

Exhibit FF. Sinclair Site Wetlands Delineation Report



July 2016

**WETLAND DELINEATION REPORT
263-ACRE SINCLAIR SITE
ST. BERNARD PARISH,
CHALMETTE, LOUISIANA**

Prepared for



**St. Bernard Economic Development Foundation
Chalmette, Louisiana**

Prepared by



Baton Rouge, Louisiana

WETLAND DELINEATION REPORT 263-ACRE SINCLAIR SITE ST. BERNARD PARISH, CHALMETTE, LOUISIANA

GEC Project Number: 0027.9369100.000

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WETLAND DELINEATION REPORT

WETLAND DELINEATION REPORT

263-ACRE SINCLAIR SITE

ST. BERNARD PARISH, CHALMETTE, LOUISIANA

INTRODUCTION

G.E.C., Inc. (GEC) recently conducted a wetland delineation on the 263-acre Sinclair Site for St. Bernard Economic Development Foundation in St. Bernard Parish, Louisiana (Figure 1). The southern boundary of the property traverses along the protected side of the Mississippi River protection levee and the northern boundary fronts Louisiana Highway 39 (Judge Perez Drive). Louisiana Highway 46 also traverses through the property near the southern end of the property (Figure 2). The property is currently utilized for cattle grazing with the majority of the property being maintained pasture habitat. The purpose of this delineation was to identify any wetland habitats within the property boundary, map those wetland boundaries, and calculate the acreage of wetlands within the site boundaries.

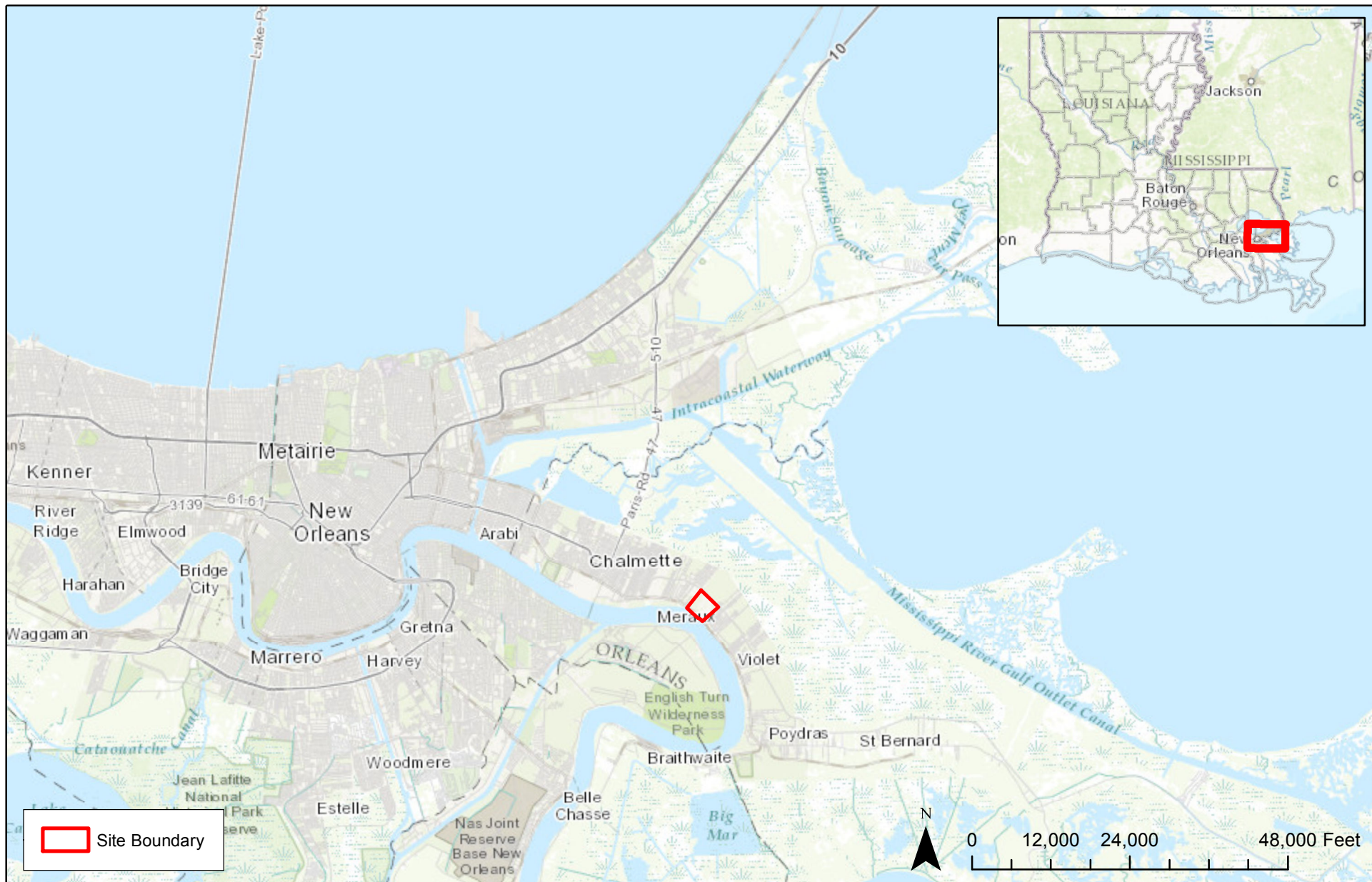
METHODOLOGY

GEC conducted the wetland delineation in accordance with Section D, Subsection 2 of Technical Report Y-87-1, Corps of Engineers Wetlands Delineation Manual as well as the Atlantic and Gulf Coastal Plains Regional Supplement. Aerial photography, Natural Resources Conservation Service (NRCS) St. Bernard Parish soil survey map, and U.S. Geological Survey (USGS) topographic quadrangle maps were reviewed prior to the initiation of field work to identify the potential extent of wetlands present on the subject property.

Routine Wetland Delineation Data Forms (Appendix A), as approved by Headquarters, U.S. Army Corps of Engineers (USACE) 10/08, were completed for various vegetative communities encountered within the project area. These data forms contain sufficient information regarding the presence or absence of hydric soils, hydrophytic vegetation, and wetland hydrology, to support the demarcation of a wetland boundary. The location of each sample plot along with mapped wetlands and other waters are shown in Figure 3. Figure 4 provides the same information but without the aerial background for a black and white reproducible figure.

Dominant vegetation was recorded on the data forms along with the indicator status as listed in the *National List of Plant Species Occurring in Wetlands (Region 2)* released by USACE in May 2012 (Release No. 12-005). Once dominant vegetation was recorded and evaluated, if more than 50 percent of the dominant vegetation had an indicator status of FAC, FACW, or OBL or the prevalence index was ≤ 3.0 , the hydrophytic vegetation criterion was met.

