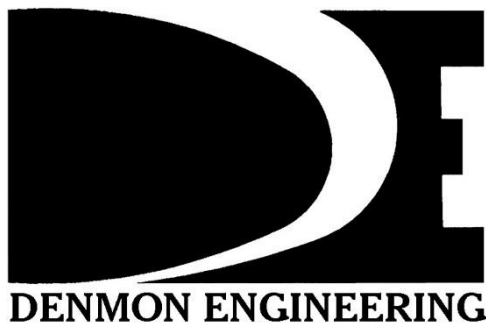


EXHIBIT R

EAST OUACHITA DEVELOPMENT

WETLAND DELINEATION REPORT



Denmon Engineering, Inc. - P.O. Box 8460, Monroe, LA 71211 – 318-388-1422 – www.denmon.com

EAST OUACHITA DEVELOPMENT WETLANDS DELINEATION REPORT

Wetlands Delineation and Jurisdictional Determination Request

Completed At:

Proposed LED-East Ouachita Project Site
Monroe, Ouachita Parish, Louisiana

Report Date:

December 10, 2020

Prepared By:

Wetlands Unlimited, LLC
PO Box 1892
West Monroe, Louisiana 71291



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1.0 EXECUTIVE SUMMARY

Wetlands Unlimited, LLC (WU) was contracted to complete a wetlands evaluation and delineation for a site proposed for listing in the Louisiana Certified Sites Program administered by Louisiana Economic Development to be a site for potential future development. The site is located east of Pecanland Mall and south of the Monroe Regional Airport in Monroe, Louisiana. The project boundary is an irregular shaped area located directly south of Millhaven road and approximately 100 feet east of an unnamed access road that borders the study area. The northern boundary of the wetland delineation study is located directly south of Millhaven road where two private properties intersect the boundary. Interstate 20 runs parallel to the southern boundary for 0.26 miles, then the boundary extends 1,225 feet to the northeast where it connects to the eastern boundary. The center of the project is located at approximate Latitude 32.494721° and approximate Longitude -92.024306°. An active soybean agricultural field is currently established across much of the property, where natural soil and vegetative characteristics have been significantly altered. A small circular area of residual overstory vegetation is present on the property at approximate Latitude 32.493074° and approximate Longitude -92.025773°, covering a total of 0.27 acres. Elevations across the property primarily appear level throughout, with the eastern portion of the study area being the exception. A north-south access road was constructed across the property, located approximately 783 feet west of the eastern project boundary. A low area along the eastern boundary was identified during the field study, where soybean production was not active, presumably due to enduring wet conditions. In this area natural vegetation has begun to reestablish itself into an emergent wetland scenario. No streams were identified on the property during the field survey.

WU estimates approximately 0.94 acres of freshwater emergent wetlands jurisdictional to the United States Army Corps of Engineers (USACE) are located within the proposed project footprint and designated area of this wetland delineation and evaluation. **Table 1** below and **Figure 2- Site Layout and Data Point Locations**, show the locations of data points chosen and installed for this delineation.

Table 1: Delineation Survey Results			
Data Point	Wetland Designation	Latitude**	Longitude**
1	Non-Wet	32° 29' 35.123" N	92° 1' 40.670" W
2	Non-Wet	32° 29' 35.147" N	92° 1' 32.911" W
3*	Wet	32° 29' 42.196" N	92° 1' 14.795" W
4	Non-Wet	32° 29' 41.713" N	92° 1' 15.048" W
5	Non-Wet	32° 29' 42.704" N	92° 1' 15.920" W
6	Non-Wet	32° 29' 42.924" N	92° 1' 15.302" W
7	Non-Wet	32° 29' 49.337" N	92° 1' 20.966" W
8	Non-Wet	32° 29' 48.651" N	92° 1' 30.228" W
* Estimated Jurisdictional Wetland acreage = 0.94 acres			
** UTM Zone 15 North			

2.0 INTRODUCTION

A preliminary desktop evaluation was conducted to identify portions of the site as potential wetlands jurisdictional to the USACE. Upon completion of the desktop evaluation, wetland delineation field activities were conducted to confirm/invalidate the desktop findings and identify the boundaries between onsite uplands, wetlands, and streams likely considered jurisdictional to the USACE. These boundaries were determined based on the criteria described in the 1987 *Corps of Engineers Wetlands Delineation Manual* and 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain (Version 2.0)*. Other technical resources utilized include the Ouachita Parish Soil Survey; Soil Mapping Units and Hydric Soils Designations – Louisiana, First Edition; Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Database for Ouachita Parish, Louisiana; ESRI 2017: ArcGIS Desktop: Release 10.5.1, Redlands, CA: Environmental Systems Research Institute; National List of Plant Species that occur in Wetlands: Southeast (Region 2), May 1988; Louisiana State University Department of Geography and Anthropology, Louisiana Statewide GIS Atlas; Munsell Soil Color Book, 2017 Edition; and various botanical references.

This document summarizes the delineation study and conclusions. The support exhibits for this report are included as figures and appendices. The **Figures** section of the report includes the following figures: **Figure 1 – Site Location Map, Figure 2 – Site Layout and Data Point Locations, and Figure 3 – LiDAR Map.** The appendices include the following: **Appendix A – Site Photo Log, Appendix B – Wetland Data Forms, and Appendix C – NRCS Hydric Soils Rating Report.**

3.0 SITE DESCRIPTION

The subject property consists primarily of an active agricultural field that has been cultivated for soybean production but does have a small section of residual overstory vegetation, and a man-made access road. The study area is located directly south of Millhaven road and 100 feet east of an unnamed access road that borders the study area. The northern boundary of the wetland delineation study is located at approximate Latitude 32.497586° and approximate Longitude -92.025224°, approximately 1.72 miles east of the intersection of Millhaven Road and Garrett Road. The western boundary is flanked by an unnamed access road in the southern section of the study area and a nursing home in the northern half of the study area. Interstate 20 runs parallel to the southern boundary for 0.26 miles, then the boundary extends 1,225 feet to the northeast where it connects to the eastern boundary, which is flanked by overstory vegetation. The manmade access road transects the property north to south approximately 783 feet west of the eastern most property boundary.

