CSRS | BUILDING STRONGER, SMARTER COMMUNITIES TOGETHER.

Exhibit EE. Kitchco Ryans Way Wetlands Delineation Report

CSRS | 6767 Perkins Rd., Suite 200, Baton Rouge, LA 70808 | 225.769.0546 | www.csrsinc.com

CSRS | BUILDING STRONGER, SMARTER COMMUNITIES TOGETHER.

Ms. Liz Pierre
North Louisiana Economic Partnership
1814 North 18th Street, Suite 501
Monroe, LA 71208

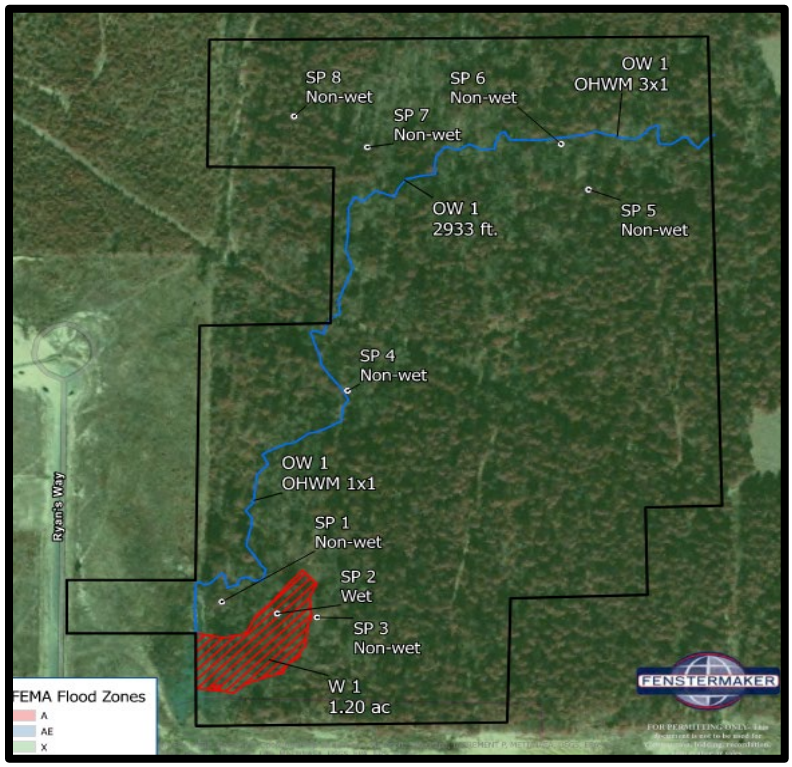
RE: Kitchco Ryans Way, Webster Parish
Wetlands Delineation Report
CSRS Project No 216269

Kitchco Ryans Way Wetlands Delineation Report

Dear Ms. Pierre,

As part of the Louisiana Economic Development's Certified Site Program, a routine wetlands delineation was conducted for the Kitcho Ryans Way in accordance with the 1987 U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual and the Regional Supplement. The purpose of the wetland delineation was to determine the presence/absence of wetlands using the three technical criteria: vegetation, hydrology, and soils.

The results of the wetlands delineation identified the following hydrologic features:



Approximately 1.20 acres of Palustrine Forest Wetlands and 2,933 linear feet of Other Waters of the US were identified during the wetland delineation report.

The majority of the subject property can be developed without impacts to any wetlands and waters features that could be subject to Section 404 of the Clean Water Act.

Should any proposed impacts to these features be warranted, it is suggested that a Jurisdictional Determination be made to confirm the jurisdictional status of these wetlands and waters. If any jurisdictional features be impacted further coordination with the USACE may be warranted.

Thank you for the opportunity to assist you in this project. Should you have any questions or require additional information, feel free to contact me.

Respectfully,

Taylor Gravois, PE, PLS
CSRS, Inc.

WETLAND DELINEATION REPORT:
KITCHCO RYANS WAY

LOCATED IN

WEBSTER PARISH, LOUISIANA

Lafayette
135 Regency Square
Lafayette, LA 70508
P. O. Box 52106 (70505)
337.237.2200 phone
337.232.3299 fax

New Orleans
1100 Poydras, Suite 1550
New Orleans, LA 70163
504.582.2201 phone
504.582.2210 fax

Baton Rouge
445 North Blvd., Suite 650
Baton Rouge, LA 70802
225.344.6701 phone
337.232.3299 fax

Houston
5005 Riverway, Suite 300
Houston, TX 77056
713.840.9995 phone
713.840.9997 fax

Shreveport
1535 Grimmett Drive
Shreveport, LA 71107
318.222.0040 phone
318.222.0042 fax

www.fenstermaker.com

PREPARED FOR
NORTH LOUISIANA ECONOMIC PARTNERSHIP

SEPTEMBER 2021

FENSTERMAKER

Engineers • Surveyors
Environmental Consultants

Table of Contents

1.0 Introduction

C. H. Fenstermaker & Associates, L.L.C. (Fenstermaker) conducted a wetland delineation on September 7th and 8th, 2021 within the Kitchco Ryans Way site in Webster Parish, Louisiana. The delineation was limited to the proposed area of interest which consists of approximately 50.2 acres. For clarity throughout this report, the proposed Kitchco Ryans Way Project will be referred to as the "Site". Enclosed are topographic and aerial maps illustrating the approximate layout of the Site (**Figures 1-3**). The proposed Site is located approximately 2.4 miles southeast of Minden, Louisiana.