A soil pit was excavated to a depth of approximately 18 inches at each sample plot. The pit remained open for at least 15 minutes to allow the pit to fill with water, if present. Soils were sampled along the exposed stratum. Information recorded on the data forms included soil colors (hue, value, and chroma as per the 2009 revised edition of the Munsell Color Chart), size, color, abundance, and depth of mottles, as well as soil texture. Soil texture was determined using the "texture by feel" analysis. Figure 5 depicts the soils mapped by the NRCS within the project area.



LOCATION MAP
Wetland Delineation
263 - Acre Sinclair Site
St. Bernard Parish, Louisiana



Figure: 1
Date: July 2016
Scale: 1:250,000
Source: GEC, ESRI
Map ID: 00279369100000-3180



VICINITY MAP
Wetland Delineation
263 - Acre Sinclair Site
St. Bernard Parish, Louisiana



Figure: 2
Date: July 2016
Scale: 1:12,000
Source: GEC, ESRI
Map ID: 00279369100000-3180



WETLAND MAP
 Wetland Delineation
 263 - Acre Sinclair Site
 St. Bernard Parish, Louisiana



Figure: 3
 Date: July 2016
 Scale: 1:10,000
 Source: GEC, ESRI
 Map ID: 00279369100000-3180



Wetland hydrology indicators were also recorded at each sample plot as per the USACE requirements. If at least one primary or two secondary hydrology indicators were present, the sample plot was classified as having wetland hydrology.

Photographs were taken at each sample plot where a data form was completed. These photographs show a representative soil profile, as well as overviews of the sample plots (Appendix B).

RESULTS

During the field surveys, investigators identified two dominant habitat types within the project site: wetland pasture and non-wetland pasture. Other habitats occurring within the project site but with much less abundance were forested wetlands and forested non-wetland. These habitats were located along existing fence lines within the project site. The following are descriptions of the habitat types observed within the project site.

Non-Wetland Pasture Habitat

The non-wetland pasture habitat was distributed throughout the project site with the majority located in the center portion of the property just north of Louisiana Highway 46. Five plots were taken within this habitat type to characterize the variation within the habitat. This habitat was dominated by species such as St. Augustine grass (*Stenotaphrum secundatum*), white clover (*Trifolium repens*), rough cocklebur (*Xanthium strumarium*), Bermuda grass (*Cynodon dactylon*), Johnson grass (*Sorghum halepense*), Cuban-jute (*Sida rhombifolia*), bahia grass (*Paspalum notatum*), pull-and be damned grass (*Paspalum denticulatum*), and narrow-leaf carpet grass (*Axonopus fissifolius*). Other less dominant species, such as smut grass (*Sporobolus indicus*), northern frog-fruit (*Phyla lanceolata*), short-leaf spike sedge (*Kyllinga brevifolia*), golden crown grass (*Paspalum dilatatum*), hairy buttercup (*Ranunculus sardous*), red clover (*Trifolium pretense*), Brazilian vervain (*Verbena brasiliensis*), pinkweed (*Persicaria pensylvanica*), annual marsh elder (*Iva annua*), dog-fennel (*Eupatorium capillifolium*), southern dewberry (*Rubus trivialis*), Carolina horse-nettle (*Solanum carolinense*), Virginian buttonweed (*Diodia virginiana*), tievine (*Ipomoea cordatotriloba*), and giant ironweed (*Vernonia gigantea*) were also observed within this habitat type.

Soils within this habitat type ranged from clay to clay loams and were mapped as Cancienne silt loam, Cancienne silty clay loam, or Schriever silty clay loam. The Cancienne soil series is not listed as a hydric soil; however, the Schriever soils are listed as hydric on both the National and Louisiana hydric soils lists. Each of the sample plots taken within the non-wetland pasture habitat type exhibited a depleted matrix. Therefore, soils within this habitat type are considered to be hydric.

Investigators did not record any primary or secondary wetland hydrology indicators within any of the sample plots taken in the non-wetland pasture habitat. Therefore, this habitat does not meet the criteria for wetland hydrology.

It is GEC's opinion that the habitat characterized by sample plots 1, 4, 6, 7, and 9 is not a wetland habitat because all three wetland parameters are not present. For more details on each of the sample plots taken within this habitat type, please refer to Appendix A, sample plots 1, 4, 6, 7, and 9.

Wetland Pasture Habitat

Field investigators characterized this habitat type by taking four sample plots in various locations throughout the project site to capture the variations in the habitat type. North of Louisiana Highway 46, this habitat type consisted of many lateral drains traversing the project site from south to north. Within the northern third of the project site, the drains became less defined and the wetland habitat began to spread out and incorporate the areas between the drains. South of Louisiana Highway 46, the project site was majority wetland pasture habitat with a few areas of non-wetland pasture scattered throughout. The dominant vegetation observed within the wetland pasture habitat included ricefield flat sedge (*Cyperus iria*), flat-stem spike-rush (*Eleocharis compressa*), Colombian waxweed (*Cuphea carthagenensis*), pull-and-be-damned grass, short-bristle horned beak (*Rhynchospora corniculata*), climbing dayflower (*Commelina diffusa*), lamp rush (*Juncus effusus*), swamp smartweed (*Persicaria hydropiperoides*), Vasey's grass (*Paspalum urvillei*), Virginia buttonweed, needle-pod rush (*Juncus scirpoides*), sand spike-rush (*Eleocharis montevidensis*), northern frog-fruit, and St. Augustine grass. Less dominant vegetation consisted of giant ironweed, great plantain (*Plantago major*), Brazilian vervain, many-flower marsh pennywort (*Hydrocotyle umbellata*), common spike-rush (*Eleocharis palustris*), annual marsh-elder, yellow-fruit sedge (*Carex annectens*), royal flat sedge (*Cyperus elegans*), green flat sedge (*Cyperus virens*), straw-color flat sedge (*Cyperus strigosus*), alligator weed (*Alternanthera philoxeroides*), and pinkweed. More specifics on the species observed at each sample plot can be seen in Appendix A, sample plots 2, 5, 8, and 10.

Soils within this habitat type ranged from clay to clay loams and were mapped as Cancienne silt loam, Cancienne silty clay loam, or Schriever silty clay loam. The Cancienne soil series is not listed as a hydric soil; however, the Schriever soils are listed as hydric on both the National and Louisiana hydric soils lists. Each of the sample plots taken within the non-wetland pasture habitat type exhibited a depleted matrix. Therefore, soils within this habitat type are considered to be hydric.

