Crust (B4)  Other (Explain in Recognition of the company o	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3) Microtopographic Relief (D4)
Water-Stained Leaves (B9) Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X Depth (inches):	
Water Table Present? Yes No X Depth (inches): >12"	
Saturation Present? Yes No X Depth (inches): >12"	Wetland Hydrology Present? Yes X No
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	revious inspections), if available:
Remarks: Wetland hydrology indicators are present.	
Wettalia flydiology filalicators are present.	

EGETATION (Fou	r Strata) -	Use sc	ientific na	ames of plants			Samplir	ng Point <u>DP</u> -	<u>·1</u>
							Dominance Test worksheet:		
ma a Otmatuum	/Dist s'= -	201	,	Absolute	Dominant	Indicator			
ee Stratum  None Observed	(Plot size:	3U	)	% Cover	Species?	Status	Number of Dominant Species	. 0	(4)
				<del>_</del> -			That Are OBL, FACW, or FAC	:2	(A)
-							Total Number of Dominant		
							Species Across All Strata:	3	(B)
							Percent of Dominant Species		
							That Are OBL, FACW, or FAC	:66	(A/B)
							Prevalence Index worksheet: Total % Cover of:	Multiply by:	
				-	- 10tai 00v		OBL species	x 1 =	
pling/Shrub Stratum	(Plot size:	30'	)				FACW species	X 2 =	
None Observed			· <del></del>				FAC species	X 3 =	
							FACU species	X 4 =	
					-				
							UPL species	X 5 =	
							Column Totals:	(A)	_ (B)
							Prevalence Index =		
							Hydrophytic Vegetation Indicat		
).						1 - Rapid Test for Hydrophyt	_		
			= Total Cov		X 2 - Dominance Test is > 50%	6			
					3 - Prevalence Test is ≤ 3.0¹				
rb Stratum	(Plot size:	30'	)				4 - Morphological Adaptation		
Festuca arundinacea	-		·	50	Y	FACU	data in Remarks or on a	•	
Juncus effuses				20	Υ	FACW	Problematic Hydrophytic Ve	getation¹ (Expla	in)
Carex intumescens				20	Υ	FACW	Indicators of budgio soil and w	estland budralag	n, muc
							<sup>1</sup> Indicators of hydric soil and w be present, unless disturbed o		y mus
								<u> </u>	
							Definitions of Vegetation Stra	ıta:	
					-		Tree – Woody plants, excluding or more in diameter at breast he		o cm)
							regardless of height.	אוויםםו),	
									_
							Sapling/Shrub – Woody plants than 3 in. DBH and greater than		
				90	= Total Cov	/er	Inan 3 in. Don and greater than	1 3.20 II (1 III) la	u1.
					= Total OOV	٥.	Herb - All herbaceous (non-wo		ardles
ody Vine Stratum	(Plot size:	30'	)				of size, and woody plants less t	han 3.28 ft tall.	
None Observed							Woody vine – All woody vines	greater than 3.2	28 ft in
							height.		
							Hydrophytic		
							Vegetation		
								X No	
					= Total Cov	/er	11030HC: 165 A NO		

Profile Desc Depth	cription: (Describe Matrix	to the dept	h needed to docum Red	nent the indox Feature		or confirm	the absence	of indicators.)					
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks					
0-9	2.5Y 4/6	70					L						
0-9	2.5YR5/8	30					L						
9-16	2.5YR 72	90	2.5YR 5/8	10		RM	CL						
	2.011(72		2.01110/0										
¹Type: C=Co	oncentration, D=Dep	pletion, RM=	Reduced Matrix, CS	S=Covered	or Coate	d Sand Gra	ains. ²l	Location: PL=Pore Lining, M=Matrix.					
Hydric Soil I	Indicators:						Indica	ators for Problematic Hydric Soils <sup>3</sup> :					
-	sol (A1)		Dark Surfac	ce (S7)				2 cm Muck (A10) (MLRA 147)					
	Epipedon (A2)		Polyvalue E		ace (S8) (	MLRA 147	. 148)	Coast Prairie Redox (A16)					
·	Histic (A3)		Thin Dark S		. ,		, -, <u> </u>	(MLRA 147, 148)					
	gen Sulfide (A4)		Loamy Gle			, <b> ,</b>		Piedmont Floodplain Soils (F19)					
	fied Layers (A5)		X Depleted M		. ,		·	(MLRA 136, 147)					
	Muck (A10) (LRR N	1)	Redox Dark		F6)			Red Parent Material (TF2)					
	ted Below Dark Sur	-	Depleted D					Very Shallow Dark Surface (TF12)					
	Dark Surface (A12)		Redox Dep		. ,			Other (Explain in Remarks)					
	y Mucky Mineral (S1			Iron Manganese Masses (F12) (LRR N,									
	LRA 147, 148)	, ,	MLRA 1		,	,							
	y Gleyed Matrix (s4)	)	Umbric Sur		(MLRA 1	36, 122)	31 11						
	y Redox (S5)		Piedmont F					ators of Hydrophytic vegetation and and and hydrology must be present, unless					
Stripp	ed Matrix (S6)							urbed or problematic.					
Restrictive I	Layer (if observed)	):											
Type:		<i>'-</i>			Hyd	ric Soil Pr	esent?	Yes X No					
Depth (in	ches):				11,70		COCIN.	103 <u>X</u> 110					
Remarks:	dric soil indicators a	re present											
,	ano con maioatoro a	ro procenti											

