

Exhibit EE. Rebecca Development Park North Wetlands Delineation Report

283 CORPORATE DR.
P.O. BOX 3106
HOUMA, LA 70361

(985) 879-2731 VOICE
(985) 876-9052 FAX



ONE STERLING PLAZA
10101 SOUTHWEST FREEWAY
SUITE 620
HOUSTON, TX 77074

(713) 219-1470 VOICE
(713) 219-1471 FAX

WETLAND DELINEATION REPORT U.S. ARMY CORPS OF ENGINEERS

Rebecca Development Park North Wetlands Delineation Report

Located in

**Terrebonne Parish,
Louisiana**

Prepared for

**TERREBONNE ECONOMIC DEVELOPMENT
AUTHORITY**

Prepared by

**MORRIS P. HEBERT, INC.
ENVIRONMENTAL SERVICES**

January 2019

Surveying & Mapping • Engineering • Environmental Services • Geographic Information Systems (GIS)

<http://www.mphinc.com>

Table of Contents

1	Introduction	1-1
2	Methodology.....	2-1
2.1	Desktop Review.....	2-1
2.2	Wetlands.....	2-1
2.2.1	Vegetation	2-1
2.2.2	Hydrology	2-2
2.2.3	Soils	2-2
2.3	Waterbodies	2-3
2.4	Mapping.....	2-3
2.5	Site Photographs	2-3
3	Discussion and Results.....	3-1
3.1	Site Description	3-1
3.2	Vegetation Community Types	3-1
3.3	Hydrology	3-1
3.4	Soils.....	3-1
3.4.1	Cancienne Series Soils.....	3-2
3.4.2	Gramercy Series Soils	3-2
3.4.3	Schriever Series Soils.....	3-2
3.5	Wetlands.....	3-3
3.6	Waterbodies	3-3
4	Conclusion.....	4-1
5	References.....	5-1

Appendices

- Appendix A Maps
- Appendix B USACE Wetland Determination Data Forms
- Appendix C Photograph Log

Tables

Table 2-1	Plant Indicator Status Categories	2-2
Table 3-1	Typical Dominant Species Observed Within Herbaceous Uplands.....	3-1

Acronyms

CWA	Clean Water Act
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
GPS	Global Positioning System
MPH	Morris P. Hebert, Inc.
NRCS	Natural Resources Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary high water mark
RHA	Rivers and Harbor Act
TEDA	Terrebonne Economic Development Authority
TNW	Traditional Navigable Water
U.S.	United States
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
USFWS	U.S. Fish and Wildlife Service

1 Introduction

Morris P. Hebert, Inc. (MPH) was authorized by Terrebonne Economic Development Authority (TEDA) to delineate wetlands, waterbodies, and other special aquatic sites for the proposed Rebecca Plantation North Site development in Terrebonne Parish, Louisiana. For the purposes of this report the ±713.42-acre corridor associated with the Rebecca Plantation North Site will be referred to as “Survey Area”. The Survey Area is located at the intersection of United States (U.S.) Highway 90 and Louisiana Highway 311 (Appendix A).

This Wetland Delineation Report contains a delineation of all resources that potentially fall under the jurisdiction of the U.S. Army Corps of Engineers (USACE), as well as other non-jurisdictional resources.

November 28, 2018 MPH biologists delineated the Survey Area to determine:

- If potential jurisdictional wetlands exist within the Survey Area;
- If “Waters of the U.S.” exist as defined by Section 404 of the Clean Water Act (CWA);
- If “Waters of the U.S.” exist as defined by Section 10 of the Rivers and Harbors Act (RHA); and
- Approximate boundaries of potential jurisdictional wetlands within the Survey Area.

The results of the assessment are summarized in this report.

2 Methodology

A routine wetland delineation of the Survey Area was conducted November 28, 2018. MPH biologists performed all wetland delineation surveys in accordance with the USACE Wetland Delineation Manual (Environmental Laboratory 1987) in conjunction with the Atlantic and Gulf Coastal Plain Regional Supplement to the USACE Wetland Delineation Manual (Version 2.0) (Environmental Laboratory 2010).

2.1 Desktop Review

MPH biologists accumulated data from the U.S. Department of Agriculture (USDA)-Natural Resource Conservation Service (NRCS) website for soil data in Terrebonne Parish, Louisiana and by reviewing various maps including Aerial Photography, U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) maps, and U.S. Geological Survey (USGS) Quadrangle maps. The data were used in developing an on-site delineation plan and identifying areas with high and low probability of wetlands within the Survey Area. The preliminary determination of hydric and/or non-hydric soils and soil types was obtained from the USDA Soil Survey Maps for Terrebonne Parish, Louisiana and from the *Hydric Soils of the United States* (National Technical Committee for Hydric Soils 2009). Aerial Photography, USGS Quadrangle maps and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) were used to determine existing land usage and drainage patterns.

2.2 Wetlands

Wetlands are collectively defined by the USACE (Federal Register 1982) and the U.S. Environmental Protection Agency (EPA) (Federal Register 1980) as those areas that are inundated or saturated by surface or groundwater at a frequency or duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. An area is a wetland if it meets the wetland hydrology, hydrophytic vegetation, and hydric soil criteria established in the USACE Wetland Delineation Manual (Environmental Laboratory 1987) and Regional Supplements (Environmental Laboratory 2010).

MPH biologists delineated the Survey Area for the presence/absence of wetlands and completed Wetland Determination Data Forms (Atlantic and Gulf Coastal Plains Region) for upland and wetland observation plots within the Survey Area (Appendix B). The location of observation plots and wetlands within the Survey Area are depicted in the maps located in Appendix A.

2.2.1 Vegetation

Hydrophytic vegetation is defined as “the sum total of macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert a controlling influence on the plant species present” (Environmental Laboratory 1987). As previously stated, hydrophytic vegetation is one of the three mandatory criteria for an area to be considered a wetland. Dominant vegetation was identified and categorized in accordance with the regional indicator status in the *National Wetland Plant List: 2016 Update of Wetland Ratings* (Lichvar 2016). The indicator status of a plant species is expressed in terms of the estimated probability of that species to occur in wetland conditions within a given region. Table 2-1 lists the plant indicator

status categories. A vegetative community would be determined to be hydrophytic if more than 50 percent of the dominant species present were facultative plants (FAC), facultative wetland plants (FACW), or obligate plants (OBL).

Table 2-1 Plant Indicator Status Categories

Indicator Category	Indicator Symbol	Frequency of Occurrence in Wetlands (percent)
Obligate Wetland Plants	OBL	Plants that occur almost always (estimated probability >99%) in wetlands under natural conditions, but which may also occur rarely (estimated probability <1%) in non-wetlands.
Facultative Wetland Plants	FACW	Plants that occur usually (estimated probability 67-99%) in wetlands, but also occurring in both wetlands and non-wetlands.
Facultative Plants	FAC	Plants with a similar likelihood (estimated probability of 33-67%) of occurring in both wetlands and non-wetlands.
Facultative Upland Plants	FACU	Plants that occur sometimes (estimated probability 1-33%) in wetlands, but occur more often (estimated probability 67-99%) in non-wetlands.
Obligate Upland Plants	UPL	Plants that occur rarely (estimated probability <1%) in wetlands, but almost always (>99% estimated probability) in non-wetlands.

2.2.2 Hydrology

Wetland hydrology includes all hydrologic characteristics of areas that are periodically inundated or have soils saturated within the upper 12 inches of the soil surface at some time during the growing season. Areas with evident characteristics of wetland hydrology are those where the presence of water has an overriding influence on characteristics of vegetation and soils due to anaerobic and reducing conditions, respectively (Environmental Laboratory 1987).

Wetland hydrology was determined to be present if a minimum of one primary wetland hydrology indicator was present, and/or through the presence of sufficient (two) secondary wetland hydrology indicators.