Primary hydrology indicators recorded within this habitat type included surface water (A1), high water table (A2), saturation (A3), and oxidized rhizospheres on living roots (C3). The most common secondary hydrology indicators recorded were crawfish burrows (C8) and a positive FAC-Neutral test (D5). Since all four sample plots contained at least one primary hydrology indicator or two secondary hydrology indicators, the wetland hydrology is met within this habitat type.

It is GEC's opinion that the habitat characterized by sample plots 2, 5, 8, and 10 is a wetland habitat because all three wetland parameters are present. For more details on each of the sample plots taken within this habitat type, please refer to Appendix A, sample plots 2, 5, 8, and 10.

Forested Wetland

The only other habitat type significant enough to mention is the forested wetland along the western edge of the project site from Louisiana Highway 46 north to Judge Perez Drive. This habitat was a narrow strip that was dominated by Chinese tallow tree (*Triadica sebifera*), sugarberry (*Celtis laevigata*), and American elm (*Ulmus americana*). Other species observed within the area but with less dominance were green ash (*Fraxinus pennsylvanica*), live oak (*Quercus virginiana*), and river-flat hawthorn (*Crataegus opaca*). The herbaceous stratum of this habitat was dominated by pull-and-be damned grass with scattered occurrences of annual marsh elder, long-leaf basket grass (*Oplismenus hirtellus*), and pinkweed. The dominant vegetation within this habitat type meets the criteria for hydrophytic vegetation.

Soils within this habitat type exhibited a depleted matrix and are mapped as Cancienne silty clay loam. This series is not listed as a hydric soil on either the National or Louisiana Hydric Soils lists. However, it is GEC's opinion that due to the presence of a depleted matrix, these soils are functioning as hydric soils.

Primary hydrology indicators recorded within this habitat type included surface water (A1), saturation (A3), and water-stained leaves (B9). Additionally, secondary hydrology indicators observed within this habitat type included crawfish burrows (C8) and a positive FAC-Neutral test (D5). Since primary and secondary hydrology indicators are present, the wetland hydrology is met within this habitat type.

It is GEC's opinion that the habitat characterized by Sample Plot 3 is a wetland habitat because all three wetland parameters are present. For more details on this sample plot taken within this habitat type, please refer to Appendix A, Sample Plot 3.

CONCLUSIONS

During the field investigation of the 263-acre Sinclair Site in St. Bernard Parish, Chalmette, Louisiana, GEC mapped 115.75 acres of wetland pasture and 1.89 acres of forest wetlands. The herbaceous wetlands were characterized as either pasture or fallow fields, which included numerous drainage swales traversing southwest to northeast in the portion of the property north of Louisiana Highway 46. In the northern third of the property the drains became less defined and the wetlands began to spread into the areas between the drains. South of Louisiana Highway 46, the majority of the property was wetland pasture with a few non-wetland areas scattered throughout with the majority occurring along the western side of the property.

Although GEC uses the same criteria and methodology as that of the USACE, due to the degree of subjectivity associated with studies of this type, there may be some degree of variance in the demarcation of the wetland boundary. Consequently, GEC's opinion may not necessarily reflect that of the USACE, nor does it relieve our client of any legal obligations to verify the wetland findings, consult with the USACE, and possibly obtain a Department of the Army permit prior to performing any dredging, filling and/or construction operations in Waters of the United States, including wetlands.

Appendix A

DATA FORMS

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 20, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 1
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'19.2" N Long: 89°55'4.5" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silt loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes ____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes ____ No <u>X</u>	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ____ Surface Water (A1) ____ Aquatic Fauna (B13) ____ High Water Table (A2) ____ Marl Deposits (B15) (LRR U) ____ Saturation (A3) ____ Hydrogen Sulfide Odor (C1) ____ Water Marks (B1) ____ Oxidized Rhizospheres on Living Roots (C3) ____ Sediment Deposits (B2) ____ Presence of Reduced Iron (C4) ____ Drift Deposits (B3) ____ Recent Iron Reduction in Tilled Soils (C6) ____ Algal Mat or Crust (B4) ____ Thin Muck Surface (C7) ____ Iron Deposits (B5) ____ Other (Explain in Remarks) ____ Inundation Visible on Aerial Imagery (B7) ____ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> ____ Surface Soil Cracks (B6) ____ Sparsely Vegetated Concave Surface (B8) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ FAC-Neutral Test (D5) ____ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes ____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes ____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes ____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)				Absolute % Cover		Dominant Species?		Indicator Status	
1.	_____	_____	_____	_____	_____	_____	_____	_____	
2.	_____	_____	_____	_____	_____	_____	_____	_____	
3.	_____	_____	_____	_____	_____	_____	_____	_____	
4.	_____	_____	_____	_____	_____	_____	_____	_____	
5.	_____	_____	_____	_____	_____	_____	_____	_____	
6.	_____	_____	_____	_____	_____	_____	_____	_____	
7.	_____	_____	_____	_____	_____	_____	_____	_____	
8.	_____	_____	_____	_____	_____	_____	_____	_____	
				0	= Total Cover				
50 % of total cover: <u>0</u>				20 % of total cover: <u>0</u>					
Sapling/Shrub Stratum (Plot size: _____)									
1.	_____	_____	_____	_____	_____	_____	_____	_____	
2.	_____	_____	_____	_____	_____	_____	_____	_____	
3.	_____	_____	_____	_____	_____	_____	_____	_____	
4.	_____	_____	_____	_____	_____	_____	_____	_____	
5.	_____	_____	_____	_____	_____	_____	_____	_____	
6.	_____	_____	_____	_____	_____	_____	_____	_____	
7.	_____	_____	_____	_____	_____	_____	_____	_____	
8.	_____	_____	_____	_____	_____	_____	_____	_____	
				0	= Total Cover				
50 % of total cover: <u>0</u>				20 % of total cover: <u>0</u>					
Herb Stratum (Plot size: <u>30 ft. radius</u>)									
1.	<u>Stenotaphrum secundatum (St. augustine grass)</u>	<u>85</u>	<u>Y</u>	<u>FAC</u>					
2.	<u>Trifolium repens (White clover)</u>	<u>65</u>	<u>Y</u>	<u>FACU</u>					
3.	<u>Xanthium strumarium (Rough cocklebur)</u>	<u>10</u>		<u>FAC</u>					
4.	<u>Sporobolus indicus (Smut grass)</u>	<u>8</u>		<u>FACU</u>					
5.	<u>Phyla lanceolata (Northern frogfruit)</u>	<u>5</u>		<u>OBL</u>					
6.	<u>Kyllinga brevifolia (Short-leaf spike sedge)</u>	<u>2</u>		<u>FACW</u>					
7.	<u>Paspalum dilatatum (Golden crown grass)</u>	<u>2</u>		<u>FAC</u>					
8.	<u>Ranunculus sardous (Hairy buttercup)</u>	<u>2</u>		<u>UPL</u>					
9.	<u>Trifolium pratense (Red clover)</u>	<u>2</u>		<u>FACU</u>					
10.	<u>Verbena brasiliensis (Brazilian vervain)</u>	<u>2</u>		<u>FAC</u>					
11.	<u>Persicaria pensylvanica (Pinkweed)</u>	<u>1</u>		<u>FACW</u>					
12.	_____	_____	_____	_____					
				184	= Total Cover				
50 % of total cover: <u>92</u>				20 % of total cover: <u>36.8</u>					
Woody Vine Stratum (Plot size: _____)									
1.	_____	_____	_____	_____	_____	_____	_____	_____	
2.	_____	_____	_____	_____	_____	_____	_____	_____	
3.	_____	_____	_____	_____	_____	_____	_____	_____	
4.	_____	_____	_____	_____	_____	_____	_____	_____	
5.	_____	_____	_____	_____	_____	_____	_____	_____	
				0	= Total Cover				
50 % of total cover: <u>0</u>				20 % of total cover: <u>0</u>					

