Exhibit FF. Calhoun Technology Park - South Site Wetlands Delineation Report
INTRODUCTION

A wetlands investigation was conducted for an approximately 87 acre tract of land (herein called the “Site”) located on the south side of U.S. Highway 80 (US 80) east of Calhoun in Ouachita Parish, Louisiana (Exhibits 1 and 2). The purpose of the investigation was to identify and delineate wetlands and other Waters of the U.S. The investigator was Mr. Bill Mcabee with Mcabee Wetland Services, and the Site was investigated on March 14 and 15, 2015. Methodology of the investigation followed guidelines set forth in the 1987 Wetland Delineation Manual and the Regional Supplement Manual for the Atlantic and Gulf Coastal Plain Region (Version 2.0).

The Site is part of the former Louisiana State University Calhoun Research Center, now named the Calhoun Technology Park. The facility has been the site of agriculture related research for over 100 years and in recent years has focused on timber management, especially loblolly pine (Pinus taeda) management. The site contains predominantly upland habitat which has been consistently impacted through various agriculture research, pine plantation stands are the dominant habitat.

US 80 borders the Site to the north. North Cheniere Creek crosses the Site on the southeast corner (Exhibit 3). The topography rises from Chenier Creek and is highest near US 80 where there are a few buildings adjacent to US 80. Elevations on the site vary from approximately 175 feet above sea above mean sea level (msl) near US 80 to approximately 115 feet msl at the Cheniere creek floodplains. Most of the uplands, not involved in experimental plantings, are maintained by mowing maintaining open grass pasture and lawns (Exhibit 4). There is an approximately 2.75 acre pond located near the south central border of the Site that is annually overgrown with herbaceous wetland vegetation.

Uplands were primarily pine and pine/hardwood mix forest or maintained grass pasture and lawns. Wetlands were hardwood bottomland associated with seasonally inundated or saturated floodplain terraces and herbaceous wetlands associated with a minor drainage and the pond.

The Ouachita Parish Soil Survey showed that approximately 70% of the soils on the Site were Ora-Savannah association, gently rolling, 16% were Guyton-Rosebloom complex, frequently flooded, and 13% were Ruston-Lucy association, undulating (see Appendix). Ora-Savannah association, gently rolling and Ruston-Lucy association hilly and gently rolling are moderately well to well drained soils.

Historical aerial photography dating back to 1998 was reviewed on google earth to identify any possible recurring “wet” signatures such as inundation or saturation. These were noted and investigated during the site visit.

FINDINGS

After reviewing the referenced background materials, a site reconnaissance that included soil, vegetation, and hydrological evaluations was conducted. The Field investigations confirmed that there are wetlands and Other Waters of the US on the Site, a total of 5.53 acres of forested wetlands, 2.4 acres of herbaceous wetlands, 1.2 acres of open water pond, and 264 linear feet of perennial streams were identified on the Site. Although the vegetation change from bottomland hardwoods to pine hardwood uplands was often apparent, soils were regularly inspected to confirm the boundary. See Exhibit 5 for the wetlands and stream location map.

Emergent wetlands were found along an ephemeral drain that leads from US 80 to the pond (Exhibit 6) and surrounding pond (Exhibit 7). Forested wetlands were located in a shallow valley on the eastern section near US 80, and between the pond and North Chenier Creek along the railroad ROW (Exhibit 8). Wetlands along the railroad are generally confined between that manmade structure and elevated upland pine forest.
Stormwater overflowing from the pond and general sheet flow from the north provide the hydrology to keep this area saturated and in some areas inundated during part of the growing season. The southeastern section had had some historical wet signatures and mapped Gutyon soils but existing hydrology conditions did not indicate this area as a wetland.

Although the U.S. Army Corps of Engineers will make the final call it is highly likely that the identified wetlands and North Chenier Creek would be considered jurisdiction waters under current regulations and any impacts to the wetlands and or the creek channels would require a Section 404 permit.

If you have any additional questions please contact me any time.

Sincerely,

William C. McAbee
McAbee Wetland Services
655 Meadowbrook Road
Jackson, MS 39206
Wcmcabee33@gmail.com
601.715.4803
EXHIBIT 1. GENERAL LOCATION MAP

EXHIBIT 2. LOCATION MAP WITH USGS MAPPING BACKGROUND.
EXHIBIT 3. NORTH CHENIERE CREEK.