Most of the study area is currently being used as a row crop agricultural field and is void of overstory trees. These cultivated areas on the property are dominated by soybean (*Glycine max*) and residual herbaceous species. A singular area with residual overstory vegetation is located at approximate Latitude 32.492968° and approximate Longitude -92.025807°, where agricultural activities were never implemented. This area is host to mature hardwood species in the overstory, midstory sapling regeneration, and a myriad of vines in the understory. Depressional areas along the eastern boundary, where soybean production was presumably hindered due to water retention, host several herbaceous wetland species in the understory. No streams or ditches were observed during the site survey.

4.0 METHODS

By definition, jurisdictional wetlands contain hydrophytic vegetation, hydric soils, and hydrology (periodic inundation or saturation in the upper 12 inches of the soil at some time during the growing season). All three elements must be present in an area to qualify as jurisdictional wetlands. With reference to **Figure 2**, Eight data points were installed to evaluate site characteristics in relation to wetland criteria. Soils, vegetation, and hydrology were examined at each data point. Data point locations are monumented on the ground with flagging and labeled by corresponding data point number. GPS locations of each data point were logged at plot center using a Trimble Geo7x Datalogger. Soils were evaluated by digging soil pits approximately 12 - 16 inches deep where soil descriptions and color could be compared to the published Ouachita Parish Soil Survey and NRCS soils descriptions. Vegetation was evaluated by noting, at a minimum, the species exhibiting 20% or greater dominance in each stratum (tree, sapling, shrub, herb, and woody vine) within a 30-foot radius of the soil pit location.

5.0 SOILS DESCRIPTION

With reference to the NRCS Soils Map and the Ouachita Parish Soil Survey, the subject property contains one primary soil type:

- Gallion silt loam

The NRCS hydric soils rating data for the property is provided in **Appendix C** of this report. Gallion silt loam is not listed on the NRCS hydric soils listing for Ouachita Parish, Louisiana.

According to the Ouachita Parish Soil Survey, Gallion silt loam soils are well drained, highly permeable soil series that was formed from loamy alluvium. Gallion silt loam soils are nearly level soils found near natural levees with slopes ranging from 0 to 1 percent. They are rarely believed to be flooded by stream overflow, and ponding is not frequent. Its drainage class is well drained, and their ability to transmit water is moderately high, so any inundation that does occur in the study area will disperse quickly. This soils series is considered prime farmland throughout its range.

6.0 VEGETATIVE ANALYSIS

Vegetation at each of the observed data points was evaluated to determine the hydrophytic designation of the plant community in each plot. A wetland/non-wetland designation was ultimately determined for the vegetation across all strata within the plant community. Because many plants exhibit a wide hydrologic tolerance there may not be strong differences, if any, across soil series having similar characteristics. Individual plant species have been assigned a hydrologic tolerance indicator status based on the ability to exist in low soil oxygen - highly saturated soil environments. The individual plants and their indicator status present during the field study were recorded on the data sheets for each data point. To meet the hydrophytic plant criteria, the vegetation at a data point must test positive for one of three indicator tests:

- **Rapid Test:** all dominant species across all strata at a given data point are rated OBL or FACW, or a combination of the two categories, based on a visual assessment.
- **Dominance Test:** >50% of the dominant plants at a given data point must rate an indicator status of facultative (FAC), facultative wetland (FACW), or obligate wetland (OBL).
- **Prevalence Index:** data points with a value of 3.0 or less when the weighted-average of all plant species is calculated using the numeric system outlined in the ***Wetland Determination Data Form – Atlantic and Gulf Coastal Plain Region***.

A total of fifteen species of plants listed in the USACE National Wetlands Plant List asserting 20% or greater dominance in their respective strata were recorded on the data points. Of these species, 6 were designated as FACU, 2 were designated as FAC, 6 were designated as FACW, and 1 was designated as OBL. A complete listing of the dominant and non-dominant species observed at each data point is provided in the data sheets in **Appendix B – Wetland Data Forms**.

It should be noted that a majority of the allocated data point locations in this delineation study were located in an active row crop field cultivated for soybean (*Glycine max*) production. After extensive research WU could not find a definitive opinion on the wetland indicator status for this species. As such, soybean was issued a status indicator of NI (No Indicator) and not included in the percent cover analysis in plots where it was present. Soybean coverage throughout the study area was high and would have been considered a dominant species in many plots where it was identified.

7.0 HYDROLOGY

The term “wetland hydrology” encompasses all hydrologic characteristics of areas that are periodically inundated or have soils saturated to the 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. Such characteristics are usually present in areas that are inundated or have soils that are saturated to the surface for sufficient duration to develop hydric soils and support vegetation typically adapted for life in periodically anaerobic soil conditions (1987 Field Guide to Wetland Delineation, page 31).

At the time of the site visit, the majority of the property was noted to be relatively dry, with evidence of lingering inundation in the low area along the eastern property boundary. Only one data point exhibited adequate characteristics of primary and secondary hydrologic indicators at the study site (DP-3), meaning wetland hydrology was present at that data point location. A number of data point locations passed the FAC neutral test (DP-4, DP-5, and DP-6) but did not have any other secondary hydrologic indicators, and therefore did not have wetland hydrology. Descriptions of primary and secondary hydrologic indicators can be found on the data forms in **Appendix B**.