2.2.3 Soils

Hydric soils are defined as soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper stratum. In general, hydric soils are flooded, ponded, or saturated for a week or more during the growing season when soil temperatures are above 41 degrees Fahrenheit. The anaerobic conditions created by repeated or prolonged saturation or flooding result in

permanent changes in soil color and chemistry, and are used to differentiate hydric from non-hydric soils (Environmental Laboratory 1987).

At each recorded observation plot, a pit up to 16-inches deep was excavated for evaluation. Using the *Munsell Soil Color Chart* (Munsell 2009), soils were surveyed for horizon profile, matrix, value, chroma, texture, and concretions.

Hydric soils were determined to be present if one significant hydric soil indicator was present. Background soils information of the Survey Area was obtained from the Terrebonne Parish Web Soil Survey prepared by the USDA – NRCS.

2.3 Waterbodies

Waterbodies in the vicinity of the Survey Area were identified on USGS quadrangle maps and aerial imagery. Section 328.4 (c) 1 of the Federal Register defines the lateral limit of jurisdiction in non-tidal waters as the Ordinary High Water Mark (OHWM), provided the jurisdiction is not extended by the presence of wetlands. Typical OHWM indicators include the existing water level, the presence of shelving, changes in soils, scouring, damage of terrestrial vegetation, or a distinct change between terrestrial and aquatic vegetation.

Typical waterbody classifications include: perennial streams, flowing continuously throughout the year due to the constant influence of groundwater; intermittent streams, which are described as having seasonal flow from groundwater input and flow in response to precipitation events; and ephemeral streams, which are waterways that convey water from precipitation events, but not groundwater.

2.4 Mapping

The surveying and global positioning system (GPS) equipment used to obtain positioning in the Survey Area consisted of a Trimble™ GeoXH Differential Global Positioning System (DGPS) utilizing Terrasync™ software. The DGPS data was post-processed using Trimble™ Pathfinder Office software to achieve sub-meter accuracy. Observation plots and wetland boundaries were marked in the field using neon green flagging tape and pink flagging tape respectively. ArcGIS 10.1 was used for mapping the observation plots to depict wetland/non-wetland boundaries within the Survey Area (Appendix A).

2.5 Site Photographs

Site photographs were used to document site conditions as they existed during the field delineation. For each observation plot collected, photographs were taken of the vegetative community and soil profile. A photograph log of typical features encountered during the field delineation is provided in Appendix C.

3 Discussion and Results

3.1 Site Description

MPH biologists conducted the site investigation November 28, 2019. During the site investigations data were recorded at 11 observation plots throughout the Survey Area. The Survey Area is located entirely within an active sugar cane farm. The western side of the Survey Area is bordered with a drainage canal, Highway 90 is to the south, and Highway 311 marks the eastern boundary (Appendix A).

3.2 Vegetation Community Types

MPH biologists identified one major vegetation community within the Survey Area: herbaceous uplands. These uplands were located within fields of various stages of sugarcane production, farm roads, and equipment staging areas (Appendix A). Community identification was based on the presence/absence of wetland indicators with an emphasis on dominant vegetation. Table 3-1 provides a list of typical dominant species encountered and their indicator status by community type. The USACE Wetland Determination Data Forms (Appendix B) provide observation plot specific vegetative community species occurrences.

Table 3-1 Typical Dominant Species Observed Within Herbaceous Uplands

Stratum	Species	Indicator Status
Herb	<i>Saccharum officinaris</i>	FACU
Herb	<i>Paspalum dilatatum</i>	FAC
Herb	<i>Cynodon dactylon</i>	FACU
Herb	<i>Sonchus asper</i>	FACU
Herb	<i>Packera obovata</i>	FACU

3.3 Hydrology

The Survey Area generally slopes and drains westward towards the drainage ditch along the western boundary. Agricultural land use has resulted in a network of numerous small drainage ditches which efficiently remove surface water rapidly after rainfall. The Survey Area is located in the new Chacahoula – Gibson Drainage Basin project, and is anticipated to remain well drained.

3.4 Soils

Soils information was obtained from the Terrebonne Parish Web Soil Surveys prepared by the NRCS (NRCS 2018). *The Munsell Soil Color Chart* (Munsell 2009) was used for soil identification. Appendix C contains photographs of typical soil profiles taken from observation plots and the Wetland Determination Data Forms (Appendix B) contain detailed soil profile descriptions and hydric soil criteria for each observation plot.

The six soils mapped by NRCS within the Survey Area are Cancienne silt loam, 0 to 1 percent slopes (CbA), Cancienne silty clay loam, 0 to 1 percent slopes (CdA), Gramercy silty clay loam, 0 to 1 percent slopes (GaA), Gramercy-Cancienne silty clay loams, 0 to 1 percent slopes (GcA), Schriever clay, 0 to 1 percent slopes (ShA), and Schriever clay, 0 to 1 percent slopes, occasionally flooded (SrA). All six soil types mapped within the Survey Area are listed on the National Hydric Soils List for Terrebonne Parish, Louisiana (NRCS 2018).

3.4.1 Cancienne Series Soils

The Cancienne series consists of very deep, level to gently undulating, somewhat poorly drained mineral soils that are moderately slowly permeable. These soils formed in loamy and clayey alluvium. They are on high and intermediate positions on natural levees and deltaic fans of the Mississippi River and its distributaries. Slopes range from 0 to 3 percent (NRCS 2018).

3.4.1.1 *Typical Profile*

- 0 to 10 inches: 2.5YR 4/2 silt loam
- 10 to 16 inches: 2.5YR 4/2 silt loam (8 percent 10YR 4/6 and 2 percent 7.5YR 4/6 and 10YR 3/2 masses, 2 percent 2.5YR 6/1 depletions)

3.4.2 Gramercy Series Soils

The Gramercy series consists of very deep, poorly drained, very slowly permeable soils that formed in clayey over fine-silty alluvium. These soils are on alluvial flats and on the lower parts of natural levees on the alluvial plain of the Mississippi River and its distributaries. Slope is dominantly less than 0.5 percent but ranges to 3 percent (NRCS 2018).

3.4.2.1 *Typical Profile*

- 0 to 6 inches: 10YR 3/1 silty clay
- 6 to 11 inches: 10YR 3/1 silty clay (3 percent 10YR 4/2 masses)
- 11 to 22 inches: 10YR 5/1 silty clay (10 percent 10YR 4/3 and 5 percent 7.5YR 4/4 masses)

3.4.3 Schriever Series Soils

The Schriever series consists of very deep, poorly drained, very slowly permeable soils that formed in clayey alluvium. These soils are on the lower parts of natural levees and in backswamp positions on the lower Mississippi River alluvial plain. Slope is dominantly less than 1 percent but ranges up to 3 percent (NRCS 2018).

3.4.3.1 *Typical Profile*

- 0 to 4 inches: 10YR 4/1 clay (1 percent 10YR 4/4 masses)
- 4 to 15 inches: 10YR 5/1 clay (20 percent 7.5YR 4/4 masses)
- 15 to 23 inches: 2.5YR 5/1 clay (20 percent 10YR 4/4 and 1 percent 10YR 3/2 masses)

3.5 Wetlands

MPH biologists delineated the Survey Area for the presence/absence of wetlands (Appendix A). There were no areas identified within the Survey Area that possessed the three USACE criteria for wetlands (hydrophytic vegetation, wetland hydrology and hydric soils).

3.6 Waterbodies

MPH biologists delineated the Survey Area for the presence/absence of waterbodies which possessed an OHWM. There were 3 manmade ditches possessing an OHWM observed within the Survey Area totaling approximately 6.65 acres. The waters observed within the Survey Area consisted of routinely maintained manmade agricultural drainage ditches (Appendix A).

4 Conclusion

On November 28, 2018 MPH biologists delineated for wetlands, waterbodies, and other special aquatic sites within the Survey Area located in Terrebonne Parish, Louisiana. MPH biologists recorded data at 11 observation plots and documented no wetlands and 3 waters totaling approximately 6.65 acres.