2.0 Methodology

Fenstermaker conducted the delineation in accordance with the 1987 U.S. Army Corps of Engineers (COE) Wetlands Delineation Manual and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region (Version 2.0, November 2010). The purpose of the wetland delineation was to determine the presence/absence of wetlands using the three technical criteria: vegetation, hydrology, and soils. It is necessary that all three criteria be present in order to be a jurisdictional wetland. The absence of any one of these criteria could exclude an area from being a wetland under the jurisdiction of the Corps of Engineers.

Fenstermaker established the wetland delineation baseline by utilizing the western site boundary which is generally parallel to the stream feature that runs north to south across the site. Three transects were established off the baseline. Eight data points (plots) were recorded along the three established transects. Plot locations were based on changes in vegetation and/or hydrology. All field data was collected with a Trimble R1 Integrated GNSS system.

2.1 Vegetation

In order for the vegetation to be considered hydrophytic (wet), the prevalent vegetation must consist of macrophytes that are typically adapted to areas having hydrologic and soil conditions unique to wetlands. By definition, hydrophytic species, due to morphological, physiological, and/or reproductive adaptation(s), have the ability to grow, effectively compete, reproduce, and/or persist in anaerobic soil conditions. Macrophytes are any plant material that can be seen without the aid of magnification.

As part of the vegetation criteria, species dominance was evaluated using the "50/20 rule" which ranks plant species that immediately exceed 50% of the total dominance measure for a vegetation stratum, plus any additional species comprising 20% or more of the total dominance measure for that stratum. If the recorded plant species did not exceed 50% of the total dominance, then the prevalence index was used. The prevalence index is a wetland indicator which takes into account all plant species and calculates a weighted average by assigning each indicator status category a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, and UPL = 5). Plant species are also weighted by their abundance. The prevalence index ranges from 1 to 5, and a prevalence index of 3.0 or less indicates that hydrophytic vegetation is present.

2.2 Hydrology

As defined by the 1987 COE Manual, 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. While they may not provide an abundance of information about long-term wetness conditions on a given site, wetland hydrology indicators provide evidence that the Site currently has a wetland hydrologic regime. This information, coupled with the presence of hydrophytic vegetation and hydric soils, provides evidence of long-term as well as short-term wetland conditions.

In order to meet the hydrology criteria of a wetland, a sample location must meet one primary indicator or two secondary indicators.

Table 2.2.1

Primary indicators		Secondary indicators
Surface water (A1)	Water-stained leaves (B9)	Surface soil cracks (B6)
High water table (A2)	Aquatic fauna (B13)	Sparsely vegetated concave surface (B8)
Saturation (A3)	Marl deposits (B15)	Drainage patterns (B10)
Water marks (B1)	Hydrogen sulfide odor (C1)	Moss trim lines (B16)
Sediment deposits (B2)	Oxidized rhizospheres along living roots (C3)	Dry season water table (C2)
Drift deposits (B3)	Presence of reduced iron (C4)	Crayfish burrows (C8)
Algal mat or crust (B4)	Recent iron reduction in tilled soils (C6)	Saturation visible on aerial imagery (C9)
Iron deposits (B5)	Thin muck surface (C7)	Geomorphic position (D2)
Inundation visible on aerial imagery (B7)		Shallow aquitard (D3)
		Fac-neutral test (D5)

2.3 Soils

Hydric soils are defined 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, July 13, 1994). Almost all hydric soils exhibit characteristic morphologies that are a result of repeated periods of saturation and/or inundation for more than a few days at a time. When combined with anaerobic microbial activity in the soil, saturation and inundation causes a depletion of oxygen in the soil. This anaerobiosis process results in characteristic morphologies such as the reduction, translocation, and/or the accumulation of iron, which persists in the soil

whether it is wet or dry. This process forms features in the soil that are called redoximorphic features. These characteristic morphologies are particularly useful for identifying hydric soils.

The soil investigation criterion requires the use of a soil probe or a pit excavated to a 20-inch depth in order to investigate for hydric indicators. These indicators typically include, but are not limited to:

- gleyed or low-chroma colors (redox depletions)
- redox concentrations
- listed on the local hydric soils list
- listed on the national hydric soils list

3.0 Results and Discussion

3.1 Site Description

The Site is located east of Ryans Way and north of Industrial Drive and consists of forested areas intersected with multiple trails and rights-of-way. The site can be accessed through an approximately 150-ft. section adjacent to Ryans Way. The rest of the site is bordered by similar forested areas and commercial/industrial areas.

Eight sample locations were taken along established transects within the proposed Site. Plot locations were selected based on visual observations of changes in vegetation, hydrology, and topography. Additionally, plots were positioned along pre-determined transect lines. Recorded data forms and photographs are presented in **Appendix A**. The photographs illustrate typical conditions that were observed at each Plot.

3.2 Vegetation

The Site is approximately 50.2 acres in size and encompasses slight habitat changes. It consists predominantly of mixed pine and hardwood forested areas (**Figures 2 & 3**).

Dominant plant species across the site consisted of water oak (*Quercus nigra*), American elm (*Ulmus americana*), loblolly pine (*Pinus taeda*), red maple (*Acer rubrum*), and sweetgum (*Liquidambar styraciflua*). One palustrine forested wetland (W 1) was identified near the southwest corner of the site. This wetland feature consisted predominately of bottomland hardwoods.

The recorded plots that were dominated by hydrophytes and met the hydrophytic vegetation criteria of a wetland are referenced in **Table 4.1 (Plot ID Summary)**. A complete list of vegetation associated with each plot can be found in the corresponding data sheets located in **Appendix A**. The location of each plot, relative to the proposed Site, is illustrated in **Figures 2 & 3**.

