

APPENDIX G – FLOOD ZONE AND WETLAND LOCATION COMPLIANCE

Documentation of compliance with location criteria of Section 507.A.5 and 507.A.6 for Flood Zones & Wetlands (Section 519.C.7)

Castilaw Environmental Services, LLC (CES) in association with the proposed Defiance Energy Services, LLC (Defiance) Class II Commercial Disposal Facility project located near Edgefield, Red River Parish, Louisiana, was authorized by ALTEC Environmental Services, LLC (ALTEC) to conduct a wetlands delineation of the approximately 5.579-acre tract of land (Subject Property) in which the proposed facility site lies in order to identify potential jurisdictional waters of the U.S., including wetlands, within any portions of the overall subject property.

CES determined that a request for preliminary jurisdictional determination associated with this same tract of land by the U.S. Army Corps of Engineers (USACE) is not needed because there are no potential waters of the United States within the boundaries of the proposed project site. This project would not involve activities subject to the requirements of Section 404 or Section 10, therefore it will not require authorization pursuant to Section 404 and/or Section 10.

The subject property is located to the West of US-371 near Edgefield, Red River Parish, Louisiana. The approximate 5.579-acre Defiance Commercial Disposal Facility site will be situated within the central portion of the overall subject property which is located within FEMA Flood Zone C, is utilized for Timberland purposes, and is otherwise vacant.

Based on CES' evaluation, construction activities associated with the proposed facility site will result in no temporary or permanent impacts to jurisdictional waters of the U.S., including wetlands, and as such is not subject to the requirements of Section 404 or Section 10. Therefore, authorization from the USACE is not required for this project.

A copy of CES' report is included in this section.



October 29, 2019

Ms. Cori Carraway
Permit Section Chief, Regulatory Branch
U.S. Army Corps of Engineers Vicksburg District
4155 Clay Street
Vicksburg, MS 39183-5191.
Submitted via email: Regulatory@usace.army.mil

Re: Request for "No Permit Required" Letter Associated with the Defiance Energy Proposed Saltwater Disposal Facility Site near Edgefield, Red River Parish, Louisiana (Revision No. 1)
Castilaw Environmental Services, LLC Project No. 18-CES-69

Dear Ms. Carraway,

Castilaw Environmental Services, LLC (CES) conducted a wetlands investigation and threatened & endangered species assessment in association with a proposed saltwater disposal facility near Edgefield, Red River Parish, Louisiana. The project site is comprised of 5.579 acres of former timberland that has been clear-cut within the last several years and recently mulched. Based on our findings, CES does not believe that the project will result in any temporary or permanent impacts to potentially jurisdictional waters of the U.S., including wetlands, and that no authorization from the USACE or additional wetlands investigation is necessary to complete this project. Additionally, construction activities associated with the proposed project are not expected to impact listed threatened & endangered species or previously recorded archaeological sites. Our client for this project has requested that we also submit our report to the USACE to verify our findings and to request concurrence that no permit is required for the proposed project.

I have attached a copy of our wetlands investigation report, including project figures, photographic documentation, wetland determination data forms, and threatened & endangered species documentation. Please do not hesitate to contact me at (936) 559-9991 or the email address below if you have any questions or need any additional information.

Thank You,

A handwritten signature in black ink that reads "Anthony Castilaw". The signature is written in a cursive, flowing style.

Anthony Castilaw
Principal
acastilaw@castilawenvironmental.com

Enclosures: Request Form for Corps Jurisdictional Determination
Wetlands Investigation Report

510 E. Pilar Street
Nacogdoches, Texas 75961
Office: 936-559-9991 Fax: 936-559-9993

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

Application No. 40942

To: District Name Here

- I am requesting a JD on property located at: Located along Hwy. 371 northeast of Edgefield, Red River Parish, LA

(Street Address)

City/Township/Parish: Edgefield County: Red River Parish State: LA

Acreage of Parcel/Review Area for JD: 5.579 acres

Section: 20 Township: 13 Range: 9

Latitude (decimal degrees): 32.102328 Longitude (decimal degrees): -93.310036

(For linear projects, please include the center point of the proposed alignment.)

- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- I currently own this property. I plan to purchase this property.
- I am an agent/consultant acting on behalf of the requestor.
- Other (please explain): _____.
- Reason for request: (check as many as applicable)
 - I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
 - I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
 - I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
 - I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
 - I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
 - A Corps JD is required in order to obtain my local/state authorization.
 - I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
 - I believe that the site may be comprised entirely of dry land.
 - Other: _____.
- Type of determination being requested:
 - I am requesting an approved JD.
 - I am requesting a preliminary JD.
 - I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
 - I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: Anthony Castilaw Digitally signed by Anthony Castilaw
Date: 2019.10.29 10:23:56 -0500 Date: October 29, 2019

- Typed or printed name: Anthony Castilaw
- Company name: Castilaw Environmental Services, LLC
- Address: P.O. Box 631025
Nacogdoches, Texas 75963
- Daytime phone no.: (936) 559-9991
- Email address: acastilaw@castilawenvironmental.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.



October 29, 2019

Mr. Charlie Reynolds
ALTEC Environmental Services, LLC
10100 Woolworth Road
Keithville Road, LA 71047

Re: Results of the Wetlands Investigation and Threatened & Endangered Species Assessment associated with the Defiance Energy Proposed Commercial Saltwater Disposal Facility Site located along Highway 371 near Edgefield, Red River Parish, LA (Revision No. 1) Castilaw Environmental Services, LLC - Project No. 18-CES-69

Mr. Reynolds,

Castilaw Environmental Services, LLC (CES) conducted a wetland investigation and threatened & endangered species assessment on behalf of ALTEC Environmental Consulting, LLC (ALTEC) for a proposed commercial saltwater disposal facility site on October 22, 2019. The proposed project site consists of an approximate 5.579-acre tract of former timberland that has been clear-cut within the last several years and recently mulched. The project site is located in a rural area along Highway 371, approximately 3.85-miles northeast of Edgefield, Red River Parish, Louisiana (Figure 1). North American Datum of 1983 (NAD 83) coordinates for the approximate center of the project site are as follows: Latitude 32.101588° North, Longitude - 93.310819° West.

INVESTIGATION METHODS

Agency Resource Information

Prior to the field investigation, CES personnel gathered and reviewed information from various sources to identify and map potential waters of the United States, including wetlands, within the boundaries of the proposed project site, as well as in the immediate general vicinity of the proposed project site. Additionally, information was gathered and reviewed regarding known and/or potential populations of threatened & endangered species. Specifically, the information reviewed prior to the field investigation was obtained from, but not limited to, the following sources:

- 2006 – 2015 National Agriculture Imagery Program (NAIP) Aerial Imagery;
- United States Geological Survey (USGS) 7.5-minute Topographic Maps;
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey;
- National Wetland Inventory Data (NWI);

510 E. Pilar Street
Nacogdoches, Texas 75961
Office: 936-559-9991 Fax: 936-559-9993

- United States Fish and Wildlife Service's (USFWS) threatened & endangered species list for Red River Parish, Louisiana; and
- Louisiana Department of Wildlife and Fisheries (LDWF) list of rare, threatened, and endangered species for Red River Parish, Louisiana.

Wetland Delineation

The wetland investigation performed in association with this project was conducted in accordance with the "Routine On-Site Determination Method" as described in the *U.S. Army Corps of Engineers Wetland Manual* (1987) and the *U.S. Army Corps of Engineers - Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (Version 2.0) (November 2010). Plant identifications were made using several sources of information, including *Aquatic and Wetland Plants of the Southeastern United States* (Godfrey and Wooten, 1979). Munsell Soil Color Charts (Revised 2009) were used to identify the hue, value, and chroma of soil profiles.

Threatened & Endangered Species Assessment

CES personnel surveyed the proposed project site and general project area for the presence of federally listed threatened & endangered species or those proposed for listing. Vegetative communities were characterized based on dominant species and were used to determine if habitats suitable for federally listed species were present.

INVESTIGATION RESULTS

Waters of the United States

Using the investigation methods mentioned above, as well as our professional judgment, CES personnel identified no potential waters of the United States, including wetlands, within the boundaries of the proposed project site. The project figures associated with this project are included in Appendix A.