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

 Total Number of Dominant Species Across All Strata: 2 (B)

 Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>5</u>	x 1 = <u>5</u>
FACW species <u>3</u>	X 2 = <u>6</u>
FAC species <u>99</u>	X 3 = <u>297</u>
FACU species <u>75</u>	X 4 = <u>300</u>
UPL species <u>2</u>	X 5 = <u>10</u>
Column Totals: <u>184</u>	(A) <u>618</u> (B)

Prevalence Index = B/A = 3.36

Hydrophytic Vegetation Indicators:
1 – Rapid Test for Hydrophytic Vegetation
2 – Dominance Test is > 50%
3 – Prevalence Test is ≤ 3.0¹
 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes No X

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

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/1	97	7.5YR 4/6	3	C	PL	Clay Loam	
4-10	10YR 4/1	93	10YR 5/8	4	C	M	Silt Loam	
			10YR 4/6	3	C	M	N/A	
10-18+	10YR 4/2	96	10YR 4/4	4	C	M	Silt Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 20, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 2
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'30.8" N Long: 89°55'19.4" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silt loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes <u>X</u> No ____
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes <u>X</u> No ____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u>X</u> No ____ Depth (inches): <u>2-6</u> Water Table Present? Yes <u>X</u> No ____ Depth (inches): <u>6</u> Saturation Present? Yes ____ No <u>X</u> Depth (inches): ____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	0	= Total Cover		
50 % of total cover: _____	0	20 % of total cover: _____	0	
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
	0	= Total Cover		
50 % of total cover: _____	0	20 % of total cover: _____	0	
Herb Stratum (Plot size: 30' radius _____)				
1. <i>Cyperus iria</i> (Ricefield flat sedge)	40	Y	FACW	
2. <i>Eleocharis compressa</i> (Flat-stem spike-rush)	40	Y	OBL	
3. <i>Cuphea carthagenensis</i> (Colombian waxweed)	35	Y	FACW	
4. <i>Alternanthera philoxeroides</i> (Alligator-weed)	20		OBL	
5. <i>Iva annua</i> (Annual marsh-elder)	15		FAC	
6. <i>Persicaria pensylvanica</i> (Pinkweed)	15		FACW	
7. <i>Phyla lanceolata</i> (Northern frogfruit)	10		OBL	
8. <i>Ammannia latifolia</i> (Pink redstem)	5		OBL	
9. <i>Paspalum denticulatum</i> (Pull-and-be-damned)	5		OBL	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	185	= Total Cover		
50 % of total cover: _____	92.5	20 % of total cover: _____	37	
Woody Vine Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	0	= Total Cover		
50 % of total cover: _____	0	20 % of total cover: _____	0	
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	X 2 = _____
FAC species _____	X 3 = _____
FACU species _____	X 4 = _____
UPL species _____	X 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

 1 – Rapid Test for Hydrophytic Vegetation

X 2 – Dominance Test is > 50%

 3 – Prevalence Test is ≤ 3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No

SOIL

Sampling Point: 2**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/1	100			N/A	N/A	Clay	
3-12	10YR 4/1	97	10YR 5/8	1	C	M	Clay	
			10YR 4/6	2	C	M	Clay	
12-18+	10YR 4/1	98	10YR 4/6	2	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 20, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 3
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'48.8" N Long: 89°55'18.2" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silty clay loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes <u>X</u> No ____
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes <u>X</u> No ____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u>X</u> No ____ Depth (inches): <u>1-2</u> Water Table Present? Yes <u>X</u> No ____ Depth (inches): <u>16</u> Saturation Present? Yes <u>X</u> No ____ Depth (inches): <u>0-2 & 12</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
0 = Total Cover																		
50 % of total cover: <u>0</u>	20 % of total cover: <u>0</u>																	
Sapling/Shrub Stratum (Plot size: 30' Radius)				Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th>Total % Cover of:</th> <th>Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>X 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>X 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>X 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>X 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	X 2 = _____	FAC species _____	X 3 = _____	FACU species _____	X 4 = _____	UPL species _____	X 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	X 2 = _____																	
FAC species _____	X 3 = _____																	
FACU species _____	X 4 = _____																	
UPL species _____	X 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
1. <u>Triadica sebifera</u> (Chinese tallowtree)	<u>50</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Celtis laevigata</u> (Sugar-berry)	<u>20</u>	<u>Y</u>	<u>FACW</u>															
3. <u>Ulmus americana</u> (American elm)	<u>20</u>	<u>Y</u>	<u>FACW</u>															
4. <u>Fraxinus pennsylvanica</u> (Green ash)	<u>10</u>		<u>FACW</u>															
5. <u>Quercus virginiana</u> (Live oak)	<u>10</u>		<u>FACU</u>															
6. <u>Crataegus opaca</u> (River-flat hawthorn)	<u>5</u>																	
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
115 = Total Cover																		
50 % of total cover: <u>57.5</u>	20 % of total cover: <u>23</u>																	
Herb Stratum (Plot size: 30' radius)				Hydrophytic Vegetation Indicators: <u>1</u> – Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> – Dominance Test is > 50% <u>3</u> – Prevalence Test is ≤ 3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
1. <u>Paspalum denticulatum</u> (Pull-and-be-damned)	<u>35</u>	<u>Y</u>	<u>OBL</u>															
2. <u>Iva annua</u> (Annual marsh-elder)	<u>5</u>		<u>FAC</u>															
3. <u>Oplismenus hirtellus</u> (Long-leaf basket grass)	<u>5</u>		<u>FACU</u>															
4. <u>Persicaria pensylvanica</u> (Pinkweed)	<u>5</u>		<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
50 = Total Cover																		
50 % of total cover: <u>25</u>	20 % of total cover: <u>10</u>																	
Woody Vine Stratum (Plot size: _____)				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.														
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
0 = Total Cover																		
50 % of total cover: <u>0</u>	20 % of total cover: <u>0</u>																	
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		