3.3 Hydrology

The site has high topographic relief ranging from 294-ft. at the highest elevation to 252-ft. at the lowest elevation. The highest elevations are located along the southeastern and northwestern boundaries. The hydrologic gradient slopes from these higher elevations towards a stream feature identified as Other Waters #1 (OW 1) and then continues south off-site (**Figure 1**). OW 1 is located along the northern and eastern boundaries of the Site. This feature traverses in a westerly direction before turning south and dissipating into W 1. An ordinary high-water mark was identified within OW 1 which ranged from 3-ft. in width by 1-ft. in depth near the northern boundary of the Site and 1-ft. in width by 1-ft. in depth near the southern boundary of the Site.

Wetland hydrology indicators were identified at the southern portion of the site where the stream dissipates into a flat, low-lying area. Hydrology indicators within the palustrine forested wetlands (W 1) consisted of sediment deposits, drift deposits, water-stained leaves, drainage patterns, geomorphic position, and FAC-neutral test. The Site is not located within a FEMA flood zone (**Figure 2**). Wetlands identified within the Site appear to have indirect connectivity to Lake Bistineau.

Each sampling point containing wetland hydrology is noted on **Table 4.1**. Wetland hydrology indicators associated with each plot can be referenced in the corresponding data sheets of **Appendix A**.

3.4 Soils

According to the Webster Parish Soil Survey, the Site has six mapped soil units. The soil units located within the Site are By - Boykin loamy fine sand, 1 to 5 percent slopes, GY - Guyton-Ouachita silt loams, 0 to 1 percent slopes, frequently flooded, MN - Mahan fine sandy loam, 5 to 12 percent slopes, Mp - Malbis fine sandy loam, 1 to 3 percent slopes, Rs - Ruston fine sandy loam, 1 to 3 percent slopes, and SM - Smithdale fine sandy loam, 5 to 12 percent slopes. The Guyton-Ouachita soil series is listed as a hydric soil while the remaining mapped soil units are not listed as hydric in the NRCS hydric soils list for Webster parish. Plot locations relative to the mapped soil units listed above can be referenced on **Figure 3**.

The sample location recorded within wetlands met the hydric soils criteria by meeting the depleted matrix (F3) indicator. Please see **Table 4.1** for plots that met the hydric soil indicators of a wetland. Soil characteristics associated with each plot can be found in the corresponding data sheets located in **Appendix A**.

4.0 Findings & Conclusions

It is Fenstermaker's opinion that the Site contains 1.2 acres of palustrine forested (PFO) wetlands within the project boundary (**Table 4.2**). One Other Waters (OW-1) was also mapped and is listed on **Table 4.3**. Areas identified as wetlands met all three technical criteria which consists of hydrophytic vegetation, wetland hydrology and hydric soils. All wetlands appear to have indirect connectivity to Lake Bistineau.

A jurisdictional determination should be obtained from the U.S. Army Corp of Engineers prior to impacting any identified Waters of the U.S. within the Site. Based on recorded plots, it is Fenstermaker's opinion that water and wetland polygons/lines displayed in **Figures 2 & 3** best illustrates wetland and water locations and boundaries within the Site. All water and wetland boundaries were physically mapped during the field investigation. Additionally, a Department of the Army Permit should be acquired prior to any mechanized land clearing activities or the deposition of fill material in jurisdictional waters and/or wetlands. **Table 4.1** below depicts the presence/absence of each of the three wetland technical criteria at each plot. **Table 4.2** below provides a list of wetlands identified throughout the Site. **Table 4.3** below provides a list of Other Waters identified throughout the Site.

Table 4.1 - Plot ID Summary

Plot #	SAMPLE DATE	STATUS	HYDROPHYTIC VEGETATION	HYDRIC SOILS	WETLAND HYDROLOGY	WETLAND TYPE	LATITUDE	LONGITUDE
1	09/07/21	Non-wet	X				32.585933	-93.25807
2	09/07/21	Wet	X	X	X	PFO1	32.585848	-93.257615
3	09/07/21	Non-wet	X				32.585823	-93.257288
4	09/07/21	Non-wet	X				32.587585	-93.257073
5	09/08/21	Non-wet	X				32.589173	-93.25513
6	09/08/21	Non-wet	X				32.589524	-93.255362
7	09/08/21	Non-wet	X				32.589477	-93.256948
8	09/08/21	Non-wet	X				32.589707	-93.257553

Tables 4.2 below lists the wetlands identified throughout the Site in addition to the wetland ID, Cowardin classification, linear footage, acreage, and latitude & longitude.

Table 4.2 - Wetland ID Summary

Wetland ID	Cowardin Classification	Linear ft.	Acres	Latitude	Longitude
W-1	PFO1	415 X 140	1.20	32.5856116	-93.2577390

Tables 4.3 below lists the Other Waters identified throughout the Site in addition to the Water ID, Cowardin classification, linear footage, acreage and latitude & longitude.

Table 4.3 – Other Water ID Summary

Water ID	Cowardin Classification	Linear ft.	Acres	Latitude	Longitude
OW-1	R4SBC	2,933	0.13	32.5896116°N	93.2540968°W

A jurisdictional wetland determination can only be made by the U. S. Army Corps of Engineers (USACE). Consultants such as Fenstermaker can perform field investigations (delineations), collect data in a prescribed manner, and submit it to the USACE along with recommendations;

however, it is the USACE that makes the final determination. The U.S. Army Corps of Engineers, Vicksburg District, has jurisdiction in the area of this project.

5.0 References

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

Lewis M. Cowardin, Virginia Carter, Francis C. Golet, Edward T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List*: 2016 wetland ratings. Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at the following link: https://websoilsurvey.sc.egov.usda.gov/. Accessed Sept/11/2019.