Upland Habitat

The entire project site is comprised of former timberland that has been clear-cut within the last several years and recently mulched. The topography of the project site is relatively flat to gently sloping towards the southwest. Photographic documentation associated with the field investigation is included in Appendix B of this report.

CES obtained data from three sampling locations within the boundaries of the proposed project site. Hydrology, vegetation, and soil data collected from each of the sampling locations is documented on wetland determination data forms that are included in Appendix C of this report.

Threatened & Endangered Species

CES reviewed the U.S. Fish and Wildlife Services (USFWS) Initial Planning and Coordination (IPaC) species list to evaluate potential impacts to threatened & endangered species. This documentation is included in Appendix D of this report.

The IPaC report listed one endangered species (Interior Least Tern) and two threatened species (Northern Long-eared Bat and Louisiana Pine Snake) occurring in Red River Parish. CES obtained a USFWS Endangered Species Project Review and Guidance Report for possible impacts to the Interior Least Tern and Louisiana Pine Snake. CES also obtained a USFWS Northern Long-eared Bat Consultation and 4(d) Rule Consistency determination report. Based on the habitat that is present within the boundaries of the proposed project site, as well as within the immediate general vicinity of the proposed project site, this project will not affect any of the listed species. Also, the immediate general vicinity of the proposed project site is highly fragmented due to timber harvesting activities and oil & gas exploration activities.

According to a list provided by the Louisiana Department of Wildlife and Fisheries (LDWF), 15 species are state, but not federally, listed as threatened or endangered species in Red River Parish. These species are protected from the taking of individuals; however, for the purpose of this investigation, a detailed habitat analysis was not deemed necessary. These species are identified as the Western Sand Darter (*Ammocrypta clara*), Blue Sucker (*Cycleptus elongatus*), Louisiana Pigtoe (*Pleurobema riddellii*), Interior Least Tern (*Sternula antillarum athalassos*), Louisiana Blue Star (*Amsonia ludoviciana*), Southern Lady's-slipper (*Cypripedium kentuckiense*), Wolf Spikerush (*Eleocharis wolfii*), Rosemary Rockrose (*Helianthemum rosmarinifolium*), Minuartia (*Minuartia muriculata*), Green-fringe Orchis (*Platanthera lacera*), Brownish Beakrush (*Rhynchospora capitellata*), Texas Sunnysbell (*Schoenolirion wrightii*), Fire Pink (*Silene virginia*), Prairie Cordgrass (*Spartina pectinate*), and Small-flowered Flame-flower (*Talinum parviflorum*). The preferred habitat for these listed species was not observed within the boundaries of the proposed project site or within the general vicinity.

Other Species of Concern

Even though they are delisted, bald eagles are still protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. These Acts require some measures to continue to prevent bald eagle "take" resulting from human activities. The bald eagle's habitat is most commonly found in areas close to bodies of water that reflect the general availability of primary food sources including fish, waterfowl, and seabirds. This species usually nests in tall trees or on cliffs near water and typically selects the larger, more accessible trees. Communal roost sites used by two or more eagles are common, and some may be used by 100 or more eagles during periods of high use. The bald eagle avoids areas near human activity and development.

There are no large bodies of water in the immediate general vicinity of the proposed project site. Also, there were no bald eagles or nests observed during the field activities

associated with this project. The proposed project site was recently mulched, and the adjacent property consisted of former timberland that was clear-cut within the last several years. Based on this information, impacts to this species are not expected as a result of the construction activities associated with the proposed project.

SUMMARY

There were no potential waters of the U.S. identified within the boundaries of the proposed project site. The entire proposed project site is comprised of former timberland that has been clear-cut within the last several years and recently mulched. Also, based on the review of historical aerial photographs, it appears that the project site and all immediate adjacent properties have consisted of timberland for at least the last several decades. Additionally, the proposed project is not expected to impact listed threatened and endangered species.

Any alteration within the current scope of this project or relocation of the proposed project that would impact jurisdictional waters of the U.S., or other waters, could potentially require pre-construction notification to the USACE, Vicksburg District. Failure to comply with these recommendations could result in destruction or degradation of jurisdictional areas and subsequent violation to Section 404 of the Clean Water Act.

CLOSING

Please do not hesitate to contact me at (936) 559-9991 (Office) should you have any questions or comments regarding this report. Thank you for the opportunity to provide environmental services to you and to your clients.

Thank You,



Anthony Castilaw
Principal

Appendices: Appendix A - Project Figures
Appendix B - Photographic Documentation
Appendix C - Wetland Determination Data Forms
Appendix D - T&E Species Documentation

Appendix A

Project Figures

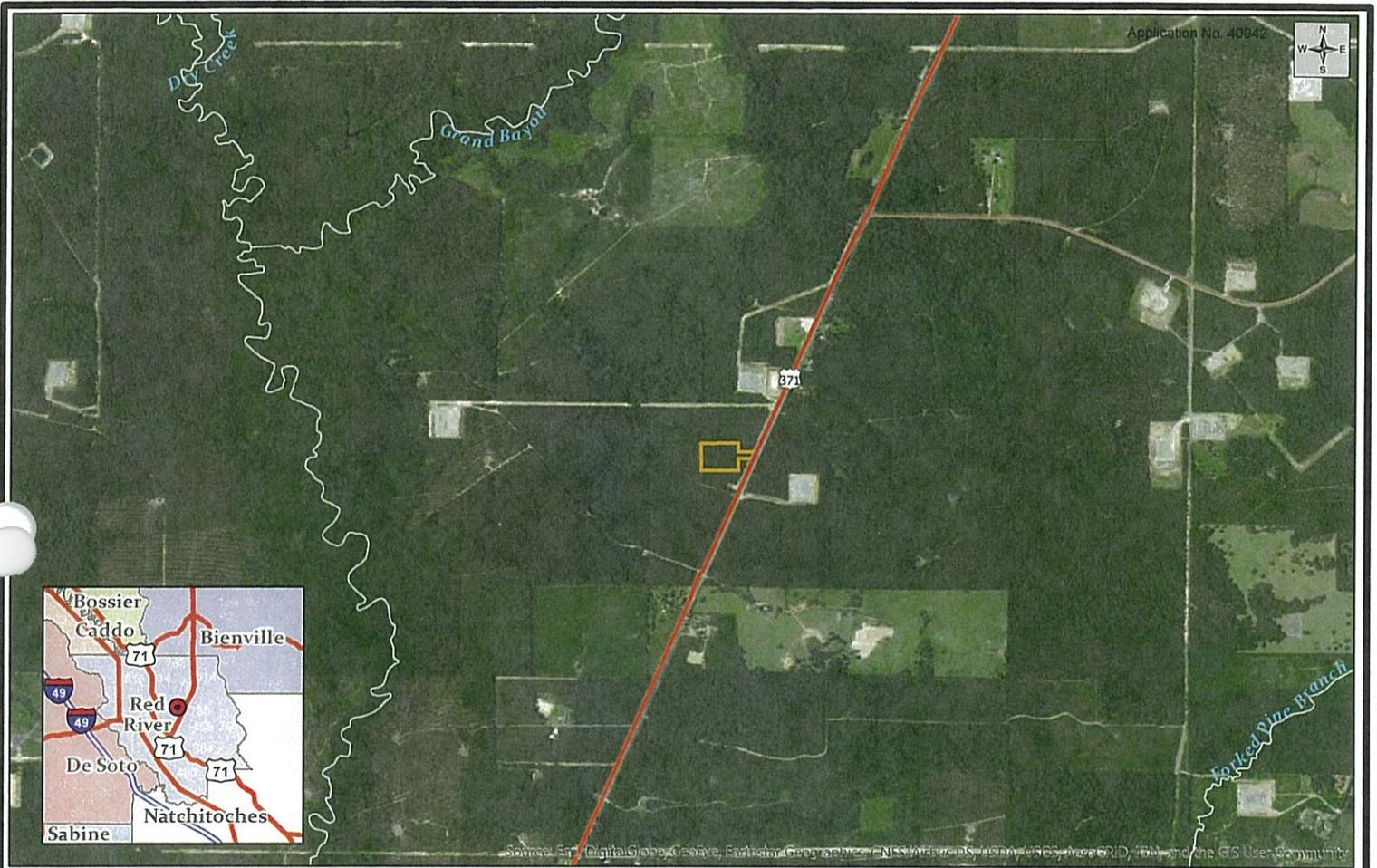


Figure 1 of 5
Location Map

Wetlands Evaluation

Date: October 28, 2019



CES Project No. 18-CES-69
 Created By: Joseph Gerland
 Coordinates: 32.102923, -93.311681

**Defiance Energy Project
Red River Parish, Louisiana**

Imagery Source: ESRI
 Vector Source: CES, ESRI, & USGS
 Datum: NAD 1983 UTM Zone 15N



Project Site

Application No. 40342



Figure 2 of 5
Waters of the U.S.