EXHIBIT 4. TYPICAL GRASS LAWNS
EXHIBIT 5. WETLAND AND STREAM LOCATION MAP.
EXHIBIT 6. HERBACEOUS WETLANDS IN EPEMERAL DRAINAGE NORTH OF THE POND.

EXHIBIT 7. POND WITH HERBACEOUS WETLANDS.
EXHIBIT 8. FORESTED WETLANDS ADJACENT TO RAILROAD TRACKS.
APPENDIX A

SOILS MAPPING
Soil Map—Catahoula Parish, Louisiana (Callhoun South)

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or Swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot

Water Features
- Springs
- Streams and Canals

Transportation
- 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: [Web Mercator (EPSG:3857)]
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: Catahoula Parish, Louisiana
Survey Area Date: Version 9, Sep 28, 2016

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

Date(s) aerial images were photographed: Jun 3, 2011—Jun 11, 2011

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.
# Map Unit Legend

<table>
<thead>
<tr>
<th>Map Unit Symbol</th>
<th>Map Unit Name</th>
<th>Acres in AOI</th>
<th>Percent of AOI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gy</td>
<td>Guyton-Rosebloom complex, frequently flooded</td>
<td>14.6</td>
<td>16.1%</td>
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<tr>
<td>Os</td>
<td>Ora-Savannah association, gently rolling</td>
<td>63.1</td>
<td>69.8%</td>
</tr>
<tr>
<td>Ru</td>
<td>Ruston-Lucy association, undulating</td>
<td>11.9</td>
<td>13.2%</td>
</tr>
<tr>
<td>W</td>
<td>Water</td>
<td>0.8</td>
<td>0.9%</td>
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<tr>
<td><strong>Totals for Area of Interest</strong></td>
<td></td>
<td><strong>90.4</strong></td>
<td><strong>100.0%</strong></td>
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</tbody>
</table>
APPENDIX B

DATA FORMS
**WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

**Project/Site:** Calhoun Technology Park  
**City/County:** Ouachita  
**State:** LA  
**Sampling Date:** 3-14-2015  
**Applicant/Owner:** North Louisiana Economic Partnership  
**Investigator(s):** Bill McAbee  
**Landform (hillslope, terrace, etc.):** Hillslope  
**Local relief (concave, convex, none):** None  
**Slope (%):** 0-5%  
**Subregion (LRR or MLRA):** LRR O  
**Lat:** 32.5105  
**Long:** -92.3474  
**Datum:**  
**Soil Map Unit Name:** Guyton-Rosebloom complex, frequently flooded  
**NWI classification:** PEM  

**Hydrophytic Vegetation Present?** Yes X No  
**Hydric Soil Present?** Yes X No  
**Wetland Hydrology Present?** Yes X No  

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

Emergent wetland following a shallow swale leading from Highway 80 to Pond 2.

**HYDROLOGY**

<table>
<thead>
<tr>
<th>Primary Hydrology Indicators</th>
<th>Secondary Hydrology Indicators</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water (A1)</td>
<td>Surface Soil Cracks (B6)</td>
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<tr>
<td>High Water Table (A2)</td>
<td>Sparsely Vegetated Concave Surface (B6)</td>
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<tr>
<td>Saturation (A3)</td>
<td>Drainage Patterns (B10)</td>
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<tr>
<td>Water Marks (B1)</td>
<td>Moss Trim Lines (B15)</td>
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<tr>
<td>Sediment Deposits (B2)</td>
<td>Dry-Season Water Table (C2)</td>
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<tr>
<td>Drift Deposits (B3)</td>
<td>Grayfish Burrows (C8)</td>
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<tr>
<td>Algal Mat or Crust (B4)</td>
<td>Saturation Visible on Aerial Imagery (C9)</td>
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<tr>
<td>Iron Deposits (B5)</td>
<td>Geomorphic Position (D2)</td>
<td></td>
</tr>
<tr>
<td>Inundation Visible on Aerial Imagery (B7)</td>
<td>Shallow Aquitard (D3)</td>
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</tr>
<tr>
<td>Water-Stained Leaves (B9)</td>
<td>FAC-Neutral Test (D5)</td>
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</tr>
</tbody>
</table>

**Field Observations:**

| Surface Water Present? | Yes X No Depth (inches): 0-1* |
| Water Table Present?   | Yes X No Depth (inches): >16   |
| Saturation Present?    | Yes X No Depth (inches): >8*    |

