May 31, 2012

PAN AMERICAN ENGINEERS
ALEXANDRIA - INC.
Consulting Professional Engineers and Land Surveyors

England Economic Industrial
Development District
1611 Arnold Drive
Alexandria, Louisiana 71303

Attention: Mr. David Broussard

Re: England Airpark
34± Acre Heavy Industrial Site
Site Certification Program
Wetlands Mitigation Plan
PAE Job No. 9502

Dear Mr. Broussard:

In regards to the 4.3 acres designated as being possible weltands area, as a result of the Wetlands Delineation Study performed by American South Environmental Services, LLC, we are of the opinion that if the 4.3 acres is needed by any potential purchaser of the property for development, that a US Department of Army, Corps of Engineers, Section 404 Wetlands Permit will be required to be secured.

Please note that all Section 404 permits are site specific and the Corps will not entertain generalized conceptual permits.

Review and approval of a Section 404 Permit must be specific to the anticipated work to be constructed within the wetlands area. Since we do not know at this time what actual plan of improvements any potential tenant would have, we are making recommendations herein based on the assumption that the entire area may perhaps be paved and as such, have tried to approach a discussion of permitting and mitigation on a worse case scenario.

The process for securing a wetlands permit would be to develop a proposed development plan and submit the Department of Army, Corps of Engineer, Section 404 Wetland Permit, which would indicate the proposed improvements. With the understanding that the Corps would probably approve the permit with mitigation stipulations, you could anticipate the mitigation cost for a wetland in this area to have a one to one land bank swap ratio. Land bank wetland acreage is currently offered for sale in the range of $10,000 to $12,000 per acre. Based on the 4.3 acres of identified wetlands, a budget for mitigation costs utilizing a wetlands bank would be in the range of $40,000 to $50,000. If the Corps of Engineers approve the mitigation plan utilizing the purchasing of acreage from an approved wetlands bank, the next step would be then to proceed with the initiation of land bank purchase transactions.

(Continued)

May 31, 2012

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The schedule for securing a Department of Army, Corps of Engineers, Section 404 Wetland permit and negotiations and closings with the land bank would require approximately six (6) months.

In regards to possible funding sources for wetlands mitigation; discussions with England Authority as to source of funding for mitigation costs, or possible purchase price credits for mitigation costs, would be an item to be negotiated with the England Authority.

If you have any questions or require additional information, please feel free to contact our office for assistance.

Yours very truly,

PAN AMERICAN ENGINEERS -
ALEXANDRIA, INC.

Thomas C. David, Jr.

TCDJr/sb
Enclosures

AMERICAN SOUTH ENVIRONMENTAL SERVICES, LLC

P.O. Box 3515, Pineville, LA 71361-3515
Phone: 318-623-3314, Fax: 318- 473-2922

Mr. David Broussard/Kyle Randall
England Economic & Industrial Development District
1611 Arnold Drive
Alexandria, LA 71303-5636
05/22/2012

Re: Wetland delineation report for approximately 34 acres just west of Union Tank Car facility.

Dear Mr. Broussard:

I have examined the above named property and find there to be 4.33 acres of jurisdictional wetlands on the property. The open fields are not wetlands by virtue of prior conversion to agriculture. There are no species, hydrology, or soil type to support wetlands on the parts of the site that have been used for agriculture.

The wooded areas on the north and west sides of the site are not wetlands, at least to the top of the high water bank on the Irish Ditch and Big Bayou. Anything below the high water mark/high bank is wetland by definition.

The wooded area to the south of the property, separating the two agriculture fields, is wetlands from the ephemeral drain to the woods line at the south side of the site. This area is marked definitively on the accompanying maps. If you must develop close to the wetland area and need me to mark it for you, I will do so at no additional charge. If the Corps of Engineers need an onsite inspection, I will represent you on site at no extra charge two times within the first year after this survey.

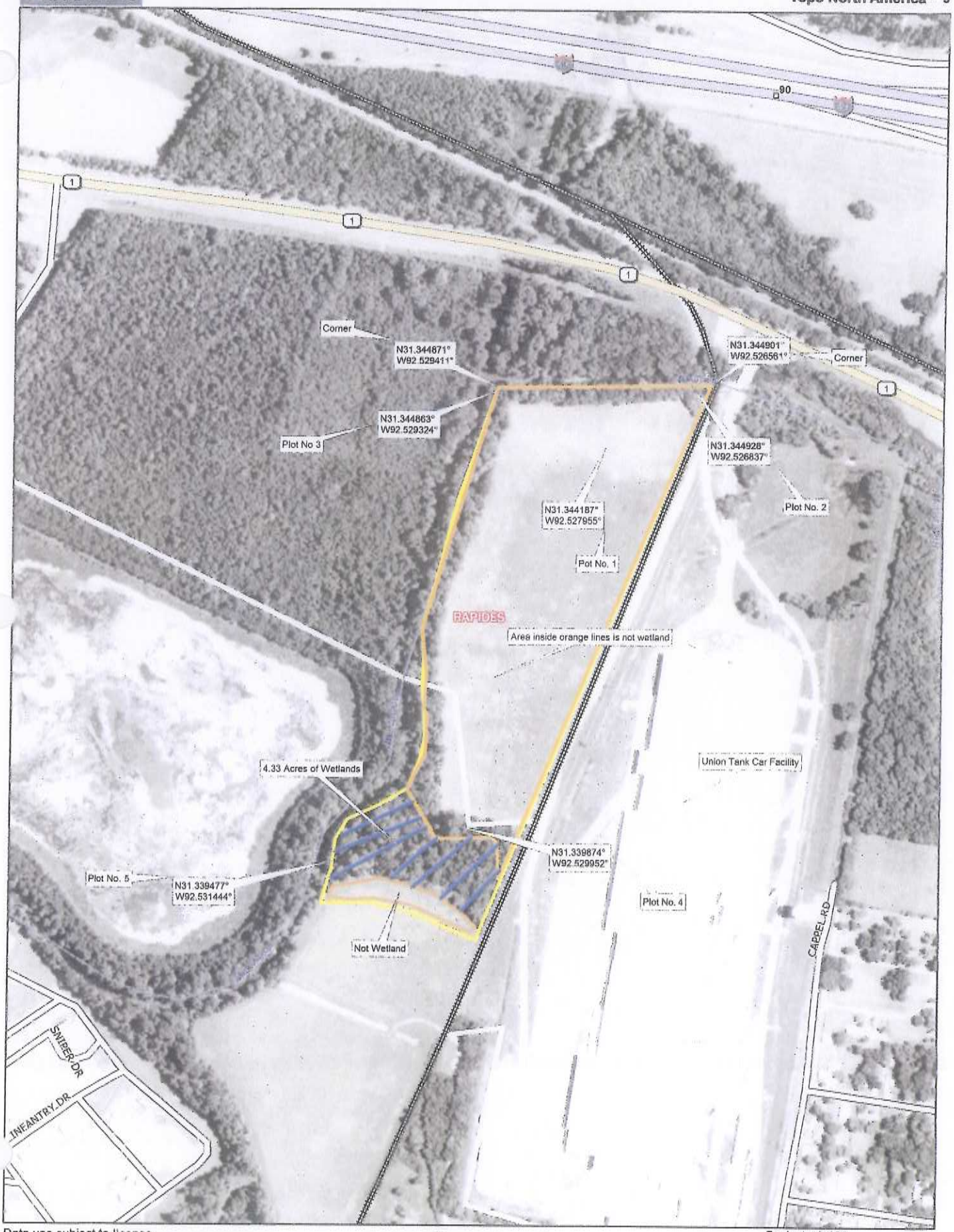
If you decide that the area comprising the wetlands part of the site must be utilized for development, you will need to apply for a permit and most probably be willing to mitigate the wetlands taken by purchasing credits from a wetlands bank. Please let me know if you would like for me to perform any of these functions for you.