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

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 2/1	100			N/A	N/A	Clay	
2-8	10yr 3/1	98	10yr 4/6	2	C	M	Clay	
8-18+	10yr 4/1	96	10yr 4/6	2	C	M	Silt Loam	
			10YR 5/8	2	C	M	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

☐ Histosol (A1)

☐ Histic Epipedon (A2)

☐ Black Histic (A3)

☐ Hydrogen Sulfide (A4)

☐ Stratified Layers (A5)

☐ Organic Bodies (A6) (LRR P, T, U)

☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)

☐ Muck Presence (A8) (LRR U)

☐ 1 cm Muck (A9) (LRR P, T)

☐ Depleted Below Dark Surface (A11)

☐ Thick Dark Surface (A12)

☐ Coast Prairie Redox (A16) (MLRA 150A)

☐ Sandy Mucky Mineral (S1) (LRR O, S)

☐ Sandy Gleyed Matrix (S4)

☐ Sandy Redox (S5)

☐ Stripped Matrix (S6)

☐ Dark Surface (S7) (LRR P, S, T, U)

☐ Polyvalue Below Surface (S8) (LRR S, T, U)

☐ Thin Dark Surface (S9) (LRR S, T, U)

☐ Loamy Gleyed Matrix (F1) (LRR O)

☐ Loamy Gleyed Matrix (F2)

☒ Depleted Matrix (F3)

☐ Redox Dark Surface (F6)

☐ Depleted Dark Surface (F7)

☐ Redox Depressions (F8)

☐ Marl (F10) (LRR U)

☐ Depleted Ochric (F11) (MLRA 151)

☐ Iron Manganese Masses (F12) (LRR O, P, T)

☐ Umbric Surface (F13) (LRR P, T, U)

☐ Delta Ochric (F17) (MLRA 151)

☐ Reduced Vertic (F18) (MLRA 150A, 150B)

☐ Piedmont Floodplain Soils (F19) (MLRA 149A)

☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) (LRR O)

☐ 2 cm Muck (A10) (LRR S)

☐ Reduced Vertic (F18) (outside MLRA 150A,B)

☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)

☐ Anomalous Bright Loamy Soils (F20) (MLRA 153B)

☐ Red Parent Material (TF2)

☐ Very Shallow Dark Surface (TF12)

☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present?

Yes

☒

No

☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 20, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 4
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'44.9" N Long: 89°55'14.2" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silty clay loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes ____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes ____ No <u>X</u>	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ____ Surface Water (A1) ____ Aquatic Fauna (B13) ____ High Water Table (A2) ____ Marl Deposits (B15) (LRR U) ____ Saturation (A3) ____ Hydrogen Sulfide Odor (C1) ____ Water Marks (B1) ____ Oxidized Rhizospheres on Living Roots (C3) ____ Sediment Deposits (B2) ____ Presence of Reduced Iron (C4) ____ Drift Deposits (B3) ____ Recent Iron Reduction in Tilled Soils (C6) ____ Algal Mat or Crust (B4) ____ Thin Muck Surface (C7) ____ Iron Deposits (B5) ____ Other (Explain in Remarks) ____ Inundation Visible on Aerial Imagery (B7) ____ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> ____ Surface Soil Cracks (B6) ____ Sparsely Vegetated Concave Surface (B8) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ FAC-Neutral Test (D5) ____ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes ____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes ____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes ____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status															
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
50 % of total cover: <u>0</u>		0 = Total Cover 20 % of total cover: <u>0</u>		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr><td>OBL species _____</td><td>x 1 = _____</td></tr> <tr><td>FACW species _____</td><td>X 2 = _____</td></tr> <tr><td>FAC species _____</td><td>X 3 = _____</td></tr> <tr><td>FACU species _____</td><td>X 4 = _____</td></tr> <tr><td>UPL species _____</td><td>X 5 = _____</td></tr> <tr><td>Column Totals: _____</td><td>(A) _____ (B) _____</td></tr> </table> Prevalence Index = B/A = _____	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	X 2 = _____	FAC species _____	X 3 = _____	FACU species _____	X 4 = _____	UPL species _____	X 5 = _____	Column Totals: _____	(A) _____ (B) _____
Total % Cover of:	Multiply by:																	
OBL species _____	x 1 = _____																	
FACW species _____	X 2 = _____																	
FAC species _____	X 3 = _____																	
FACU species _____	X 4 = _____																	
UPL species _____	X 5 = _____																	
Column Totals: _____	(A) _____ (B) _____																	
Sapling/Shrub Stratum (Plot size: 30' Radius _____)																		
1. <u>Triadica sebifera</u> (Chinese tallowtree)	<u>2</u>	<u>Y</u>	<u>FAC</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
50 % of total cover: <u>1</u>		2 = Total Cover 20 % of total cover: <u>0.4</u>		Hydrophytic Vegetation Indicators: <u>1</u> – Rapid Test for Hydrophytic Vegetation <u>X</u> 2 – Dominance Test is > 50% <u>3</u> – Prevalence Test is ≤ 3.0 ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
Herb Stratum (Plot size: 30' radius _____)																		
1. <u>Stenotaphrum secundatum</u> (St. augustine grass)	<u>50</u>	<u>Y</u>	<u>FAC</u>															
2. <u>Xanthium strumarium</u> (Rough cocklebur)	<u>40</u>	<u>Y</u>	<u>FAC</u>															
3. <u>Sida rhombifolia</u> (Cuban-jute)	<u>25</u>	_____	<u>UPL</u>															
4. <u>Rubus trivialis</u> (Southern dewberry)	<u>15</u>	_____	<u>FACU</u>															
5. <u>Iva annua</u> (Annual marsh-elder)	<u>10</u>	_____	<u>FAC</u>															
6. <u>Verbena brasiliensis</u> (Brazilian vervain)	<u>10</u>	_____	<u>FAC</u>															
7. <u>Eupatorium capillifolium</u> (Dog-fennel)	<u>5</u>	_____	<u>FACU</u>															
8. <u>Paspalum denticulatum</u> (Pull-and-be-damned)	<u>5</u>	_____	<u>OBL</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
50 % of total cover: <u>80</u>		160 = Total Cover 20 % of total cover: <u>32</u>		Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.														
Woody Vine Stratum (Plot size: _____)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
50 % of total cover: <u>0</u>		0 = Total Cover 20 % of total cover: <u>0</u>																
Hydrophytic Vegetation Present? Yes <u>X</u> No _____																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	97	7.5YR 4/6	3	C	M	Clay	
2-6	10YE 3/2	96	10YR 5/8	2	C	M	Clay	
			10yr 4/6	2	C	M	N/A	
6-18+	10yr 4/1	98	10yr 4/6	2	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 21, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 5
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'30.4" N Long: 89°54'51.4" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silty clay loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes <u>X</u> No ____
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes <u>X</u> No ____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u>X</u> No ____ Depth (inches): <u>1-2</u> Water Table Present? Yes ____ No <u>X</u> Depth (inches): ____ Saturation Present? Yes <u>X</u> No ____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Oxidized root channels in top layer		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status		
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
	0	= Total Cover			
50 % of total cover: _____	0	20 % of total cover: _____	0		
Sapling/Shrub Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
6. _____	_____	_____	_____		
7. _____	_____	_____	_____		
8. _____	_____	_____	_____		
	0	= Total Cover			
50 % of total cover: _____	0	20 % of total cover: _____	0		
Herb Stratum (Plot size: 30' radius)					
1. <i>Paspalum denticulatum</i> (Pull-and-be-damned)	65	Y	OBL		
2. <i>Cuphea carthagenensis</i> (Colombian waxweed)	30	Y	FACW		
3. <i>Rhynchospora corniculata</i> (Short-bristle horned beak)	30	Y	OBL		
4. <i>Commelina diffusa</i> (Climbing dayflower)	25	Y	FACW		
5. <i>Juncus effusus</i> (Lamp rush)	25	Y	FACW		
6. <i>Persicaria hydropiperoides</i> (Swamp smartweed)	25	Y	OBL		
7. <i>Diodia virginiana</i> (Virginia buttonweed)	20		FACW		
8. <i>Hydrocotyle umbellata</i> (Many-flower marsh-pennywort)	20		OBL		
9. <i>Phyla lanceolata</i> (Northern frogfruit)	20		OBL		
10. <i>Cyperus strigosus</i> (Straw-color flat sedge)	5		FACW		
11. <i>Cyperus virens</i> (Green flat sedge)	5		FACW		
12. _____	FACW				
	275	= Total Cover			
50 % of total cover: _____	137.5	20 % of total cover: _____	55		
Woody Vine Stratum (Plot size: _____)					
1. _____	_____	_____	_____		
2. _____	_____	_____	_____		
3. _____	_____	_____	_____		
4. _____	_____	_____	_____		
5. _____	_____	_____	_____		
	0	= Total Cover			
50 % of total cover: _____	0	20 % of total cover: _____	0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____	(A) _____ (B) _____