**Wetland Hydrology Present?** Yes X No

Marginal hydrology, saturation minor given the recent and past rain events.
### VEGETATION (Four Strata) – Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30' radius)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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50% of total cover: 20% of total cover: 

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<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30' radius)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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<tbody>
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50% of total cover: 20% of total cover: 

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<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 30' radius)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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<tbody>
<tr>
<td>1 Juncus effusus</td>
<td>40</td>
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<tr>
<td>2 Schedonorus arundinaceus</td>
<td>25</td>
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<tr>
<td>3 several unknown grasses not greater than 20%</td>
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</tbody>
</table>

50% of total cover: 20% of total cover: 

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<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 30' radius)</th>
<th>Absolute Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
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50% of total cover: 20% of total cover: 

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**Hydrophytic Vegetation Indicators:**

1. - Rapid Test for Hydrophytic Vegetation
2. - Dominance Test is >50%
3. - Prevalence Index is ≤3.0
   Problematic Hydrophytic Vegetation

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

**Definitions of Four Vegetation Strata:**

- **Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- **Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- **Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- **Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?**

Yes ☒ No

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

A few planted cypress trees are located along the drainage.
### Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix</th>
<th>Redox Features</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-8</td>
<td>10YR 5/2</td>
<td>100</td>
<td>Color (moist)</td>
<td>%</td>
</tr>
<tr>
<td>8-14</td>
<td>10YR 5/2</td>
<td>80</td>
<td>7.5YR5/8</td>
<td>20</td>
</tr>
</tbody>
</table>

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

**Location:** 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)
- 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)

#### Indicators for Problematic Hydric Soils:

- 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)

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:**
WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Calhoun Technology Park
City/County: Ouachita
Sampling Date: 3-14-2015
Applicant/Owner: North Louisiana Economic Partnership
State: LA
Sampling Point: Up 1
Investigator(s): Bill McAbee
Section, Township, Range: S26 T18N, R1E
Landform (hillslope, terrace, etc.): hillslope
Local relief (concave, convex, none): concave
Slope (%): 0-5%
Subregion (LRR or MLRA): LRR O
Lat: 32.5102
Long: -92.8472
Datum:
Soil Map Unit Name: Ora-Savannah association rolling
NWI classification: upland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes X</th>
<th>No _____</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes _____</th>
<th>No X _____</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td></td>
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<tr>
<td>Wetland Hydrology Present?</td>
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Remarks:
Upland pasture

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B6)
- 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 X _____ Depth (inches): ____________
- Water Table Present? Yes _____ No X _____ Depth (inches): ____________
- Saturation Present? Yes _____ No X _____ Depth (inches): ____________

( includes capillary fringe)

Wetland Hydrology Present? Yes _____ No X _____

Remarks:

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

Remarks:
**VEGETATION (Four Strata)** — Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30' radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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50% of total cover: 0 = Total Cover

20% of total cover: 0 = Total Cover

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30' radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
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</thead>
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</table>

50% of total cover: 0 = Total Cover

20% of total cover: 0 = Total Cover

**Hydrophytic Vegetation Indicators:**

1. Rapid Test for Hydrophytic Vegetation
2. Dominance Test Is >50%
3. Prevalence Index Is 53.0
4. Problematic Hydrophytic Vegetation (Explain)

**Definitions of Four Vegetation Strata:**

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

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

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

**Woody Vine** — All woody vines greater than 3.28 ft in height.

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 30' radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
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<tr>
<td>2.</td>
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<td>4.</td>
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<tr>
<td>5.</td>
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</tr>
</tbody>
</table>

50% of total cover: 0 = Total Cover

20% of total cover: 0 = Total Cover

<table>
<thead>
<tr>
<th>Remarks: (If observed, list morphological adaptations below).</th>
<th>Yes [x]</th>
<th>No [ ]</th>
</tr>
</thead>
</table>

**Sampling Point:** Up

**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 (AB)

**Prevalence Index worksheet:**

Total % Cover of: Multiply by:

<table>
<thead>
<tr>
<th>Species</th>
<th>Multiply by</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBL</td>
<td>1</td>
</tr>
<tr>
<td>FACW</td>
<td>2</td>
</tr>
<tr>
<td>FAC</td>
<td>3</td>
</tr>
<tr>
<td>FACU</td>
<td>4</td>
</tr>
<tr>
<td>UPL</td>
<td>5</td>
</tr>
</tbody>
</table>