Thanks for allowing ASES to be of service.

Sincerely,

James D. Smith

Dr. James D. Smith, C.F. 391, CWD
President, American South Environmental Services, LLC



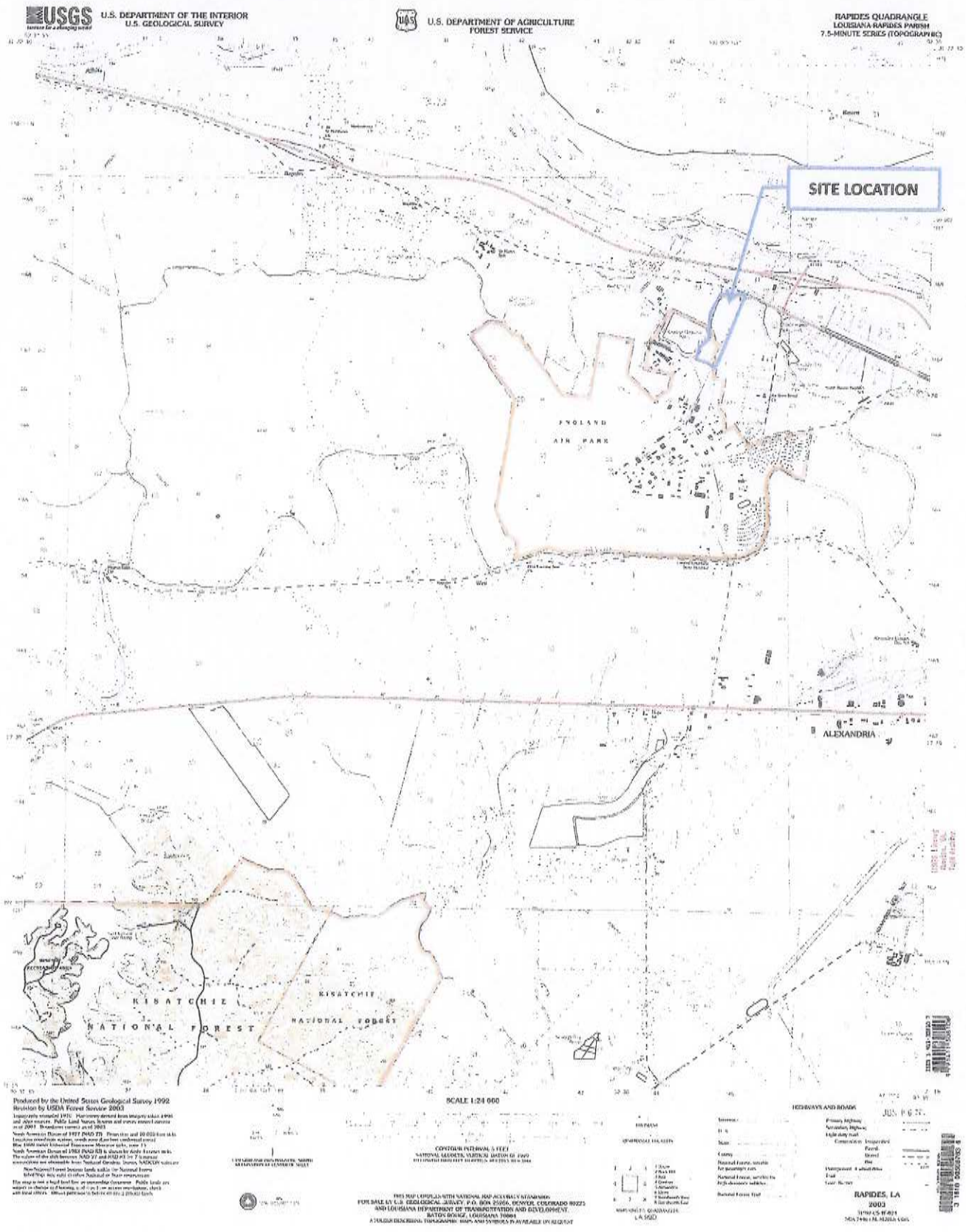
TN

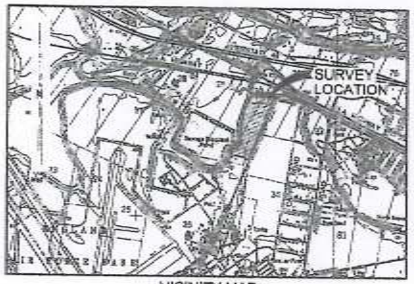
MN (1.2°E)

Scale 1 : 6,400

1" = 533.3 ft

Data Zoom 15-0


U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY
U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
RAPIDES QUADRANGLE
LOUISIANA-RAPIDES PARISH
7.5-MINUTE SERIES (TOPOGRAPHIC)
SITE LOCATION
POLAND
AIR PARK
ALEXANDRIA
KISATCHIE
NATIONAL FOREST
KISATCHIE
NATIONAL FOREST
SCALE 1:24 000
RAPIDES, LA
2003



VICINITY MAP
NOT TO SCALE

SURVEYOR'S CERTIFICATION:

- I HEREBY CERTIFY THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THIS PLAT REPRESENTS AN ACTUAL GROUND SURVEY PERFORMED UNDER MY DIRECTION AND SUPERVISION AND CONFORMS TO THE REQUIREMENTS FOR THE MINIMUM STANDARDS FOR PROPERTY BOUNDARY SURVEYS AS FOUND IN THE LOUISIANA ADMINISTRATIVE CODE FOR CLASS "C" SURVEYS.