U.S. Army Corps of Engineers. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. November 2010. Version 2.0

U.S. Department of Agriculture, Natural Resources Conservation Service. 2018. *Field Indicators of Hydric Soils in the United States*, version 8.2. L.M. Vasilas, G.W. Hurt, and J. F. Berkowitz (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

FIGURE 1 – VICINITY MAP

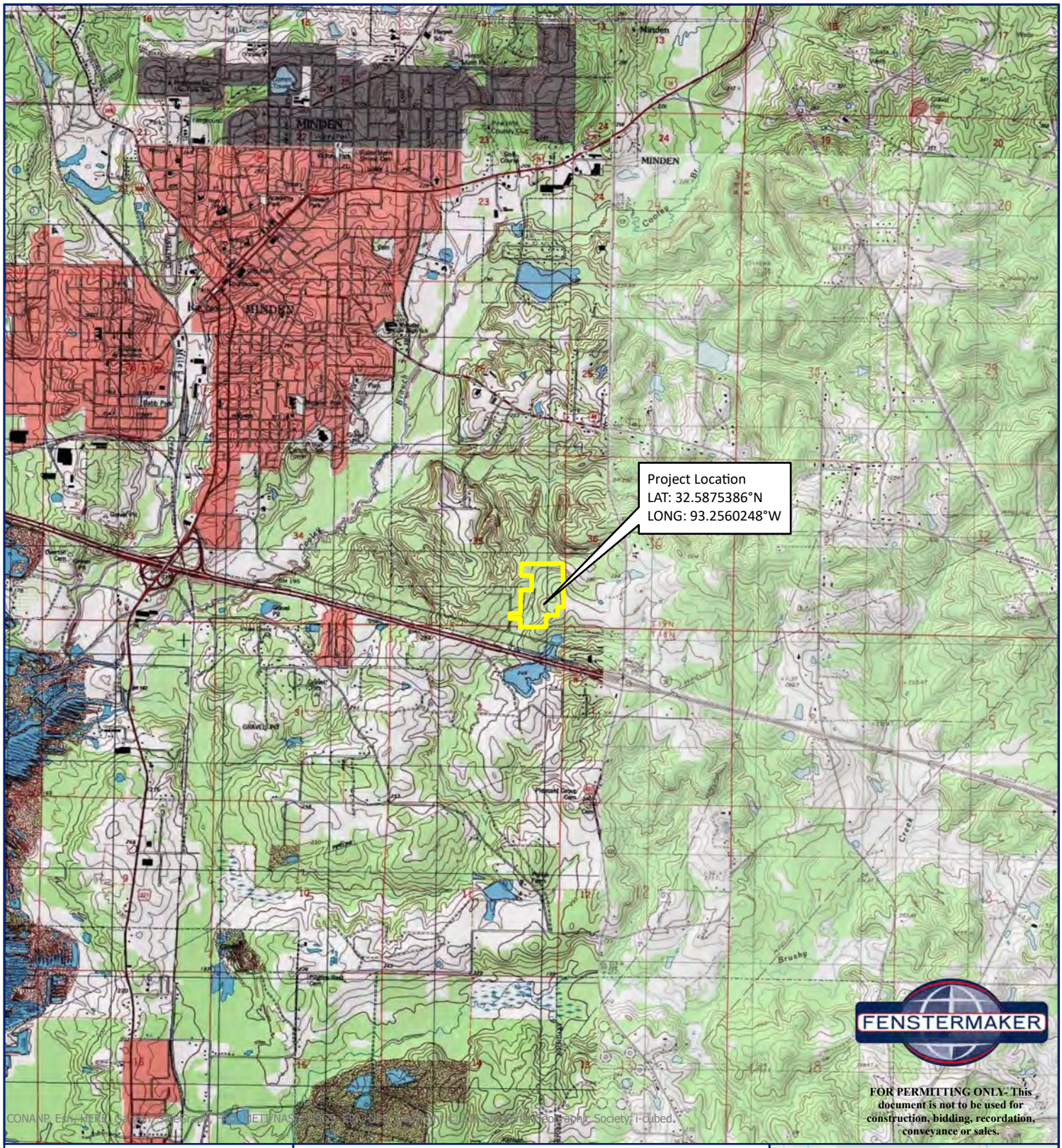


Figure 1: Vicinity Map

North Louisiana Economic Partnership
Kitchco Ryans Way
Webster Parish, LA

9/15/2021

Folder: T:\2021\2213732\ENVIRONMENTAL\GIS\

0 0.5 1 Miles

N
W E
S

Legend

Survey Boundary (50.2 ac)