Wetlands Evaluation

Date: October 28, 2019



CES Project No. 18-CES-69
Created By: Joseph Gerland
Coordinates: 32.102328, -93.310036

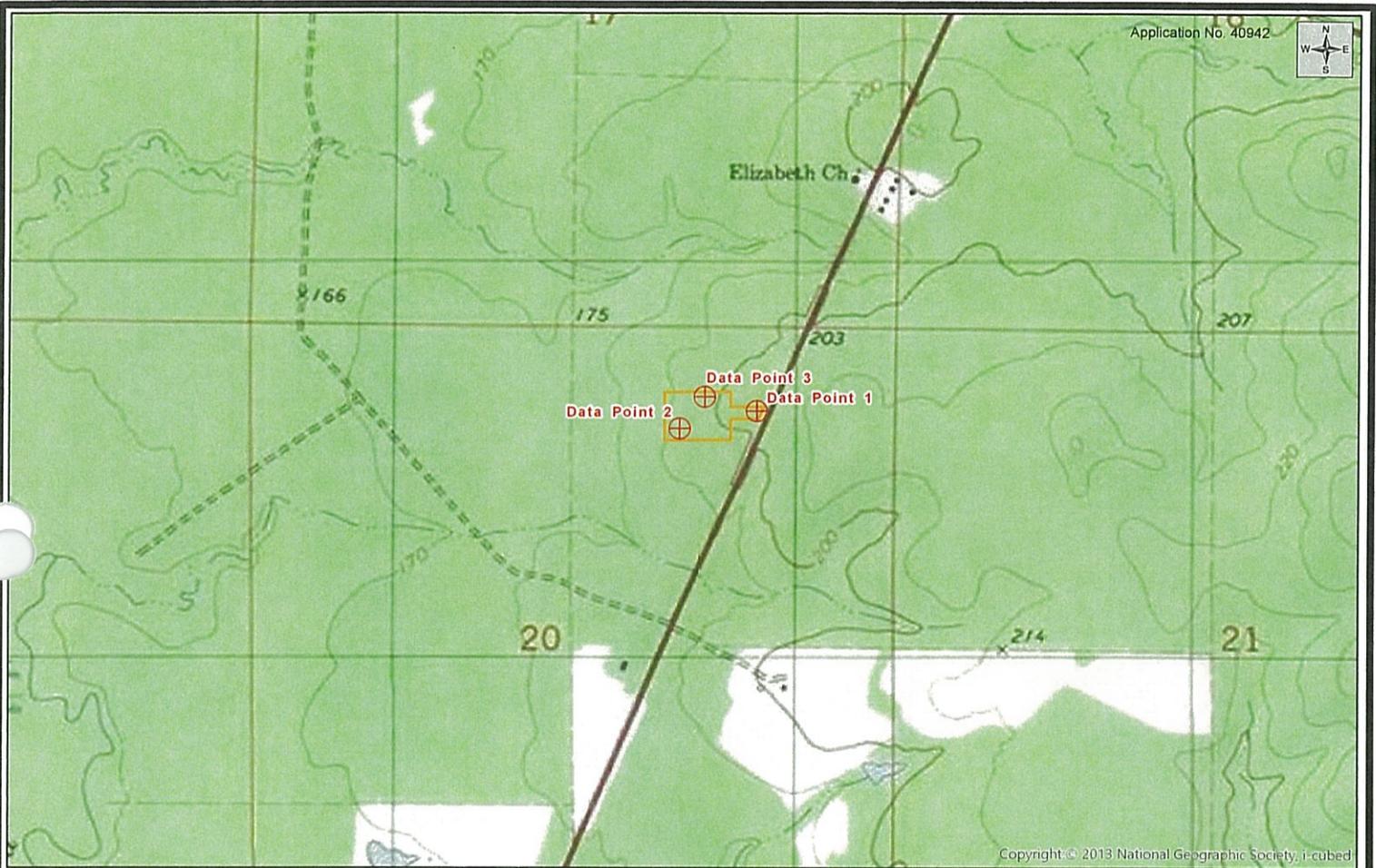
Defiance Energy Project Red River Parish, Louisiana

Imagery Source: 2019 NAIP
Vector Source: CES
Datum: NAD 1983 UTM Zone 15N



- Data Point
- Project Site

Application No. 40942



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Figure 3 of 5
Topographic Map

Wetlands Evaluation

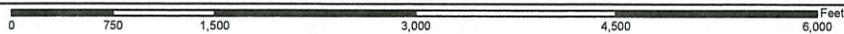
Date: October 28, 2019



CES Project No. 18-CES-69
Created By: Joseph Gerland
Coordinates: 32.101689, -93.31034

Defiance Energy Project Red River Parish, Louisiana

Quad: Coushatta
Imagery Source: NGS
Vector Source: CES
Datum: NAD 1983 UTM Zone 15N



- Data Point
- Project Site

NWI Codes Defined:
 PFOC - Palustrine, Forested, Seasonally Flooded
 R4SBC - Riverine, Intermittent, Streambed, Seasonally Flooded