Column Totals: (A) (B)

Prevalence Index = B/A =

**Hydrophytic Vegetation Present?**

Yes [x] No [ ]
### Soil Profile Description

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix</th>
<th>Color (moist)</th>
<th>%</th>
<th>Redox Features</th>
<th>Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>10YR 5/4</td>
<td>100</td>
<td></td>
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</tr>
</tbody>
</table>

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

**Location:** PL = Pore Lining, M = Matrix

### Hydric Soil Indicators

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- 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 (S6) (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 145A, 153C, 153D)

### Indicators for Problematic Hydric Soils

- 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)

**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 [x]

**Remarks:**
WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Calhoun Technology Park
City/County: Ouachita
State: LA
Sampling Date: 3-14-2015
Applicant/Owner: North Louisiana Economic Partnership
Sampling Point: wet 2
Investigator(s): Bill McAbee
Section, Township, Range: S27 T18N, R1E
Landform (hillslope, terrace, etc.): hillside
Local relief (concave, convex, none): concave
Slope (%): 0-5%
Subregion (LRR or MLRA): LRR O
Lat: 32.5095
Long: -92.3496
Datum: 
Soil Map Unit Name: Guyton-Rosebloom complex, frequently flooded
NWI classification: PSS

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.

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☐ No ☐</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes ☐ No ☐</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes ☐ No ☐</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is 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)

Secondary Indicators (minimum of two required)

- 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)
- 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): 5"
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:
<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30’ radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Salix nigra</td>
<td>20</td>
<td>y</td>
<td>obl</td>
</tr>
<tr>
<td>2. Quercus nigra</td>
<td>10</td>
<td>y</td>
<td>fac</td>
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<td>3.</td>
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<td>7.</td>
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<td>8.</td>
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</tr>
</tbody>
</table>

50% of total cover: 15

30 = Total Cover

20% of total cover: 6


<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30’ radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Salix nigra</td>
<td>30</td>
<td>y</td>
<td>obl</td>
</tr>
<tr>
<td>2. Liquidambar styraciflua</td>
<td>30</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>3. Rubus argutus</td>
<td>15</td>
<td>y</td>
<td>fac</td>
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<td>4.</td>
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<td>8.</td>
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</tbody>
</table>

75 = Total Cover

50% of total cover: 38

20% of total cover: 15


<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 30’ radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Juncus effusus</td>
<td>60</td>
<td>y</td>
<td>obl</td>
</tr>
<tr>
<td>2. Schedonorus arundinaceus</td>
<td>10</td>
<td>n</td>
<td>fac</td>
</tr>
<tr>
<td>3. Loricera japonica</td>
<td>20</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>4. Ligustrum japonicus</td>
<td>20</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>5. Andropogon virginicus</td>
<td>5</td>
<td>n</td>
<td>fac</td>
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<td>6.</td>
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<td>7.</td>
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<td>9.</td>
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<td>10.</td>
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<td>11.</td>
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<tr>
<td>12.</td>
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</tbody>
</table>

115 = Total Cover

50% of total cover: 50

20% of total cover: 20


<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 30’ radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Smilax glauca</td>
<td>10</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>2.</td>
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<td>3.</td>
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<td>5.</td>
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</tbody>
</table>

10 = Total Cover

50% of total cover: ______

20% of total cover: ______


<table>
<thead>
<tr>
<th>Dominance Test worksheet:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Dominant Species That Are OBL, FACW, or FAC:</td>
<td>9 (A)</td>
</tr>
<tr>
<td>Total Number of Dominant Species Across All Strata:</td>
<td>9 (B)</td>
</tr>
<tr>
<td>Percent of Dominant Species That Are OBL, FACW, or FAC:</td>
<td>100 (A/B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prevalence Index worksheet:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total % Cover of:</td>
<td>Multiply by:</td>
</tr>
<tr>
<td>OBL species</td>
<td>x 1 =</td>
</tr>
<tr>
<td>FACW species</td>
<td>x 2 =</td>
</tr>
<tr>
<td>FAC species</td>
<td>x 3 =</td>
</tr>
<tr>
<td>FACU species</td>
<td>x 4 =</td>
</tr>
<tr>
<td>UPL species</td>
<td>x 5 =</td>
</tr>
<tr>
<td>Column Totals:</td>
<td>(A)</td>
</tr>
</tbody>
</table>