Project/Site: Pit 64 Farm	City/County: Chatham Sampling Date: 7/4/14
Applicant/Owner:	State: North Carolina Sampling Point: DP-2
Investigator(s): Luckey/Brame, PEI	Section, Township, Range:
Landform (hillslope, terrace, etc.) Swale-Ag Field Lo	ocal relief (concave, convex, none):
Slope (%): 2 Lat:	Long: Datum:
Soil Map Unit Name: CmB	NWI Classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil , or Hydrology significantly disturbed	d? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problematic	:? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing sa	mpling point locations, transects, important features, etc.
Hydrophytia Vagatation Propent?	
Hydrophytic Vegetation Present?  Yes No X	Is the Sampled Area
Hydric Soil Present?  Yes No _X	
Wetland Hydrology Present? Yes No _X	
The three sampling criteria are not present. Vegetation has been impacte	ed from agricultural activities.
HYDROLOGY  Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Water Marks (B1) Presence of Reduc	Dodor (C1) Prainage Patterns (B10) Prainage Patterns (
Surface Water Present? Yes No _X Depth (inches):	
Water Table Present? Yes No X Depth (inches): >12"	
Saturation Present? Yes No X Depth (inches): >12" (includes capillary fringe)	Wetland Hydrology Present? Yes No X
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pr	revious inspections), if available:
Remarks: Wetland hydrology indicators are present.	

/EGETATION (Fo							Dominance Test worksheet:
				Absolute	Dominant	Indicator	Dominance real workeness.
Tree Stratum	_ (Plot size:	30'	)	% Cover	Species?	Status	Number of Dominant Species
I. None Observed							That Are OBL, FACW, or FAC: (A)
2							
3							Total Number of Dominant Species Across All Strata: 2 (B)
l							Opecies Across Air Strata (b)
5							Percent of Dominant Species
5							That Are OBL, FACW, or FAC:0 (A/B
·							Prevalence Index worksheet:
B					= Total Cov		Total % Cover of: Multiply by:
					= Total Cov	/ei	OBL species x 1 =
Sapling/Shrub Stratum	(Plot size:	30'	)				
. None Observed	<del>-</del>						FACW species X 2 =
							FAC species X 3 =
l							FACU species 90 X 4 = 360
ł							UPL species X 5 =
i							Column Totals: 90 (A) 360 (B
S							
7.							Prevalence Index = B/A = 4
3							Hydrophytic Vegetation Indicators:
9							1 - Rapid Test for Hydrophytic Vegetation
10							2 - Dominance Test is > 50%
					= Total Cov	/er	3 - Prevalence Test is ≤ 3.0¹
Herb Stratum	(Plot size:	30'	)				4 - Morphological Adaptations <sup>1</sup> (Provide supportine data in Remarks or on a separate sheet)
1. Festuca arundinace	ea			50	Y	FACU	
<ol><li>Sorghum halpenes</li></ol>	e			40	<u> </u>	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
3							<sup>1</sup> Indicators of hydric soil and wetland hydrology mus
1. -							be present, unless disturbed or problematic.
5.							
5							Definitions of Vegetation Strata:
7							Trace Manchington and Manching (7.6 am)
3. 9.							<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH),
							regardless of height.
10 11							
12							Sapling/Shrub – Woody plants, excluding vines, les than 3 in. DBH and greater than 3.28 ft (1 m) tall.
				90	= Total Cov	/er	than o in. BBT and groater than o.20 it (1 iii) tail.
							Herb – All herbaceous (non-woody) plants, regardles
Noody Vine Stratum	(Plot size:	30'	)				of size, and woody plants less than 3.28 ft tall.
None Observed							Woody vine – All woody vines greater than 3.28 ft in
2							height.
3							
4. <u> </u>							Hydrophytic
5							Vegetation
6							Present? Yes No X
					= Total Cov	/er	
							1
Remarks: (Include pho	oto numboro b	ara or on	2 00000	ata chaot \			