Application No. 40942

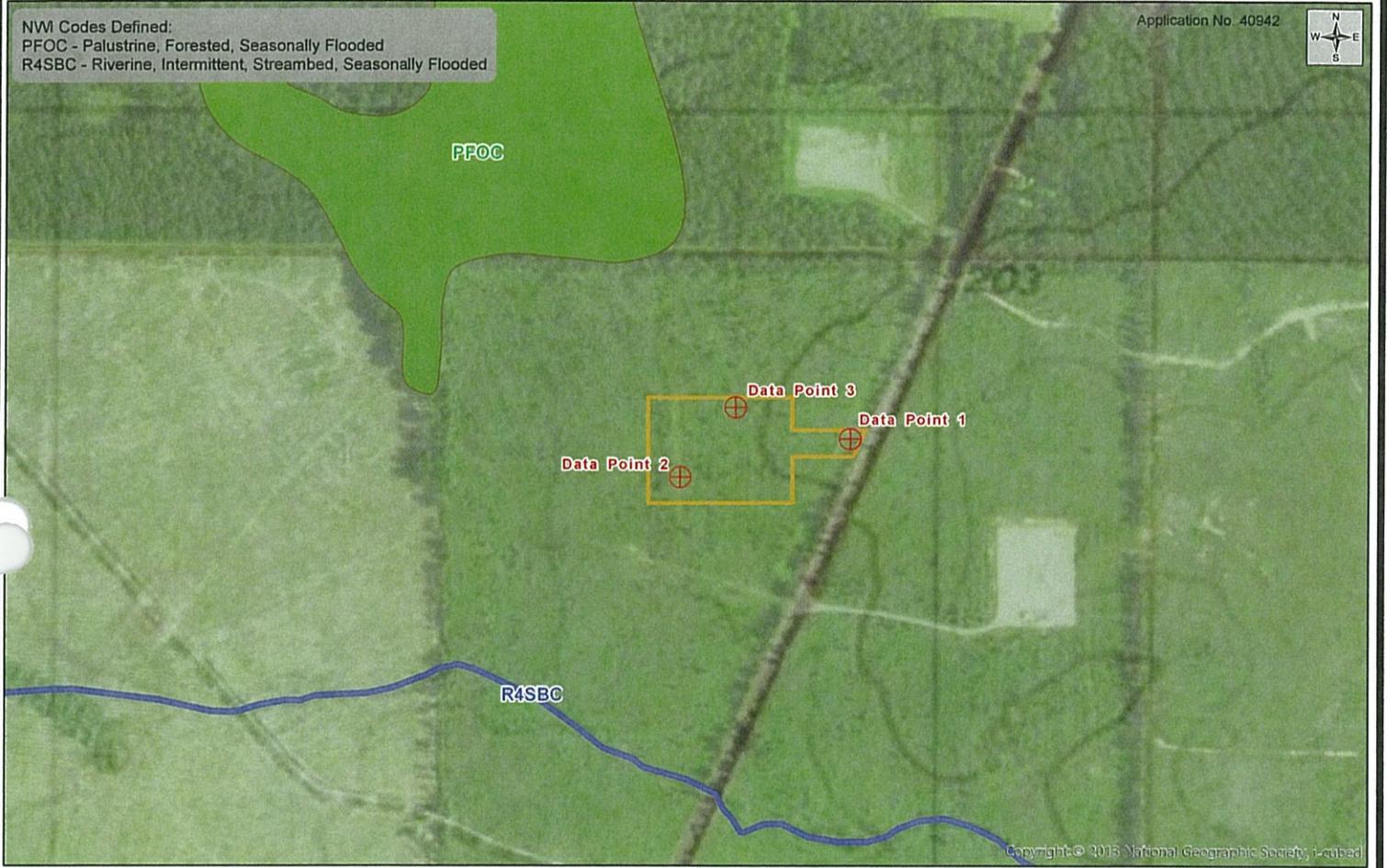


Figure 4 of 5
 National Wetlands
 Inventory

Wetlands Evaluation

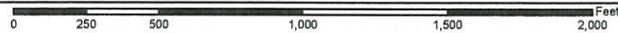
Date: October 28, 2019



CES Project No. 18-CES-69
 Created By: Joseph Gerland
 Coordinates: 32.102417, -93.31043

Defiance Energy Project
 Red River Parish, Louisiana

Imagery Source: ESRI & NGS
 Vector Source: CES & USFWS
 Datum: NAD 1983 UTM Zone 15N



- Data Point
- NWI - Riverine
- NWI - Forested Wetland
- Project Site



Soil Codes Defined:
Falkner-Boswell association, gently sloping (FBB)

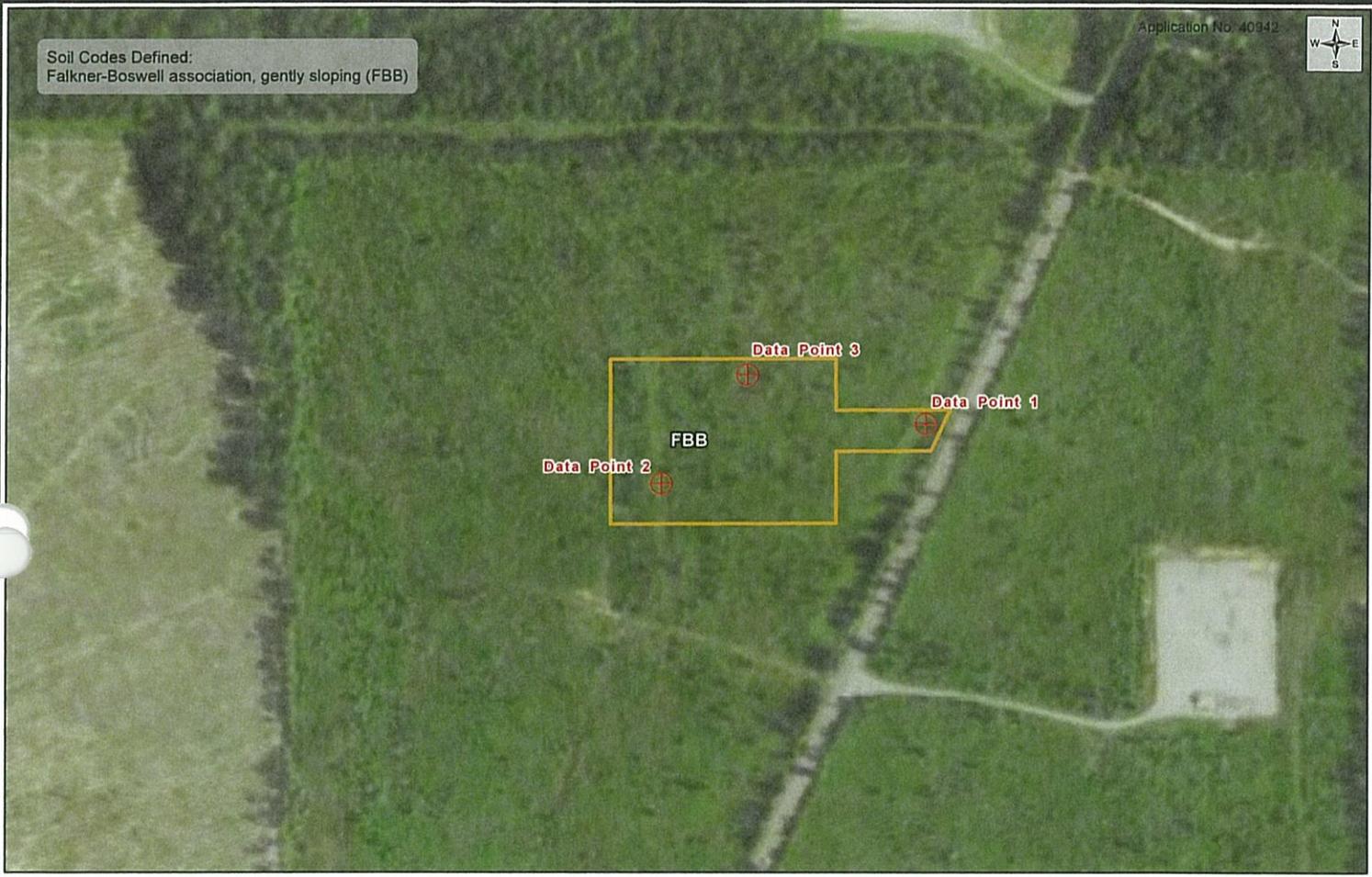


Figure 5 of 5
Soil Data Map

Wetlands Evaluation

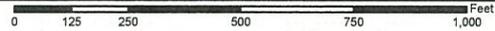
Date: October 28, 2019



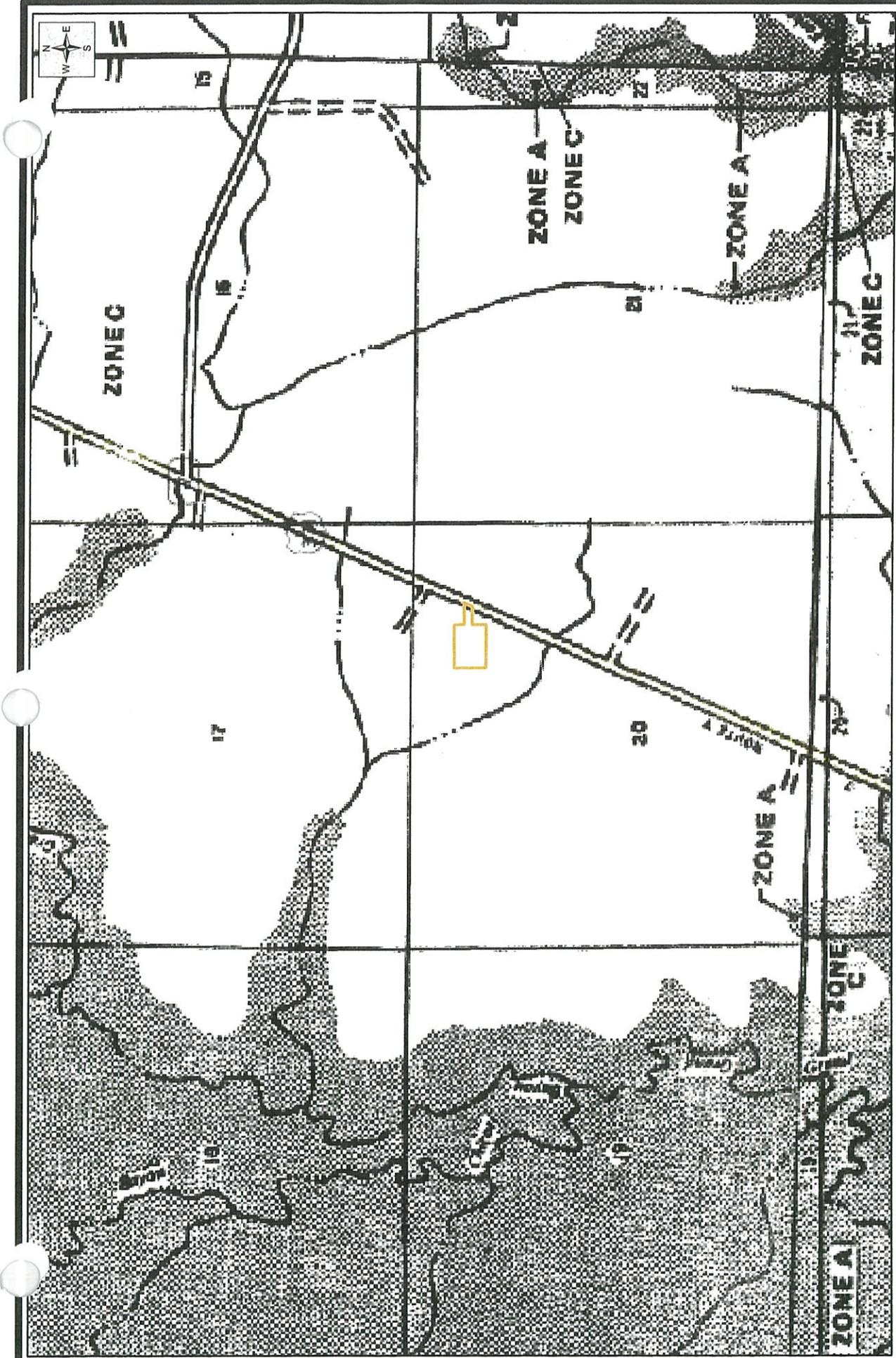
CES Project No. 18-CES-69
Created By: Joseph Gerland
Coordinates: 32.102251, -93.310309