SURVEY REFERENCE:

- PLAT OF SURVEY TO INDICATE A 121.11± ACRE TRACT BY PAN AMERICAN ENGINEERS – ALEXANDRIA, INC., DRAWING NO. 10197, DATED JUNE 29, 2005, LAST REVISION DATED JULY 25, 2005, PREPARED FOR UTLX MANUFACTURING, INC.

BASIS OF BEARINGS:

- THE BEARINGS INDICATED HEREON ARE LOUISIANA STATE PLANE GRID BEARINGS RELATIVE TO THE NORTH AMERICAN DATUM OF 1983 (NAD83), LOUISIANA NORTH ZONE (1701), U.S. SURVEY FEET AND WERE DERIVED FROM GPS OBSERVATIONS FURNISHED BY A NATIONAL GEODETIC SURVEY (NGS) ONLINE POSITIONING USER SERVICE (OPUS) UTILIZING BASE STATIONS: 1NSU NORTHWESTERN S.U. CORS ARP, OAKH OAKDALE HS CORS ARP AND LSUA LSU-ALEXANDRIA CORS ARP.

BASIS OF ELEVATIONS:

- ELEVATIONS HEREON ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM (NAVD) OF 1988, GEOID 09 AND WERE DERIVED FROM GPS OBSERVATIONS FURNISHED BY A NGS OPUS SOLUTION REPORT UTILIZING BASE STATIONS: 1NSU NORTHWESTERN S.U. CORS ARP, OAKH OAKDALE HS CORS ARP AND LSUA LSU-ALEXANDRIA CORS ARP.

FLOOD NOTE:

- THE SURVEYED TRACT IS LOCATED IN AB PER FEMA FLOOD INSURANCE RATE MAP FOR RAPIDES PARISH, LOUISIANA, COMMUNITY PANEL NO. 220145 0140 D, MAP REVISED DATE: SEPTEMBER 3, 1997.
- ZONE AB – AREAS OF 100-YEAR FLOOD WHERE BASE FLOOD ELEVATION AND FLOOD HAZARD FACTORS HAVE BEEN DETERMINED. PRORATED BASE FLOOD ELEVATION FOR SITE AS SCALED FROM FLOOD MAP = 82.4± FEET.

NOTES:

- RESEARCH OF THE RECORDS OF RAPIDES PARISH FOR SERVITUDES OR RIGHTS-OF-WAYS WHICH MAY ENCUMBER THE SURVEYED TRACT WAS NEITHER PERFORMED BY NOR REQUESTED OF PAN AMERICAN ENGINEERS – ALEXANDRIA, INC.
- SECTION LINES INDICATED HEREON ARE APPROXIMATE AND WERE SCALED FROM GOVERNMENT LAND OFFICE (GLO) OFFICIAL TOWNSHIP MAP FOR T4N-R2W, SOUTH WESTERN DISTRICT. DISCREPANCIES BETWEEN SECTION LINES PLOTTED ON THE UNITED STATES GEOLOGICAL SURVEY (USGS) 7.5 MINUTE QUADRANGLE MAP FOR RAPIDES, LOUISIANA AND THE AFOREMENTIONED TOWNSHIP MAP WERE FOUND.
- CALLS L6 THRU L19 REPRESENT A MEANDER OF THE APPROXIMATE EASTERN HIGH BANK OF BIG BAYOU.
- CALLS L20 & L21 REPRESENT A MEANDER OF THE APPROXIMATE SOUTHERN HIGH BANK OF IRISH DITCH NO. 2.
- INFORMATION REGARDING THE PRESENCE, SIZE AND LOCATION OF UNDERGROUND UTILITIES IS SHOWN HEREON. THIS INFORMATION HAS BEEN SHOWN BASED ON THE LOCATION OF THE ABOVE GROUND APPURTENANCES, AVAILABLE DESIGN PLANS, AND FLAGS AND PAINT PLACED BY THE UTILITY PROTECTION SERVICE. NO CERTIFICATION IS MADE AS TO THE ACCURACY OR THOROUGHNESS OF THE INFORMATION CONCERNING UNDERGROUND UTILITIES AND STRUCTURES SHOWN HEREON. PER LOUISIANA LAW, THE UNDERGROUND UTILITIES PROTECTION SERVICE MUST BE CALLED PRIOR TO THE COMMENCEMENT OF ANY AND ALL EARTH DISTURBING ACTIVITIES.
- THE SURVEYED TRACT IS NOT WITHIN THE CORPORATE LIMITS OF THE CITY OF ALEXANDRIA AND IS NOT SUBJECT TO ZONING REQUIREMENTS ESTABLISHED BY THE CITY OF ALEXANDRIA.