(inches) Color (moist) % Color (moist) % Type¹ Loc² Texture Remarks  0-16 2.5YR 5/3 90 2.5YR 5/8 10 C RM CL  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Polyaric Soil Indicators:  Histosol (A1) Dark Surface (S7) Dark Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16)  Histic Epipedon (A2) Polyvalue Below Surface (S9) (MLRA 147, 148) Coast Prairie Redox (A16)  Histic Epipedon (A2) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19)  Stratified Layers (A5) Depleted Below Dark Surface (A11) Depleted Dark Surface (F6) Red Parent Material (TF2)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Red Parent Material (TF2)  Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks)  Sandy Mucky Mineral (S1) (LRR N, MLRA 136, 122) Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)  Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)  Stripped Matrix (S6)  Restrictive Layer (if observed):  Time:	(inches) Color (moist)  % Color (moist)  % Type! Loc2 Texture Remarks  0-16  2.5YR 5/3  90  2.5YR 5/8  10  C  RM  CL   ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ype: C=Concentration. P=Perduction Reduction (RM=Ra147, 148)  ype: C=Coater ration. PLepore Lining, Matrix. (RM=Ra147, 148)  ype: C=Coater ration.		ription: (Describe	to the dept				r confirm	the absence	e of indicators.)		
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  Place of the concentration of the conce	ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ydric Soil Indicators:  Histosol (Ar1)  Histic Epipedon (A2)  Black Histic (A3)  Thin Dark Surface (S7)  Striatfied Layers (A5)  Depleted Below Dark Surface (A11)  Depleted Below Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Depleted Below Dark Surface (F13) (MLRA 136, 122)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Destrictive Layer (if observed):  Type:  Hydric Soil Present?  Yes Nox  **Brack**  Hydric Soil Present?	Depth (inches)	Color (moist)	%				Loc <sup>2</sup>	Texture	Rem	narks	
Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  2 Location: PL=Pore Lining, M=Matrix.  2 Location: PL=Pore Lining, M=Matrix.  3 Indicators for Problematic Hydric Soils Histosol (A1)  4 Histosol (A1)  5 Loam Wuck (A10) (MLRA 147)  6 Loamy Gleyed Matrix (F2)  7 Loam Valvagen Sulfide (A4)  8 Loamy Gleyed Matrix (F3)  8 Loamy Gleyed Matrix (F3)  9 Loamy Gleyed Matrix (F3)  10 Loamy Gleyed Matrix (F3)  11 Loamy Gleyed Matrix (F3)  12 cm Muck (A10) (LRR N)  13 Loamy Gleyed Matrix (F3)  14 Loamy Gleyed Matrix (F3)  15 Loamy Gleyed Matrix (F3)  16 Loamy Gleyed Matrix (F3)  17 Loamy Gleyed Matrix (F3)  18 Loamy Gleyed Matrix (F3)  19 Loamy Gleyed Matrix (F3)  10 Loamy Gleyed Matrix (F3)  11 Loamy Gleyed Matrix (F3)  12 Loamy Gleyed Matrix (F3)  13 Loamy Gleyed Matrix (F3)  14 Loamy Gleyed Matrix (F3)  15 Loamy Gleyed Matrix (F3)  16 Loamy Gleyed Matrix (F3)  17 Loamy Gleyed Matrix (F3)  18 Loamy Gleyed Matrix (F3)  19 Loamy Gleyed Matrix (F3)  10 Loamy Gleyed Matrix (F3)  11 Loamy Gleyed Matrix (F3)  12 Loamy Gleyed Matrix (F3)  13 Loamy Gleyed Matrix (F3)  14 Loamy Gleyed Matrix (F3)  15 Loamy Gleyed Matrix (F3)  16 Loamy Gleyed Matrix (F3)  17 Loamy Gleyed Matrix (F3)  17 Loamy Gleyed Matrix (F3)  18 Loamy Gleyed Matrix (F3)  19 Loamy Gleyed Matrix (F3)  10 Loamy Gl	ype: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.  ydric Soil Indicators:  Histosol (A1)  Histic Epipedon (A2)  Black Histic (A3)  Thin Dark Surface (S7)  Loamy Gleyed Matrix (F2)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Dark Surface (F6)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F7)  Sandy Mucky Mineral (S1) (LRR N)  Sandy Mucky Mineral (S1) (LRR N)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Piedmont Floodplain Soils (F19)  What A 136, 147)  Red Parent Material (TF2)  Very Shallow Dark Surface (TF12)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N)  MLRA 136, 147)  MIRA 136, 147)  Sandy Redox (S5)  Stripped Matrix (S4)  Sandy Redox (S5)  Piedmont Floodplain Soils (F19) (MLRA 148)  MIRA 136, 147)  All Cicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Pestrictive Layer (if observed):  Type:  Hydric Soil Present?  Yes Nox	· · ·										
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M	0 10	2.0111 0/0		2.0111 0/0							
ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thic Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Sestrictive Layer (if observed):  Type:  Depth (inches):  Indicators for Problematic Hydric Soils³  2 cm Muck (A10) (MLRA 147)  2 cm Muck (A10) (MLRA 147, 148)  Coast Prairie Redox (A16)  (MLRA 147, 148)  (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Red Parent Material (TF2)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  3Indicators of Hydrophytic vegetation and wetland hydrology must be present, unled disturbed or problematic.  Hydric Soil Present?  Yes No Yemarks:	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M					·				-		
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M									-		
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M									-		
ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Bark Histosol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Coast Prairie Redox (A16)  (MLRA 147, 148)  (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Red Parent Material (TF2)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Iron Manganese Masses (F12) (LRR N, MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Sardy Redox (S5)  Stripped Matrix (S6)  Piedmont Floodplain Soils (F19) (MLRA 148)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M											
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M					· <u> </u>				-		
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M											
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M											
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M											
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M											
ydric Soil Indicators:    Histosol (A1)	ydric Soil Indicators:  Histosol (A1)  Dark Surface (S7)  Histic Epipedon (A2)  Black Histic (A3)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S6)  Stripped Matrix (S6)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Loamy Gleyed Matrix (F2)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Brid Indicators for Problematic Hydric Soils <sup>3</sup> :  2 cm Muck (A10) (MLRA 147, 148)  MLRA 147, 148)  Melox Dark Surface (F6)  Depleted Dark Surface (F6)  Setrictive Layer (if observed):  Type:  Depth (inches):  Melox Order (S8) (MLRA 147, 148)  Moltra 148, Malta 148, Malta 148)  Sandy Redox (S5)  Stripped Matrix (S6)  Melox 147, 148, Malta 148, M					· —— -						
Histosol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Stripped Matrix (S6)  Dark Surface (F13) (MLRA 136, 122)  Stripped Matrix (S6)  Dark Surface (F12)  Dark Surface (F13) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Bark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 136)  Sandy Redox (S5)  Stripped Matrix (S6)  Dark Surface (S8) (MLRA 147, 148)  Coast Prairie Redox (A16)  (MLRA 147, 148)  Redox Dark Surface (F6)  Piedmont Floodplain Soils (F7)  Piedmont Floodplain Soils (F19) (MLRA 148)	Histosol (A1)	Type: C=Co	ncentration, D=Dep	pletion, RM=	Reduced Matrix, C	S=Covered o	or Coate	d Sand Gra	ains. <sup>2</sup>	Location: PL=Pore L	ining, M=Ma	trix.
Histosol (A1)  Dark Surface (S7)  Polyvalue Below Surface (S8) (MLRA 147, 148)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Estrictive Layer (if observed):  Type:  Depth (inches):  Polyvalue Below Surface (S8) (MLRA 147, 148)  Coast Prairie Redox (A16)  (MLRA 147, 148)  (MLRA 147, 148)  (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  (MLRA 147, 148)  MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Bark Surface (F13) (MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)	Histosol (A1)	udria Sail I	ndicatoro						India	store for Problemati	a Uvdria Sa	:163.
Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F2) Depleted Below Dark Surface (F6) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Redox (S5) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  Polyvalue Below Surface (S8) (MLRA 147, 148) Coast Prairie Redox (A16) (MLRA 147, 148) (MLRA 147, 148) Piedmont Floodplain Soils (F19) Piedmont Floodplain Soils (F19) (MLRA 147, 148) Sandy Mucky Mineral (S1) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Sindicators of Hydrophytic vegetation and wetland hydrology must be present, unle disturbed or problematic.  Hydric Soil Present?  Yes No	Histic Epipedon (A2)  Black Histic (A3)  Thin Dark Suface (S9) (MLRA 147, 148)  Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Depleted Below Dark Surface (A11)  Thick Dark Suface (A12)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148)  Bandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Destrictive Layer (if observed):  Type:  Depth (inches):  Polyvalue Below Surface (S8) (MLRA 147, 148)  Coast Prairie Redox (A16)  (MLRA 147, 148)  (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Piedmont Floodplain Soils (F19) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Britic Epipedon (A2)  Coast Prairie Redox (A16)  (MLRA 147, 148)  Piedmont Floodplain Soils (F19)  MLRA 136, 147)  Piedmont Floodplain Soils (F19)  Piedmont F				Doule Confe	200 (07)			indic			IIS".