FIGURE 2 – INFRARED & FEMA FLOOD ZONE MAP

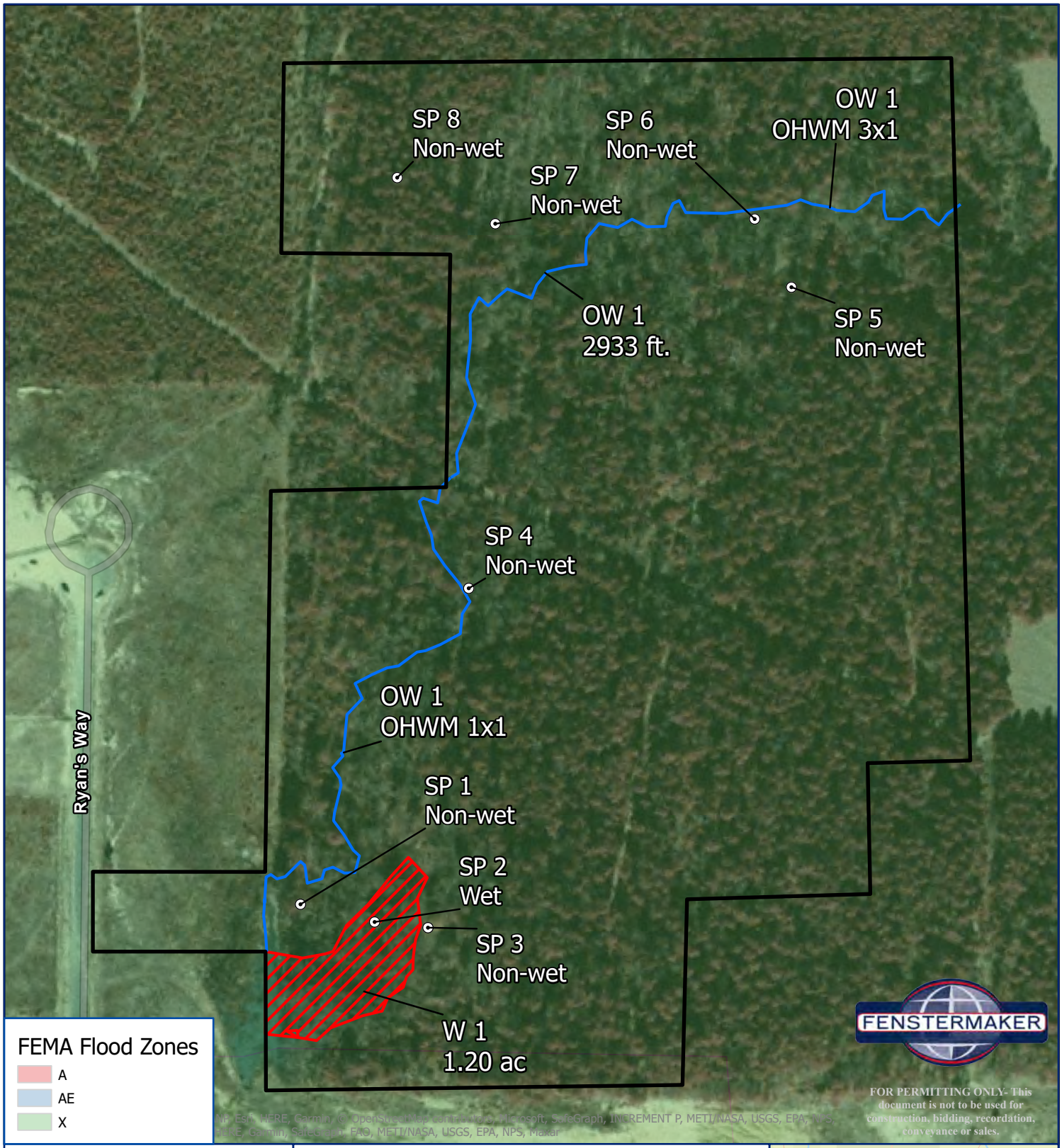


Figure 2: Infrared & FEMA Flood Zone Map

North Louisiana Economic Partnership
Kitchco Ryans Way
Webster Parish, LA

9/15/2021
Folder: T:\2021\2213732\ENVIRONMENTAL\GIS\

FIGURE 3 – SOIL SERIES & WETLAND DETAIL MAP

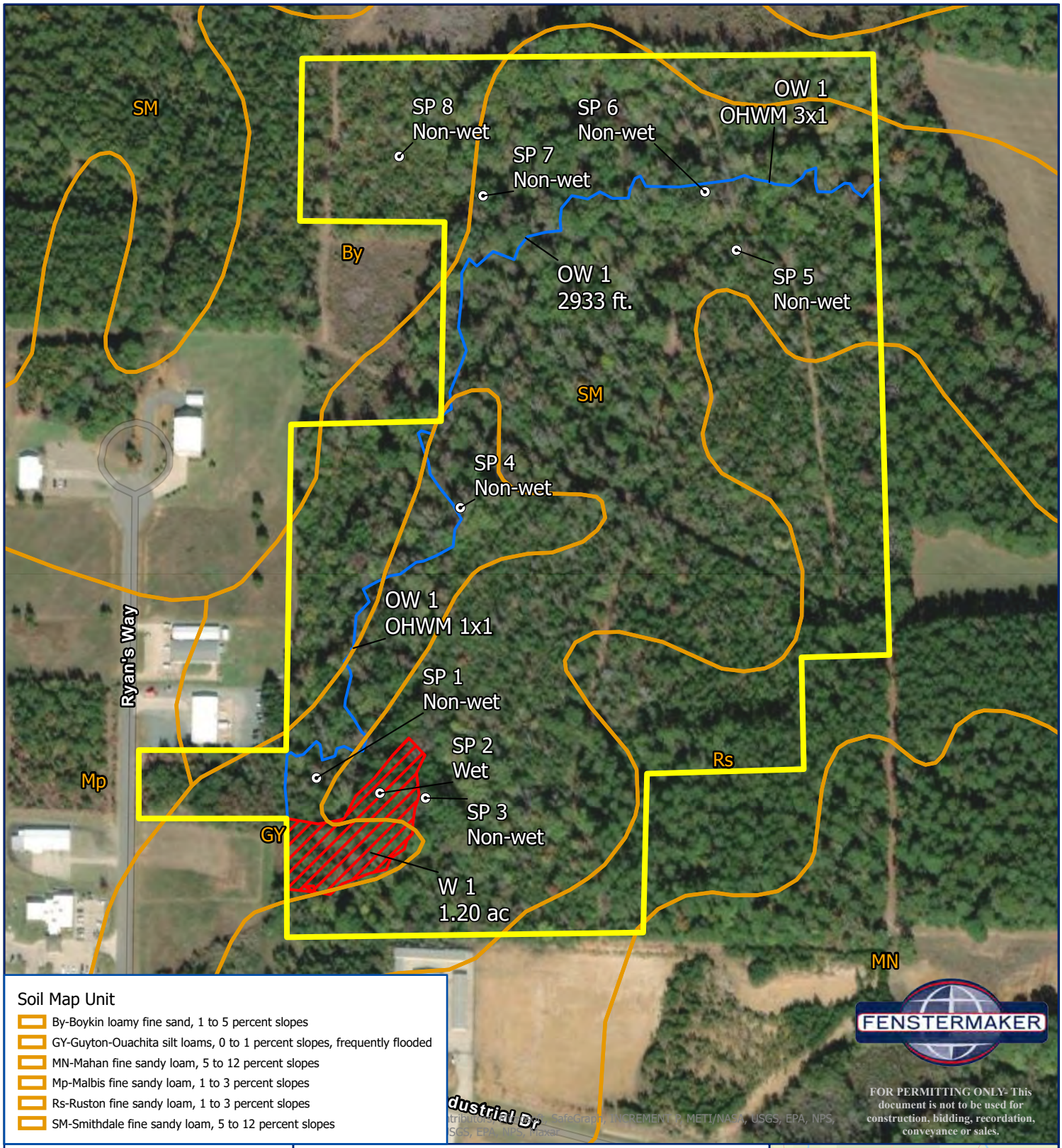


Figure 3: Soil Series & Wetland Detail Map

North Louisiana Economic Partnership
Kitchco Ryans Way
Webster Parish, LA

9/15/2021

Folder: T:\2021\2213732\ENVIRONMENTAL\GIS\

0 300 600 Feet

N
W E
S

Legend

- Survey Boundary (50.2 ac)
- Sample Plot
- Other Waters
- Palustrine Forested Wetlands (PFO)

APPENDIX A – DATA FORMS & PHOTOGRAPHS

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 07-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 1

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.585933 **Long.:** -93.25807 **Datum:** WGS84

Soil Map Unit Name: GY - Guyton-Ouachita silt loams, 0 to 1 percent slopes, frequently flooded **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 1

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Quercus nigra	30	☑	37.5%	FAC
2. Liquidambar styraciflua	20	☑	25.0%	FAC
3. Acer rubrum	10	☐	12.5%	FAC
4. Triadica sebifera	10	☐	12.5%	FAC
5. Pinus taeda	10	☐	12.5%	FAC
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 40 20% of Total Cover: 16	80	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Quercus phellos	5	☑	100.0%	FACW
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 2.5 20% of Total Cover: 1	5	= Total Cover		
Shrub Stratum (Plot size: 30)				
1. Juniperus virginiana	10	☑	52.6%	FACU
2. Liquidambar styraciflua	5	☑	26.3%	FAC
3. Quercus nigra	2	☐	10.5%	FAC
4. Ilex vomitoria	2	☐	10.5%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 9.5 20% of Total Cover: 3.8	19	= Total Cover		
Herb Stratum (Plot size: 30)				
1. Chasmanthium sessiliflorum	40	☑	72.7%	FAC
2. Callicarpa americana	10	☐	18.2%	FACU
3. Dichanthelium acuminatum	5	☐	9.1%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 27.5 20% of Total Cover: 11	55	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1. Smilax rotundifolia	3	☐	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 1.5 20% of Total Cover: 0.6	3	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	137	x 3 =	411
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	162 (A)		501 (B)

Prevalence Index = B/A = 3.093

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Redox Features Loc [2]	Texture	Remarks