LEGEND

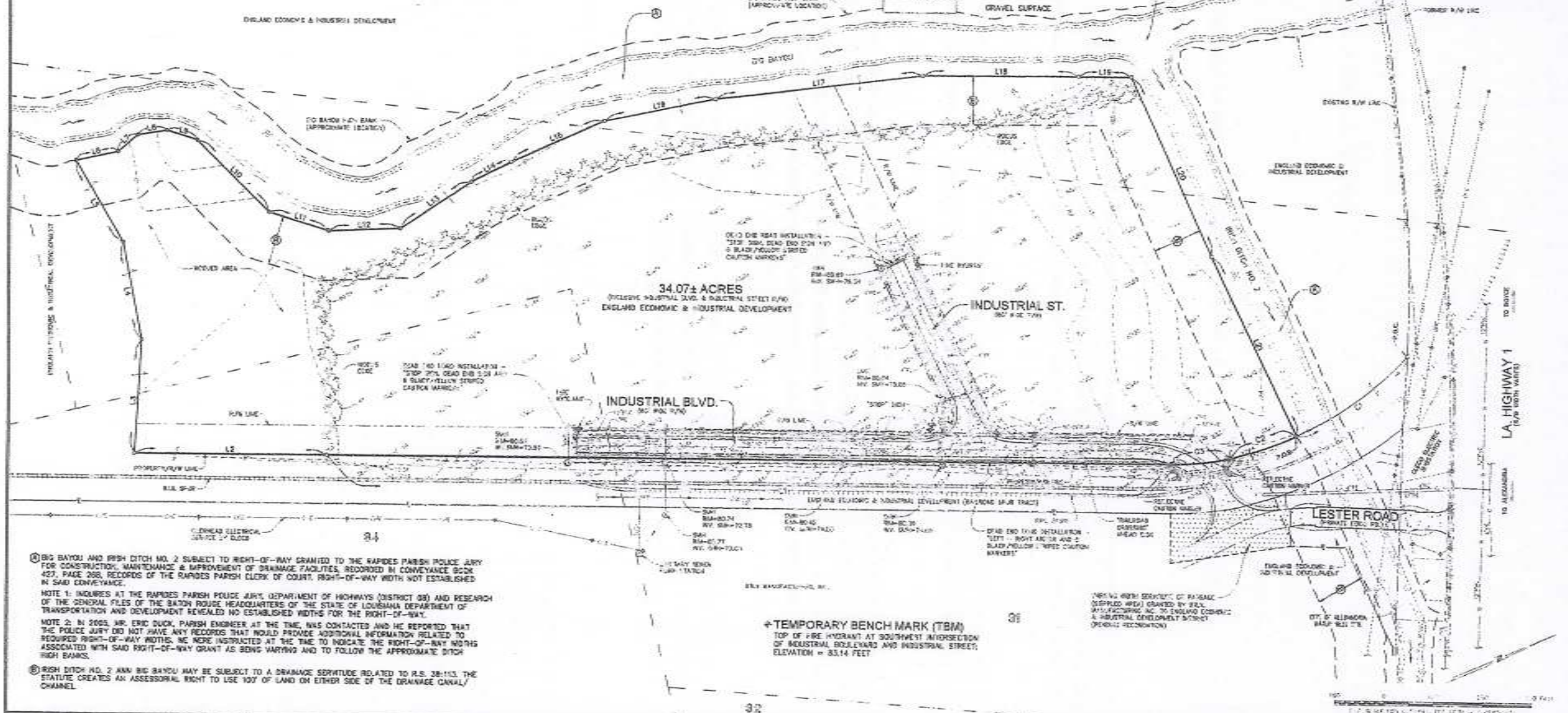
- OVERHEAD ELECTRIC LINE
- OVERHEAD ELECTRIC & TELEVISION LINE
- OVERHEAD TELEPHONE LINE
- WATER LINE (TYPE & SIZE AS INDICATED)
- FIBER OPTIC CABLE
- NATURAL GAS LINE (TYPE & SIZE AS INDICATED)
- SANITARY SEWER FORCE MAIN W/FLOW DIRECTION ARROW
- GRAVITY FLOW SANITARY SEWER FORCE MAIN W/FLOW DIRECTION ARROW
- PROPERTY LINE
- CONTOUR LINE W/ELEVATION LABEL
- GUY ANCHOR
- UTILITY POLE
- SANITARY SEWER MANHOLE
- FIRE HYDRANT
- SANITARY SEWER CLEANOUT
- NATURAL GAS LINE VALVE
- WATER LINE VALVE
- SIGNAGE (TYPE AS INDICATED)
- NATURAL GAS LINE VENT PIPE
- TEMPORARY BENCH MARK LOCATION IDENTIFIER
- P.O.C. POINT OF COMMENCEMENT
- P.O.B. POINT OF BEGINNING
- R/W RIGHT-OF-WAY
- INV. INVERT
- POLYETHYLENE
- POLYVINYLCHLORIDE
- DUCTILE IRON
- 30 SECTION NUMBER
- RIP RAP
- CONCRETE SURFACE
- ASPHALT SURFACE
- GRAVEL SURFACE

CURVE DATA TABLE

NUMBER	CHORD DIRECTION	TANGENT	RADIUS	ARC LENGTH	CHORD LENGTH
C1	S 10°02'45" E	141.79'	714.46'	279.95'	278.16'
C2	S 03°51'43" W	71.10'	714.46'	141.73'	141.50'
C3	S 17°11'08" W	61.39'	562.75'	122.33'	122.11'

LINE TABLE

NUMBER	DIRECTION	DISTANCE
C1	SEE CURVE DATA TABLE	
BEGIN 34.07± ACRE TRACT TRAVERSE		
C2	SEE CURVE DATA TABLE	
C3	SEE CURVE DATA TABLE	
L1	S 23°11'39" W	1711.74'
L2	S 23°11'39" W	388.21'
L3	N 63°30'53" W	231.33'
L4	N 77°41'33" W	201.11'
L5	S 82°40'49" W	190.08'
L6	N 10°32'19" E	87.24'
L7	N 17°17'32" W	52.27'
L8	N 13°14'31" E	59.53'
L9	N 41°04'40" E	64.11'
L10	N 67°45'32" E	224.81'
L11	N 40°15'28" E	126.29'
L12	N 20°44'25" E	145.52'
L13	N 10°28'40" W	172.13'
L14	N 03°36'00" W	91.63'
L15	N 01°19'15" W	205.93'
L16	N 11°19'35" E	228.36'
L17	N 18°11'11" E	421.92'
L18	N 22°50'33" E	317.28'
L19	N 23°26'05" E	108.93'
L20	N 88°42'08" E	367.32'
L21	N 87°25'56" E	402.56'



Ⓐ BIG BAYOU AND IRISH DITCH NO. 2 SUBJECT TO RIGHT-OF-WAY GRANTED TO THE RAPIDES PARISH POLICE JURY FOR CONSTRUCTION, MAINTENANCE & IMPROVEMENT OF DRAINAGE FACILITIES, RECORDED IN CONVEYANCE BOOK 427, PAGE 268, RECORDS OF THE RAPIDES PARISH CLERK OF COURT. RIGHT-OF-WAY WIDTH NOT ESTABLISHED IN SAID CONVEYANCE.

NOTE 1: INQUIRIES AT THE RAPIDES PARISH POLICE JURY, DEPARTMENT OF HIGHWAYS (DISTRICT 08) AND RESEARCH OF THE GENERAL FILES OF THE BATON ROUGE HEADQUARTERS OF THE STATE OF LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT REVEALED NO ESTABLISHED WIDTHS FOR THE RIGHT-OF-WAY.

NOTE 2: IN 2005, MR. ERIC DUCK, PARISH ENGINEER AT THE TIME, WAS CONTACTED AND HE REPORTED THAT THE POLICE JURY DID NOT HAVE ANY RECORDS THAT WOULD PROVIDE ADDITIONAL INFORMATION RELATED TO REQUIRED RIGHT-OF-WAY WIDTHS. WE WERE INSTRUCTED AT THE TIME TO INDICATE THE RIGHT-OF-WAY WIDTHS ASSOCIATED WITH SAID RIGHT-OF-WAY GRANT AS BEING VARYING AND TO FOLLOW THE APPROXIMATE DITCH HIGH BANKS.