Defiance Energy Project Red River Parish, Louisiana

Imagery Source: ESRI
Vector Source: CES & NRCS
Datum: NAD 1983 UTM Zone 15N



- Data Point
- Non-Hydric
- Project Site



Date: April 06, 2020

Wetlands Evaluation

FEMA Flood Plains



 **Project Site**
Application No. 40942

Imagery Source: FEMA
Vector Source: CES
Datum: NAD 1983 UTM Zone 15N

Defiance Energy Project
Red River Parish, Louisiana



CES Project No. 18-CES-69
Created By: Joseph Gerland
Coordinates: 32.102328, -93.310036

Appendix B

Photographic Documentation



Photograph 1 – A view north-northeast along the eastern boundary of the proposed project site. Highway 371 borders the eastern boundary of the project site.



Photograph 2 – A view west from Highway 371 showing the proposed project site. The entire project site is comprised of former timberland that was clear-cut several years ago and has been recently mulched.



Photograph 3 – A view west along the southern boundary of the proposed project site.



Photograph 4 – A view north along the western boundary of the proposed project site.



Photograph 5 – A view east along the northern boundary of the proposed project site.



Photograph 6 – A view southwest from the northeast corner of the proposed project site.



Photograph 7 – A representative view of the clear-cut habitat located adjacent to the northern, southern, and western boundaries of the proposed project site. This photograph was taken along the northern boundary of the proposed project site.



Photograph 8 – A view showing the natural gas pipeline corridor that extends through the eastern portion of the proposed project site.

Appendix C

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Defiance Energy Project City/County: Red River Parish Sampling Date: 10-22-2019
 Applicant/Owner: ALTEC Environmental Consulting, LLC State: LA Sampling Point: 1
 Investigator(s): A. Castilaw, K. Compton, J. Gerland Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Ridge Local relief (concave, convex, none): Convex Slope (%): 2-3
 Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: FBB—Falkner-Boswell association, gently sloping NWI 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.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<p><u>Secondary Indicators (minimum of two required)</u></p> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
<p>Field Observations:</p> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	<p>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></p>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: FAC-Neutral Test: 0 FACW/OBL Dominant Species, 3 FACU/UPL Dominant Species	

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

Tree Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

0 = Total Cover

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

Sapling/Shrub Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

0 = Total Cover

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

Herb Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Dichanthelium acuminatum</u>	<u>12</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Schizachyrium scoparium</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>
3. <u>Sassafras albidum</u>	<u>6</u>	<u>Yes</u>	<u>FACU</u>
4. <u>Callicarpa americana</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>
5. <u>Ilex vomitoria</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
6. <u>Rhus copallinum</u>	<u>4</u>	_____	<u>UPL</u>
7. <u>Rumex crispus</u>	<u>4</u>	_____	<u>FAC</u>
8. <u>Solidago canadensis</u>	<u>4</u>	_____	<u>FACU</u>
9. <u>Tridens flavus</u>	<u>4</u>	_____	<u>FACU</u>
10. <u>Solanum carolinense</u>	<u>3</u>	_____	<u>FACU</u>
11. <u>Chamaecrista fasciculata</u>	<u>2</u>	_____	<u>FACU</u>
12. <u>Eupatorium capillifolium</u>	<u>1</u>	_____	<u>FACU</u>

60 = Total Cover

50% of total cover: 30 20% of total cover: 12

Woody Vine Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Rubus argutus</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Ampelopsis arborea</u>	<u>4</u>	<u>Yes</u>	<u>FAC</u>
3. <u>Vitis rotundifolia</u>	<u>2</u>	_____	<u>FAC</u>
4. <u>Symphoricarpos orbiculatus</u>	<u>1</u>	_____	<u>FACU</u>
5. _____	_____	_____	_____

12 = Total Cover

50% of total cover: 6 20% of total cover: 2.4

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 57% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

- Hydrophytic Vegetation Indicators:**
- 1 - Rapid Test for Hydrophytic Vegetation
 - 2 - Dominance Test is >50%
 - 3 - Prevalence Index is ≤3.0¹
 - Problematic Hydrophytic Vegetation¹ (Explain)
- ¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of 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

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 4/3	100					FSL	Fine Sandy Loam
3-7	10YR 4/4	100					FSL	Fine Sandy Loam
7-16	10YR 5/4	100					FSL	Fine Sandy Loam

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

²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Defiance Energy Project City/County: Red River Parish Sampling Date: 10-22-2019
 Applicant/Owner: ALTEC Environmental Consulting, LLC State: LA Sampling Point: 2
 Investigator(s): A. Castilaw, K. Compton, J. Gerland Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex Slope (%): 3
 Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: FBB—Falkner-Boswell association, gently sloping NWI 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.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks: 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks: FAC-Neutral Test: 0 FACW/OBL Dominant Species, 1 FACU/UPL Dominant Species	

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

Tree Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

0 = Total Cover

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

Sapling/Shrub Stratum (Plot size: 30' Radius)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

0 = Total Cover

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

Herb Stratum (Plot size: 30' Radius)

1. <u>Schizachyrium scoparium</u>	<u>25</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Dichanthelium acuminatum</u>	<u>8</u>	_____	<u>FAC</u>
3. <u>Callicarpa americana</u>	<u>5</u>	_____	<u>FACU</u>
4. <u>Solanum carolinense</u>	<u>4</u>	_____	<u>FACU</u>
5. <u>Amaranthus retroflexus</u>	<u>3</u>	_____	<u>FAC</u>
6. <u>Tridens flavus</u>	<u>3</u>	_____	<u>FACU</u>
7. <u>Eupatorium capillifolium</u>	<u>2</u>	_____	<u>FACU</u>
8. <u>Solidago canadensis</u>	<u>2</u>	_____	<u>FACU</u>
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

52 = Total Cover

50% of total cover: 29 20% of total cover: 11.6

Woody Vine Stratum (Plot size: 30' Radius)

1. <u>Smilax glauca</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Parthenocissus quinquefolia</u>	<u>2</u>	_____	<u>FACU</u>
3. <u>Vitis rotundifolia</u>	<u>1</u>	_____	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____

8 = Total Cover

50% of total cover: 4 20% of total cover: 1.6

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of 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

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	10YR 3/2	100					FSL	Fine Sandy Loam
4-10	10YR 5/4	98	10YR 5/8	2	C	M	FSL	Fine Sandy Loam
10-16	10YR 5/6	98	10YR 5/8	2	C	M	L	Loam