Prevalence Index = B/A = ______

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Indicators:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Rapid Test for Hydrophytic Vegetation</td>
<td></td>
</tr>
<tr>
<td>2 - Dominance Test is &gt;50%</td>
<td></td>
</tr>
<tr>
<td>3 - Prevalence Index is ≤3.01</td>
<td></td>
</tr>
<tr>
<td>Problematic Hydrophytic Vegetation (Explain)</td>
<td></td>
</tr>
</tbody>
</table>

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

Definitions of Four Vegetation Strata:

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

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

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

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

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

Yes X No

Present?
### Soil Profile Description:

<table>
<thead>
<tr>
<th>Depth (Inches)</th>
<th>Matrix</th>
<th>Redox Features</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>10YR 5/3</td>
<td>100</td>
<td>Color (moist)</td>
<td>%</td>
</tr>
<tr>
<td>4-14</td>
<td>10YR 5/2</td>
<td>80</td>
<td>7.5YR/6</td>
<td>20</td>
</tr>
</tbody>
</table>

**Hydric Soil Indicators:**

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

**Indicators for Problematic Hydric Soils:**

- Polyvalue Below Surface (S6) (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)
- 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)

**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: Calhoun Technology Park
City/County: Ouachita
Sampling Date: 3-14-2015

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

Investigator(s): Bill McAbee
Section, Township, Range: S27 T18N, R1E

Landform (hillslope, terrace, etc.): shoulder/hill slope
Local relief (concave, convex, none): concave
Slope (%): 5-10%

Subregion (LRR or MLRA): LRR O
Lat: 32.5090
Long: -92.3493
Datum: __________

Soil Map Unit Name: Ora-Savannah association, gently rolling
NIW classification: upland

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.

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes ☑ No _____</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes _____ No ☑</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes _____ No ☑</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes _____ No ☑</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:
Primary Indicators (minimum of one is 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 two required)
- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- Drainage Patterns (B10)
- Moss Trim Lines (B18)
- Dry-Season Water Table (C2)
- Clayish 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 ☑

Remarks:

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

Remarks:
**VEGETATION (Four Strata)** – Use scientific names of plants.

**Sampling Point:** 1

### Tree Stratum (Plot size: 30' radius)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pinus taeda</td>
<td>65</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>Quercus nigra</td>
<td>5</td>
<td>n</td>
<td>fac</td>
</tr>
<tr>
<td>Liquidambar styraciflua</td>
<td>15</td>
<td>n</td>
<td>fac</td>
</tr>
</tbody>
</table>

50% of total cover: 43

20% of total cover: 17

### Sapling/Shrub Stratum (Plot size: 30' radius)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ligustrum japonicus</td>
<td>25</td>
<td>y</td>
<td>fac</td>
</tr>
</tbody>
</table>

50% of total cover: 25

20% of total cover: 10

### Herb Stratum (Plot size: 30' radius)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubus argutus</td>
<td>15</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>Aesculus pavia</td>
<td>5</td>
<td>n</td>
<td>facu</td>
</tr>
<tr>
<td>Ionica japonica</td>
<td>10</td>
<td>y</td>
<td>facu</td>
</tr>
<tr>
<td>Smilax smilax</td>
<td>10</td>
<td>y</td>
<td>facu</td>
</tr>
</tbody>
</table>

50% of total cover: 40

20% of total cover: 8

### Woody Vine Stratum (Plot size: 30' radius)

<table>
<thead>
<tr>
<th>Species</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vitis rotundifolia</td>
<td>15</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>Smilax rotundifolia</td>
<td>10</td>
<td>y</td>
<td>fac</td>
</tr>
</tbody>
</table>

50% of total cover: 25

20% of total cover: 5

### Dominance Test Worksheet

- **Number of Dominant Species That Are OBL, FACW, or FAC:** 5 (A)
- **Total Number of Dominant Species Across All Strata:** 7 (B)
- **Percent of Dominant Species That Are OBL, FACW, or FAC:** 71 (A/B)

### Prevalence Index Worksheet

- **Total % Cover of:**
  - OBL species
  - FACW species
  - FAC species
  - FACU species
  - UPL species
- **Column Totals:** (A) (B)

Prevalence Index = B/A =

### Hydrophytic Vegetation Indicators:

1. Rapid Test for Hydrophytic Vegetation (RTHV)
2. Dominance Test is >50%
3. Prevalence Index is ≤3.0
   - Problematic Hydrophytic Vegetation

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

### Definitions of Four Vegetation Strata:

- **Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- **Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- **Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- **Woody Vine** – All woody vines greater than 3.28 ft in height.