0-20	10YR 4/4	100					Silty Clay Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 1: Plot #1, Soil Sample

Photo 2: Plot #1, Vegetation facing north

Photo 3: Plot #1, Vegetation facing east

Photo 4: Plot #1, Vegetation facing west

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 07-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 2

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Bottomland **Local relief (concave, convex, none):** concave **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.585848 **Long.:** -93.257615 **Datum:** WGS84

Soil Map Unit Name: SM - Smithdale fine sandy loam, 5 to 12 percent slopes **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** **Yes** ◉ **No** ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☑ Sediment Deposits (B2)
- ☑ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☑ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? **Yes** ◉ **No** ○

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 2

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Quercus nigra	40	☑	50.0%	FAC
2. Nyssa sylvatica	30	☑	37.5%	FAC
3. Liquidambar styraciflua	10	☐	12.5%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 40	20% of Total Cover: 16	80	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Quercus nigra	0	☐	0.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Acer rubrum	10	☑	66.7%	FAC
2. Triadica sebifera	5	☑	33.3%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 7.5	20% of Total Cover: 3	15	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Chasmanthium sessiliflorum	40	☑	40.0%	FAC
2. Dichanthelium acuminatum	30	☑	30.0%	FAC
3. Commelina virginica	20	☑	20.0%	FACW
4. Carex complanata	10	☐	10.0%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 50	20% of Total Cover: 20	100	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Smilax rotundifolia	3	☐	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 1.5	20% of Total Cover: 0.6	3	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	178	x 3 =	534
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	198 (A)		574 (B)

Prevalence Index = B/A = 2.899

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-3	10YR	8/2	85	5YR	5/8	15	C	M	Silty Clay	
3-20	10YR	6/2	75	5YR	5/8	25	C	M	Silty Clay	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 5: Plot #2, Soil Sample

Photo 6: Plot #2, Vegetation facing east

Photo 7: Plot #2, Vegetation facing south

Photo 8: Plot #2, Vegetation facing west

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 07-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 3