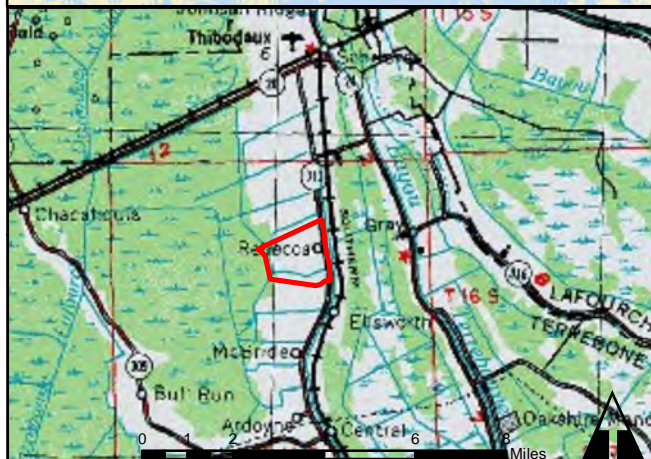
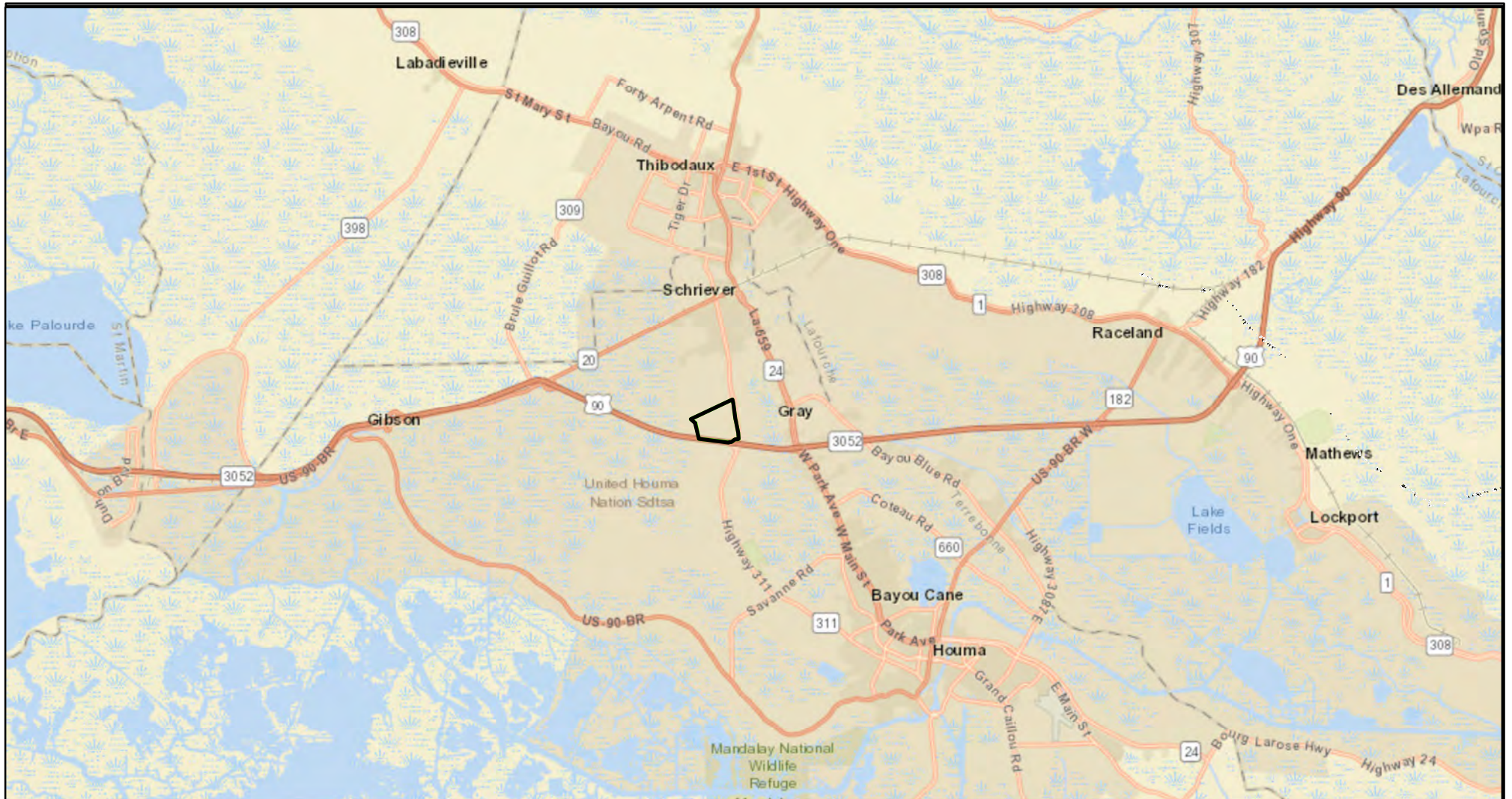
This delineation report describes all wetland and waterbody resources that could potentially fall under the jurisdiction of the USACE. This report also contains detailed maps and tables for all resources delineated within the USACE – New Orleans District’s jurisdictional boundary. While this report represents MPH’s best professional judgment, TEDA is advised that the USACE and the EPA have final discretionary authority over all jurisdictional determinations of “Waters of the U.S.”, including wetlands, under Section 404 of the CWA.

5 References

- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Galveston, TX.
- Environmental Laboratory. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0). Technical Report ERDC/EL TR-10-20. U. S. Army Corps of Engineer Research and Development Center.
- Federal Register. 1980. 40 CFR Part 230: Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material, Vol. 45, No. 249, pp. 85352-85353, U.S. Government Printing Office.
- Federal Register. 1982. Title 33: Navigation and Navigable Waters; Chapter II, Regulatory Programs of the Corps of Engineers, Vol. 47, No. 138, p. 31810, U.S. Government Printing Office.
- Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. *The National Wetland Plant List: 2016 Update of Wetland Ratings*. Phytoneuron 2016-30: 1-17. Website (http://rsgisias.crrel.usace.army.mil/nwpl_static/viewer.html#) accessed November, 2018.
- Munsell Color. 2009. *The Munsell Color Chart*. Gretag Macbeth. New Windsor, NY.
- Natural Resources Conservation Service (NRCS). 2018. MLRA Explorer. Website (<http://www.cei.psu.edu/mlra/>) accessed November, 2018.
- Natural Resources Conservation Service (NRCS). 2018. Terrebonne Parish, Louisiana. Website (<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>) accessed November, 2018.
- United States Fish and Wildlife Service (USFWS). 2015. National Wetlands Inventory (NWI). Website. (<http://www.fws.gov/wetlands/>) accessed November, 2018.

Appendix A

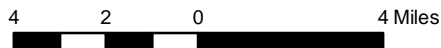
Maps



Terrebonne Economic Development Authority

Legend

 Delineation Boundary (+/- 713.42 ac)



Rebecca Plantation North Site
Vicinity Map
Terrebonne Parish, Louisiana

Drawn By: JLC

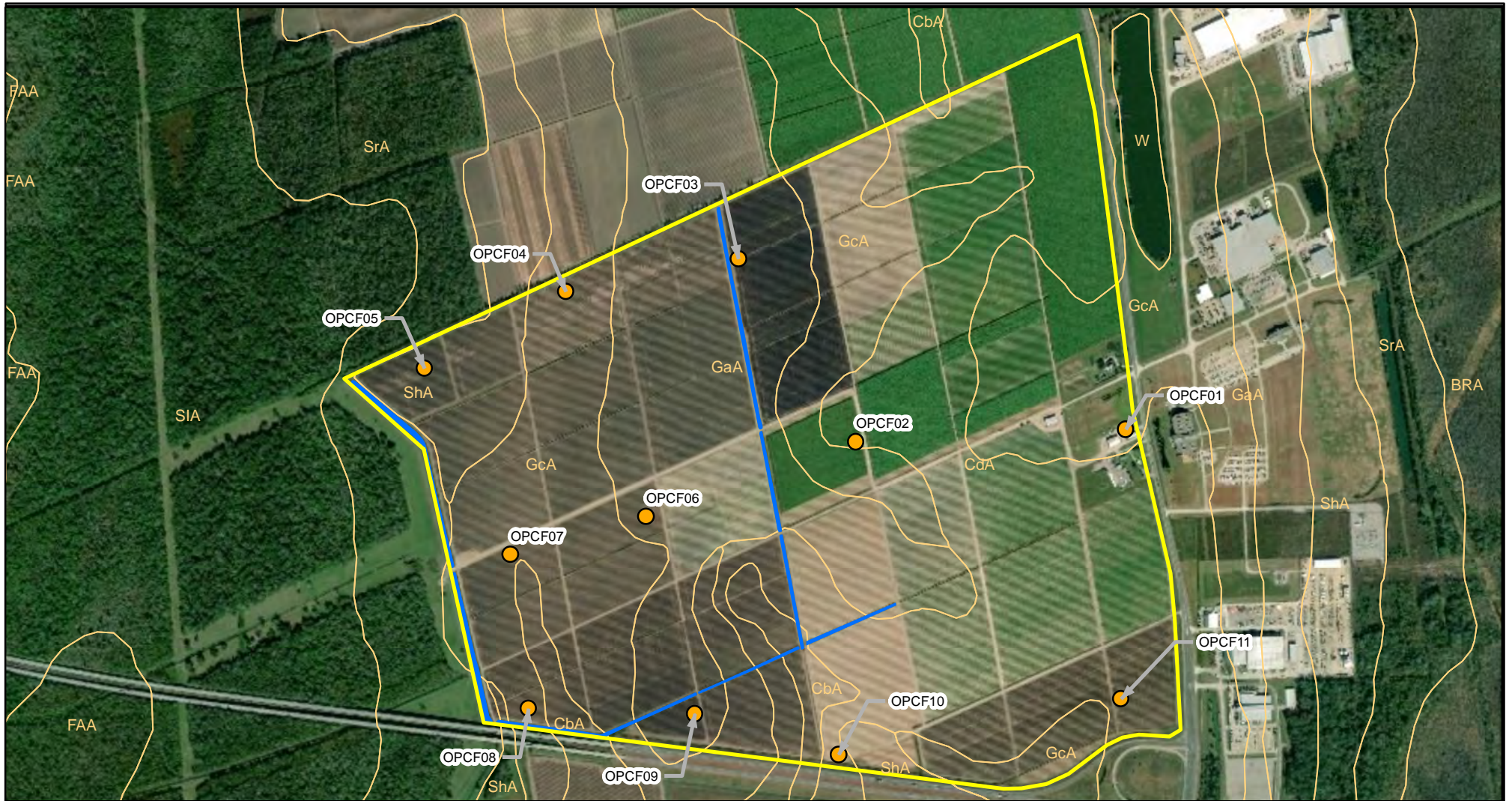
1 in = 4 miles

Page 1

Date: 12/11/2018

LA83S Feet





Job No: 13295


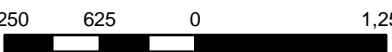


Terrebonne Economic Development Authority

Legend

Wetland Type

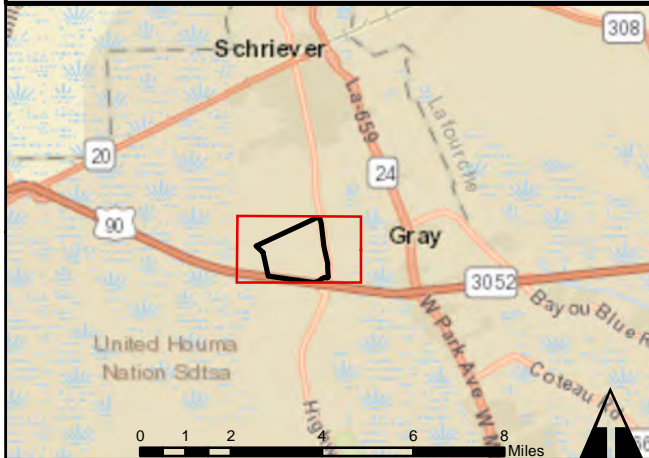
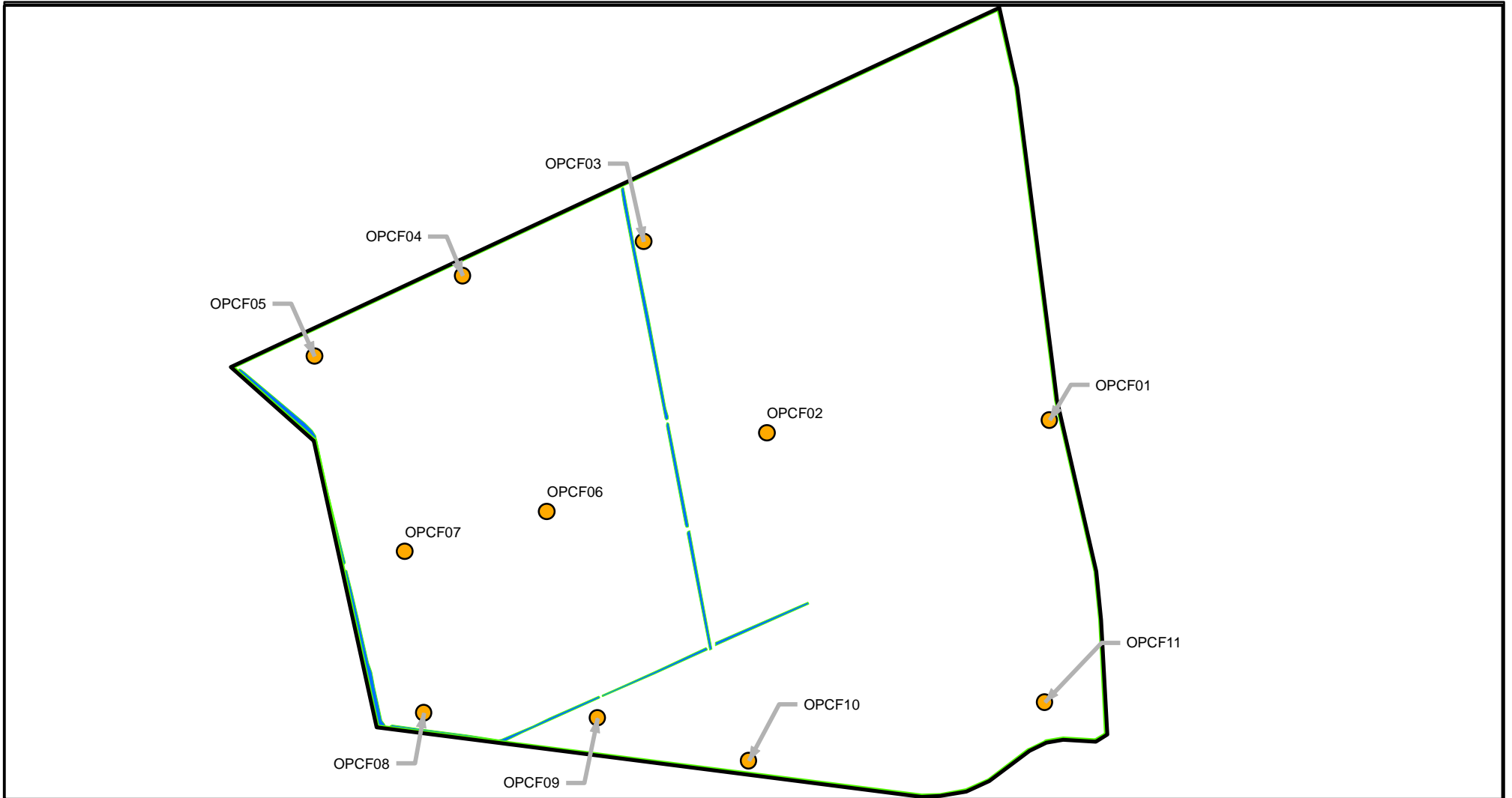
 Delineation Boundary (+/- 713.42 ac)	 NRCS Soil Unit
 Waters (+/- 6.65 ac)	 Observation Points