### Hydrophytic Vegetation Present?

- Yes X
- No

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

---

US Army Corps of Engineers

Atlantic and Gulf Coastal Plain Region – Version 2.0
### Soil Profile Description

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

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix</th>
<th>Redox Features</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>10YR 5/2</td>
<td>100</td>
<td>Color (moist) %</td>
<td>% Type Loc</td>
</tr>
<tr>
<td>2-16</td>
<td>10YR 5/4</td>
<td>100</td>
<td></td>
<td>organic loamy sandy loam</td>
</tr>
</tbody>
</table>

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

### Hydric Soil Indicators

(Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epiapedon (A2)
- Black Histric (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 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)

### Indicators for Problematic Hydric Soils

- 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)

### Restrictive Layer (if observed):

- Type: __________________________
- Depth (inches): __________________________
- Hydric Soil Present? Yes No X

### Remarks: __________________________
WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Celhoun Technology Park
Applicant/Owner: North Louisiana Economic Partnership
Investigator(s): Bill McAbee
Landform (hillslope, terrace, etc.): Swale
Subregion (LRR or MLRA): LRR O
Soil Map Unit Name: Guyton-Rosebloom complex, frequently flooded

Are climatic / hydrologic conditions on the site typical for this time of year? Yes [X] No [ ] (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes [X] No [ ]

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes [X] No [ ]</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes [X] No [ ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes [X] No [ ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes [X] No [ ]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Remarks:
Forest wetland with minor inclusions of herbaceous and scrub shrub wetlands. This system is fed hydrologically from minor drainage flow east from the on site pond and from accumulation of sheet flow trapped between the railroad and elevated pine uplands. Not all of the mapped GY soils in this general area had positive hydrology, this was found only along the railroad corridor.

HYDROLOGY

<table>
<thead>
<tr>
<th>Wetland Hydrology Indicators:</th>
<th>Secondary Indicators (minimum of two required)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Indicators (minimum of one is required; check all that apply)</td>
<td>Surface Soil Cracks (B6)</td>
</tr>
<tr>
<td>✓ Surface Water (A1)</td>
<td>□ Sparsely Vegetated Concave Surface (B8)</td>
</tr>
<tr>
<td>✓ High Water Table (A2)</td>
<td>□ Drainage Patterns (B10)</td>
</tr>
<tr>
<td>✓ Saturation (A3)</td>
<td>□ Moss Trim Lines (B18)</td>
</tr>
<tr>
<td>✓ Water Marks (B1)</td>
<td>□ Dry-Season Water Table (C2)</td>
</tr>
<tr>
<td>✓ Sediment Deposits (B2)</td>
<td>□ Crayfish Burrows (C8)</td>
</tr>
<tr>
<td>✓ Drift Deposits (B3)</td>
<td>□ Saturation Visible on Aerial Imagery (C9)</td>
</tr>
<tr>
<td>✓ Algal Mat or Crust (B4)</td>
<td>□ Geomorphic Position (D2)</td>
</tr>
<tr>
<td>✓ Iron Deposits (B5)</td>
<td>□ Shallow Aquitard (D3)</td>
</tr>
<tr>
<td>✓ Inundation Visible on Aerial Imagery (B7)</td>
<td>□ FAC-Neutral Test (D5)</td>
</tr>
<tr>
<td>✓ Water-Stained Leaves (B9)</td>
<td>□ Sphagnum moss (D8) (LRR T, U)</td>
</tr>
</tbody>
</table>

Field Observations:
- Surface Water Present? Yes [X] No [ ] Depth (inches): 0.3*
- Water Table Present? Yes [X] No [ ] Depth (inches): 3*
- Saturation Present? Yes [X] No [ ] Depth (inches): surface

Wetland Hydrology Present? Yes [X] No [ ]

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

Remarks:
### VEGETATION (Four Strata) – Use scientific names of plants.