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** none **Slope:** 3.0 % / 1.7 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.585823 **Long.:** -93.257288 **Datum:** WGS84

Soil Map Unit Name: SM - Smithdale fine sandy loam, 5 to 12 percent slopes **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 3

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Ulmus americana	50	☑	71.4%	FAC
2.	20	☑	28.6%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 35	20% of Total Cover: 14	70	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Acer rubrum	30	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Acer rubrum	10	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 5	20% of Total Cover: 2	10	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Callicarpa americana	5	☑	100.0%	FACU
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 2.5	20% of Total Cover: 1	5	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Smilax rotundifolia	3	☐	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 1.5	20% of Total Cover: 0.6	3	= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	93	x 3 =	279
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	98 (A)		299 (B)

Prevalence Index = B/A = 3.051

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-20	10YR	5/4	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 9: Plot #3, Soil Sample

Photo 10: Plot #3, Vegetation facing north

Photo 11: Plot #3, Vegetation facing east

Photo 12: Plot #3, Vegetation facing west

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 07-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 4

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Streamside **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.587585 **Long.:** -93.257073 **Datum:** WGS84

Soil Map Unit Name: GY - Guyton-Ouachita silt loams, 0 to 1 percent slopes, frequently flooded **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 4

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Quercus nigra	40	☑	57.1%	FAC
2. Ilex opaca	20	☑	28.6%	FAC
3. Pinus taeda	10	☐	14.3%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 35	20% of Total Cover: 14	70	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Liquidambar styraciflua	20	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 10	20% of Total Cover: 4	20	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Liquidambar styraciflua	10	☑	28.6%	FAC
2. Diospyros virginiana	10	☑	28.6%	FAC
3. Ulmus americana	5	☐	14.3%	FAC
4. Ilex opaca	5	☐	14.3%	FAC
5. Ilex vomitoria	5	☐	14.3%	FAC
6.	0	☐	0.0%	
50% of Total Cover: 17.5	20% of Total Cover: 7	35	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Callicarpa americana	5	☑	41.7%	FACU
2. Chasmanthium sessiliflorum	5	☑	41.7%	FAC
3. Polystichum acrostichoides	2	☐	16.7%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 6	20% of Total Cover: 2.4	12	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Smilax rotundifolia	5	☑	62.5%	FAC
2. Vitis rotundifolia	3	☑	37.5%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 4	20% of Total Cover: 1.6	8	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 88.9% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:		
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	138	x 3 =	414	
FACU species	7	x 4 =	28	
UPL species	0	x 5 =	0	
Column Totals:	145 (A)		442	(B)

Prevalence Index = B/A = 3.048

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-2	10YR	4/3	100					Silt Loam	
2-20	10YR	4/6	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 13: Plot #4, Soil Sample

Photo 14: Plot #4, Vegetation facing north

Photo 15: Plot #4, Vegetation facing east

Photo 16: Plot #4, Vegetation facing south

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 08-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 5

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.589173 **Long.:** -93.25513 **Datum:** WGS84

Soil Map Unit Name: SM - Smithdale fine sandy loam, 5 to 12 percent slopes **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 5

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Pinus taeda	30	☑	60.0%	FAC
2. Quercus nigra	10	☑	20.0%	FAC
3. Juniperus virginiana	10	☑	20.0%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 25 20% of Total Cover: 10	50		= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Liquidambar styraciflua	20	☑	66.7%	FAC
2. Juniperus virginiana	10	☑	33.3%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 15 20% of Total Cover: 6	30		= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Ilex vomitoria	20	☑	80.0%	FAC
2. Liquidambar styraciflua	5	☑	20.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 12.5 20% of Total Cover: 5	25		= Total Cover	
Herb Stratum (Plot size: 30)				
1. Callicarpa americana	10	☑	76.9%	FACU
2. Chasmanthium sessiliflorum	3	☑	23.1%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 6.5 20% of Total Cover: 2.6	13		= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Smilax rotundifolia	3	☐	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 1.5 20% of Total Cover: 0.6	3		= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	91	x 3 =	273
FACU species	30	x 4 =	120
UPL species	0	x 5 =	0
Column Totals:	121 (A)		393 (B)

Prevalence Index = B/A = 3.248

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type [1]	Loc [2]	Texture	Remarks
0-20	10YR	7/8	100						Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 17: Plot #5, Soil Sample

Photo 18: Plot #5, Vegetation facing north

Photo 19: Plot #5, Vegetation facing east

Photo 20: Plot #5, Vegetation facing west

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 08-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 6

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Stream bank **Local relief (concave, convex, none):** none **Slope:** 0.0 % / 0.0 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.589524 **Long.:** -93.255362 **Datum:** WGS84

Soil Map Unit Name: SM - Smithdale fine sandy loam, 5 to 12 percent slopes **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 6

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Ulmus americana	30	☑	40.0%	FAC
2. Quercus nigra	20	☑	26.7%	FAC
3. Acer rubrum	10	☐	13.3%	FAC
4. Liquidambar styraciflua	10	☐	13.3%	FAC
5. Quercus alba	5	☐	6.7%	FACU
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 37.5 — 20% of Total Cover: 15	75	= Total Cover		
Sapling or Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 0 — 20% of Total Cover: 0	0	= Total Cover		
Shrub Stratum (Plot size: 30)				
1. Ulmus americana	20	☑	36.4%	FAC
2. Hamamelis virginiana	20	☑	36.4%	FACU
3. Ilex vomitoria	10	☐	18.2%	FAC
4. Ilex opaca	5	☐	9.1%	FAC
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 27.5 — 20% of Total Cover: 11	55	= Total Cover		
Herb Stratum (Plot size: 30)				
1. Chasmanthium sessiliflorum	40	☑	88.9%	FAC
2. Callicarpa americana	5	☐	11.1%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 22.5 — 20% of Total Cover: 9	45	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1. Vitis rotundifolia	5	☑	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 2.5 — 20% of Total Cover: 1	5	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 5 (A)