Black Histic (A3) Thin Dark Suface (S9) (MLRA 147, 148) (MLRA 147, 148)  Hydrogen Sulfide (A4) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19)  Stratified Layers (A5) Depleted Matrix (F3) (MLRA 136, 147)  2 cm Muck (A10) (LRR N) Redox Dark Surface (F6) Red Parent Material (TF2)  Depleted Below Dark Surface (A11) Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12)  Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks)  Sandy Mucky Mineral (S1) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122)  Sandy Redox (S5) Umbric Surface (F13) (MLRA 136, 122)  Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148)  Stripped Matrix (S6)  Estrictive Layer (if observed):  Type: Hydric Soil Present? Yes No Depted Month of the Matrix (S6) No Depted Matr	Black Histic (A3)						(00)	MI DA 447				
Hydrogen Sulfide (A4)  Stratified Layers (A5)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 136)  Sandy Gleyed Matrix (S4)  Stripped Matrix (S6)  Betrictive Layer (if observed):  Type:  Depthed Matrix (S4)  Extractive Layer (if observed):  Type:  Depthed Matrix (F2)  Piedmont Floodplain Soils (F19)  (MLRA 136, 147)  Redox Dark Surface (F6)  Depleted Dark Surface (F7)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Other (Explain in Remarks)  Indicators of Hydrophytic vegetation and wetland hydrology must be present, unle disturbed or problematic.  Hydric Soil Present?  Yes No	Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Matrix (F3)  2 cm Muck (A10) (LRR N) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  Hydric Soil Present?  Piedmont Floodplain Soils (F19) (MLRA 136, 147) Red Parent Material (TF2) Very Shallow Dark Surface (TF12) Very Shallow Dark Surface (TF12) Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks)  Other (Explain in Remarks)  Other (Explain in Remarks)  All Dindicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present?  Yes No X  Piedmont Floodplain Soils (F19)  Hydric Soil Present?								, 148)			
Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148)  Sandy Gleyed Matrix (s4)  Sandy Redox (S5)  Stripped Matrix (S6)  Estrictive Layer (if observed):  Type:  Depth (inches):  Depleted Matrix (F3)  Redox Dark Surface (F6)  Redox Dark Surface (F7)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Iron Manganese Masses (F12) (LRR N,  MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Stripped Matrix (S6)  Hydric Soil Present?  Yes No Yers Material (TF2)  No March 136, 147)  Redox Dark Surface (F6)  Red Parent Material (TF2)  Nerdox Dark Surface (F12)  Nerdox Dark Surface (F12)  Nerdox Dark Surface (F12)  No March 136, 147)  Redox Dark Surface (F12)  No March 148  No March	Stratified Layers (A5)  2 cm Muck (A10) (LRR N)  Depleted Matrix (F3)  Redox Dark Surface (F6)  Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 136)  Sandy Gleyed Matrix (S4)  Sandy Redox (S5)  Stripped Matrix (S6)  Depleted Dark Surface (F7)  Redox Depressions (F8)  Iron Manganese Masses (F12) (LRR N,  MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Setrictive Layer (if observed):  Type:  Depth (inches):  Hydric Soil Present?  Yes  No  X					, ,	•	147, 148)				
2 cm Muck (A10) (LRR N)     Redox Dark Surface (F6)     Depleted Below Dark Surface (A11)     Thick Dark Surface (A12)     Sandy Mucky Mineral (S1) (LRR N,     MLRA 147, 148)     Sandy Gleyed Matrix (s4)     Sandy Redox (S5)     Stripped Matrix (S6)  estrictive Layer (if observed):     Type:     Depth (inches):     Medox Dark Surface (F6)     Red Parent Material (TF2)     Very Shallow Dark Surface (TF12)     Other (Explain in Remarks)     Other (Explain in Remarks)     Iron Manganese Masses (F12) (LRR N,     MLRA 136)     Umbric Surface (F13) (MLRA 136, 122)     Piedmont Floodplain Soils (F19) (MLRA 148)  *Indicators of Hydrophytic vegetation and wetland hydrology must be present, unle disturbed or problematic.  *Hydric Soil Present?  Yes No  *Indicators of Hydrophytic vegetation and wetland hydrology must be present, unle disturbed or problematic.	2 cm Muck (A10) (LRR N)		-			•	-2)					
Depleted Below Dark Surface (A11)  Thick Dark Surface (A12)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148)  Sandy Gleyed Matrix (s4)  Stripped Matrix (S6)   Estrictive Layer (if observed):  Type: Depth (inches):  Depleted Dark Surface (F7)  Very Shallow Dark Surface (TF12)  Other (Explain in Remarks)  MLRA 136)  Umbric Surface (F12) (LRR N,  MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  Hydric Soil Present?  Yes NoX  Hydric Soil Present?	Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (s4) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  Depleted Dark Surface (F7) Very Shallow Dark Surface (TF12) Other (Explain in Remarks)  MRRA 136) Umbric Surface (F12) (LRR N, MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148)  Hydric Soil Present?  Yes No X  Page No X		• • •							•	•	
Thick Dark Surface (A12) Redox Depressions (F8) Other (Explain in Remarks)  Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148) MLRA 136)  Sandy Gleyed Matrix (s4) Umbric Surface (F13) (MLRA 136, 122)  Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unled disturbed or problematic.  Restrictive Layer (if observed):  Type: Depth (inches): Hydric Soil Present? Yes No Xeemarks:	Thick Dark Surface (A12) Sandy Mucky Mineral (S1) (LRR N, MLRA 147, 148) Sandy Gleyed Matrix (s4) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  Thick Dark Surface (A12) Redox Depressions (F8) Iron Manganese Masses (F12) (LRR N, MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148)  Hydric Soil Present?  Other (Explain in Remarks)  Other (Explain in Remarks)  All Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present?  Yes No X  Piedmont Floodplain Soils (F19) (MLRA 148)  Hydric Soil Present?											
Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148)  Sandy Gleyed Matrix (s4)  Sandy Redox (S5)  Stripped Matrix (S6)  Depth (inches):  Iron Manganese Masses (F12) (LRR N,  MLRA 136)  Umbric Surface (F13) (MLRA 136, 122)  Piedmont Floodplain Soils (F19) (MLRA 148)  MLRA 136)  Umbric Surface (F13) (MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unled disturbed or problematic.  Hydric Soil Present?  Yes No X	Sandy Mucky Mineral (S1) (LRR N,  MLRA 147, 148)  Sandy Gleyed Matrix (s4)  Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed):  Type: Depth (inches):  Iron Manganese Masses (F12) (LRR N,  MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148)  Brick Mark 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148)  Hydric Soil Present?  Yes No X  Hydric Soil Present?									•		2)
MLRA 147, 148) Sandy Gleyed Matrix (s4) Sandy Redox (S5) Stripped Matrix (S6)	MLRA 147, 148) Sandy Gleyed Matrix (s4) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  MLRA 136) Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Wetland hydrology must be present, unless disturbed or problematic.  Hydric Soil Present?  Yes NoX  Hydric Soil Present?									Other (Explain in Re	emarks)	
Sandy Gleyed Matrix (s4) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148) Piedmont Floodplain Soils (F19) (MLRA 148) Piedmont Floodplain Soils (F19) (MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unled disturbed or problematic.  Hydric Soil Present?  Yes NoX  MoX	Sandy Gleyed Matrix (s4) Sandy Redox (S5) Stripped Matrix (S6)  Estrictive Layer (if observed): Type: Depth (inches):  Depth (inches):  Umbric Surface (F13) (MLRA 136, 122) Piedmont Floodplain Soils (F19) (MLRA 148)  Piedmont Floodplain Soils	Sandy	Mucky Mineral (S1	I) <b>(LRR N,</b>	Iron Mang	anese Masse	s (F12)	(LRR N,				
Sandy Redox (S5) Stripped Matrix (S6)  Piedmont Floodplain Soils (F19) (MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unle disturbed or problematic.  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unle disturbed or problematic.  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unle disturbed or problematic.  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unle disturbed or problematic.	Sandy Redox (S5) Stripped Matrix (S6)  Piedmont Floodplain Soils (F19) (MLRA 148)  Piedmont Floodplain Soils (F19) (MLRA 148)  Wetland hydrology must be present, unless disturbed or problematic.  Pestrictive Layer (if observed):  Type: Depth (inches):  Hydric Soil Present?  Yes NoX  Pindicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	ML	.RA 147, 148)		MLRA	136)						
Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unle disturbed or problematic.  Restrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes NoX	Sandy Redox (S5) Piedmont Floodplain Soils (F19) (MLRA 148) wetland hydrology must be present, unless disturbed or problematic.  estrictive Layer (if observed): Type: Depth (inches): Hydric Soil Present? Yes NoX  emarks:	Sandy	Gleyed Matrix (s4)	)	Umbric Su	ırface (F13) <b>(</b>	MLRA 1	36, 122)	3Indic	eators of Hydronhytic y	regetation ar	nd
Stripped Matrix (S6)  Restrictive Layer (if observed):  Type: Depth (inches):  Remarks:  disturbed or problematic.  Hydric Soil Present?  Yes NoX	Stripped Matrix (S6)  estrictive Layer (if observed):  Type: Depth (inches):  marks:  disturbed or problematic.  Hydric Soil Present?  Yes NoX	Sandy	Redox (S5)		Piedmont	Floodplain So	oils (F19	) (MLRA 1				
Type: Hydric Soil Present? Yes NoX  Remarks:	Type: Hydric Soil Present? Yes NoX emarks:	Stripp	ed Matrix (S6)						dist	turbed or problematic.		
Type: Hydric Soil Present? Yes NoX  Remarks:	Type: Hydric Soil Present? Yes NoX emarks:	Restrictive L	aver (if observed)	):								
Remarks:	emarks:	Type:		, -			Hyd	ric Soil Pr	osont?	Vas	No	Y
		Depth (in	ches):		<u> </u>		ı ı ye		cociit:	103	''' _	
		Нус	lric soil indicators a	re not prese	ent.							