Ⓑ IRISH DITCH NO. 2 AND BIG BAYOU MAY BE SUBJECT TO A DRAINAGE SERVITUDE RELATED TO R.S. 38:113. THE STATUTE CREATES AN ASSESSORIAL RIGHT TO USE 100' OF LAND ON EITHER SIDE OF THE DRAINAGE CANAL/CHANNEL.

DRAWN BY	P.A.E.
DATE	3/7/12
REVISION	DATE
CHECKED	T.C.O.
BOOK NO.	N/B
JOB NO.	9502
DWG. NO.	11867
FILE NO.	2012-7
SCALE	1"=100'

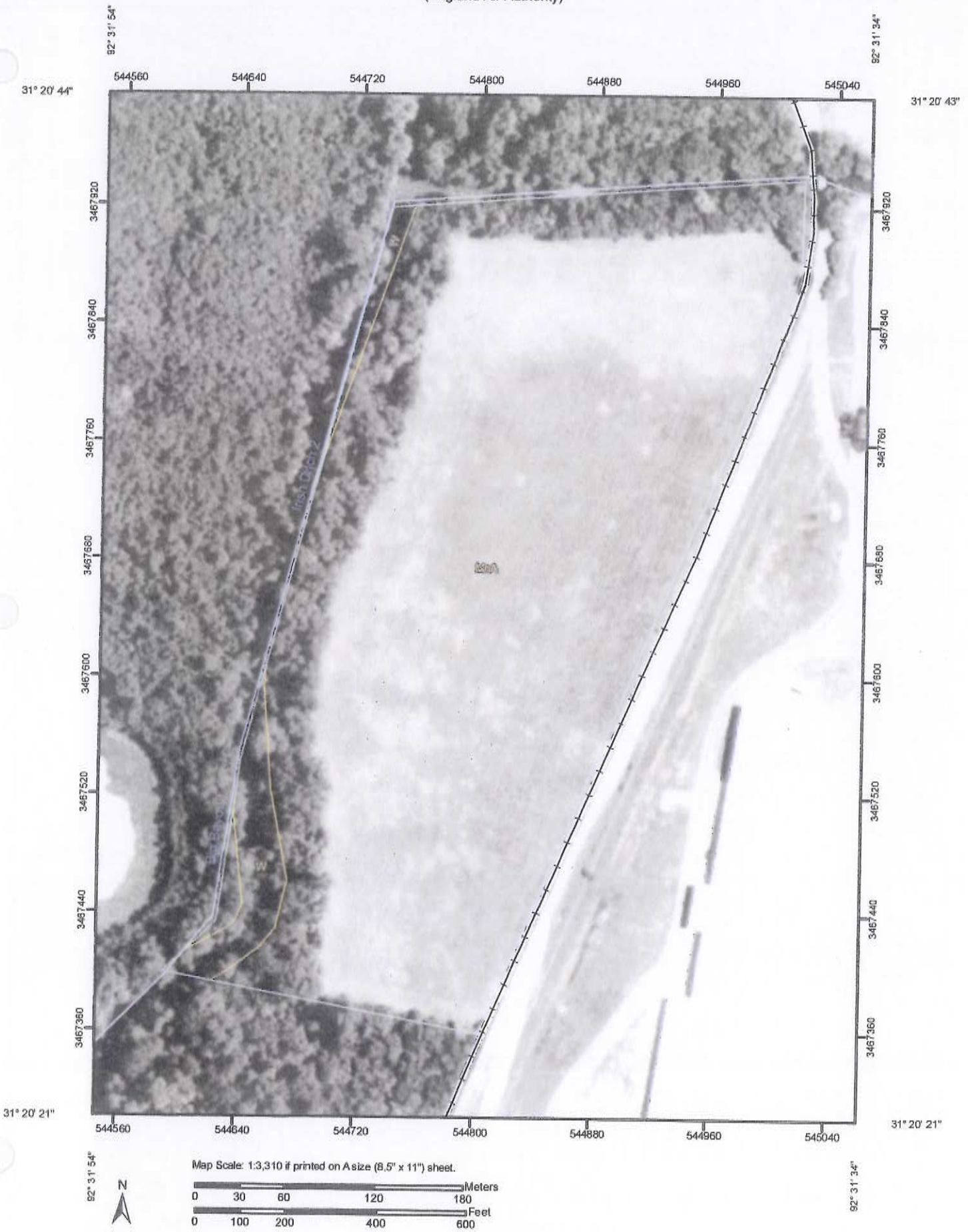
REQUESTED BY: ENGLAND ECONOMIC & INDUSTRIAL DEVELOPMENT DISTRICT

PROJECT: BOUNDARY & TOPOGRAPHIC SURVEY OF A PROPOSED 34.07± ACRE HEAVY INDUSTRIAL SITE LOCATED IN SECTIONS 30, 31 & 34, TOWNSHIP 4 NORTH, RANGE 2 WEST, SOUTH WESTERN DISTRICT, RAPIDES PARISH, LOUISIANA

SHEET NUMBER 1 OF 1

PAN AMERICAN ENGINEERS - ALEXANDRIA, INC.
P.O. BOX 88 / 1717 JACKSON STREET
ALEXANDRIA, LA. 71309
(318) 473-2100

Soil Map—Rapides Parish, Louisiana
(England Air Authority)



MAP LEGEND

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

Soils
- Soil Map Units

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
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features
- Gully
- Short Steep Slope
- Other

Political Features
- Cities

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

MAP INFORMATION

Map Scale: 1:3,310 if printed on A size (8.5" × 11") sheet.

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 accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 15N NAD83

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

Soil Survey Area: Rapides Parish, Louisiana
Survey Area Data: Version 8, Sep 25, 2008

Date(s) aerial images were photographed: Data not available.

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

Rapides Parish, Louisiana (LA079)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
MnA	Moreland clay, 0 to 1 percent slopes	33.0	95.4%
W	Water	1.6	4.6%
Totals for Area of Interest		34.6	100.0%

LOCATION MORELAND LA+AR OK

Established Series
Rev. JDS
7/97

MORELAND SERIES

The Moreland series consists of very deep, somewhat poorly drained, very slowly permeable soils that formed in clayey alluvium of Permian Red Bed origin. These soils are on level to gently undulating flood plains. Slopes range from 0 to 3 percent.