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

Percent of dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	150	x 3 =	450	
FACU species	30	x 4 =	120	
UPL species	0	x 5 =	0	
Column Totals:	180	(A)	570	(B)

Prevalence Index = B/A = 3.167

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type [1]	Redox Features Loc [2]	Texture	Remarks
0-20	10YR 5/6	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 21: Plot #6, Soil Sample

Photo 22: Plot #6, Vegetation facing north

Photo 23: Plot #6, Vegetation facing east

Photo 24: Plot #6, Vegetation facing west

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 08-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 7

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** none **Slope:** 3.0 % / 1.7 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.589477 **Long.:** -93.256948 **Datum:** WGS84

Soil Map Unit Name: SM - Smithdale fine sandy loam, 5 to 12 percent slopes **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 7

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Ulmus americana	40	☑	50.0%	FAC
2. Acer rubrum	20	☑	25.0%	FAC
3. Quercus alba	20	☑	25.0%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 40	20% of Total Cover: 16	80	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Ulmus americana	10	☑	33.3%	FAC
2. Acer rubrum	10	☑	33.3%	FAC
3. Quercus alba	10	☑	33.3%	FACU
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 15	20% of Total Cover: 6	30	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Quercus alba	5	☑	50.0%	FACU
2. Ilex vomitoria	5	☑	50.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 5	20% of Total Cover: 2	10	= Total Cover	
Herb Stratum (Plot size: 30)				
1. Chasmanthium sessiliflorum	1	☐	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 0.5	20% of Total Cover: 0.2	1	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Vitis rotundifolia	3	☑	60.0%	FAC
2. Toxicodendron radicans	2	☑	40.0%	FAC
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 2.5	20% of Total Cover: 1	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 70.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	91	x 3 =	273
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	126 (A)		413 (B)

Prevalence Index = B/A = 3.278

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-2	10YR	4/2	100					Silt Loam	
2-20	10YR	5/3	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 25: Plot #7, Soil Sample

Photo 26: Plot #7, Vegetation facing north

Photo 27: Plot #7, Vegetation facing south

Photo 28: Plot #7, Vegetation facing west

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: Kitchco Ryans Way **City/County:** Webster **Sampling Date:** 08-Sep-21

Applicant/Owner: North Louisiana Economic Partnership **State:** LA **Sampling Point:** 8

Investigator(s): Andrew Harrel, Payton Matherne **Section, Township, Range:** S 35 T 19N R 09W

Landform (hillslope, terrace, etc.): Hillslope **Local relief (concave, convex, none):** none **Slope:** 2.0 % / 1.1 °

Subregion (LRR or MLRA): LRR P **Lat.:** 32.589707 **Long.:** -93.257553 **Datum:** WGS84

Soil Map Unit Name: By - Boykin loamy fine sand, 1 to 5 percent slopes **NWI classification:** None

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 ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) (LRR U)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of 2 required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) (LRR T, U)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):
Water Table Present?	Yes ○	No ◉	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION (Five/Four Strata) - Use scientific names of plants.

Sampling Point: 8

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30)				
1. Pinus taeda	30	☑	75.0%	FAC
2. Juniperus virginiana	10	☑	25.0%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 20	20% of Total Cover: 8	40	= Total Cover	
Sapling or Sapling/Shrub Stratum (Plot size: 30)				
1. Acer rubrum	20	☑	40.0%	FAC
2. Liquidambar styraciflua	10	☑	20.0%	FAC
3. Ulmus americana	10	☑	20.0%	FAC
4. Juniperus virginiana	10	☑	20.0%	FACU
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
50% of Total Cover: 25	20% of Total Cover: 10	50	= Total Cover	
Shrub Stratum (Plot size: 30)				
1. Ilex vomitoria	10	☑	40.0%	FAC
2. Acer rubrum	10	☑	40.0%	FAC
3. Liquidambar styraciflua	5	☑	20.0%	FAC
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
50% of Total Cover: 12.5	20% of Total Cover: 5	25	= Total Cover	
Herb Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
11.	0	☐	0.0%	
12.	0	☐	0.0%	
50% of Total Cover: 0	20% of Total Cover: 0	0	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. Vitis rotundifolia	3	☐	100.0%	FAC
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
50% of Total Cover: 1.5	20% of Total Cover: 0.6	3	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 77.8% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	98	x 3 =	294
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	118 (A)		374 (B)

Prevalence Index = B/A = 3.169

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Definition of Vegetation Strata:

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

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

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

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

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

Woody vine - All woody vines, regardless of height.

Hydrophytic Vegetation Present? Yes ◉ No ○

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

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type [1]	Loc [2]	Texture	Remarks
0-2	10YR	6/3	100					Silt Loam	
2-20	10YR	6/4	100					Silt Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) (LRR P, T, U)
- ☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ☐ Muck Presence (A8) (LRR U)
- ☐ 1 cm Muck (A9) (LRR P, T)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) (MLRA 150A)
- ☐ Sandy Muck 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 Soils [3]:

- ☐ 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)

[3] Indicators 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:

Photo 29: Plot #8, Soil Sample

Photo 30: Plot #8, Vegetation facing

Photo 31: Plot #8, Vegetation facing east

Photo 32: Plot #8, Vegetation facing west

Photo 33: OW-1