Project/Site: Pit 64 Farm	City/County: Chatham Sampling Date: 7/4/14
Applicant/Owner:	State: North Carolina Sampling Point: DP-3
Investigator(s): Luckey/Brame, PEI	
Landform (hillslope, terrace, etc.) Swale Local	
Slope (%): 2 Lat:	
	NWI Classification:
Are climatic / hydrologic conditions on the site typical for this time of year?	
Are Vegetation X , Soil , or Hydrology significantly disturbed?	
Are Vegetation, Soil, or Hydrologynaturally problematic?	(If needed, explain any answers in Remarks.)
<u> </u>	
SUMMARY OF FINDINGS – Attach site map showing sam	npling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?  Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	
Remarks: The three sampling criteria are present. Vegetation has been impacted due	o to caricultural activities
	s to agricultural activities.
Comprehensive of wetland types flagged as WB, WC and WCA	
HYDROLOGY	
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) True Aquatic Plants Hydrogen Sulfide Oc	
Saturation (A3) X Oxidized Rhizospher	res on Living Roots (C3) Moss Trim Lines (B16)
Water Marks (B1) — Presence of Reduce Recent Iron Reduction	
Drift Deposits (B3) Thin Muck Surface (	C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)  Other (Explain in Rei	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Geomorphic Position (D2) Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13) Field Observations:	FAC-Neutral Test (D5)
Surface Water Present? Yes No X Depth (inches):	<del></del>
Water Table Present? Yes No _X Depth (inches): _>12"	Wetland Hydrology Present? Yes X No
Saturation Present? Yes No _X Depth (inches): >12" (includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	visus innections) if sysilable
Describe Recorded Data (stream gauge, monitoring well, aeriai priotos, pre	vious inspections), if available.
Remarks:	
Wetland hydrology indicators are present.	