8.0 CONCLUSIONS

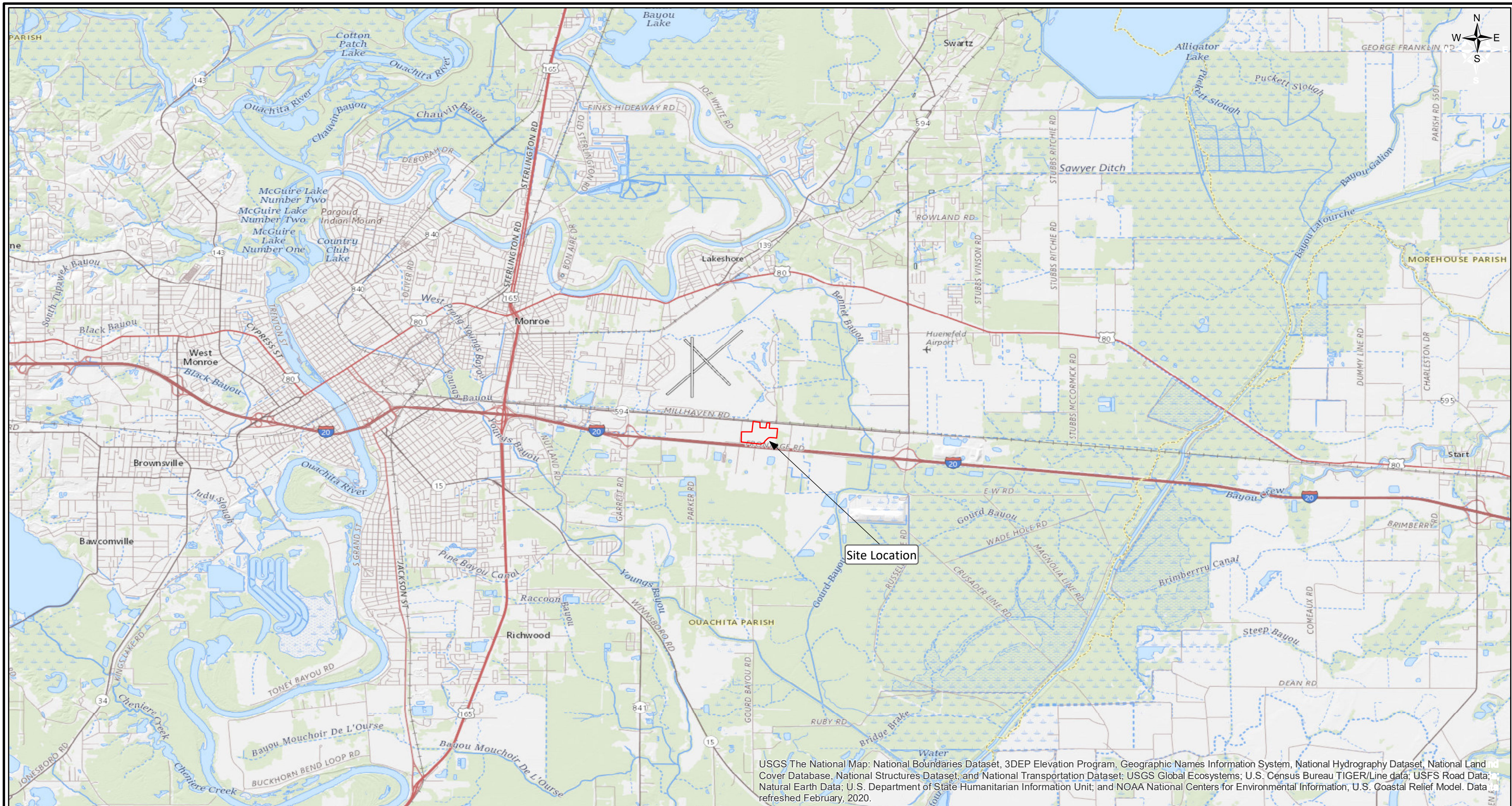
This approximately 66.45-acre project area located in Ouachita Parish, Louisiana was examined for the occurrence of wetlands and/or waters of the United States that may be determined to be under USACE jurisdiction. As discussed in the text portion of this report and depicted in the attached figures and data sheets, evidence of approximately 0.94 acres of jurisdictional wetlands at the site does exist. The jurisdictional wetlands observed at the site appeared to be best classified as freshwater emergent wetlands.

Eight data points were analyzed for wetland indicators, and one was found to sufficiently exhibit the necessary hydrology, vegetation, and soil characteristics to be classified as a wetland area (DP-3). The locations of each of the observed data points are provided in **Figure 2 – Site Layout and Data Point Locations** and **Figure 3 – LiDAR Map**.

The data point locations were mapped using a Trimble Geo7X asset surveyor and Pathfinder Version 2.70 software. Landscape features are presented to be within 18 inches of their true global position (differentially corrected positions).

The wetland delineation and conclusions presented herein are the opinion of the investigator and should be considered as a preliminary determination. Final authority as to the presence of jurisdictional wetlands lies with the USACE.

FIGURES

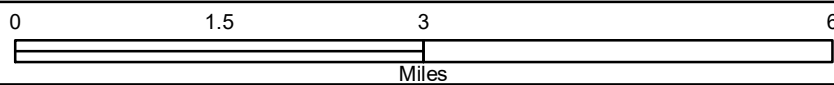


USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFS Road Data; Natural Earth Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information, U.S. Coastal Relief Model. Data refreshed February, 2020.