TAXONOMIC CLASS: Very-fine, smectitic, thermic Oxyaquic Hapluderts

TYPICAL PEDON: Moreland clay--cropland.
(Colors are for moist soil unless otherwise stated.)

Ap--0 to 6 inches; dark reddish brown (5YR 3/3) clay; moderate fine subangular blocky structure; very firm; many fine and medium roots; neutral; clear smooth boundary. (4 to 10 inches thick)

A--6 to 16 inches; dark reddish brown (5YR 3/3) clay; moderate fine subangular blocky structure; very firm; few fine and medium roots; shiny surfaces on peds; neutral; gradual wavy boundary. (total thickness of the Ap and A horizons is 12 to 20 inches)

Bw--16 to 26 inches; dark reddish brown (5YR 3/4) clay; thin strata of reddish brown (5YR 4/4) clay; moderate medium subangular blocky structure; very firm; few fine roots; few shiney pressure faces; neutral; gradual wavy boundary. (6 to 16 inches thick)

Bkss1--26 to 52 inches; reddish brown (5YR 4/3) clay; few fine prominent gray (N 5/0) iron depletions; moderate medium subangular blocky structure; very firm; common intersecting slickensides and pressure faces; common fine and medium soft masses of calcium carbonate; strongly effervescent; mildly alkaline; gradual wavy boundary. (10 to 30 inches thick)

Bkss2--52 to 63 inches; reddish brown (5YR 4/4) clay; weak coarse angular blocky structure; firm; common intersecting slickensides and pressure faces; common fine and medium soft masses and hard nodules of calcium carbonate; few dark iron manganese stains; strongly effevescent; mildly alkaline. (0 to 15 inches thick)

TYPE LOCATION: Natchitoches Parish, Louisiana; about 2.4 miles southeast of Powhatan on Highway 1; then 0.5 mile west on a farm road; then 300 feet north of culvert crossing on canal; SW 1/4 SW 1/4 sec. 27, T.10 N., R.8 W.; 31 degrees, 50 minutes, 47.6 seconds N. Latitude, 93 degrees, 11 minutes, 9.9 seconds W, Longitude, USGS Powhatan 7.5 Minute Topoquad.

RANGE IN CHARACTERISTICS: Depth to calcareous layers ranges from 10 to 40 inches. Intersecting slickensides are within 40 inches of the surface. COLE values range from .09 to .12 in the upper 40 inches.

The Ap and A horizons have hue of 5YR, value of 2 or 3, and chroma of 2 or 3; or hue of 7.5YR, value

Ø1

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: England Air Authority City/County: Rapides Sampling Date: 05/19/2012

Applicant/Owner: Eng Air Authority / Pan Am. Engrs. State: LA Sampling Point: Ø1

Investigator(s): Dr. James L. Smith Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): Lat: N31.344194 Long: W092.527945 Datum: WGS-84

Soil Map Unit Name: Moreland (MnA) NWI classification: This delineation not hydric

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? Yes Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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:
* Site cleared for agriculture 25-28 yrs ago. Kept brushhogged past two years - was tilled early 2000's. Furrows still evident.

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 (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): 18
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): 18

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

Site was prior converted to agriculture and has been kept cleared of natural vegetation. Area is drained by one ephemeral drain in the wooded area to the south of the subject site and a larger concrete drain south of the subject site, but within 50 yds. fds.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: #1

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3. No Trees			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Sapling/Shrub Stratum (Plot size: 30' radius)			
1.			
2. No Trees or Saplings			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

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

Herb Stratum (Plot size: 10' radius)			
1. Andropogon Virginicus X10	50	Y	Fac
2. Conyza Canadensis X5	10	N	Facu
3. Rubus Trivialis TNTC	30	Y	Facu
4. Latyca Canadensis X3	10	N	Facu
5. Ambrosia artemisiifolia X14/30		Y	Facu
6. Cynodon dactylon TNTC	50	Y	Facu
7.			
8.			
9.			
10.			
11.			
12.			
	180 = Total Cover		

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

Woody Vine Stratum (Plot size: 10' radius)			
1.			
2. No Woody Vines			
3.			
4.			
5.			
	= Total Cover		

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

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	—	x 1 =	—
FACW species	—	x 2 =	—
FAC species	50	x 3 =	150
FACU species	130	x 4 =	520
UPL species	—	x 5 =	—
Column Totals:	180 (A)		670 (B)

Prevalence Index = B/A = 3.72

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation NO

___ 2 - Dominance Test is >50% NO

___ 3 - Prevalence Index is ≤3.0[1] NO

___ Problematic Hydrophytic Vegetation[1] (Explain) NO

[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 _____ No ✓

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

Old tilled field, furrows present. Not wetland

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)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	7.5YR 5/8							Red topsoil
7-15	5YR 3/4							
15-18	5YR 3/4							

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) (LRR P, T, U)
- ___ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ___ Muck Presence (A8) (LRR U)
- ___ 1 cm Muck (A9) (LRR P, T)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (MLRA 150A)
- ___ Sandy Mucky Mineral (S1) (LRR O, S)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR P, S, T, U)
- ___ Polyvalue Below Surface (S8) (LRR S, T, U)
- ___ Thin Dark Surface (S9) (LRR S, T, U)
- ___ Loamy Mucky Mineral (F1) (LRR O)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Mart (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:

Mineral soils - red parent material - has been tilled
Heavy clay with crop residue tilled in.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: England Air Authority City/County: Rapides Sampling Date: 05/17/2012

Applicant/Owner: Eng. Air Auth. / Ken Am. Engrs. State: LA Sampling Point: B2

Investigator(s): Dr. James D. Smith Section, Township, Range:

Landform (hillslope, terrace, etc.): Flat - near creek Local relief (concave, convex, none): Flat Slope (%): —

Subregion (LRR or MLRA): Lat: N31. 344948 Long: W092. 526846 Datum: WGS-84

Soil Map Unit Name: Moreland (MnA) NWI classification: Not Listed

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.) Sub-class.

* Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? N Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? N (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:
* Old conversion to row crops, then pasture. Furrows still present in field. This plot not disturbed like field area.