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

²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

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

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Defiance Energy Project City/County: Red River Parish Sampling Date: 10-22-2019
 Applicant/Owner: ALTEC Environmental Consulting, LLC State: LA Sampling Point: 3
 Investigator(s): A. Castilaw, K. Compton, J. Gerland Section, Township, Range: N/A
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Convex Slope (%): 3
 Subregion (LRR or MLRA): LRR P Lat: _____ Long: _____ Datum: NAD 83
 Soil Map Unit Name: FBB—Falkner-Boswell association, gently sloping NWI 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.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: FAC-Neutral Test: 0 FACW/OBL Dominant Species, 1 FACU/UPL Dominant Species	

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

Tree Stratum (Plot size: <u>30' Radius</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

0 = Total Cover

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

Prevalence Index worksheet:

Total % Cover of: _____ Multiply by: _____

OBL species _____ x 1 = _____

FACW species _____ x 2 = _____

FAC species _____ x 3 = _____

FACU species _____ x 4 = _____

UPL species _____ x 5 = _____

Column Totals: _____ (A) _____ (B)

Prevalence Index = B/A = _____

Sapling/Shrub Stratum (Plot size: 30' Radius)

1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

Problematic Hydrophytic Vegetation¹ (Explain)

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

0 = Total Cover

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

Herb Stratum (Plot size: 30' Radius)

1. <u>Schizachyrium scoparium</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>
2. <u>Dichanthelium commutatum</u>	<u>6</u>	_____	<u>FAC</u>
3. <u>Baccharis halimifolia</u>	<u>4</u>	_____	<u>FAC</u>
4. <u>Heliopsis helianthoides</u>	<u>4</u>	_____	<u>UPL</u>
5. <u>Croton capitatus</u>	<u>3</u>	_____	<u>UPL</u>
6. <u>Ilex vomitoria</u>	<u>3</u>	_____	<u>FAC</u>
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

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.

50 = Total Cover

50% of total cover: 25 20% of total cover: 10

Woody Vine Stratum (Plot size: 30' Radius)

1. <u>Smilax rotundifolia</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>
2. <u>Gelsemium sempervirens</u>	<u>2</u>	_____	<u>FAC</u>
3. <u>Rubus argutus</u>	<u>2</u>	_____	<u>FAC</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____

12 = Total Cover

50% of total cover: 6 20% of total cover: 2.4

Hydrophytic Vegetation Present? Yes _____ No

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

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-3	10YR 3/2	100					FSL	Fine Sandy Loam
3-15	10YR 5/6	98	7.5YR 4/6	2	C	M	CL	Clay Loam

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

²Location: PL=Pore Lining, M=Matrix.

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

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No

Remarks:



DEPARTMENT OF THE ARMY

VICKSBURG DISTRICT, CORPS OF ENGINEERS

4155 CLAY STREET

VICKSBURG, MISSISSIPPI 39183-3435

December 4, 2019

Operations Division

SUBJECT: Determination of Department of the Army Permit Requirements for the Defiance Energy Proposed Commercial Saltwater Disposal Facility Project, Located in Red River Parish, Louisiana

Mr. Charlie Reynolds
ALTEC Environmental Services, LLC
10100 Woolworth Road
Keithville, Louisiana 71047

Dear Mr. Reynolds:

I refer to your recent inquiry, on behalf of ALTEC Environmental Consulting, LLC, regarding Department of the Army permit requirements for the proposed commercial saltwater disposal facility project (enclosure 1).

Based upon the information provided, we have determined that a Department of the Army Section 404 permit will not be required for any of the proposed work, since there are no jurisdictional wetlands or other waters of the United States located within the proposed site. For your information, I have enclosed a copy of the basis of our determination (enclosure 2) and appeals form (enclosure 3).

This approved jurisdictional determination is applicable for a period not to exceed five years from the date of this letter unless superseded by law or regulation. If the proposed work is not completed by this time, or if project plans change, you should contact this office for a reevaluation of permit requirements and refer to the Identification No. MVK-2019-867.

This determination of Department of the Army regulatory requirements does not convey any property rights, either in real estate or material or any exclusive privileges, and does not authorize any injury to property or invasion of rights or local laws or regulations, or obviate the requirement to obtain state or local assent required by law for the activity discussed herein.

-2-

The decision regarding this action is based on information found in the administrative record, which documents the District's decision-making process, the basis for the decision, and the final decision.

If we may be of any further assistance in this matter, please contact Mr. Dusty Keen of this office, telephone (601) 631-5065, or e-mail address: David.D.Keen@usace.army.mil.

I am forwarding a copy of this letter via email to Mr. Anthony Castilaw, Castilaw Environmental Services, LLC, 510 East Pilar Street, Nacogdoches, Texas 75961.

Sincerely,

Bryan Williamson

Bryan Williamson
Acting Chief, Permit Section
Regulatory Branch

Enclosures

Appendix D

T&E Species Documentation



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Louisiana Ecological Services Field Office
646 Cajundome Boulevard, Suite 400
Lafayette, LA 70506-4290
Phone: (337) 291-3100 Fax: (337) 291-3139



In Reply Refer To:
Consultation Code: 04EL1000-2020-SLI-0076
Event Code: 04EL1000-2020-E-00168
Project Name: 18-CES-69

October 15, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered and candidate species, as well as designated and proposed critical habitat that may occur within the boundary of your proposed project and may be affected by your proposed project. The Fish and Wildlife Service (Service) is providing this list under section 7 (c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). Changes in this species list may occur due to new information from updated surveys, changes in species habitat, new listed species and other factors. Because of these possible changes, feel free to contact our office (337/291-3126) for more information or assistance regarding impacts to federally listed species. The Service recommends visiting the ECOS-IPaC site or the Louisiana Ecological Services website (www.fws.gov/lafayette) at regular intervals during project planning and implementation for updated species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect Federally listed species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may

affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected (e.g. adverse, beneficial, insignificant or discountable) by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF> or by contacting our office at the number above.

Bald eagles have recovered and were removed from the List of Endangered and Threatened Species as of August 8, 2007. Although no longer listed, please be aware that bald eagles are protected under the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668 *et seq.*). The Service developed the National Bald Eagle Management (NBEM) Guidelines to provide landowners, land managers, and others with information and recommendations to minimize potential project impacts to bald eagles, particularly where such impacts may constitute "disturbance," which is prohibited by the BGEPA. A copy of the NBEM Guidelines is available at: <http://www.fws.gov/southeast/es/baldeagle/NationalBaldEagleManagementGuidelines.pdf>. Those guidelines recommend: (1) maintaining a specified distance between the activity and the nest (buffer area); (2) maintaining natural areas (preferably forested) between the activity and nest trees (landscape buffers); and (3) avoiding certain activities during the breeding season. On-site personnel should be informed of the possible presence of nesting bald eagles within the project boundary, and should identify, avoid, and immediately report any such nests to this office. If a bald eagle nest occurs or is discovered within or adjacent to the proposed project area, then an evaluation must be performed to determine whether the project is likely to disturb nesting bald eagles. That evaluation may be conducted on-line at: <http://www.fws.gov/southeast/es/baldeagle>. Following completion of the evaluation, that website will provide a determination of whether additional consultation is necessary. The Division of Migratory Birds for the Southeast Region of the Service (phone: 404/679-7051, e-mail: SEmigratorybirds@fws.gov) has the lead role in conducting any necessary consultation. Should you need further assistance interpreting the guidelines or performing an on-line project evaluation, please contact this office.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g. cellular, digital television, radio and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm> ; <http://www.towerkill.com>; and <http://fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

Activities that involve State-designated scenic streams and/or wetlands are regulated by the Louisiana Department of Wildlife and Fisheries and the U.S. Army Corps of Engineers, respectively. We, therefore, recommend that you contact those agencies to determine their interest in proposed projects in these areas.

Activities that would be located within a National Wildlife Refuge are regulated by the refuge staff. We, therefore, recommend that you contact them to determine their interest in proposed projects in these areas.