**Sampling Point:** wet 3

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30’ radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quercus phellos</td>
<td>40 y</td>
<td>facw</td>
<td></td>
</tr>
<tr>
<td>Liquidambar styraciflua</td>
<td>30 y</td>
<td>fac</td>
<td></td>
</tr>
<tr>
<td>Salix nigra</td>
<td>10 n</td>
<td>obl</td>
<td></td>
</tr>
</tbody>
</table>

50% of total cover: 40

20% of total cover: 16

**Prevalence Index worksheet:**

- Total % Cover of:
  - OBL species
  - FACW species
  - FAC species
  - FACU species
  - UPL species
- Column Totals: (A)

Prevalence Index = B/A =

**Hydrophytic Vegetation Indicators:**

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

**Definitions of Four Vegetation Strata:**

- Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- Woody vine – All woody vines greater than 3.28 ft in height.

**Remarks:** (If observed, list morphological adaptations below.)
<table>
<thead>
<tr>
<th>Depth (Inches)</th>
<th>Matrix</th>
<th>Color (moist)</th>
<th>%</th>
<th>Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>10YR 6/2</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>silty clay</td>
<td>clay</td>
</tr>
<tr>
<td>2-14</td>
<td>10YR6/1</td>
<td>60</td>
<td>7.5YRS/6</td>
<td>40</td>
<td>c</td>
<td>m</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted.)

1. Histosol (A1)
2. Histic Epipedon (A2)
3. Black Histic (A3)
4. Hydrogen Sulfide (A4)
5. Stratified Layers (A5)
6. Organic Bodies (A6) (LRR P, T, U)
7. 5 cm Mucky Mineral (A7) (LRR P, T, U)
8. Muck Presence (A8) (LRR U)
9. 1 cm Muck (A9) (LRR P, T)
10. Depleted Below Dark Surface (A11)
11. Thick Dark Surface (A12)
12. Coast Prairie Redox (A16) (MLRA 150A)
13. Sandy Mucky Mineral (S1) (LRR O, S)
14. Sandy Gleyed Matrix (S4)
15. Sandy Redox (S5)
16. Stripped Matrix (S6)
17. Dark Surface (S7) (LRR P, S, T, U)
18. Polyvalue Below Surface (S8) (LRR S, T, U)
19. Thin Dark Surface (S9) (LRR S, T, U)
20. Loamy Mucky Mineral (F1) (LRR O)
21. Loamy Gleyed Matrix (F2)
22. Depleted Matrix (F3)
23. Redox Dark Surface (F6)
24. Depleted Dark Surface (F7)
25. Redox Depressions (F8)
26. Marl (F10) (LRR U)
27. Depleted Ochric (F11) (MLRA 151)
29. Umlbric Surface (F13) (LRR P, T, U)
30. Delta Ochric (F17) (MLRA 151)
31. Reduced Vertic (F18) (MLRA 150A, 150B)
32. Piedmont Floodplain Soils (F19) (MLRA 149A)
33. Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**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:** Calhoun Technology Park  
**City/County:** Ouachita  
**State:** LA  
**Sampling Date:** 3-14-2015  
**Applicant/Owner:** North Louisiana Economic Partnership  
**Sampling Point:** up 3  
**Investigator(s):** Bill McAbee  
**Section, Township, Range:** S35 T18N, R1E  
**Landform (hillslope, terrace, etc.):** terrace  
**Local relief (concave, convex, none):** none  
**Slope (%):** 0-2%  
**Subregion (LRR or MLRA):** LRR O  
**Lat:** 32.5082  
**Long:** -92.3415  
**Datum:**  
**Soil Map Unit Name:** Ora-Savannah association rolling  
**NWI classification:** upland  

**Are climatic / hydrologic conditions on the site typical for this time of year?** Yes [x] No [ ]  
**If no, explain in Remarks:**  

**Are Vegetation _____ Soil _____ or Hydrology _____ significantly disturbed?**  
**Are "Normal Circumstances" present?** Yes [x] No [ ]  
**If needed, explain any answers in Remarks:**  

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

<table>
<thead>
<tr>
<th>Hydrophytic Vegetation Present?</th>
<th>Yes [x] No [ ]</th>
<th>Is the Sampled Area within a Wetland?</th>
<th>Yes [ ] No [x]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydric Soil Present?</td>
<td>Yes [ ] No [x]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wetland Hydrology Present?</td>
<td>Yes [ ] No [x]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**  
Upland pine forest.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

- 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)  

**Secondary Indicators (minimum of two required):**

- Surface Soil Cracks (B8)  
- Sparse Vegetation 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 Aquifer (D3)  
- FAC-Neutral Test (D5)  
- Sphagnum moss (D8) (LRR T, U)

**Field Observations:**

<table>
<thead>
<tr>
<th>Surface Water Present?</th>
<th>Yes [ ] No [x] Depth (inches):</th>
<th>Wetland Hydrology Present?</th>
<th>Yes [ ] No [x]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Table Present?</td>
<td>Yes [ ] No [x] Depth (inches):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturation Present?</td>
<td>Yes [ ] No [x] Depth (inches):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:
VEGETATION (Four Strata) — Use scientific names of plants.