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 (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): 18
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): 18

Wetland Hydrology Present? Yes _____ No ✓

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

Remarks:
Site is well drained by an ephemeral drain south, Irish Ditch both north and west of site and man made concrete canal 5yds south of subject site.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: #2

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis laevigata x3	50	Y	FACW
2. Quercus nigra x2	20	Y	FAC
3. Taxodium distichum var. distichum x2	20	Y	OBL
4.			
5.			
6.			
7.			
8.			
	90% = Total Cover		
50% of total cover: ✓	20% of total cover: ✓		

Sapling/Shrub Stratum (Plot size: 30' radius)			
1. Juniperus virginiana x3	40	Y	FACU
2. Quercus nigra x3	10	N	FAC
3. Morella pumila x1	1	N	FACW
4.			
5.			
6.			
7.			
8.			
	51% = Total Cover		
50% of total cover:	20% of total cover: ✓		

Herb Stratum (Plot size: 10 radius)			
1. Smilax rotundifolia x6	5	N	FAC
2. Sabal minor x2	1	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	6% = Total Cover		
50% of total cover:	20% of total cover:		

Woody Vine Stratum (Plot size: 10' radius)			
1. Parthenocissus quinquefolia x8	10	N	FAC
2. Gelsemium sempervirens x2	1	N	FAC
3. Toxicodendron pubescens x4	5	N	FACU
4.			
5.			
	16 = Total Cover		
50% of total cover:	20% of 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: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	51	x 2 =	102
FAC species	46	x 3 =	138
FACU species	46	x 4 =	184
UPL species	–	x 5 =	–
Column Totals:	163 (A)		444 (B)

Prevalence Index = B/A = 2.72

Hydrophytic Vegetation Indicators:

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

[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 ✓ No ____

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

Corner of property @ creek & R.R. spur Convergence

SOIL Moreland (MnA) 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
0-6	5YR 3/4							
6-15	5YR 3/4							
15-18	5YR 3/4, 20%		5YR 3/5 to 5YR 4/4					

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) (LRR P, T, U)
- ___ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ___ Muck Presence (A8) (LRR U)
- ___ 1 cm Muck (A9) (LRR P, T)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (MLRA 150A)
- ___ Sandy Mucky Mineral (S1) (LRR O, S)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR P, S, T, U)
- ___ Polyvalue Below Surface (S8) (LRR S, T, U)
- ___ Thin Dark Surface (S9) (LRR S, T, U)
- ___ Loamy Mucky Mineral (F1) (LRR O)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Mari (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:

Not subject to flooding as in the past.

Ø3

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: England Air Authority City/County: Rapides Sampling Date: 05/19/2012

Applicant/Owner: England Air Authority/Pan Am Engrs State: LA Sampling Point: Ø3

Investigator(s): Dr. James D. Smith Section, Township, Range:

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

Subregion (LRR or MLRA): Lat: N 31.324865 Long: W092.529328 Datum: WGS-84

Soil Map Unit Name: Moreland (MnA) NWI classification: Not hydric

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? N Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? N (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:
In woods at NW corner of property –

Irish Ditch junction with "Big Bayou"

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 (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): 18
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): 18

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:
above high water area for both Irish Ditch and Big Bayou.

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 03

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Celtis laevigata x5	20	Y	FACW
2. Quercus nigra x1	5	N	FAC
3. Carya aquatica x4	30	Y	OBL
4. Liquidambar Stanyaeiflua x2-20	Y	Y	FAC
5.			
6.			
7.			
8.			
	125% = Total Cover		

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

Sapling/Shrub Stratum (Plot size: 30')			
1. Quercus nigra x2	10	N	FAC
2. Carya aquatica x3	10	N	OBL
3. Celtis laevigata x6	20	Y	FACW
4.			
5.			
6.			
7.			
8.			
	40 = Total Cover		

50% of total cover: ____ 20% of total cover: ✓

Herb Stratum (Plot size: 10')			
1. Smilax rotundifolia x10	25	Y	FAC
2. Ambrosia artemisiifolia x9	10	N	FACU
3. Carya aquatica x9 & seedlings	10	N	OBL
4.			
5. Lateca x4	10	N	FACW
6. Carex Cephlorspora x3 clumps	5	N	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	60% = Total Cover		

50% of total cover: ____ 20% of total cover: ✓

Woody Vine Stratum (Plot size: 10')			
1. Parthenocissus quinquefolia x9	15	Y	FAC
2.			
3.			
4.			
5.			
	15% = Total Cover		

50% of total cover: ____ 20% of 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% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	90	x 2 =	180
FAC species	80	x 3 =	240
FACU species	20	x 4 =	80
UPL species	–	x 5 =	–
Column Totals:	240 (A)		450 (B)

Prevalence Index = B/A = 1.875

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.

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).

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
0-6	5YR 3/4							
6-14	5YR 3/4							
14-18	5YR 4/4							

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) (LRR P, T, U)
- ___ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ___ Muck Presence (A8) (LRR U)
- ___ 1 cm Muck (A9) (LRR P, T)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (MLRA 150A)
- ___ Sandy Mucky Mineral (S1) (LRR O, S)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR P, S, T, U)
- ___ Polyvalue Below Surface (S8) (LRR S, T, U)
- ___ Thin Dark Surface (S9) (LRR S, T, U)
- ___ Loamy Mucky Mineral (F1) (LRR O)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (LRR U)
- ___ Depleted Ochric (F11) (MLRA 151)
- ___ Iron-Manganese Masses (F12) (LRR O, P, T)
- ___ Umbric Surface (F13) (LRR P, T, U)
- ___ Delta Ochric (F17) (MLRA 151)
- ___ Reduced Vertic (F18) (MLRA 150A, 150B)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ___ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric 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:

NRCS - type mapped for Sub class Moreland Mnt - not a listed sub class that is hydric. Fields have been drained for 30+ yrs. No hydrology above high water mark for Irish Ditch #2 and the Big Bayou. pdl

Ø4

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: England Air Authority City/County: Rapides Sampling Date: 05/19/2012

Applicant/Owner: England Air Authority / PanAm Expo State: LA Sampling Point: TP4

Investigator(s): R. Jamond Smith Section, Township, Range:

Landform (hillslope, terrace, etc.): Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): Lat: N31.339874 Long: W092.529948 Datum: WGS-84

Soil Map Unit Name: Moreland (MzA) NWI classification:

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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:
at S. edge of agricultural field.