Additional information on Federal trust species in Louisiana can be obtained from the Louisiana Ecological Services website at: www.fws.gov/lafayette or by calling 337/291-3100.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Louisiana Ecological Services Field Office

646 Cajundome Boulevard, Suite 400

Lafayette, LA 70506-4290

(337) 291-3100

Project Summary

Consultation Code: 04EL1000-2020-SLI-0076

Event Code: 04EL1000-2020-E-00168

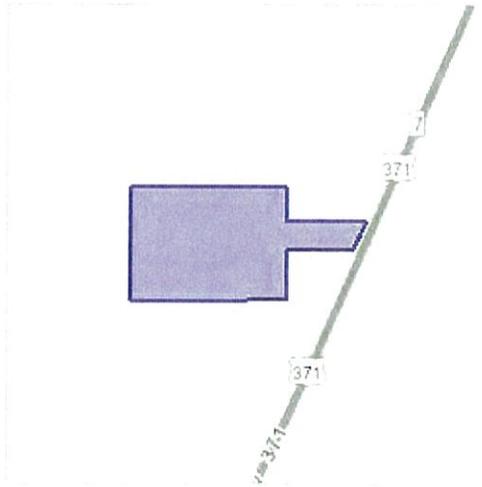
Project Name: 18-CES-69

Project Type: DEVELOPMENT

Project Description: Proposed saltwater disposal facility.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.1022435692026N93.30965865907949W>



Counties: Red River, LA

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered

Reptiles

NAME	STATUS
Louisiana Pinesnake <i>Pituophis ruthveni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4092	Threatened



Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.





United States Department of the Interior



FISH AND WILDLIFE SERVICE
Louisiana Ecological Services Field Office
200 Dulles Drive
Lafayette, LA 70506-4290
Phone: (337) 291-3100 Fax: (337) 291-3139

IPaC Record Locator: 280-18704212

October 29, 2019

Subject: Consistency letter for the project named 'Defiance Energy Project' for specified threatened and endangered species that may occur in your proposed project location pursuant to the Louisiana Endangered Species Act project review and guidance for other federal trust resources key.

Dear Joseph Gerland:

The U.S. Fish and Wildlife Service (Service) received on October 15, 2019 your effects determination for the 'Defiance Energy Project' (the Action) using the Louisiana Endangered Species Act project review and guidance for other federal trust resources key within the Information for Planning and Consultation (IPaC) system. This system was developed in accordance with the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based on the answers provided, the proposed Action is consistent with a determination of "no effect" or "may affect, but not likely to adversely affect (NLAA)" for the following species as outlined in the Service's Louisiana Endangered Species Act project review and guidance for other federal trust resources key.

Endangered Interior Least tern (<i>Sterna antillarum</i>)	NLAA
Threatened Louisiana pine snake (<i>Pituophis ruthveni</i>)	NLAA

The "may affect - not likely to adversely affect" determination(s) becomes effective when the lead Federal action agency or designated non-federal representative uses it to ask the Service to rely on the Louisiana Endangered Species Act project review and guidance for other federal trust resources key to satisfy the agency's consultation requirements for this project.

Please provide this consistency letter to the lead Federal action agency or its designated non-federal representative with a request for its review, and as the agency deems appropriate, to submit for concurrence verification through the IPaC system. The lead Federal action agency or designated non-federal representative should log into IPaC using their agency email account and click "Search by record locator". They will need to enter the record locator **280-18704212**

If the action agency is unable to generate a concurrence verification letter through IPaC, please sign below verifying your species determination(s) listed above and submit your project to the Louisiana Field Office for concurrence.

Anthony Castilano
Project Representative

10/29/19
Date

Based on the information provided in this report, as well as any pertinent correspondence and documentation saved to the project file at our office (if applicable), the Service agrees with your determination(s) for the species listed above for the proposed Federal Action:

Joseph A. [Signature]
Louisiana Ecological Services Office
U.S. Fish and Wildlife Service

26 NOV 19
Date

Consultation on the proposed action is concluded when you receive signature from this office.

The Service recommends that your agency contact the Service for additional consultation if: 1) the scope or location of the proposed project is changed significantly, 2) new information reveals that the action may affect listed species or designated critical habitat; 3) the action is modified in a manner that causes effects to listed species or designated critical habitat; or 4) a new species is listed or critical habitat designated. Additional consultation as a result of any of the above conditions or for changes not covered in this consultation should occur before changes are made and or finalized.

This IPaC-assisted determination allows you to rely on this process for compliance with ESA Section 7(a)(2) for only the species listed above. It does not apply to the following ESA-protected species that also may occur in the Action area:

- Northern Long-eared Bat, *Myotis septentrionalis* (Threatened)

Action Description

You provided to IPaC the following name and description for the subject Action.

1. Name

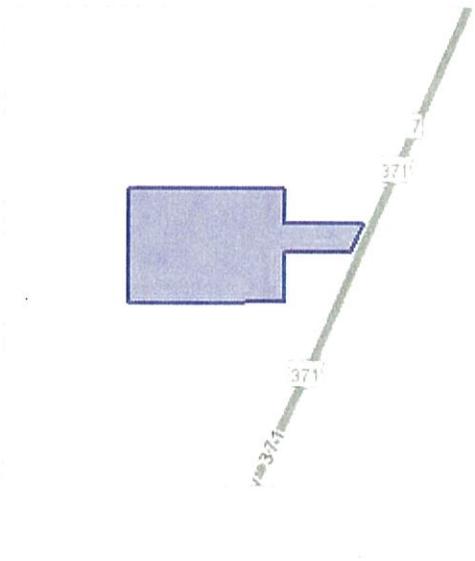
Defiance Energy Project

2. Description

The following description was provided for the project 'Defiance Energy Project':

The project site is comprised of approximately 5.50 acres of former timberland located northeast of Edgefield, Red River Parish, LA. Proposed construction activities include the development of a saltwater disposal facility.

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/32.1022435692026N93.30965865907949W>



Qualification Interview

1. Is this a Federal project?

No

2. Are you with the U.S. Army Corps of Engineers Regulatory Division?

No

3. Are you with the U.S. Army Corps of Engineers Planning Division?

No

4. [Hidden Semantic] Does the project intersect the interior least tern AOI?

Automatically answered

Yes

5. Will the project result in changes to river hydrology (i.e. via construction of lock & dams, major waterbody diversion/major water withdrawals, etc.)?

No

6. Will the project directly impact suitable nesting habitat (sparsely or non-vegetated portions of sand or gravel bars)?

No

7. Will the project be conducted during the interior least tern breeding season (May 15 to August 31)?

No

8. [Hidden Semantic] Does the project intersect the Louisiana pinesnake AOI?

Automatically answered

Yes

9. Does the project occur on land that is forested or on land that is either undeveloped or non-farmed and is located within 1,920ft of adjacent forested lands?

Yes

10. [Semantic] Is the project located within a Louisiana pinesnake Estimated Occupied Habitat Area (EOHA)?

Automatically answered

No

11. (Semantic) Does the project intersect the Louisiana black bear Range?

Automatically answered

No

From: [Anthony Castilaw](#)
To: [DCRT Section 106](#)
Cc: [Anthony Castilaw](#)
Subject: Defiance Energy Project
Date: Tuesday, October 29, 2019 3:31:13 PM
Attachments: [LA SHPO Report - Defiance Energy Project - Red River Parish, LA.pdf](#)

Attached is documentation associated with a proposed commercial saltwater disposal facility site located along Highway 371 and northeast of Edgefield, Red River Parish, LA. The proposed project site is comprised entirely of former timberland that has been clear-cut within the last several years and recently mulched. Also, there are no wetlands or water features within or directly adjacent to the boundaries of the proposed project site.

Please let me know if you need any additional information.

Thanks,
Anthony Castilaw
Castilaw Environmental Services, LLC
www.castilawenvironmental.com
Office: 936-559-9991
Cell: 936-645-3316



October 29, 2019

Ms. Kristin Sanders
Louisiana State Historic Preservation Officer
Louisiana Office of Cultural Development
P.O. Box 44247
Baton Rouge, LA 70804-4247
Submitted electronically: section106@crt.la.gov

Re: Request for Preliminary Cultural Resources Consultation Associated with the Defiance Energy Proposed Saltwater Disposal Facility along Highway 371 near Edgefield, Red River Parish, Louisiana (Revision No. 1)
Castilaw Environmental Services, LLC – Project No. 18-CES-69

Ms. Sanders,

On behalf of our client, ALTEC Environmental Consulting, LLC (ALTEC), Castilaw Environmental Services, LLC (CES) requests the Louisiana State Historic Preservation Office's (SHPO) consultation and review of the above-mentioned project to determine if any cultural resources investigations are required to comply with applicable statutes. The proposed project involves the development of a saltwater disposal facility.