 1,250 625 0 1,250 Feet




Rebecca Plantation North Site
Wetland Delineation Map
Terrebonne Parish, Louisiana

Drawn By: JLC	1 in = 1,258 feet
Page 2	Date: 1/30/2019
LA83S Feet	Job No: 13295



Terrebonne Economic Development Authority

Legend

Wetland Type

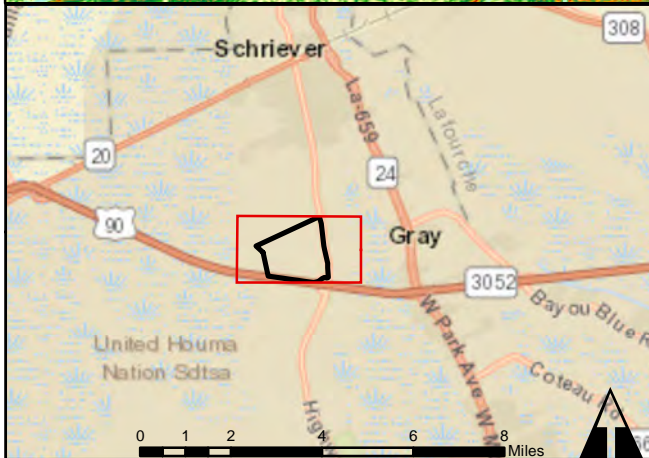
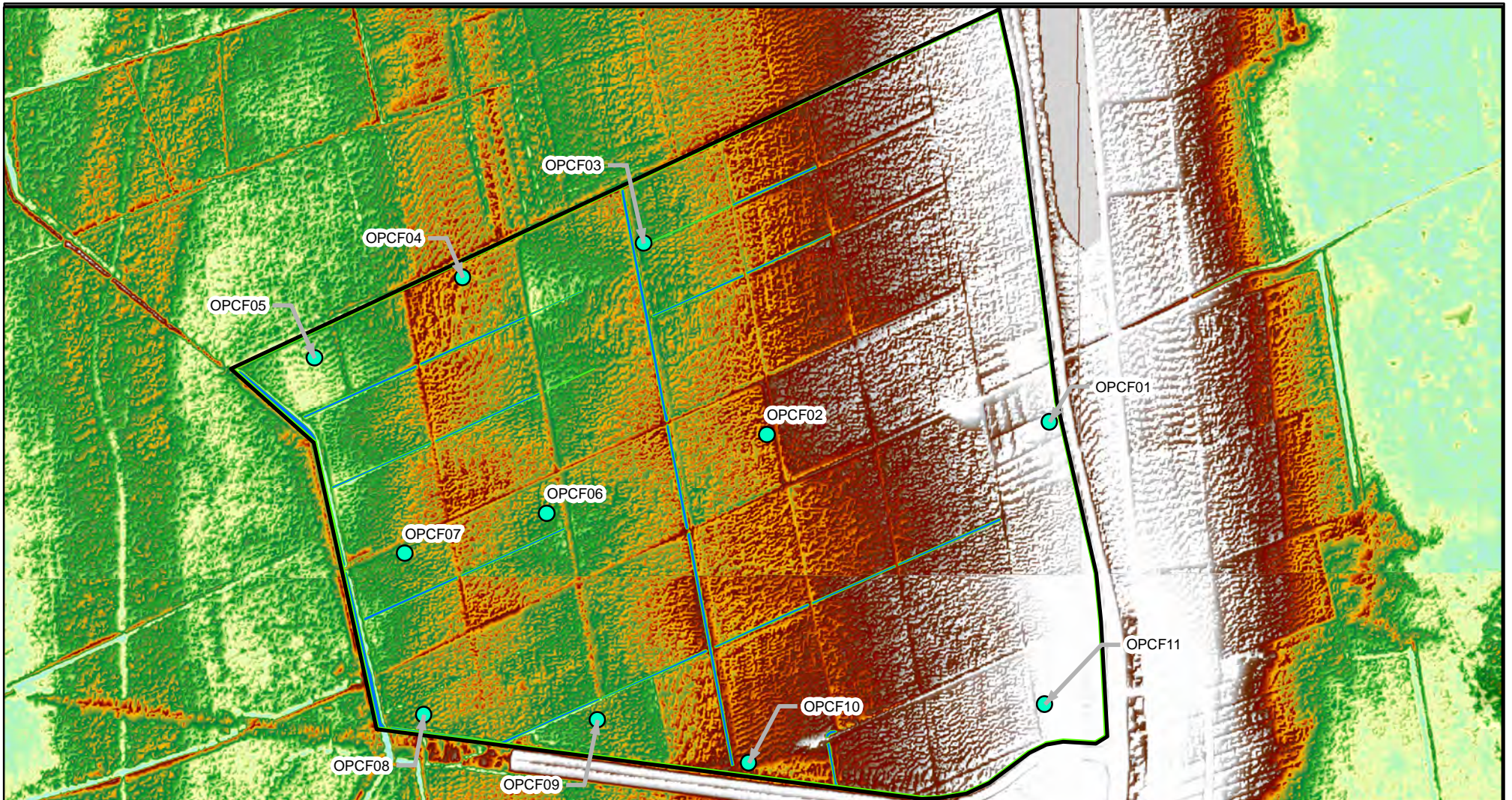
Delineation Boundary (+/- 713.42 ac)	Uplands
Waters (+/- 6.65 ac)	Observation Points

1,200 600 0 1,200 Feet



Rebecca Plantation North Site
 LIDAR Map
 Terrebonne Parish, Louisiana

Drawn By: JLC	1 in = 1,200 feet
Page 3	Date: 1/30/2019
LA83S Feet	Job No: 13295



Terrebonne Economic Development Authority

Legend

Wetland Type

- Delineation Boundary (+/- 713.42 ac)
- Waters (+/- 12.06 ac)
- Uplands
- Observation Points

LIDAR DEM Value

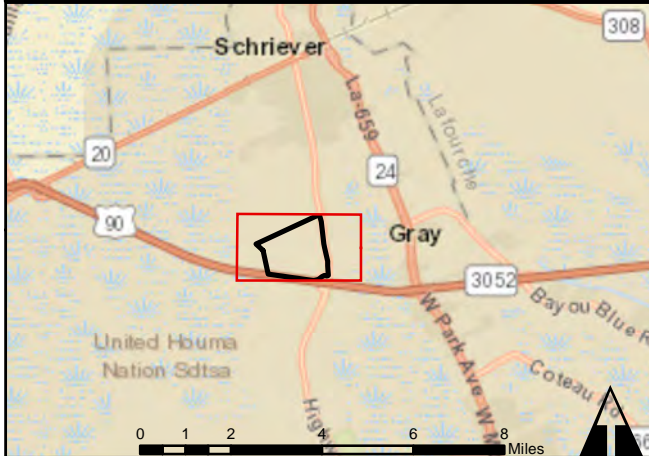
- High : 27.909

 - Low : -2.38904

1,200 600 0 1,200 Feet

Rebecca Plantation North Site
 LIDAR Map
 Terrebonne Parish, Louisiana

Drawn By: JLC	1 in = 1,200 feet
Page 4	Date: 12/11/2018
LA83S Feet	Job No: 13295



Terrebonne Economic Development Authority

Legend

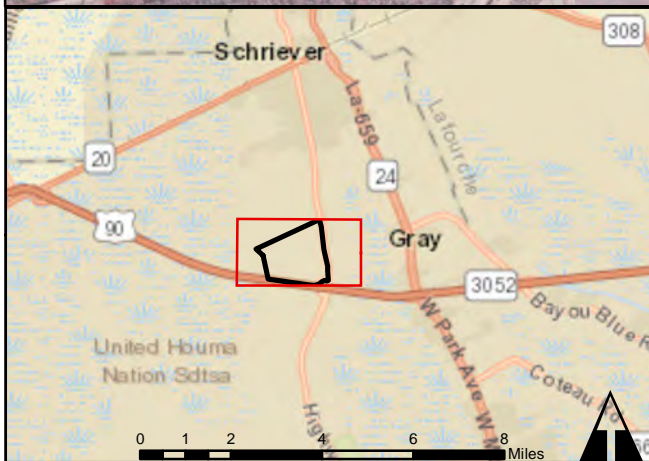
Wetland Type

Delineation Boundary (+/- 713.42 ac)
 Uplands



Rebecca Plantation North Site
 USGS Topographic Map
 Terrebonne Parish, Louisiana

Drawn By: JLC	1 in = 1,200 feet
Page 5	Date: 12/11/2018
LA83S Feet	Job No: 13295

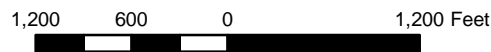


Terrebbonne Economic Development Authority

Legend

Wetland Type

- Delineation Boundary (+/- 713.42 ac)
- Uplands



Rebecca Plantation North Site
2004 USGS DOQQ CIR Map
Terrebbonne Parish, Louisiana

Drawn By: JLC

1 in = 1,200 feet

Page 6

Date: 12/11/2018

LA83S Feet

Job No: 13295

Appendix B

USACE Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 1
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 10; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.691001° Long: -90.813291° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy-Cancienne silty clay loams, 0-1 percent slopes (GcA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 1

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				
1. <u>Paspalum dilatatum</u>	<u>50</u>	<u>yes</u>	<u>FAC</u>	
2. <u>Cynodon dactylon</u>	<u>25</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Setaria pumila</u>	<u>15</u>	<u>no</u>	<u>FAC</u>	
4. <u>Axonopus fissifolius</u>	<u>10</u>	<u>no</u>	<u>FACW</u>	
5. <u>Acmella oppositifolia</u>	<u>5</u>	<u>no</u>	<u>FACW</u>	
6. <u>Symphotrichum ontarionus</u>	<u>5</u>	<u>no</u>	<u>FAC</u>	
7. <u>Sonchus asper</u>	<u>5</u>	<u>no</u>	<u>FACU</u>	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>115</u> = Total Cover				
50% of total cover: <u>57.5</u> 20% of total cover: <u>23</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = 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 _____ x 1 = <u>0</u>	
FACW species <u>15</u> x 2 = <u>30</u>	
FAC species <u>70</u> x 3 = <u>210</u>	
FACU species <u>30</u> x 4 = <u>120</u>	
UPL species _____ x 5 = <u>0</u>	
Column Totals: <u>115</u> (A)	<u>360</u> (B)

Prevalence Index = B/A = 3.136

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Five 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, and 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

Remarks: (If observed, list morphological adaptations below).

SOIL

Sampling Point: Plot 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 4/1	25					clay	
	10YR 4/2	75						
4-16	10YR 4/1	50					clay	15% aggregate
	10YR 4/2	30						
	10YR 3/1	5						
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)		
<input type="checkbox"/> Stratified Layers (A5)			<input type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			(MLRA 153B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)			³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)					
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)					
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)					
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)								
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>		
Remarks:								

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 2
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 9; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.690735° Long: -90.820718° Datum: St. Pl. 83
 Soil Map Unit Name: Cancienne silty clay loams, 0-1 percent slopes (CdA) NWI classification: N/A
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <div style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</div>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 2

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)																
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)																
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet:																
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of: _____</td> <td style="width:50%;">Multiply by: _____</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>30</u></td> <td>x 4 = <u>120</u></td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>35</u> (A)</td> <td><u>135</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: right;">Prevalence Index = B/A = <u>3.85</u></td> </tr> </table>	Total % Cover of: _____	Multiply by: _____	OBL species _____	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>30</u>	x 4 = <u>120</u>	UPL species _____	x 5 = <u>0</u>	Column Totals: <u>35</u> (A)	<u>135</u> (B)	Prevalence Index = B/A = <u>3.85</u>	
Total % Cover of: _____	Multiply by: _____																			
OBL species _____	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>30</u>	x 4 = <u>120</u>																			
UPL species _____	x 5 = <u>0</u>																			
Column Totals: <u>35</u> (A)	<u>135</u> (B)																			
Prevalence Index = B/A = <u>3.85</u>																				
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is $\leq 3.0^1$ ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
<u>Herb Stratum</u> (Plot size: <u>30'</u>)																				
1. <u>Saccharum officinarum</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>																	
2. <u>Cynodon dactylon</u>	<u>10</u>	<u>yes</u>	<u>FACU</u>																	
3. <u>Cyperus esculentus</u>	<u>5</u>	<u>no</u>	<u>FAC</u>																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
<u>35</u> = Total Cover																				
50% of total cover: <u>17.5</u> 20% of total cover: <u>7</u>																				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
Definitions of Five 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, and 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 <input checked="" type="checkbox"/>																				
Remarks: (If observed, list morphological adaptations below).																				

SOIL

Sampling Point: Plot 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																																
0-16	10YR 4/1	60	10YR 5/8	2	C	PL	clay lom																																	
	10YR 3/2	33	10YR 4/6	5	C	M																																		
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.																																			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:																																			
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 153B)	<input type="checkbox"/> Red Parent Material (TF2)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	<input type="checkbox"/> Other (Explain in Remarks)
³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.																																								
Restrictive Layer (if observed):																																								
Type: _____											Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>																													
Depth (inches): _____																																								
Remarks:																																								

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 3
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 9; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.695135° Long: -90.823924° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy silty clay loam, 0-1 percent slopes (GaA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Recently harvested Sugar Cane field	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 3

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Sapling Stratum (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Shrub Stratum (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
	<u>0</u> = Total Cover			
	50% of total cover: <u>0</u>		20% of total cover: <u>0</u>	
Herb Stratum (Plot size: <u>30'</u>)				
1. <u>Saccharum officinaris</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
	<u>15</u> = Total Cover			
	50% of total cover: <u>7.5</u>		20% of total cover: <u>3</u>	
Woody Vine Stratum (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
	<u>0</u> = 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: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>15</u> (A)	<u>60</u> (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Five 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, and 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

Remarks: (If observed, list morphological adaptations below).