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 (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): 18
Saturation Present? (includes capillary fringe)	Yes ____	No ✓	Depth (inches): 18

Wetland Hydrology Present? Yes ____ 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: 04

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Carya illinoiensis X1 (7.56" dia)	50	Y	FAC
2.			
3. American elm - Ulmus Am X1	10	N	FACW
4. Celtis laevigata X2	20	Y	FACW
5. Liquidambar styraciflua X1	10	Y	FAC
6. Acer rubrum X1	5	N	FAC
7.			
8.			
	95 = Total Cover		
50% of total cover: ✓	20% of total cover: ✓		

Sapling/Shrub Stratum (Plot size:)			
1. Ulmus crassifolia X2	10	N	FAC
2. Celtis laevigata X4	20	Y	FACW
3. Acer negundo X6	10	N	FACW
4. Machura pomifera X2	5	N	FACW
5.			
6.			
7.			
8.			
	45% = Total Cover		
50% of total cover:	20% of total cover: ✓		

Herb Stratum (Plot size:)			
1. Carex Cephalophora X3	5	N	FACW
2. Conyza Canadensis FMC	50	Y	FACW
3. Amphibolis artemisiifolia X2.5	5	N	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		
50% of total cover: ✓	20% of total cover:		

Woody Vine Stratum (Plot size:)			
1. Parthenocissus quinquefolia X3	2	N	FAC
2. Amphicarpaea X2	2	N	FAC
3. Celtis occidentalis X2	2	N	FAC
4.			
5.			
	6 = Total Cover		
50% of total cover:	20% of total cover:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	—	x 1 =	—
FACW species	60	x 2 =	120
FAC species	81	x 3 =	243
FACU species	75	x 4 =	300
UPL species	—	x 5 =	—
Column Totals:	216 (A)		663 (B)

Prevalence Index = B/A = 3.07

Hydrophytic Vegetation Indicators:

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

[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.

Marginal, but largest trees indicate wetter site

Hydrophytic Vegetation Present? Yes ✓ No

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

* Drainage - ephemeral, but deep -

SOIL Mouland (MnA) Sampling Point: 04

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
0-8	5YR3/3							
8-15	5YR3/4							
15-18	5YR3/4							

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) (LRR P, T, U)
- ___ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ___ Muck Presence (A8) (LRR U)
- ___ 1 cm Muck (A9) (LRR P, T)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (MLRA 150A)
- ___ Sandy Mucky Mineral (S1) (LRR O, S)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR P, S, T, U)
- ___ Polyvalue Below Surface (S8) (LRR S, T, U)
- ___ Thin Dark Surface (S9) (LRR S, T, U)
- ___ Loamy Mucky Mineral (F1) (LRR O)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (LRR U)
- ___ Depleted Ochric (F11) (MLRA 151)
- ___ Iron-Manganese Masses (F12) (LRR O, P, T)
- ___ Umbric Surface (F13) (LRR P, T, U)
- ___ Delta Ochric (F17) (MLRA 151)
- ___ Reduced Vertic (F18) (MLRA 150A, 150B)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ___ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric 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:

Not a mapped hydric soil by NRCS — Site has been farmed and well drained for more than 30 years.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: England Air Authority City/County: Rapides Sampling Date: 05/19/2012

Applicant/Owner: England Air Authority State: LA Sampling Point: 05

Investigator(s): Dr. Farmer L. Smith Section, Township, Range:

Landform (hillslope, terrace, etc.): 1st terrace off creek Local relief (concave, convex, none): Slope (%):

Subregion (LRR or MLRA): Lat: 31.339486 Long: 92.531447 Datum: WGS-84

Soil Map Unit Name: Moreland (Mn. A) NWI classification: Not hydric

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? NO Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (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 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 on 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 (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)

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:

SW Corner @ N 31.339233, W092.531464
Area S. west of ephemeral drain is established hayfield

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: 05

Tree Stratum (Plot size: 30' radius)		Absolute % Cover	Dominant Species?	Indicator Status
1. Carya cinerea 7.36"	1	40	Y	obl
2.				
3.				
4.				
5.				
6.				
7.				
8.				
		40 = Total Cover		
50% of total cover:		20% of total cover: ✓		

Sapling/Shrub Stratum (Plot size: 30' radius)				
1. Ilex Vomitoria	x4	30	Y	Fac
2. Quercus nigra	x2	10	N	Fac
3. Celtis laevigata	x12	60	Y	Facw
4. Sumpervivum virginiana	x3	5	N	Facw
5.				
6.				
7.				
8.				
		105 = Total Cover		
50% of total cover: ✓		20% of total cover: ✓		

Herb Stratum (Plot size: 10' radius)				
1. Toxicodendron	TNTC	50	Y	Fac
2. Carya Illinoiensis	x11	25	Y	Fac
3. Smilax (& Seedlings)				Fac
4. rotundifolia	x2	2	N	Fac
5. Carex cephalophora	x31	20	N	Fac
6. Ambrosia artemisiifolia	5	10		Facu
7. Conyza canadensis	x6	2	N	Facu
8.				
9.				
10.				
11.				
12.				
		104 = Total Cover		
50% of total cover: ✓		20% of total cover: ✓		

Woody Vine Stratum (Plot size: 10' radius)				
1. Vitis rotundifolia	x3	2	N	Fac
2.				
3.				
4.				
5.				
		2 = Total Cover		
50% of total cover:		20% of 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: 6 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	60	x 2 =	120
FAC species	139	x 3 =	417
FACU species	12	x 4 =	48
UPL species		x 5 =	—
Column Totals:	251 (A)		625 (B)

Prevalence Index = B/A = 2.49

Hydrophytic Vegetation Indicators:

✓ 1 - Rapid Test for Hydrophytic Vegetation

✓ 2 - Dominance Test is >50%

✓ 3 - Prevalence Index is ≤3.0[1]

N Problematic Hydrophytic Vegetation[1] (Explain)

[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 ✓ No

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

SOIL

Sampling Point: 05

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
0-6	5YR 3/3							
6-16	5YR 3/3							
16-18	5YR 3/4							

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

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

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Organic Bodies (A6) (LRR P, T, U)
- ___ 5 cm Mucky Mineral (A7) (LRR P, T, U)
- ___ Muck Presence (A8) (LRR U)
- ___ 1 cm Muck (A9) (LRR P, T)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Coast Prairie Redox (A16) (MLRA 150A)
- ___ Sandy Mucky Mineral (S1) (LRR O, S)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR P, S, T, U)
- ___ Polyvalue Below Surface (S8) (LRR S, T, U)
- ___ Thin Dark Surface (S9) (LRR S, T, U)
- ___ Loamy Mucky Mineral (F1) (LRR O)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (LRR U)
- ___ Depleted Ochric (F11) (MLRA 151)
- ___ Iron-Manganese Masses (F12) (LRR O, P, T)
- ___ Umbric Surface (F13) (LRR P, T, U)
- ___ Delta Ochric (F17) (MLRA 151)
- ___ Reduced Vertic (F18) (MLRA 150A, 150B)
- ___ Piedmont Floodplain Soils (F19) (MLRA 149A)
- ___ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric 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:

Site close to creek - embanked by farming and close enough to creek for hydrology.