<table>
<thead>
<tr>
<th>Tree Stratum (Plot size: 30' radius)</th>
<th>Absolute % Cover</th>
<th>Dominant Species?</th>
<th>Indicator Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Pinus taeda</strong></td>
<td>80</td>
<td>y</td>
<td>fac</td>
</tr>
<tr>
<td>2. <strong>Liquidambar styraciflua</strong></td>
<td>20</td>
<td>y</td>
<td>fac</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sapling/Shrub Stratum (Plot size: 30' radius)</th>
<th>50% of total cover: 50</th>
<th>20% of total cover: 20</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Ligustrum japonicus</strong></td>
<td>50</td>
<td>y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Herb Stratum (Plot size: 30' radius)</th>
<th>50% of total cover:</th>
<th>20% of total cover:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>0</td>
<td>= Total Cover</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Woody Vine Stratum (Plot size: 30' radius)</th>
<th>50% of total cover:</th>
<th>20% of total cover:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Vitis rotundifolia</strong></td>
<td>10</td>
<td>y</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dominance Test worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)</td>
</tr>
<tr>
<td>Total Number of Dominant Species Across All Strata: 4 (B)</td>
</tr>
<tr>
<td>Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Prevalence Index worksheet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiply by:</td>
</tr>
<tr>
<td>OBL species x 1 =</td>
</tr>
<tr>
<td>FACW species x 2 =</td>
</tr>
<tr>
<td>FAC species x 3 =</td>
</tr>
<tr>
<td>FACU species x 4 =</td>
</tr>
<tr>
<td>UPL species x 5 =</td>
</tr>
<tr>
<td>Column Totals: (A) (B)</td>
</tr>
<tr>
<td>Prevalence Index = B/A =</td>
</tr>
</tbody>
</table>

**Hydrophytic Vegetation Indicators:**
1. 1 - Rapid Test for Hydrophytic Vegetation
2. 2 - Dominance Test is >50%
3. 3 - Prevalence Index is ≤3.0

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

**Definitions of Four Vegetation Strata:**
- **Tree** — Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
- **Sapling/Shrub** — Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
- **Herb** — All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
- **Woody vine** — All woody vines greater than 3.28 ft in height.

| Hydrophytic Vegetation Present? | Yes x | No |

Remarks: (if observed, list morphological adaptations below.)
**Profile Description:** (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

<table>
<thead>
<tr>
<th>Depth (inches)</th>
<th>Matrix Color (moist)</th>
<th>%</th>
<th>Redox Features Color (moist)</th>
<th>%</th>
<th>Type</th>
<th>Loc</th>
<th>Texture</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>10YR 5/2</td>
<td>100</td>
<td></td>
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<td>organic loamy</td>
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<td>2-16</td>
<td>10YR 5/4</td>
<td>100</td>
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<td></td>
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<td>sandy loam</td>
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</tr>
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1 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

**Hydric Soil Indicators:** (Applicable to all LRRs, unless otherwise noted.)

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histosol (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Organic Bodies (A6) (LRR P, T, U)
- Muck Mucky Mineral (A7) (LRR P, T, U)
- Muck Presence (A8) (LRR U)
- 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)

**Indicators for Problematic Hydric Soils:**

- 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)
- Redox Depressions (F8)
- Marl (F10) (LRR U)
- Depleted Oxic (F11) (MLRA 151)
- Iron-Manganese Masses (F12) (LRR O, P, T)
- Ubric Surface (F13) (LRR P, T, U)
- Delta Oxic (F17) (MLRA 151)
- Reduced Vertic (F18) (MLRA 150A, 150B)
- Piedmont Floodplain Soils (F19) (MLRA 149A)
- Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

**Restrictive Layer (if observed):**

- Type: ___________________________
- Depth (inches): __________________

**Hydric Soil Present?** Yes ______ No X

**Remarks:**