o.			
10.			
	4	= Total Co	ver
Herb Stratum (Plot size: 30' )			
Eulalia viminea	20	<u> </u>	FAC
2. Juncus effuses	20	<u> </u>	FACW
3. Carex intumescens	20	Y	FACW
4			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
·-·	60	= Total Co	ver
Woody Vine Stratum (Plot size: 30')			
1. Lonicera japonica	2	<u> </u>	FAC
2.			
	·	·	

#### **Definitions of Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present?

Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

5.

Hydrophytic vegetation is present. Vegetation has been impacted from agricultural activities.

2

= Total Cover

Profile Desc	ription: (Describe Matrix	to the depti	n needed to docum	ent the ind		or confirm t	the absence	of indicators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Re	emarks
0-6	10YR 5/3	90	,						
0-6	10YR 3/6	10						-	
			7 EVD 4/6			- DM		-	
6-16	2.5Y 5/1	80	7.5YR 4/6	20	<u>C</u>	<u>RM</u>	<u> </u>		-
-									
								-	
			-						_
¹Type: C=Co	oncentration, D=Dep	pletion, RM=	Reduced Matrix, CS	S=Covered	or Coate	d Sand Gra	ains. <sup>2</sup> L	_ocation: PL=Pore	Lining, M=Matrix.
Hydric Soil I	ndicators:						Indica	ators for Problema	ntic Hydric Soils <sup>3</sup> :
Histos	sol (A1)		Dark Surfac	ce (S7)				2 cm Muck (A10)	(MLRA 147)
Histic	Epipedon (A2)		Polyvalue E	Below Surfa	ce (S8) (	MLRA 147	, 148)	Coast Prairie Red	ox (A16)
	Histic (A3)		Thin Dark S				· ,	(MLRA 147, 14	
	gen Sulfide (A4)		Loamy Gley			, ,		Piedmont Floodpla	-
	ied Layers (A5)		X Depleted M		,			(MLRA 136, 1	
	Muck (A10) <b>(LRR N</b>	)	Redox Dark		<del>-</del> 6)			Red Parent Mater	-
	ted Below Dark Sur	•	Depleted Da					Very Shallow Dark	
	Dark Surface (A12)	, ,	Redox Dep		. ,			Other (Explain in I	` '
	Mucky Mineral (S1		Iron Manga			/I DD N		Other (Explain in )	(Citiano)
	-RA 147, 148)	i / (LIXIX I <b>4</b> ,	MLRA 1		C3 (1 12)	(LIXIX IV,			
	Gleyed Matrix (s4)	1	Umbric Sur		/MI D A 1	36 122\			
	Redox (S5)	1	Piedmont F					ators of Hydrophyti	
			Fledition F	iooupiaiii S	פווס (דופ	) (IVILINA 1	WOU		t be present, unless
	ed Matrix (S6)						uisit	urbed or problemat	IC.
	ayer (if observed)	):							
Type: Depth (in	ches).				Hyd	ric Soil Pre	esent?	Yes	X No
Boput (iii			<del></del>						
Remarks:	luia aail iadiaataua a								
пус	dric soil indicators a	re present.							

Project/Site: Pit 64 Farm	City/County: Chatham Sampling Date: 7/4/14					
Applicant/Owner:	State: North Carolina Sampling Point: DP-4					
Investigator(s): Luckey/Brame, PEI	Section, Township, Range:					
Landform (hillslope, terrace, etc.) Swale Loc	al relief (concave, convex, none):					
Slope (%): 2 Lat:	Long: Datum:					
Soil Map Unit Name: CmB	NWI Classification:					
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)					
Are Vegetation _X_, Soil, or Hydrology significantly disturbed?	? Are "Normal Circumstances" present? Yes X No					
Are Vegetation, Soil, or Hydrologynaturally problematic?	(If needed, explain any answers in Remarks.)					
SUMMARY OF FINDINGS – Attach site map showing sam	npling point locations, transects, important features, etc.					
H						
Hydrophytic Vegetation Present?  Yes X No	Is the Sampled Area					
Hydric Soil Present? Yes X No	within a Wetland? Yes NoX					
Wetland Hydrology Present? Yes NoX						
Remarks:  The three sampling criteria are not present. Vegetation has been impacted	Adua to paricultural activities					
The three sampling chiena are not present. Vegetation has been impacted	rude to agricultural activities.					
Comprehensive of wetland types flagged as WB, WC and WCA						
HYDDOLOOY						
HYDROLOGY Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)					
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)					
Surface Water (A1) — True Aquatic Plants High Water Table (A2) — Hydrogen Sulfide Oc						
	res on Living Roots (C3)  Moss Trim Lines (B16)					
Water Marks (B1) Presence of Reduce						
Sediment Deposits (B2) Drift Deposits (B3) Recent Iron Reduction Thin Muck Surface (	on in Tilled Soils (C6) Crayfish Burrows (C8) C7) Saturation Visible on Aerial Imagery (C9)					
Algal Mat or Crust (B4)  Other (Explain in Rei						
Iron Deposits (B5)	Geomorphic Position (D2)					
Inundation Visible on Aerial Imagery (B7) Water-Stained Leaves (B9)	Shallow Aquitard (D3)  Microtopographic Relief (D4)					
Aquatic Fauna (B13)	FAC-Neutral Test (D5)					
Field Observations:						
Surface Water Present? Yes No _X Depth (inches):						
Water Table Present? Yes No _X Depth (inches): >12"						
Saturation Present? Yes No X Depth (inches): >12"	Wetland Hydrology Present? Yes No _X					
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring well, aerial photos, pre	evious inspections), if available:					
Damadia						
Remarks: Wetland hydrology indicators are not present.						
Troubling Hydrology maloulois are not process.						

				Dominance Test worksheet:
	Absolute	Dominant	Indicator	
Tree Stratum (Plot size: 30')	% Cover	Species?	Status	Number of Dominant Species
Nyssa sylvatica	10	Y	FAC	That Are OBL, FACW, or FAC:5 (A)
2. Ulmus Americana	5	N	FACW	
3. Juniperus virginiana	10	Y	FACU	Total Number of Dominant
4. Ulmus alata	10	<u> </u>	FACU	Species Across All Strata: 7 (B)
5				Percent of Dominant Species
6				That Are OBL, FACW, or FAC: 72 (A/B)
7				
8				Prevalence Index worksheet:
	35	= Total Cov	/er	Total % Cover of: Multiply by:
				OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 30')				FACW species X 2 =
Ligustrum sinsense	20	<u>Y</u>	FAC	FAC species X 3 =
2				FACU species X 4 =
3				UPL species X 5 =
4				
5				Column Totals: (A) (B)
6				
7				Prevalence Index = B/A =
8				Hydrophytic Vegetation Indicators:
9				1 - Rapid Test for Hydrophytic Vegetation
10				X 2 - Dominance Test is > 50%
	20	= Total Cov	/er	3 - Prevalence Test is ≤ 3.0¹
Hart Otration (Distrator				4 - Morphological Adaptations <sup>1</sup> (Provide supporting
Herb Stratum (Plot size: 30')			E4.0	data in Remarks or on a separate sheet)
Eulalia viminea     Debras hatal'(alicana)	50	<u>Y</u>	FAC	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Rubus betulifolius	15	N	FAC	1 Toblematic Trydrophytic Vegetation (Explain)
Vernonia noveboracensis		Y	FAC	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Boehmeria cylindrica	5	N	FACW	be present, unless disturbed or problematic.
5				
6				Definitions of Vegetation Strata:
7				
8				<b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH),
9				regardless of height.
10				
11				Sapling/Shrub – Woody plants, excluding vines, less
12				than 3 in. DBH and greater than 3.28 ft (1 m) tall.
	90	= Total Cov	/er	<b>Herb</b> – All herbaceous (non-woody) plants, regardless
				of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30')				
Toxicodendron radicans	10	<u> </u>	FAC	<b>Woody vine</b> – All woody vines greater than 3.28 ft in
2				height.
3				
4				Hydrophytic
5				Vegetation
6				Present? Yes X No
	10	= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate	e sheet.)			
The data but a consist of a consist of Manager and a consist of the consist of th			- L C - 2C	

Hydrophytic vegetation is present. Vegetation has been impacted from agricultural activities.

Profile Desc Depth	ription: (Describe Matrix	to the depth		ent the inc		or confirm	the absence	of indicators.)				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rem	narks			
0-4	10YR 5/3	90					L			,		
0-4	10YR 3/3	10					L					
4-16	10YR 5/4	100					CL					
4-10	10110 3/4							-				
		<del></del>										
								-				
								-				
¹Type: C=Cd	oncentration, D=Dep	oletion RM-R	Paducad Matrix CS	-Covered	or Coate	d Sand Gra	aine 21	Location: PL=Pore L	ining M–Mat	triv		
		Jiedon, Kivi–K	teduced Matrix, CO	=covereu (	or Coale	u Sanu Ora						
Hydric Soil I			Dark Curtas	o (S7)			inaica	ators for Problemati	•	115 .		
	sol (A1)		Dark Surfac		oo (CO) 1	MI DA 447		2 cm Muck (A10) (M	•			
· · · · · · · · · · · · · · · · · · ·	Epipedon (A2)		Polyvalue B				, 148)	Coast Prairie Redox	` '			
	Histic (A3)		Thin Dark S		•	147, 148)		(MLRA 147, 148)				
	gen Sulfide (A4)		Loamy Gley		F2)			Piedmont Floodplair				
	ied Layers (A5)		Depleted Ma		.0)			(MLRA 136, 147	•			
	Muck (A10) (LRR N	•	Redox Dark					Red Parent Material (TF2)				
	ted Below Dark Sur		Depleted Da		, ,			Very Shallow Dark S	•	2)		
	Dark Surface (A12)			Redox Depressions (F8) Other (Explain in Remarks)								
	/ Mucky Mineral (S1	) <b>(</b> LRR <b>N</b> ,	Iron Mangar		es (F12)	(LRR N,						
	LRA 147, 148)		MLRA 1									
	Gleyed Matrix (s4)		Umbric Surf				<sup>3</sup> Indica	ators of Hydrophytic v	egetation ar	nd		
	Redox (S5)		Piedmont FI	oodplain S	oils (F19	) <b>(MLRA 1</b>	<b>48)</b> wetl	and hydrology must b	pe present, u			
Stripp	ed Matrix (S6)						dist	urbed or problematic.				
	_ayer (if observed)	:										
Type: Depth (in	oboo):		<u> </u>		Hyd	ric Soil Pr	esent?	Yes	No	Χ		
Deptii (iii	cries).											
Remarks:	dric soil indicators a	re not present										
riye	and son maleators a	ic not present										