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 – Rapid Test for Hydrophytic Vegetation

X 2 – Dominance Test is > 50%

3 – Prevalence Test is ≤ 3.0¹

 Problematic Hydrophytic Vegetation¹ (Explain)

¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine – All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/1	96	10YR 4/6	3	C	M	Clay	
			7.5YR 4/6	1	C	M	N/A	
4-10	10YR 4/1	96	7.5YR 4/6	2	C	M	Clay Loam	
			7.5YR 5/8	2	C	M	N/A	
10-18+	10YR 5/1	95	10YR 3/6	5	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 21, 2016
Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 6
Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 29°55'43.1" N Long: 89°54'53.7" W Datum: NAD 83
Soil Map Unit Name: Schriever silty clay loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes ____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes ____ No <u>X</u>	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations:		Wetland Hydrology Present? Yes ____ No <u>X</u>
Surface Water Present? Yes ____ No <u>X</u> Depth (inches): _____		
Water Table Present? Yes ____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes ____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
50 % of total cover: <u>0</u>		0 = Total Cover 20 % of total cover: <u>0</u>		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>15</u></td> <td>X 2 = <u>30</u></td> </tr> <tr> <td>FAC species <u>40</u></td> <td>X 3 = <u>120</u></td> </tr> <tr> <td>FACU species <u>165</u></td> <td>X 4 = <u>660</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>X 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>245</u></td> <td>(A) <u>835</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.41</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>15</u>	X 2 = <u>30</u>	FAC species <u>40</u>	X 3 = <u>120</u>	FACU species <u>165</u>	X 4 = <u>660</u>	UPL species <u>0</u>	X 5 = <u>0</u>	Column Totals: <u>245</u>	(A) <u>835</u> (B)
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Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____																		
50 % of total cover: <u>0</u>		0 = Total Cover 20 % of total cover: <u>0</u>																
Herb Stratum (Plot size: 30' radius) 1. <u>Cynodon dactylon (Bermuda grass)</u> <u>75</u> <u>Y</u> <u>FACU</u> 2. <u>Trifolium repens (White clover)</u> <u>30</u> <u>Y</u> <u>FACU</u> 3. <u>Paspalum denticulatum (Pull-and-be-damned)</u> <u>25</u> <u>Y</u> <u>OBL</u> 4. <u>Xanthium strumarium (Rough cocklebur)</u> <u>25</u> <u>Y</u> <u>FAC</u> 5. <u>Rubus trivialis (Southern dewberry)</u> <u>20</u> <u></u> <u>FACU</u> 6. <u>Paspalum notatum (Bahia grass)</u> <u>15</u> <u></u> <u>FACU</u> 7. <u>Solanum carolinense (Carolina horse-nettle)</u> <u>15</u> <u></u> <u>FACU</u> 8. <u>Stenotaphrum secundatum (St. augustine grass)</u> <u>15</u> <u></u> <u>FAC</u> 9. <u>Lepidium virginicum (Poorman's-pepperwort)</u> <u>10</u> <u></u> <u>FACU</u> 10. <u>Verbena litoralis (Seashore vervain)</u> <u>10</u> <u></u> <u></u> 11. <u>Diodia virginiana (Virginia buttonweed)</u> <u>5</u> <u></u> <u>FACW</u> 1K) <u></u> <u>FACW</u> <div style="text-align: right;">255 = Total Cover</div> <div style="text-align: right;">50 % of total cover: <u>127.5</u> 20 % of total cover: <u>51</u></div>																		
Woody Vine Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____																		
50 % of total cover: <u>0</u>		0 = Total Cover 20 % of total cover: <u>0</u>																
Remarks: (Include photo numbers here or on a separate sheet.)																		