Site disturbed due to harvesting activities

SOIL

Sampling Point: Plot 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		
0-16	2.5YR 4/1	60	10YR 4/6	5	C	M	clay lom	
	10YR 3/2	35						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)	
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)	
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)	
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)		
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)		³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)		
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)		
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)		
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)		
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)		
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)			

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: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 4
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 74; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.694368° Long: -90.828686° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy-Cancienne silty clay loams, 0-1 percent slopes (GcA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Fallow Sugar Cane field	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 4

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				
1. <u>Sonchus asper</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Packera obovata</u>	<u>5</u>	<u>yes</u>	<u>FACU</u>	
3. <u>Verbena brasiliensis</u>	<u>2</u>	<u>no</u>	<u>UPL</u>	
4. <u>Lamium amplexicaule</u>	<u>2</u>	<u>no</u>	<u>UPL</u>	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>14</u> = Total Cover				
50% of total cover: <u>7</u> 20% of total cover: <u>2.8</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>2</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>10</u>	x 4 = <u>40</u>
UPL species <u>4</u>	x 5 = <u>20</u>
Column Totals: <u>14</u> (A)	<u>60</u> (B)
Prevalence Index = B/A = <u>4.286</u>	
Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Five 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, and 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 <input checked="" type="checkbox"/>

SOIL

Sampling Point: Plot 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
0-16	10YR 4/1	60	10YR 4/6	5	C	M	clay lom	
	10YR 3/2	35						

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)			
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)			
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)			
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)			
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)				
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)				
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)				
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)				
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)				
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)					

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 <input checked="" type="checkbox"/> No <input type="checkbox"/>
---	--

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 5
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 74; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.692543° Long: -90.832587° Datum: St. Pl. 83
 Soil Map Unit Name: Schriever clay, 0-1 percent slopes (ShA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <p style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</p>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 5

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:																
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)																
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)																
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
<u>0</u> = Total Cover				Prevalence Index worksheet:																
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>5</u></td> <td>x 5 = <u>25</u></td> </tr> <tr> <td>Column Totals: <u>25</u> (A)</td> <td><u>105</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>4.2</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>5</u>	x 5 = <u>25</u>	Column Totals: <u>25</u> (A)	<u>105</u> (B)	Prevalence Index = B/A = <u>4.2</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>0</u>	x 2 = <u>0</u>																			
FAC species <u>0</u>	x 3 = <u>0</u>																			
FACU species <u>20</u>	x 4 = <u>80</u>																			
UPL species <u>5</u>	x 5 = <u>25</u>																			
Column Totals: <u>25</u> (A)	<u>105</u> (B)																			
Prevalence Index = B/A = <u>4.2</u>																				
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
<u>Herb Stratum</u> (Plot size: <u>30'</u>)																				
1. <u>Saccharum officinaris</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>																	
2. <u>Lamium amplexicaule</u>	<u>5</u>	<u>no</u>	<u>UPL</u>																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
<u>25</u> = Total Cover																				
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>																				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
<u>0</u> = Total Cover																				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																				
Definitions of Five 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, and 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 <input checked="" type="checkbox"/>																				
Remarks: (If observed, list morphological adaptations below).																				

SOIL

Sampling Point: Plot 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		
0-16	2.5Y 4/1	85	5YR 4/6	15	C	M	clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils³:
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input checked="" type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	(MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

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: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 6
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 74; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.688956° Long: -90.826508° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy silty clay loam, 0-1 percent slopes (GaA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <div style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</div>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 6

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	<u>Absolute % Cover</u>	<u>Dominant Species?</u>	<u>Indicator Status</u>	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
<u>0</u> = Total Cover				Prevalence Index worksheet:
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				<u> </u> Total % Cover of: <u> </u> Multiply by: <u> </u>
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				OBL species <u>0</u> x 1 = <u>0</u>
1. _____	_____	_____	_____	FACW species <u>0</u> x 2 = <u>0</u>
2. _____	_____	_____	_____	FAC species <u>0</u> x 3 = <u>0</u>
3. _____	_____	_____	_____	FACU species <u>22</u> x 4 = <u>88</u>
4. _____	_____	_____	_____	UPL species <u>0</u> x 5 = <u>0</u>
5. _____	_____	_____	_____	Column Totals: <u>22</u> (A) <u>88</u> (B)
6. _____	_____	_____	_____	Prevalence Index = B/A = <u>4</u>
<u>0</u> = Total Cover				Hydrophytic Vegetation Indicators:
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				<u> </u> 1 - Rapid Test for Hydrophytic Vegetation
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)				<u> </u> 2 - Dominance Test is >50%
1. _____	_____	_____	_____	<u> </u> 3 - Prevalence Index is $\leq 3.0^1$
2. _____	_____	_____	_____	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
6. _____	_____	_____	_____	Definitions of Five Vegetation Strata:
<u>0</u> = Total Cover				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).
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
1. <u>Saccharum officinaris</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.
2. <u>Sonchus asper</u>	<u>2</u>	<u>no</u>	<u>FACU</u>	Woody vine – All woody vines, regardless of height.
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
<u>22</u> = Total Cover				
50% of total cover: <u>11</u> 20% of total cover: <u>4.4</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
<u>0</u> = Total Cover				Hydrophytic Vegetation Present? Yes <u> </u> No <u>✓</u>
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

SOIL

Sampling Point: Plot 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		
0-16	10YR 4/1	90	10YR 5/6	10	C	M	clay	

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 7
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 74; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.688055° Long: -90.830240° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy-Cancienne silty clay loam, 0-1 percent slopes (GcA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <div style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</div>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 7

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				
1. <u>Saccharum officinaris</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Lamium amplexicaule</u>	<u>5</u>	<u>no</u>	<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>12.5</u> 20% of total cover: <u>5</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
Remarks: (If observed, list morphological adaptations below).				

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>20</u>	x 4 = <u>80</u>
UPL species <u>5</u>	x 5 = <u>25</u>
Column Totals: <u>25</u> (A)	<u>105</u> (B)
Prevalence Index = B/A = <u>4.2</u>	
Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation	
<input type="checkbox"/> 2 - Dominance Test is >50%	
<input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹	
<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Five 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, and 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 <input checked="" type="checkbox"/>

SOIL

Sampling Point: Plot 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			
0-16	10YR 4/1	40	10YR 4/6	5	C	M	clay	
	10YR 4/2	55						
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.					² Location: PL=Pore Lining, M=Matrix.			
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)					Indicators for Problematic Hydric Soils³:			
<input type="checkbox"/> Histosol (A1)			<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)			<input type="checkbox"/> 1 cm Muck (A9) (LRR O)		
<input type="checkbox"/> Histic Epipedon (A2)			<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)			<input type="checkbox"/> 2 cm Muck (A10) (LRR S)		
<input type="checkbox"/> Black Histic (A3)			<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)			<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A,B)		
<input type="checkbox"/> Hydrogen Sulfide (A4)			<input type="checkbox"/> Loamy Gleyed Matrix (F2)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)		
<input type="checkbox"/> Stratified Layers (A5)			<input checked="" type="checkbox"/> Depleted Matrix (F3)			<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)		
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)			<input type="checkbox"/> Redox Dark Surface (F6)			(MLRA 153B)		
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)			<input type="checkbox"/> Depleted Dark Surface (F7)			<input type="checkbox"/> Red Parent Material (TF2)		
<input type="checkbox"/> Muck Presence (A8) (LRR U)			<input type="checkbox"/> Redox Depressions (F8)			<input type="checkbox"/> Very Shallow Dark Surface (TF12)		
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)			<input type="checkbox"/> Marl (F10) (LRR U)			<input type="checkbox"/> Other (Explain in Remarks)		
<input type="checkbox"/> Depleted Below Dark Surface (A11)			<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)					
<input type="checkbox"/> Thick Dark Surface (A12)			<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)					
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)			<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)					
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)			<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)			<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)					
<input type="checkbox"/> Sandy Redox (S5)			<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)					
<input type="checkbox"/> Stripped Matrix (S6)			<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)					
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)								
Restrictive Layer (if observed):								
Type: _____								
Depth (inches): _____						Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
Remarks:								

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 8
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 75; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.684356° Long: -90.829759° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy-Cancienne silty clay loam, 0-1 percent slopes (GcA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <div style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</div>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 8

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)														
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)														
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
4. _____	_____	_____	_____	Prevalence Index worksheet:														
5. _____	_____	_____	_____		<table style="width:100%; border:none;"> <tr> <td style="width:50%;">Total % Cover of: _____</td> <td style="width:50%;">Multiply by: _____</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>10</u></td> <td>x 4 = <u>40</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>10</u> (A)</td> <td><u>40</u> (B)</td> </tr> </table>	Total % Cover of: _____	Multiply by: _____	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>10</u>	x 4 = <u>40</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>10</u> (A)
Total % Cover of: _____	Multiply by: _____																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>10</u>	x 4 = <u>40</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>10</u> (A)	<u>40</u> (B)																	
6. _____	_____	_____	_____	Prevalence Index = B/A = <u>4</u>														
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators:														
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation														
2. _____	_____	_____	_____	<input type="checkbox"/> 2 - Dominance Test is >50%														
3. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$														
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
6. _____	_____	_____	_____	Definitions of Five Vegetation Strata:														
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)				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).														
1. _____	_____	_____	_____	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.														
2. _____	_____	_____	_____	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.														
3. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.														
4. _____	_____	_____	_____	Woody vine – All woody vines, regardless of height.														
5. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
6. _____	_____	_____	_____															
<u>10</u> = Total Cover 50% of total cover: <u>5</u> 20% of total cover: <u>2</u>																		
<u>Herb Stratum</u> (Plot size: <u>30'</u>)																		
1. <u>Saccharum officinaris</u>	<u>10</u>	<u>yes</u>	<u>FACU</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (If observed, list morphological adaptations below).																		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 9
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 75; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.684220° Long: -90.825190° Datum: St. Pl. 83
 Soil Map Unit Name: Gramercy silty clay loam, 0-1 percent slopes (GaA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sugar Cane field	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 9

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				
<u>Herb Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Saccharum officinaris</u>	<u>15</u>	<u>yes</u>	<u>FACU</u>	
2. <u>Cyperus esculentus</u>	<u>2</u>	<u>no</u>	<u>FAC</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
_____ = Total Cover				
50% of total cover: <u>8.5</u> 20% of total cover: <u>3.4</u>				
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = 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: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>2</u>	x 3 = <u>6</u>
FACU species <u>15</u>	x 4 = <u>60</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>17</u> (A)	<u>66</u> (B)

Prevalence Index = B/A = 3.88

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Five 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, and 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

Remarks: (If observed, list morphological adaptations below).

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 10
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 75; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.683223° Long: -90.821238° Datum: St. Pl. 83
 Soil Map Unit Name: Cancienne silty clay loam, 0-1 percent slopes (CdA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <div style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</div>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 10

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)														
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)														
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index worksheet:														
<u>Sapling Stratum</u> (Plot size: <u>30'</u>)				<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>20</u></td> <td>x 4 = <u>80</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>20</u> (A)</td> <td><u>80</u> (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>20</u>	x 4 = <u>80</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>20</u> (A)	<u>80</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>20</u>	x 4 = <u>80</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>20</u> (A)	<u>80</u> (B)																	
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Prevalence Index = B/A = <u>4</u>														
<u>Shrub Stratum</u> (Plot size: <u>30'</u>)				Hydrophytic Vegetation Indicators:														
1. _____	_____	_____	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation														
2. _____	_____	_____	_____	<input type="checkbox"/> 2 - Dominance Test is >50%														
3. _____	_____	_____	_____	<input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$														
4. _____	_____	_____	_____	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
5. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
6. _____	_____	_____	_____	Definitions of Five Vegetation Strata:														
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				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).														
<u>Herb Stratum</u> (Plot size: <u>30'</u>)				Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.														
1. <u>Saccharum officinaris</u>	<u>20</u>	<u>yes</u>	<u>FACU</u>	Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.														
2. _____	_____	_____	_____	Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, <u>and</u> woody plants, except woody vines, less than approximately 3 ft (1 m) in height.														
3. _____	_____	_____	_____	Woody vine – All woody vines, regardless of height.														
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>20</u> = Total Cover 50% of total cover: <u>10</u> 20% of total cover: <u>4</u>																		
<u>Woody Vine Stratum</u> (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover 50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
Remarks: (If observed, list morphological adaptations below).																		

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Rebecca Plantation (North Development) City/County: Terrebonne Parish Sampling Date: 11/28/2018
 Applicant/Owner: Terrebonne Economic Development Authority State: LA Sampling Point: Plot 11
 Investigator(s): Cal R. Fontenot, Richard Martin Section, Township, Range: Sec 10; T16S-R16E
 Landform (hillslope, terrace, etc.): flat Local relief (concave, convex, none): none Slope (%): 1-3
 Subregion (LRR or MLRA): LRR-O Lat: 29.684532° Long: -90.813454° Datum: St. Pl. 83
 Soil Map Unit Name: Cancienne silty clay loam, 0-1 percent slopes (CdA) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: <p style="font-size: 1.2em; margin-top: 10px;">Sugar Cane field</p>	

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 type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along 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)	Secondary Indicators (minimum of two required) <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 type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION (Five Strata) – Use scientific names of plants.

Sampling Point: Plot 11

<u>Tree Stratum</u> (Plot size: <u>30'</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:														
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)														
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)														
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)														
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>0</u> = Total Cover				Prevalence Index worksheet:														
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				<table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>10</u></td> <td>x 3 = <u>30</u></td> </tr> <tr> <td>FACU species <u>50</u></td> <td>x 4 = <u>200</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>60</u> (A)</td> <td><u>230</u> (B)</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>10</u>	x 3 = <u>30</u>	FACU species <u>50</u>	x 4 = <u>200</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>60</u> (A)	<u>230</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>10</u>	x 3 = <u>30</u>																	
FACU species <u>50</u>	x 4 = <u>200</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>60</u> (A)	<u>230</u> (B)																	
<u>0</u> = Total Cover				Prevalence Index = B/A = <u>3.83</u>														
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				Hydrophytic Vegetation Indicators:														
<u> Sapling Stratum</u> (Plot size: <u>30'</u>)				<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is $\leq 3.0^1$ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>0</u> = Total Cover					Definitions of Five Vegetation Strata:													
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>				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, and woody plants, except woody vines, less than approximately 3 ft (1 m) in height. Woody vine – All woody vines, regardless of height.														
<u> Shrub Stratum</u> (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
<u> Herb Stratum</u> (Plot size: <u>30'</u>)																		
1. <u>Saccharum officinaris</u>	<u>50</u>	<u>yes</u>	<u>FACU</u>															
2. <u>Cyperus esculentus</u>	<u>10</u>	<u>no</u>	<u>FAC</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
<u>60</u> = Total Cover																		
50% of total cover: <u>30</u> 20% of total cover: <u>12</u>																		
<u> Woody Vine Stratum</u> (Plot size: <u>30'</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
<u>0</u> = Total Cover																		
50% of total cover: <u>0</u> 20% of total cover: <u>0</u>																		
Remarks: (If observed, list morphological adaptations below).				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

Appendix C

Photograph Log



Plot OPCF01–Soil Profile



Plot OPCF01 –Site Photo



Plot OPCF01 –Site Photo



Plot OPCF02 – Soil Profile



Plot OPCF02 –Site Photo



Plot OPCF02 –Site Photo



Plot OPCF03 –Soil Profile



Plot OPCF03 –Site Photo



Plot OPCF03 –Site Photo



Plot OPCF04–Soil Profile



Plot OPCF04–Site Photo



Plot OPCF04–Site Photo



Plot OPCF05 –Soil Profile



Plot OPCF05 – Site Photo



Plot OPCF05 – Site Photo



Plot OPCF06 –Soil Profile



Plot OPCF06 – Site Photo



Plot OPCF06 – Site Photo



Plot OPCF07 – Soil Profile



Plot OPCF07 –Site Photo



Plot OPCF07 –Site Photo



Plot OPCF08 –Soil Profile



Plot OPCF08 –Site Photo



Plot OPCF08 –Site Photo



Plot OPCF09 –Soil Profile



Plot OPCF09 –Site Photo



Plot OPCF09 –Site Photo



Plot OPCF10 – Soil Profile



Plot OPCF10 – Site Photo



Plot OPCF10 – Site Photo



Plot OPCF11 – Soil Profile



Plot OPCF11 – Site Photo



Plot OPCF11 – Site Photo



Plot OPCF11 – Site Photo