NC DWQ Stream Identification Form Version 4.11

Date: 7/4/14	Project/Site: Pi	it 64 Farm	Latitude:			
Evaluator: Brame, PEI	County: Guilf	ord	Longitude:			
Total Points: Stream is at least intermittent 15.5 if ≥ 19 or perennial if ≥ 30*		nation (circle one) rmittent Perennial	Other e.g. Quad Name:			
A. Geomorphology (Subtotal = 9.5	Absent	Weak	Moderate	Strong		
1ª Continuity of channel bed and bank	0	1	2	3		
Sinuosity of channel along thalweg	0	(1)	2	3		
3. In-channel structure: ex. riffle-pool, step-pool,	0	1)	2	3		
ripple-pool sequence			23-30	157		
Particle size of stream substrate	0	1	2	3		
5. Active/relict floodplain	0	1	2	3		
6. Depositional bars or benches	0	1	2	3		
7. Recent alluvial deposits	0	1	2	3		
8. Headcuts	0	1	2	3		
9. Grade control	0	0.5	1	1.5		
10. Natural valley	0	0.5	1	1.5		
11. Second or greater order channel No €0 Yes = 3						
artificial ditches are not rated; see discussions in manual						
B. Hydrology (Subtotal = 2.5 )						
12. Presence of Baseflow	0	1	2	3		
13. Iron oxidizing bacteria	0	1	2	3		
14. Leaf litter	1.5	1)	0.5	0		
15. Sediment on plants or debris	0	0.5	1	1.5		
16. Organic debris lines or piles	0	0.5	1 Van	1.5		
17. Soil-based evidence of high water table? No €0 Yes = 3						
C. Biology (Subtotal = 3.5)						
18. Fibrous roots in streambed	3	2 2	1	0		
19. Rooted upland plants in streambed	0	1	2	3		
Macrobenthos (note diversity and abundance)     Aquatic Mollusks		1	2	3		
22. Fish		0.5	1	1.5		
23. Crayfish		0.5	1	1.5		
24. Amphibians		0.5	1	1.5		
25. Algae	0	0.5	1	1.5		
26. Wetland plants in streambed		FACW = 0.75; OBL				
*perennial streams may also be identified using other methods. See p. 35 of manual.						
Notes:						
Skatah:						
Sketch:						

NC DWQ Stream Identification Form Version 4.11

Date: 7/4/14	Project/Site: P	it 64 Farm	Latitude:			
Evaluator: Brame, PEI	County: Guilf		Longitude:			
Total Points:	To the control of the first of					
Stream is at least intermittent $22.5$ if $\geq 19$ or perennial if $\geq 30^*$		ination (circle one) ermittent Perennial	Other e.g. Quad Name:			
	50 30					
A. Geomorphology (Subtotal = 10.5	Absent	Weak	Moderate	Strong		
1 <sup>a</sup> Continuity of channel bed and bank	0	1	2	3		
Sinuosity of channel along thalweg	0	1	2	3		
In-channel structure: ex. riffle-pool, step-pool, ripple-pool sequence	0	1	2	3		
Particle size of stream substrate	0	1	2	3		
5. Active/relict floodplain	0	1	2	3		
6. Depositional bars or benches	0	1	2	3		
7. Recent alluvial deposits	0	1	2	3		
8. Headcuts	0	1	2	3		
9. Grade control	0	0.5	1	1.5		
10. Natural valley	0	0.5	1	1.5		
11. Second or greater order channel	No €0 Yes = 3					
<sup>a</sup> artificial ditches are not rated; see discussions in manual						
B. Hydrology (Subtotal = 6.5)	1 -			P		
12. Presence of Baseflow		1	2	3		
13. Iron oxidizing bacteria	0	1	2	3		
14. Leaf litter	1.5	1	0.5	0		
15. Sediment on plants or debris	0	0.5	1	1.5		
16. Organic debris lines or piles	0	0.5	1	1.5		
17. Soil-based evidence of high water table?	No = 0 Yes €3					
C. Biology (Subtotal = 5.5)						
18. Fibrous roots in streambed	3	2	1	0		
19. Rooted upland plants in streambed	3	2	1	0		
20. Macrobenthos (note diversity and abundance)		1	2	3		
21. Aquatic Mollusks	0	1	2	3		
22. Fish		0.5	1	1.5		
23. Crayfish 24. Amphibians		0.5 0.5	1	1.5 1.5		
25. Algae	0	0.5	1	1.5		
26. Wetland plants in streambed	0					
26. Wetland plants in streambed FACW = 0.75; OBL = 1.5 Other €0  *perennial streams may also be identified using other methods. See p. 35 of manual.						
Notes:						
Trotto.						
Sketch:						