DRAWN BY:	TS
CHECKED BY:	MM
DATE:	11/09/2020
SCALE:	AS SHOWN
CAD NO:	N/A
PROJ NO:	2020.002

Legend

 Site Boundary



Site Location Map
LED-East Ouachita Delineation
Ouachita Parish, Louisiana



FIGURE
1

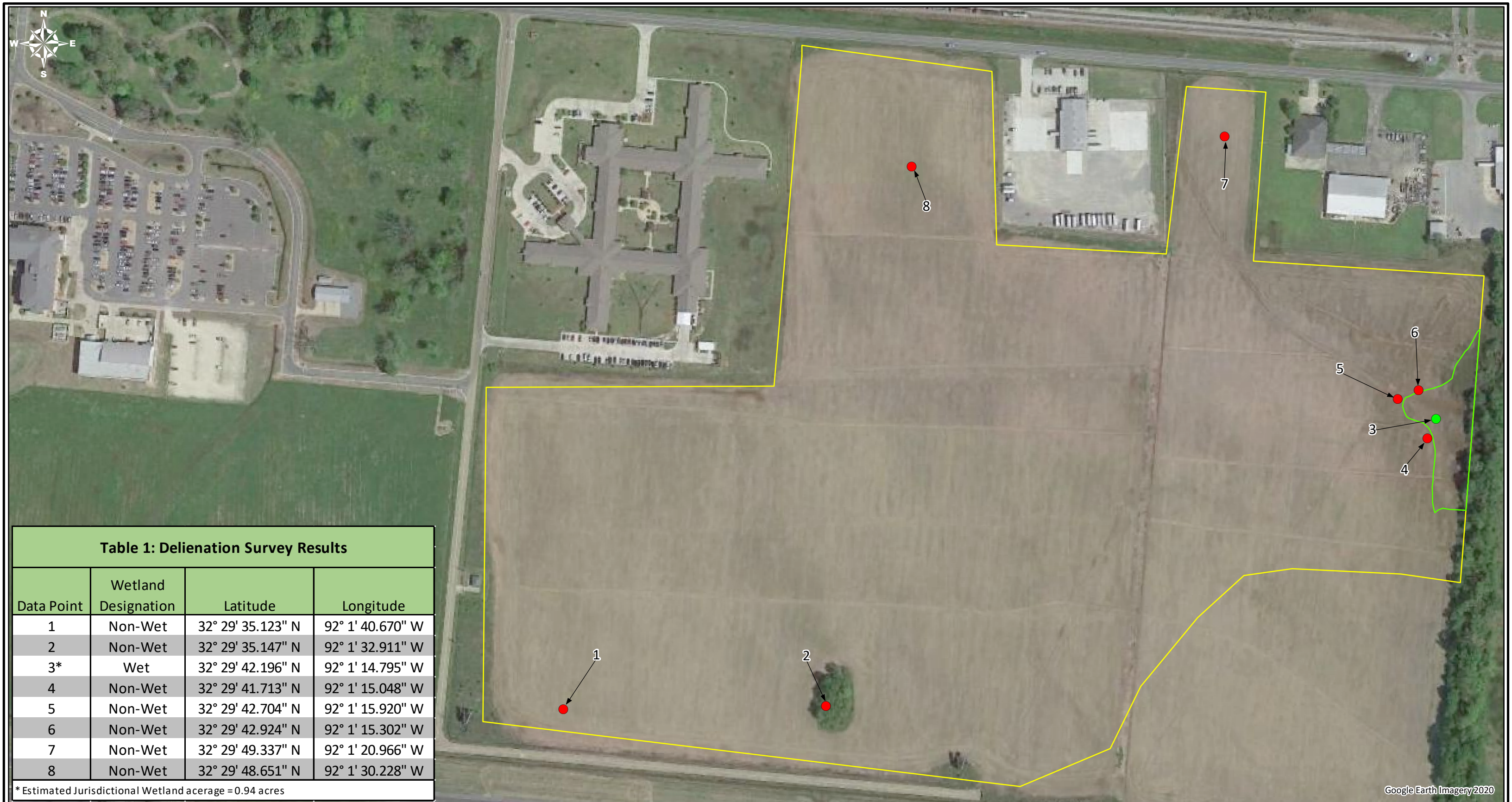


Table 1: Delienation Survey Results			
Data Point	Wetland Designation	Latitude	Longitude
1	Non-Wet	32° 29' 35.123" N	92° 1' 40.670" W
2	Non-Wet	32° 29' 35.147" N	92° 1' 32.911" W
3*	Wet	32° 29' 42.196" N	92° 1' 14.795" W
4	Non-Wet	32° 29' 41.713" N	92° 1' 15.048" W
5	Non-Wet	32° 29' 42.704" N	92° 1' 15.920" W
6	Non-Wet	32° 29' 42.924" N	92° 1' 15.302" W
7	Non-Wet	32° 29' 49.337" N	92° 1' 20.966" W
8	Non-Wet	32° 29' 48.651" N	92° 1' 30.228" W

* Estimated Jurisdictional Wetland acerage = 0.94 acres

DRAWN BY: TS

CHECKED BY: MM

DATE: 11/13/2020

SCALE: AS SHOWN

CAD NO: N/A

PROJ NO: 2020.002

Legend

● Non-Wet

● Wet

Wetland Area (0.94ac)