The proposed project site consists of an approximate 5.579-acre tract of former timberland that has been clear-cut within the last several years and recently mulched. Also, based on the review of historical aerial photographs, the proposed project site and all immediate adjacent properties have consisted of timberland for at least the last several decades. Additionally, the general vicinity of the proposed project site is highly fragmented due to timber harvesting activities and oil & gas exploration activities. The project site is located in a rural area along Highway 371, approximately 3.85-miles northeast of Edgefield, Red River Parish, Louisiana. North American Datum of 1983 (NAD 83) coordinates for the approximate center of the project site are as follows: Latitude 32.101588° North, Longitude -93.310819° West.

The project figures associated with this project are included in Appendix A. Photographic documentation associated with this project are included in Appendix B.

REGULATORY BACKGROUND

The project site is located on private property, the project will be privately funded, and the project will require no federal agency coordination or permitting. As such, it is not regulated by Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended. Although

510 E. Pilar Street
Nacogdoches, Texas 75961
Office: 936-559-9991 Fax: 936-559-9993

this project is not regulated by Section 106 of the NHPA, ALTEC has requested CES to submit documentation to SHPO as part of their due diligence process.

ARCHIVAL RESEARCH

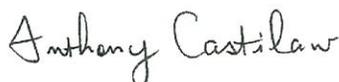
Horizon Environmental Services, Inc. (Horizon) performed a cultural resources archival review of the proposed project site on October 15, 2019. Archival research conducted via the Internet at the Louisiana Division of Archaeology's (LDA) Louisiana Cultural Resources database indicated no presence of previously recorded archeological sites within a 1.0-mile perimeter of the Project Area. A review of the National Park Service's (NPS) National Register of Historic Places (NRHP) Google Earth map layer indicated the presence of no historic properties listed on the NRHP within the review perimeter. No documented cultural resources, including any listed on the NRHP, are located within or immediately adjacent to the boundaries of the project site. Additionally, the lack of visible domestic structures within the immediate proximity to the project area on the relevant topographic quadrangle map suggests a decreased potential for historic-era standing structures or associated historic-era cultural deposits within the limits of the project area.

Horizon stated that it is their opinion that there exists a decreased potential for historic-era cultural deposits and a moderate potential for undocumented and/or intact prehistoric cultural deposits within the project area due to the project's location on an elevated landform above a tributary of Grand Bayou. Please note that Grand Bayou is located approximately 1.0-mile west of the proposed project site. Also, the nearest tributaries of Grand Bayou are located at least 850-900 feet from the boundaries of the proposed project site. A copy of Horizon's cultural resources archival review is included in Appendix C of this report.

CLOSING

Based on the location of the proposed project site, its current and historic land use, its avoidance of wetlands and waterbody features, as well as no federal permitting or funding required for this project, it is CES's opinion that a formal cultural resources survey of the project site is unwarranted. CES therefore recommends that the undertaking be allowed to proceed without further consultation with your office. Should you concur with these recommendations, please sign below and return to my attention. However, if you have any questions or need additional information, please do not hesitate to contact me at (936) 559-9991 (Office).

Sincerely,



Anthony Castilaw
Principal
acastilaw@castilawenvironmental.com

This submission is a due diligence review request. This project will not impact any known archaeological sites or historic standing structures. Our office has no objection to the implementation of this project. If a federal agency initiates consultation, we will recommend to the agency that no historic properties are affected and no further cultural resource investigation is needed. This determination could change should new information come to our attention.



Kristin Sanders
State Historic Preservation Officer

Castilaw Environmental S

Date 11/27/2019

Appendix C

Cultural Resources Archival Review



Environmental Services, Inc.

15 October 2019

Mr. Anthony Castilaw
President
Castilaw Environmental Services, LLC
P.O. Box 631025
Nacogdoches, Texas 75963
acastilaw@castilawenvironmental.com

**Re: Cultural Resources Archival Review (update)
ALTEC - Defiance Energy Project
Red River Parish, Louisiana
HJN 100122 AR 51**

Dear Anthony,

Horizon Environmental Services, Inc. (Horizon) has completed the requested cultural resources archival review of the proposed ALTEC - Defiance Energy Project in Red River Parish, Louisiana (Project Area). The results are presented below.

Archival Research

Archival research conducted via the Internet at the Louisiana Division of Archaeology's (LDA) Louisiana Cultural Resources database indicated the presence of no previously recorded archeological sites or cemeteries within a 1.0-mile perimeter of the Project Area. Similarly, a review of the National Park Service's (NPS) National Register of Historic Places (NRHP) Google Earth map layer indicated the presence of no historic properties listed on the NRHP within the 1.0-mile review perimeter. No documented cultural resources, including any listed on the NRHP, are located within or immediately adjacent to the boundaries of the Project Area. Based on the LDA's database, no prior cultural resources surveys have been undertaken within the boundaries of the Project Area.

Probability Assessment

Prehistoric archeological sites are commonly found in upland areas and on alluvial terraces near stream/river channels or drainages. Based on the location of the Project Area on an elevated landform bounded by tributaries of Grand Bayou, it is Horizon's opinion that there exists a moderate potential for undocumented prehistoric cultural deposits within the Project Area.

In regard to historic-era resources, the lack of visible structures in immediate proximity to the Project Area on the relevant topographic quadrangle map suggests a decreased potential for

CORPORATE HEADQUARTERS

1507 S Interstate 35 ★ Austin, TX 78741-2502 ★ (512) 328-2430 ★ www.horizon-esi.com
An LJA Company

historic-era standing structures or associated cultural deposits within the boundaries of the Project Area.

Governing Regulations

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to take into consideration the effects of their actions (funding or permitting) on historic properties. Historic properties include prehistoric archeological sites and historic-era structures and sites that are listed on, considered eligible for listing on, or have the potential for being eligible for listing on the NRHP, including previously unidentified properties. With this in mind, if the development of the Project Area requires the usage of Nationwide Permits (NWP) issued by the US Army Corps of Engineers (USACE) or coordination with the Federal Emergency Management Agency (FEMA) for floodplain modifications, these federal agencies may require a cultural resources survey of any portions of the Project Area that fall within their jurisdiction.

Specific to NWPs, General Condition 20(c) of the 2017 NWPs requires non-federal permittees to notify the USACE under the Pre-Construction Notification (PCN) procedures if a proposed project subject to Section 404 jurisdiction may have the potential to cause effects to any historic properties. In order to make this determination, the USACE may require a cultural resources survey in the immediate vicinity of any Section 404 regulated activity if at least a moderate potential for the occurrence of historic or prehistoric properties exists.

Additionally, General Condition 21 of the 2017 NWPs requires persons conducting an activity authorized by NWP to stop work and immediately notify the USACE if a previously unknown prehistoric or historic property (remains or artifacts) is discovered during the construction process.

In the event that the undertaking does not require any federal permitting/funding, cultural resources are not afforded protection under the regulations of Section 106 of the NHPA. However, unmarked burial sites (both prehistoric and historic-era) are still protected under the Louisiana Unmarked Human Burial Sites Preservation Act.

Should you have any questions, please do not hesitate to call me at (512) 328-2430.

Sincerely,



Russ Brownlow, MA, RPA
President
Horizon Environmental Services, Inc.

References:

Louisiana Cultural Resources Map. Louisiana Division of Archaeology. <https://laocd.maps.arcgis.com/apps/webappviewer/index.html?id=51049440d4a84db7aec23dd01d9e87ee>. Accessed 15 October 2019.

National Park Service's National Register of Historic Places Google Earth Map Layer – South Region. [http://nrhp.focus.nps.gov/natreg/docs/Google Earth Layers.html](http://nrhp.focus.nps.gov/natreg/docs/Google_Earth_Layers.html). Accessed 15 October 2019.