Hydrophytic Vegetation Present? Yes No X

SOIL

Sampling Point: 6**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100			N/A	N/A	Clay	
1-5	10YR 3/1	97	10YR 5/8	3	C	M	Clay	
5-10	10YR 4/1	98	10YR 4/6	2	C	M	Clay	
10-18+	10YR 4/1	98	10YR 3/4	2	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 21, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 7
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'17.4" N Long: 89°55'1.3" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silt loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes ____ No <u>X</u>
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes ____ No <u>X</u>	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ____ Surface Water (A1) ____ Aquatic Fauna (B13) ____ High Water Table (A2) ____ Marl Deposits (B15) (LRR U) ____ Saturation (A3) ____ Hydrogen Sulfide Odor (C1) ____ Water Marks (B1) ____ Oxidized Rhizospheres on Living Roots (C3) ____ Sediment Deposits (B2) ____ Presence of Reduced Iron (C4) ____ Drift Deposits (B3) ____ Recent Iron Reduction in Tilled Soils (C6) ____ Algal Mat or Crust (B4) ____ Thin Muck Surface (C7) ____ Iron Deposits (B5) ____ Other (Explain in Remarks) ____ Inundation Visible on Aerial Imagery (B7) ____ Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> ____ Surface Soil Cracks (B6) ____ Sparsely Vegetated Concave Surface (B8) ____ Drainage Patterns (B10) ____ Moss Trim Lines (B16) ____ Dry-Season Water Table (C2) ____ Crayfish Burrows (C8) ____ Saturation Visible on Aerial Imagery (C9) ____ Geomorphic Position (D2) ____ Shallow Aquitard (D3) ____ FAC-Neutral Test (D5) ____ Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes ____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes ____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes ____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes ____ No <u>X</u>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																																																									
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)																																																								
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				Hydrophytic Vegetation Indicators: <u>1</u> – Rapid Test for Hydrophytic Vegetation <u>2</u> – Dominance Test is > 50% <u>3</u> – Prevalence Test is ≤ 3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)																																																								
				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.																																																								
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Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: 7**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-1	10YR 3/2	100			N/A	N/A	Clay Loam	
1-5	10YR 3/2	99	7.5YR 4/6	1	C	M	Silty Clay	
5-18+	10YR 4/2	97	10YR 4/6	3	C	M	Silty Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
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Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes X No _____

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 21, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 8
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'29.6" N Long: 89°54'47.1" W Datum: NAD 83
 Soil Map Unit Name: Schriever silty clay loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
 Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes <u>X</u> No ____
Hydric Soil Present?	Yes <u>X</u> No ____	
Wetland Hydrology Present?	Yes <u>X</u> No ____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <u>X</u> No ____ Depth (inches): <u>1</u> Water Table Present? Yes <u>X</u> No ____ Depth (inches): <u>12</u> Saturation Present? Yes <u>X</u> No ____ Depth (inches): <u>0-2</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No ____	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

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

SOIL

Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	98	7.5YR 4/6	2	C	PL	Clay Loam	
2-6	10YR 4/1	100			N/A	N/A	Clay	
6-18+	10YR 4/1	97	10YR 4/6	2	C	M	Clay	
			10YR 5/1	1	D	M	N/A	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 21, 2016
Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 9
Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR or MLRA): LRR O Lat: 29°55'34" N Long: 89°55'30.4" W Datum: NAD 83
Soil Map Unit Name: Cancienne silt loam 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 ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No ____	Is the Sampled Area within a Wetland? Yes ____ No <u>X</u>
Hydric Soil Present? Yes <u>X</u> No ____	
Wetland Hydrology Present? Yes ____ No <u>X</u>	
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators:		<u>Secondary Indicators (minimum of two required)</u>
<u>Primary Indicators (minimum of one is required; check all that apply)</u>		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations:		
Surface Water Present? Yes ____ No <u>X</u> Depth (inches): _____	Wetland Hydrology Present? Yes ____ No <u>X</u>	
Water Table Present? Yes ____ No <u>X</u> Depth (inches): _____		
Saturation Present? Yes ____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks:		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
0 = Total Cover				
50 % of total cover: <u>0</u>		20 % of total cover: <u>0</u>		
Sapling/Shrub Stratum (Plot size: 30' Radius)				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ X 2 = _____ FAC species _____ X 3 = _____ FACU species _____ X 4 = _____ UPL species _____ X 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
1. <u>Triadica sebifera (Chinese tallowtree)</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
10 = Total Cover				
50 % of total cover: <u>5</u>		20 % of total cover: <u>2</u>		
Herb Stratum (Plot size: 30' radius)				Hydrophytic Vegetation Indicators: <u>1</u> – Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> – Dominance Test is > 50% <u>3</u> – Prevalence Test is ≤ 3.0 ¹ <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Paspalum notatum (Bahia grass)</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>	
2. <u>Axonopus fissifolius (Narrow-leaf carpet grass)</u>	<u>35</u>	<u>Y</u>	<u>FACW</u>	
3. <u>Trifolium repens (White clover)</u>	<u>20</u>		<u>FACU</u>	
4. <u>Sida rhombifolia (Cuban-jute)</u>	<u>5</u>		<u>UPL</u>	
5. <u>Vernonia gigantea (Giant ironweed)</u>	<u>5</u>		<u>FAC</u>	
6. <u>Xanthium strumarium (Rough cocklebur)</u>	<u>3</u>		<u>FAC</u>	
7. <u>Solanum carolinense (Carolina horse-nettle)</u>	<u>2</u>		<u>FACU</u>	
130 = Total Cover				
50 % of total cover: <u>65</u>		20 % of total cover: <u>26</u>		
Woody Vine Stratum (Plot size: _____)				Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
0 = Total Cover				
50 % of total cover: <u>0</u>		20 % of total cover: <u>0</u>		
Hydrophytic Vegetation Present? Yes <u>X</u> No _____				

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

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-2	10YR 3/1	100			N/A	N/A	Clay	
2-5	10YR 4/1	95	10YR 3/1	5	C	M	Clay	
5-18+	10YR 4/2	100			N/A	N/A	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?

Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: 263-Acre Sinclair Site City/County: St. Bernard Sampling Date: June 22, 2016
 Applicant/Owner: St. Bernard Economic Development Foundation State: Louisiana Sampling Point: 10
 Investigator(s): B. McCoy, Q. Daigre Section, Township, Range: Secs 3 & 4, T-13-S, R-13-E
 Landform (hillslope, terrace, etc.): Pasture Local relief (concave, convex, none): none Slope (%): 0
 Subregion (LRR or MLRA): LRR O Lat: 29°55'23.8" N Long: 89°55'20.1" W Datum: NAD 83
 Soil Map Unit Name: Cancienne silt loam 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 _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes <u>X</u> No _____	Is the Sampled Area within a Wetland? Yes <u>X</u> No _____
Hydric Soil Present?	Yes <u>X</u> No _____	
Wetland Hydrology Present?	Yes <u>X</u> No _____	
Remarks:		

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)		<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes <u>X</u> No _____ Depth (inches): <u>10</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <u>X</u> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Water seeping into pit at 10 inches		