Project Boundary


0287.55751,150

Feet

Site Layout and Data Point Locations

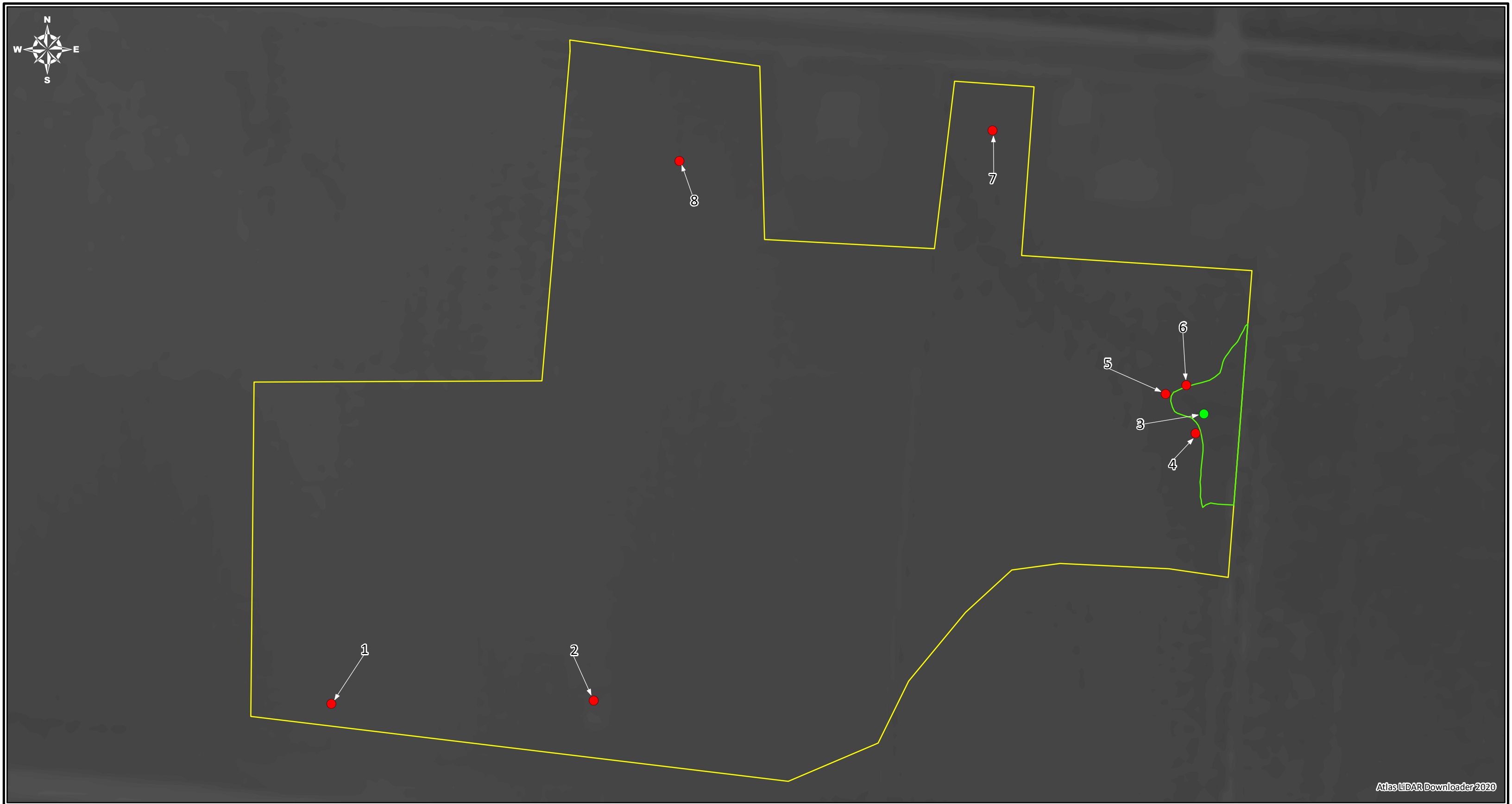
LED - East Ouachita Delineation

Ouachita Parish, Louisiana



FIGURE

2



Atlas LiDAR Downloader 2020

DRAWN BY:	TS
CHECKED BY:	MM
DATE:	11/09/2020
SCALE:	AS SHOWN
CAD NO:	N/A
PROJ NO:	2020.002

Legend

- Non-Wet
- Wet
- Wetland Area (0.94 ac)
- Project Boundary

LiDAR DEM

High : 147.984

Low : 39.991

0 287.5 575 1,150

Feet

LiDAR Map

LED - East Ouachita Delineation

Ouachita Parish, Louisiana



FIGURE

3

APPENDIX A
Site Photo Log



PHOTO NO. 1
DESCRIPTION:

Data Point 1: Center



PHOTO NO. 2
DESCRIPTION:

Data Point 1: Soil Profile



PHOTO NO. 3
DESCRIPTION:

Data Point 1: Facing North



PHOTO NO. 4
DESCRIPTION:

Data Point 1: Facing East



PHOTO NO. 5
DESCRIPTION:

Data Point 1: Facing South



PHOTO NO. 6
DESCRIPTION:

Data Point 1: Facing West



PHOTO NO. 7
DESCRIPTION:

Data Point 2: Center



PHOTO NO. 8
DESCRIPTION:

Data Point 2: Soil Profile



PHOTO NO. 9
DESCRIPTION:

Data Point 2: Facing North



PHOTO NO. 10
DESCRIPTION:

Data Point 2: Facing East



PHOTO NO. 11
DESCRIPTION:

Data Point 2: Facing South



PHOTO NO. 12
DESCRIPTION:

Data Point 2: Facing West



PHOTO NO. 13
DESCRIPTION:

Data Point 3: Center



PHOTO NO. 14
DESCRIPTION:

Data Point 3: Soil Profile



PHOTO NO. 15
DESCRIPTION:

Data Point 3: Facing North



PHOTO NO. 16
DESCRIPTION:

Data Point 3: Facing East



PHOTO NO. 17
DESCRIPTION:

Data Point 3: Facing South



PHOTO NO. 18
DESCRIPTION:

Data Point 3: Facing West



PHOTO NO. 19
DESCRIPTION:

Data Point 4: Center



PHOTO NO. 20
DESCRIPTION:

Data Point 4: Soil Profile



PHOTO NO. 21
DESCRIPTION:

Data Point 4: Facing North



PHOTO NO. 22
DESCRIPTION:

Data Point 4: Facing East



PHOTO NO. 23
DESCRIPTION:

Data Point 4: Facing South



PHOTO NO. 24
DESCRIPTION:

Data Point 4: Facing West



PHOTO NO. 25
DESCRIPTION:

Data Point 5: Center



PHOTO NO. 26
DESCRIPTION:

Data Point 5: Soil Profile



PHOTO NO. 27
DESCRIPTION:

Data Point 5: Facing North



PHOTO NO. 28
DESCRIPTION:

Data Point 5: Facing East



PHOTO NO. 29
DESCRIPTION:

Data Point 5: Facing South



PHOTO NO. 30
DESCRIPTION:

Data Point 5: Facing West



PHOTO NO. 31
DESCRIPTION:

Data Point 7: Center



PHOTO NO. 32
DESCRIPTION:

Data Point 7: Soil Profile



PHOTO NO. 33
DESCRIPTION:

Data Point 7: Facing North



PHOTO NO. 34
DESCRIPTION:

Data Point 7: Facing East



PHOTO NO. 35
DESCRIPTION:

Data Point 7: Facing South

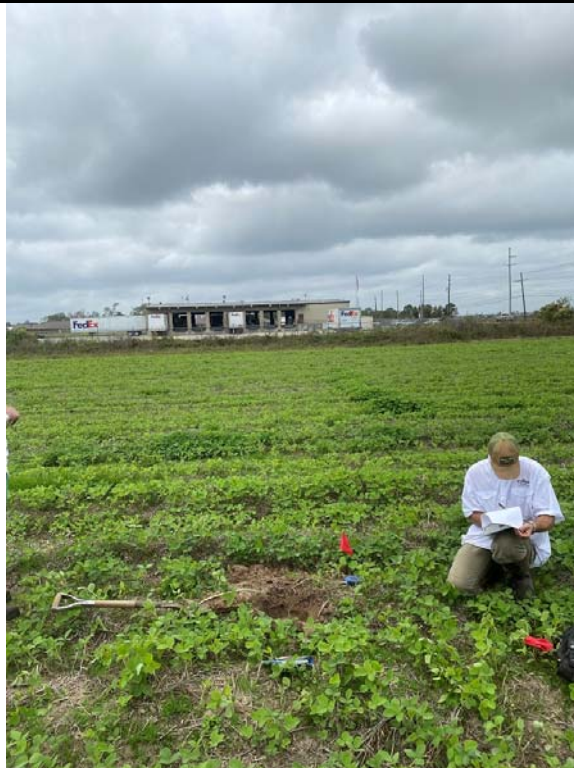


PHOTO NO. 36
DESCRIPTION:

Data Point 7: Facing West



PHOTO NO. 37
DESCRIPTION:

Data Point 8: Center



PHOTO NO. 38
DESCRIPTION:

Data Point 8: Soil Profile



PHOTO NO. 39
DESCRIPTION:

Data Point 8: Facing North



PHOTO NO. 40
DESCRIPTION:

Data Point 8: Facing East



PHOTO NO. 41
DESCRIPTION:

Data Point 8: Facing South



PHOTO NO. 42
DESCRIPTION:

Data Point 8: Facing West

APPENDIX B
Wetland Data Forms

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-1
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S2 T17N R4E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 35.123" N Long: 92° 1' 40.670" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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"/>	Is the Sampled Area within a Wetland?	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"/>		
Remarks: Active soybean 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: DP-1

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
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 Feet</u>)				
1. <u>None</u>				
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 Feet</u>)				
1. <u>None</u>				
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 Feet</u>)				
1. <u>Glycine max</u>	<u>50</u>		<u>NI</u>	
2. <u>Poa annua</u>	<u>35</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Ellisia nyctelea</u>	<u>10</u>		<u>FAC</u>	
4. <u>Mollugo verticillata</u>	<u>5</u>		<u>FAC</u>	
5. <u>Brassica juncea</u>	<u>1</u>		<u>UPL</u>	
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
				<u>51</u> = Total Cover
50% of total cover: <u>26</u>				20% of total cover: <u>11</u>
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
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). <div style="margin-top: 20px;"> Glycine max is not listed in the Wetland Plant List. Therefore, it was assigned a rating of NI (no indicator) and not included in the hydric rating calculations. </div>				

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>15</u>	x 3 = <u>45</u>
FACU species <u>35</u>	x 4 = <u>140</u>
UPL species <u>1</u>	x 5 = <u>5</u>
Column Totals: <u>51</u> (A)	<u>190</u> (B)

Prevalence Index = B/A = 3.73

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 ☒

SOIL

Sampling Point: DP-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		
0-12	7.5YR 4/4	100					Sandy Loam	
12-14	5YR 4/4	100					Sandy Loam	

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.)

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Soil had been previously worked and was in rows due to agricultural production.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-2
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S2 T17N R4E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 35.147" N Long: 92° 1' 32.911" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: Residual overstory vegetation area.	

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: **DP-2**

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Celtis laevigata</u>	<u>50</u>	<u>Yes</u>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)
2. <u>Quercus nigra</u>	<u>10</u>		<u>FAC</u>	
3. <u>Carya illinoensis</u>	<u>5</u>		<u>FACU</u>	
4. <u>Ligustrum sinense</u>	<u>2</u>		<u>FAC</u>	
5. _____				
6. _____				
<u>67</u> = Total Cover				
50% of total cover: <u>34</u> 20% of total cover: <u>14</u>				
Sapling Stratum (Plot size: <u>30 Feet</u>)				
1. <u>Triadica sebifera</u>	<u>1</u>		<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. <u>Sassafras albidum</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
<u>6</u> = Total Cover				
50% of total cover: <u>3</u> 20% of total cover: <u>2</u>				
Shrub Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" 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)
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 Feet</u>)				
1. <u>Solidago altissima</u>	<u>1</u>		<u>FACU</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.
2. <u>Carex blanda</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Claytonia virginica</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
<u>16</u> = Total Cover				
50% of total cover: <u>8</u> 20% of total cover: <u>4</u>				
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>Ampelopsis arborea</u>	<u>10</u>		<u>FAC</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. <u>Vitis rotundifolia</u>	<u>20</u>		<u>FAC</u>	
3. <u>Toxicodendron radicans</u>	<u>80</u>	<u>Yes</u>	<u>FAC</u>	
4. <u>Smilax glauca</u>	<u>2</u>		<u>FAC</u>	
5. <u>Bignonia capreolata</u>	<u>5</u>		<u>FAC</u>	
<u>117</u> = Total Cover				
50% of total cover: <u>59</u> 20% of total cover: <u>24</u>				
Remarks: (If observed, list morphological adaptations below). <div style="text-align: center;">Located within an area that has not been converted to agricultural use.</div>				

SOIL

Sampling Point: DP-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		
0-4	7.5YR 3/2	100					Sandy Loam	
4-14	7.5YR 4/3	100					Sandy Loam	

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.)

- | | |
|--|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <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) | |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-3
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S2 T17N R4E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Concave Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 42.196" N Long: 92° 1' 14.795" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Remarks: Low area with standing water.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres 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 checked="" type="checkbox"/> Water-Stained Leaves (B9)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-1</u> Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u> </u> Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0-4</u> (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input 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: DP-3

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Sapling Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Shrub Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Herb Stratum (Plot size: <u>30 Feet</u>)				
1. <u>Sida spinosa</u>	10			<u>FACU</u>
2. <u>Cyperus iria</u>	15			<u>FACW</u>
3. <u>Panicum dichotomiflorum</u>	20	Yes		<u>FACW</u>
4. <u>Alternanthera philoxeroides</u>	25	Yes		<u>OBL</u>
5. <u>Cyperus pseudovegetus</u>	1			<u>FACW</u>
6. <u>Echinochloa crus-galli</u>	5			<u>FACW</u>
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
76 = Total Cover				
50% of total cover: 38		20% of total cover: 16		
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Remarks: (If observed, list morphological adaptations below).				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

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

Hydrophytic Vegetation Indicators:
☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 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 ☐

SOIL

Sampling Point: DP-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		
0-6	7.5YR 4/2	98	7.5YR 4/6	2			Clay Loam	
9-14	7.5YR 3/2	100					Clay Loam	

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.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input checked="" type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <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) | |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-4
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S2 T17N R4E
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 41.713" N Long: 92° 1' 15.048" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: Active soybean 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 checked="" 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: DP-4

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Sapling Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Shrub Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Herb Stratum (Plot size: <u>30 Feet</u>)				
1. <u>Cyperus pseudovegetus</u>	15	Yes	FACW ⁺	
2. <u>Echinochloa colona</u>	20	Yes	FACW ⁺	
3. <u>Alternanthera philoxeroides</u>	5		OBL	
4. <u>Glycine max</u>	5		NI	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
40 = Total Cover				
50% of total cover: 20		20% of total cover: 8		
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Remarks: (If observed, list morphological adaptations below). Glycine max is not listed in the Wetland Plant List. Therefore, it was assigned a rating of NI (no indicator) and not included in the hydric rating calculations.				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
 Total Number of Dominant Species Across All Strata: 2 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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

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

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 ☐

SOIL

Sampling Point: DP-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		
0-3	7.5YR 5/4	100					Sandy Loam	
3-10	7.5YR 4/3	100					Sandy Loam	
10-14	5YR 4/4	100					Sandy Loam	

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.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <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) | |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-5
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S2 T17N R4E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): Flat Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 42.704" N Long: 92° 1' 15.920" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: Active soybean 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 checked="" 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: **DP-5**

Tree Stratum (Plot size: 30 Feet)	Absolute % Cover	Dominant Species?	Indicator Status	
1. None				
2.				
3.				
4.				
5.				
6.				
		0 = Total Cover		
50% of total cover: 0		20% of total cover: 0		
Sapling Stratum (Plot size: 30 Feet)				
1. None				
2.				
3.				
4.				
5.				
6.				
		0 = Total Cover		
50% of total cover: 0		20% of total cover: 0		
Shrub Stratum (Plot size: 30 Feet)				
1. None				
2.				
3.				
4.				
5.				
6.				
		0 = Total Cover		
50% of total cover: 0		20% of total cover: 0		
Herb Stratum (Plot size: 30 Feet)				
1. Echinochloa crus-galli	50	Yes	FACW ⁺	
2. Cyperus pseudovegetus	5		FACW ⁺	
3. Glycine max	5		NI	
4. Heteranthera limosa	1		OBL	
5. Paspalum notatum	2		FACU	
6. Eclipta prostrata	5		FACW ⁺	
7.				
8.				
9.				
10.				
11.				
		63 = Total Cover		
50% of total cover: 32		20% of total cover: 13		
Woody Vine Stratum (Plot size: 30 Feet)				
1. None				
2.				
3.				
4.				
5.				
		0 = Total Cover		
50% of total cover: 0		20% of total cover: 0		
Remarks: (If observed, list morphological adaptations below). Glycine max is not listed in the Wetland Plant List. Therefore, it was assigned a rating of NI (no indicator) and not included in the hydric rating calculations.				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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