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
50 % of total cover: <u>0</u>		0 = Total Cover		Prevalence Index worksheet: <table style="width: 100%;"> <tr> <th style="width: 50%;">Total % Cover of:</th> <th style="width: 50%;">Multiply by:</th> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>X 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>X 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>X 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>X 5 = _____</td> </tr> <tr> <td>Column Totals: _____</td> <td>(A) _____ (B) _____</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	X 2 = _____	FAC species _____	X 3 = _____	FACU species _____	X 4 = _____	UPL species _____	X 5 = _____	Column Totals: _____	(A) _____ (B) _____	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																			
OBL species _____	x 1 = _____																			
FACW species _____	X 2 = _____																			
FAC species _____	X 3 = _____																			
FACU species _____	X 4 = _____																			
UPL species _____	X 5 = _____																			
Column Totals: _____	(A) _____ (B) _____																			
Prevalence Index = B/A = _____																				
20 % of total cover: <u>0</u>		0																		
Sapling/Shrub Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
50 % of total cover: <u>0</u>		0 = Total Cover		Hydrophytic Vegetation Indicators: <u>1</u> – Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> – Dominance Test is > 50% <u>3</u> – Prevalence Test is ≤ 3.0 ¹ _____ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
20 % of total cover: <u>0</u>		0																		
Herb Stratum (Plot size: 30' radius)																				
1. <i>Diodia virginiana</i> (Virginia buttonweed)	40	Y	FACW																	
2. <i>Eleocharis montevidensis</i> (Sand spike-rush)	35	Y	FACW																	
3. <i>Phyla lanceolata</i> (Northern frogfruit)	30	Y	OBL																	
4. <i>Stenotaphrum secundatum</i> (St. augustine grass)	30	Y	FAC																	
5. <i>Paspalum urvillei</i> (Vasey's grass)	20		FAC																	
6. <i>Vernonia gigantea</i> (Giant ironweed)	20		FAC																	
7. <i>Hydrocotyle umbellata</i> (Many-flower marsh-pennywort)	10		OBL																	
8. <i>Bacopa monnieri</i> (Herb-of-grace)	5		OBL																	
9. <i>Plantago major</i> (Great plantain)	3		FACU																	
10. <i>Verbena brasiliensis</i> (Brazilian vervain)	2		FAC																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
50 % of total cover: <u>97.5</u>		195 = Total Cover		Definitions of Vegetation Strata: Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH). Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH. Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height. Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.																
20 % of total cover: <u>39</u>		39																		
Woody Vine Stratum (Plot size: _____)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
50 % of total cover: <u>0</u>		0 = Total Cover																		
20 % of total cover: <u>0</u>		0																		
Remarks: (Include photo numbers here or on a separate sheet.)																				

Hydrophytic Vegetation Present?
 Yes X No _____

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-5	10YR 3/1	97	10YR 5/8	3	C	M	Clay Loam	
5-8	10YR 5/1	95	10YR 5/2	4	C	M	Silty Clay	
			10YR 5/8	1	C	PL/M	N/A	
8-18+	10YR 4/2	97	10YR 4/6	3	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators:**

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ Organic Bodies (A6) **(LRR P, T, U)**
☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
☐ Muck Presence (A8) **(LRR U)**
☐ 1 cm Muck (A9) **(LRR P, T)**
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Coast Prairie Redox (A16) **(MLRA 150A)**
☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Dark Surface (S7) **(LRR P, S, T, U)**

☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
☐ Thin Dark Surface (S9) **(LRR S, T, U)**
☐ Loamy Gleyed Matrix (F1) **(LRR O)**
☐ Loamy Gleyed Matrix (F2)
☒ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Marl (F10) **(LRR U)**
☐ Depleted Ochric (F11) **(MLRA 151)**
☐ Iron Manganese Masses (F12) **(LRR O, P, T)**
☐ Umbric Surface (F13) **(LRR P, T, U)**
☐ Delta Ochric (F17) **(MLRA 151)**
☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils³:

☐ 1 cm Muck (A9) **(LRR O)**
☐ 2 cm Muck (A10) **(LRR S)**
☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
☐ Anomalous Bright Loamy Soils (F20)
(MLRA 153B)
☐ Red Parent Material (TF2)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

³Indicators of Hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?Yes ☒ No ☐

Remarks:

Appendix B

PHOTOGRAPHS



Photograph 1. Soil Profile Observed at Sample Plot 1



**Photograph 2. Overview of the Habitat Observed at Sample Plot 1,
Facing Northeast**



Photograph 3. Overview of the Habitat Observed at Sample Plot 1, Facing Southwest



Photograph 4. Soil Profile Observed at Sample Plot 2



**Photograph 5. Overview of the Habitat Observed at Plot 2,
Facing Northeast**



**Photograph 6. Overview of the Habitat Observed at Plot 2,
Facing Southwest**



Photograph 7. Soil Profile Observed at Sample Plot 3



**Photograph 8. Overview of the Habitat Observed at Sample Plot 3,
Facing Northeast**



Photograph 9. Overview of the Habitat Observed at Sample Plot 3, Facing Southwest



Photograph 10. Soil Profile Observed at Sample Plot 4



**Photograph 11. Overview of the Habitat Observed at Sample Plot 4,
Facing Northeast**



**Photograph 12. Overview of the Habitat Observed at Sample Plot 4,
Facing Southwest**



Photograph 13. Soil Profile Observed at Sample Plot 5



**Photograph 14. Overview of the Habitat Observed at Sample Plot 5,
Facing Northeast**



**Photograph 15. Overview of the Habitat Observed at Sample Plot 5,
Facing Southwest**



Photograph 16. Soil Profile Observed at Sample Plot 6



**Photograph 17. Overview of the Habitat Observed at Sample Plot 6,
Facing Northeast**



**Photograph 18. Overview of the Habitat Observed at Sample Plot 6,
Facing Southwest**



Photograph 19. Soil Profile Observed at Sample Plot 7



**Photograph 20. Overview of the Habitat Observed at Sample Plot 7,
Facing Northeast**



Photograph 21. Overview of the Habitat Observed at Sample Plot 7, Facing Southwest



Photograph 22. Soil Profile Observed at Sample Plot 8



**Photograph 23. Overview of the Habitat Observed at Sample Plot 8,
Facing Northeast**



**Photograph 24. Overview of the Habitat Observed at Sample Plot 8,
Facing Southwest**



Photograph 25. Soil Profile Observed at Sample Plot 9



**Photograph 26. Overview of the Habitat Observed at Sample Plot 9,
Facing Northeast**



Photograph 27. Overview of the Habitat Observed at Sample Plot 9, Facing Southwest



Photograph 28. Soil Profile Observed at Sample Plot 10



**Photograph 29. Overview of the Habitat Observed at Sample Plot 10,
Facing Northeast**



**Photograph 30. Overview of the Habitat Observed at Sample Plot 10,
Facing Southwest**