Hydrophytic Vegetation Indicators:
☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 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 ☐

SOIL

Sampling Point: DP-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		
0-14	7.5YR 5/3	100					Sandy Loam	

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.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <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) | |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-6
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S2 T17N R4E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 42.924" N Long: 92° 1' 15.302" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: Active soybean 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 checked="" 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: **DP-6**

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
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 Feet</u>)				
1. <u>None</u>				
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 Feet</u>)				
1. <u>None</u>				
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 Feet</u>)				
1. <u>Echinochloa colona</u>	<u>40</u>	<u>Yes</u>	<u>FACW+</u>	
2. <u>Glycine max</u>	<u>5</u>		<u>NI</u>	
3. <u>Cyperus pseudovegetus</u>	<u>1</u>		<u>FACW+</u>	
4. <u>Sida spinosa</u>	<u>2</u>		<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
		<u>43</u> = Total Cover		
50% of total cover: <u>22</u>		20% of total cover: <u>9</u>		
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
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). Glycine max is not listed in the Wetland Plant List. Therefore, it was assigned a rating of NI (no indicator) and not included in the hydric rating calculations.

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

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

Hydrophytic Vegetation Indicators:
☐ 1 - Rapid Test for Hydrophytic Vegetation
☒ 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 ☐

SOIL

Sampling Point: DP-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		
0-11	7.5YR 5/3	100					Clay Loam	
11-14	7.5YR 3/2	100					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.)

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-7
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S35 T18N R4E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 49.337" N Long: 92° 1' 20.966" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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"/>	Is the Sampled Area within a Wetland?	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"/>		
Remarks: Active soybean 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: **DP-7**

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Sapling Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Shrub Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Herb Stratum (Plot size: <u>30 Feet</u>)				
1. <u>Glycine max</u>	70			NI
2. <u>Sida spinosa</u>	3	Yes		FACU
3. <u>Poa annua</u>	5	Yes		FACU
4. <u>Trifolium repens</u>	1			FACU
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
9 = Total Cover				
50% of total cover: 5		20% of total cover: 2		
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
0 = Total Cover				
50% of total cover: 0		20% of total cover: 0		
Remarks: (If observed, list morphological adaptations below). <div style="margin-top: 20px;"> Glycine max is not listed in the Wetland Plant List. Therefore, it was assigned a rating of NI (no indicator) and not included in the hydric rating calculations. </div>				

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 2 (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>9</u>	x 4 = <u>36</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>9</u> (A)	<u>36</u> (B)

Prevalence Index = B/A = 4.0

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 ☒

SOIL

Sampling Point: DP-7

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	7.5YR 4/3	100					Sandy Loam	
8-14	7.5YR 5/2	100					Clay Loam	

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.)**

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

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: LED - East Ouachita Delineation City/County: Monroe/Ouachita Sampling Date: 10-27-2020
 Applicant/Owner: EAST OUACHITA DEVELOPMENT, LLC State: LA Sampling Point: DP-8
 Investigator(s): M.M., T.S., L.L. Section, Township, Range: S35 T18N R4E
 Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): None Slope (%): 0-1
 Subregion (LRR or MLRA): MLRA 131B Lat: 32° 29' 48.651" N Long: 92° 1' 30.228" W Datum: UTMZ15N
 Soil Map Unit Name: Gallion Silt Loam NWI classification: Not Mapped

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"/>	Is the Sampled Area within a Wetland? 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"/>	
Remarks: Active soybean 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: **DP-8**

Tree Stratum (Plot size: <u>30 Feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Sapling Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Shrub Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
_____ = Total Cover				
50% of total cover: <u>0</u>		20% of total cover: <u>0</u>		
Herb Stratum (Plot size: <u>30 Feet</u>)				
1. <u>Glycine max</u>	<u>70</u>		<u>NI</u>	
2. <u>Poa annua</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
_____ = Total Cover				
50% of total cover: <u>3</u>		20% of total cover: <u>1</u>		
Woody Vine Stratum (Plot size: <u>30 Feet</u>)				
1. <u>None</u>				
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). Glycine max is not listed in the Wetland Plant List. Therefore, it was assigned a rating of NI (no indicator) and not included in the hydric rating calculations.				

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>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>5</u> (A)	<u>20</u> (B)

Prevalence Index = B/A = 4.0

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 ☒

SOIL

Sampling Point: DP-8

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	7.5YR 5/3	100					Sandy Loam	

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.)

- | | |
|---|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> Stratified Layers (A5) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Muck Presence (A8) (LRR U) | <input type="checkbox"/> Redox Depressions (F8) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR P, T) | <input type="checkbox"/> Marl (F10) (LRR U) |
| <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) | |

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

APPENDIX C
NRCS Hydric Soils Rating Report

Hydric Rating by Map Unit—Ouachita Parish, Louisiana (East Ouachita LED Site)



Map Scale: 1:5,080 if printed on A landscape (11" x 8.5") sheet.

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Lines

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Soil Rating Points

Hydric (100%)

Hydric (66 to 99%)

Hydric (33 to 65%)

Hydric (1 to 32%)

Not Hydric (0%)

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ouachita Parish, Louisiana
Survey Area Data: Version 12, Sep 11, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 26, 2015—May 2, 2015

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Ga	Gallion silt loam	0	73.5	100.0%
Totals for Area of Interest			73.5	100.0%

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower