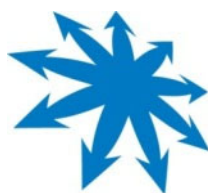


Exhibit HH.

Syngenta Site

Phase I Cultural Resources Assessment Report



Baton Rouge Area Chamber®

**PHASE I CULTURAL RESOURCES SURVEY
OF 250 ACRES (101.2 HECTARES) NEAR CARVILLE,
IBERVILLE PARISH, LOUISIANA**

**Syngenta Site Phase I Cultural
Resources Assessment Report**



For Due Diligence

November 2019



SURA, INC.

P.O. Box 14414

Baton Rouge, LA 70898-4414

Since 1986



**PHASE I CULTURAL RESOURCES SURVEY
OF 250 ACRES (101.2 HECTARES) NEAR CARVILLE,
IBERVILLE PARISH, LOUISIANA**

Draft Report

by

Sally McMillian and Malcolm Shuman

**Surveys Unlimited Research Associates, Inc.
P.O. Box 14414
Baton Rouge, Louisiana 70898-4414**

For Due Diligence

**Baton Rouge Area Chamber (BRAC)
564 Laurel Street
Baton Rouge, Louisiana 70801**

November 2019

ABSTRACT

Between September 24th and October 10th, 2019, Surveys Unlimited Research Associates, Inc. (SURA), conducted a Phase I cultural resources survey of 250 acres (ac) (101.2 hectares [ha]) north and south of LA Highway 75 and along the Mississippi River near Carville, Iberville Parish, Louisiana. The Project Area (PA) is the future location of a proposed industrial park. The project was carried out as part of due diligence for the Baton Rouge Area Chamber (BRAC) in order to adhere to regulations of Louisiana Economic Development (LED) to fulfill the requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966. The survey methodology consisted of archival research, pedestrian reconnaissance, and high probability-interval shovel testing.

The PA is located at Easting 684704.71 and Northing 3345460.60. The entire PA consists of 366.2 ac (148.2 ha), however, two portions, totaling to 116.2 ac (47.0 ha), were previously surveyed by AECOM in 2015, leaving 250 ac (101.9 ha) subjected to Phase I testing by SURA. Within the previously surveyed area are four previously recorded sites (16IV221, 16IV222, 16IV225, and 16IV69). After consultation with Dr. Rachel Watson at the Louisiana Division of Archaeology (LDOA), it was determined that site 16IV69 (Rescue Plantation No. 1) be revisited, due to its original recommendation of “potentially significant” by CEI in 2007. As the remaining three sites, 16IV221, 16IV222, and 16IV225, were determined to be ineligible to the National Register of Historic Places (NRHP) in 2015 by AECOM, they were not investigated.

During the Phase I survey, a total of 1,099 transect shovel tests were implemented, none of which were positive for cultural materials. Due to areas of inundation along the Mississippi River south of the levee, twenty-seven shovel tests were unable to be excavated. During investigation of site 16IV69, four of the twenty-four shovel tests excavated were positive for subsurface materials, including ironstone sherds, cut nails, faunal material, and miscellaneous ferrous metals. The site is located at Easting 684908 and Northing 3344638. Dating of the site is consistent with occupation during the Industrial & Modern and Post WWII time periods, as stated on the 2007 site form by CEI.

Site 16IV69 was evaluated against Criterion A (events), Criterion B (persons), Criterion C (workmanship), and Criterion D (information potential) of the NRHP. Due to the lack of integrity associated with the site from continued lawn maintenance and pastoral activities, as well as the relatively low artifact density (n=18) and lack of associated features, it is suggested that 16IV69 does not possess the quality of significance for inclusion to the NRHP and further work would not provide knowledge above and beyond what is currently known. As a result, it is suggested that the project proceed as planned.

Artifacts are returned to the SURA laboratory, washed, analyzed and catalogued and will be deposited with the Louisiana Division of Archaeology, along with associated documents, at:

LDOA Curation/CRT
Central Plant North Building, 2nd Floor
1835 N. Third Street
Baton Rouge, Louisiana 70802

ACKNOWLEDGEMENTS

The authors would like to acknowledge Mr. Elliott Boudreaux of CSRS, Inc. for his assistance in facilitating this project, as well as Mr. Gary Paline of Syngenta for his assistance with access to the project area.

The field crew consisted of Sally McMillian, Brandy Kerr, Jacob Mendoza, and Katt Doucet. Sally McMillian wrote this report and Brandy Kerr provided background and archival research. Dr. Malcolm Shuman served as principal investigator.

TABLE OF CONTENTS

ABSTRACT	i
ACKNOWLEDGEMENTS	ii
TABLE OF CONTENTS	iii
LIST OF FIGURES	v
LIST OF TABLES.....	vi
CHAPTER ONE: INTRODUCTION	1
CHAPTER TWO: LAND USE HISTORY	2
Geology and Geomorphology	2
Soils	3
Flora and Fauna	4
Historic Land Use	5
Topographic Maps	5
Satellite Imagery	9
CHAPTER THREE: PREVIOUS INVESTIGATIONS	12
Projects within 1 mi (1.6 km) of Project Area	12
Archaeological Sites within 1 mi (1.6 km) of Project Area	13
Standing Structures within 1 mi (1.6 km) of Project Area	13
CHAPTER FOUR: METHODOLOGY	15
Procedures	15
Eligibility for the National Register of Historic Places	17
Laboratory Methods.....	17
Curation Statement.....	18
CHAPTER FIVE: RESULTS OF THE SURVEY	19
Fieldwork	19
High Probability Areas	20
High Probability 1 (Levee)	20
High Probability 2	23
High Probability 3	25
Previously Surveyed.....	29
Archaeological Sites	30
16IV69 Update	31
Summary of Fieldwork.....	39

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS	40
REFERENCES CITED.....	41
Websites	42
Maps	42

LIST OF FIGURES

Figure 1. Portion of Carville, LA 2015 7.5-minute maps (USGS).	1
Figure 2. Soil map of PA (University of California, Davis 2016/Google Earth).	3
Figure 3. Portion of Carville, LA 1936 15-minute map (USGS).	5
Figure 4. Portion of Carville, LA 1953 7.5-minute map (USGS).	6
Figure 5. Portion of Carville, LA 1992 7.5-minute topographic map (USGS).	7
Figure 6. Portion of Carville, LA 2015 7.5-minute topographic map (USGS).	8
Figure 7. Satellite imagery of the PA, February 1988 (Google Earth).	9
Figure 8. Satellite imagery of the PA, May 2005 (Google Earth).	10
Figure 9. Satellite imagery of the PA, October 2010 (Google Earth).	11
Figure 10. Surveys, Sites, and Historic Standing Structures within 1 mile of the Project Area (LDOA).	14
Figure 11. Depiction of probability methods based on archival research (USGS).	16
Figure 12. Aerial map depicting beginning and ending transect shovel tests within high probability areas of the PA, previously surveyed areas, and areas of inundation (Google Earth).	19
Figure 13. Aerial map depicting beginning/ending transect shovel tests and areas of inundation on the levee (HP1) (Google Earth).	20
Figure 14. From the top of the Levee (HP1), facing east.	21
Figure 15. From LA Highway 75 depicting HP1, facing south.	21
Figure 16. Treeline at HP1, facing west.	22
Figure 17. Inundation from Mississippi River in HP1, facing south.	22
Figure 18. Aerial map depicting HP2 (Google Earth).	23
Figure 19. Southernmost boundary of HP2, facing north.	24
Figure 20. Northernmost boundary of HP2, facing east.	24
Figure 21. Aerial map depicting HP3 (Google Earth).	25
Figure 22. Northernmost boundary of HP3, facing south.	26
Figure 23. Southernmost boundary of HP3, facing north.	26
Figure 24. Drainage ditch in HP3, facing southwest.	27
Figure 25. Bayou Braud in HP3, facing west.	27
Figure 26. Depiction of Illinois Central railroad in HP3, facing southeast.	28
Figure 27. Areas of previous survey and site recordation by AECOM (2015) (Google Earth). ...	30
Figure 28. Aerial map of 16IV69 revisit delineations (Google Earth).	32
Figure 29. Site sketch map of 16IV69.	33
Figure 30. Datum, 16IV69, facing west.	34
Figure 31. Datum, 16IV69, facing south.	34
Figure 32. Datum, 16IV69, facing north.	35
Figure 33. Datum, 16IV69, facing east.	35
Figure 34. Ironstone sherd, 10N20W, 16IV69.	37
Figure 35. Avian bone, Datum, 16IV69.	37
Figure 36. Unidentified ferrous metal, Datum, 16IV69.	38
Figure 37. Iron cut nail, 10N10W, 16IV69.	38

LIST OF TABLES

Table 1. Projects within 1 mi (1.6 km) of the Project Area (PA) (LDOA).	12
Table 2. Archaeological sites within 1 mi (1.6 km) of the PA (LDOA).	13
Table 3. Historic Standing Structures Located Within 1 mi (1.6 km) of the PA (LDOA).	14
Table 4. Representative Munsell of HP1.	23
Table 5. Representative Munsell of HP2.	25
Table 6. Representative Munsell of HP3.	28
Table 7. Representative Munsell of positive shovel tests, 16IV69.	36
Table 8. Artifact Tally, 16IV69.	36

CHAPTER ONE: INTRODUCTION

Between September 24th and October 10th, 2019, Surveys Unlimited Research Associates, Inc. (SURA) conducted a Phase I cultural resources survey of 250 acres (ac) (101.2 hectares [ha]) of pastures and wooded areas south of LA Highway 75 near Carville, Iberville Parish, Louisiana (Figure 1). The Project Area (PA) is located at Easting 684704.71 and Northing 3345460.60 within Sections 67 and 69, T9S, R1E. The survey was carried out for due diligence at the request of the Baton Rouge Area Chamber (BRAC) to fulfill the requirements of Section 106 of the National Historic Preservation Act of 1966 for the Louisiana Economic Development (LED) certification. This area is slated to become an industrial park. Field personnel included Sally McMillian, Brandy Kerr, Jake Mendoza and Katt Doucet.

The following chapters in this report describe the environmental setting, previous archaeological investigations, the methodology employed in the survey, the survey's results, and the study's conclusions and recommendations.

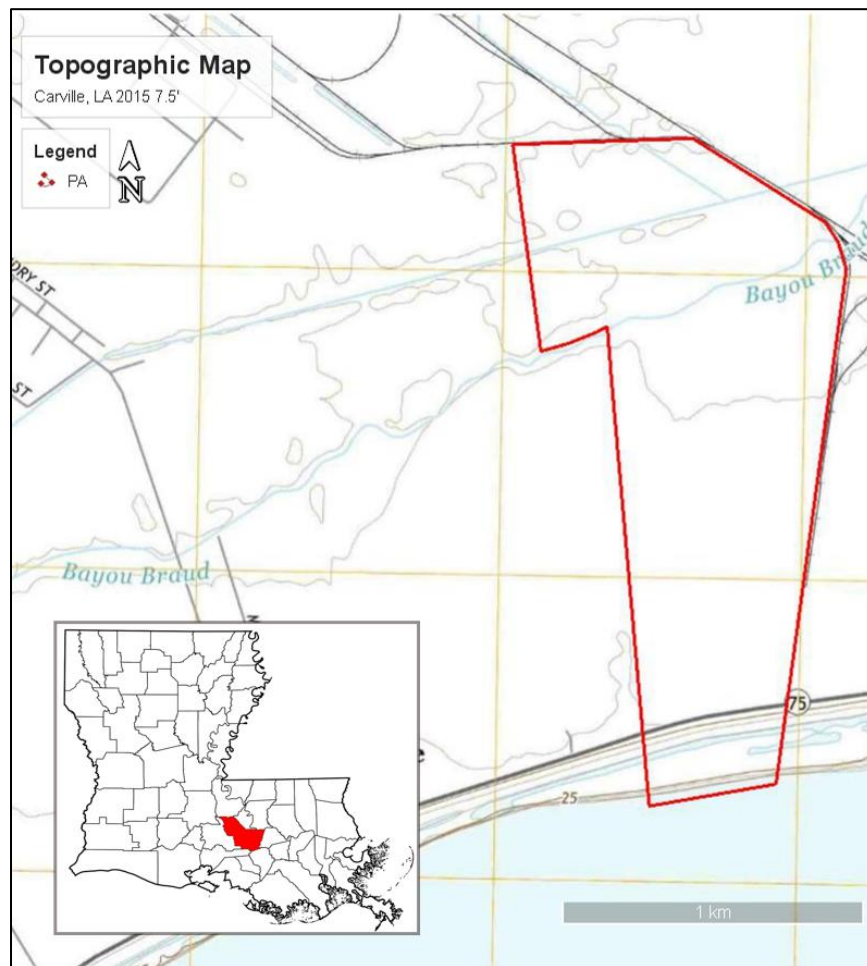


Figure 1. Portion of Carville, LA 2015 7.5-minute maps (USGS).

CHAPTER TWO: LAND USE HISTORY

Geology and Geomorphology

The survey area for this project is located in Iberville Parish, Louisiana. The outstanding surface geomorphological characteristics for this region are determined by a series of terraces with their origins in the Pleistocene geological epoch. These terraces are arranged like steps in profile that descend from north to south. A great deal of discussion about the exact number and proper naming of these terraces has taken place among geologists and others since the turn of the century. What has been agreed upon, however, is that this terracing was the product of the fluctuations in eustatic sea level, and that it has caused rivers in the area to alternately incise and then silt in their floodplains over the millennia (Saucier 1963).

In addition, the collection of sediment below the lower terraces has caused the upper terraces to be uplifted due to the subcrustal flow of the sediment weight. This uplift of the terraces and down warping of the deltaic plain has taken place along the hinge line of the Baton Rouge fault which essentially runs from Baton Rouge to the northern shore Lake Pontchartrain (Saucier 1963). Such uplifting in the last few centuries has further raised the gradients of many of the streams in the general region of the project area. This higher gradient, in turn, has exposed many natural gravel deposits which important prehistoric aboriginal resources were, as well as ones exploited in modern times (Woodward and Gueno 1941).

The highest terraces in the region are designated Qth by the Louisiana Geological Survey and consist of tan to orange clay and silt with a large amount of basal gravel. The lower Prairie terraces, designated Qtp, contain light gray to light brown clay, silt, and sand with some gravels. Closer to the Pontchartrain shore, gray to brownish clay and silty alluvial clays, Qal, are the dominant geomorphological feature. They are found around Lake Maurepas and the western portion of Lake Pontchartrain. Some freshwater marsh land is also found around portions of Lake Pontchartrain. Alluvium can also be found within the narrow floodplains of the streams in the area.

The chief geomorphological characteristic is essentially defined by the north to south flow of the major streams in the region. The Amite River on the west and the Pearl River on the east geographically bracket streams such as the Tickfaw, Tangipahoa, Bayou Lacombe, Natalbany, Bogue Chitto, and their tributaries, that flow into the Pontchartrain Basin. Because of their high gradients, these streams are deeply incised and have relatively narrow floodplains.

Soils

Soils within the PA are comprised predominantly by the Vacherie silt loam complex (Va) (Figure 2). These soils are typically found in areas with a gentle slope and were formed within silty and clayey alluvium. They are often used as cropland and support cotton, sugarcane, soybeans, and corn.

Sharkey clay soils (Sg) make up another large portion of the PA. These soils drain poorly and are found within low-lying terraces and flood plains. They are also utilized as cropland and support rice, grains, and soybeans.

Gramercy silt clay loam soils (Gr) are located on either side of Bayou Braud which bisects the PA. These soils are typically found along alluvial flats and natural levees as well as flood plains. They can be used to support a wide variety of crops including small grains, soybeans, sugarcane, hay, and cotton.

Near the Mississippi River, along the southern boundary of the PA, Canebrake silt loam (Ca) and Carville series (Cg) soils are present. Both are deep and poorly drained and were formed in loamy alluvium, although Canebrake soils have an additional clayey content. Both soil types are reportedly used for cropland. Carville soils also support oaks, sweetgum, hickory, and cottonwood trees when not used to cultivate crops.

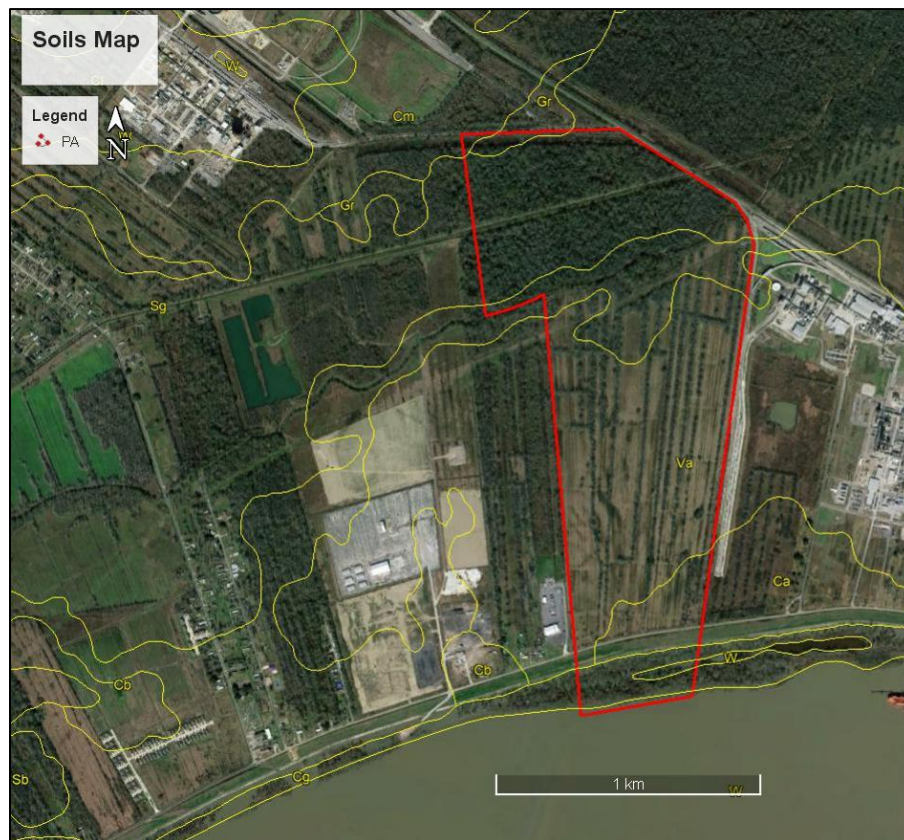


Figure 2. Soil map of PA (University of California, Davis 2016/Google Earth).

Flora and Fauna

Animal life is diverse and most of the 62-mammal species found in Louisiana may at one time have been found within the area. These include white-tail deer (*Odocoileus virginianus*), cottontail rabbit (*Sylvilagus floridanus*), swamp rabbit (*Sylvilagus aquaticus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*Sciurus niger*), skunk (*Mephitis mephitis*), black bear (*Euarctos americanus*), raccoon (*Procyon lotor*), mink (*Mustela vison*), beaver (*Castor canadensis*), opossum (*Didelphus virginiana*), bobcat (*Lynx rufus*), gray fox (*Urocyon cinereoargenteus*) and red fox (*Vulpes fulva*) (Lowery 1974). Birds include such predators as the great horned owl (*Bubo virginianus*), barred owl (*Strix platypterus*), marsh hawk (*Circus cyaneus*), and many others. Non-predatory types include woodcocks (*Philohela minor*), wood ducks (*Aix sponsa*), bobwhite quail (*Colinus virginianus*), and mourning doves (*Zenaidura macroura*) (Lowery 1955).

Reptile life is particularly diverse, owing to the heterogeneity of habitats in the area. Included are alligators (*Alligator mississippiensis*), several species of snakes, including the cotton mouth (*Agkistrodon piscivorus*), and varied species of lizards and turtles. Amphibians include species of salamanders, frogs, and toads (Dundee and Rossman 1989).

Fish life is very prolific in this part of Louisiana and no doubt was likewise prehistorically. Prominent fish species are gar (*Lepisosteus spp*), largemouth bass (*Micropterus salmoides*), and bluegill (*Lepomis macrochirus*), among many others. Brackish water clams (*Rangia cuneata*) are frequently found in archaeological deposits near coastal Louisiana, although there are several archaeological sites in the vicinity of the project area that contain these shells indicating a more brackish water environment than exists currently.

Historic Land Use

A review of historic topographic maps from USGS shows that several structures have come and gone near or inside the APE boundary over the last eighty-three years.

Topographic Maps

Beginning in 1936 (Figure 3), Bayou Braud is depicted in the northern portion of the PA, as well as a drainage ditch just north of the bayou. The historic Illinois Central railroad abuts the northeastern dogleg of the PA. Additionally, various structures and roads can be seen within the southern portion, just off what is now LA Highway 75.

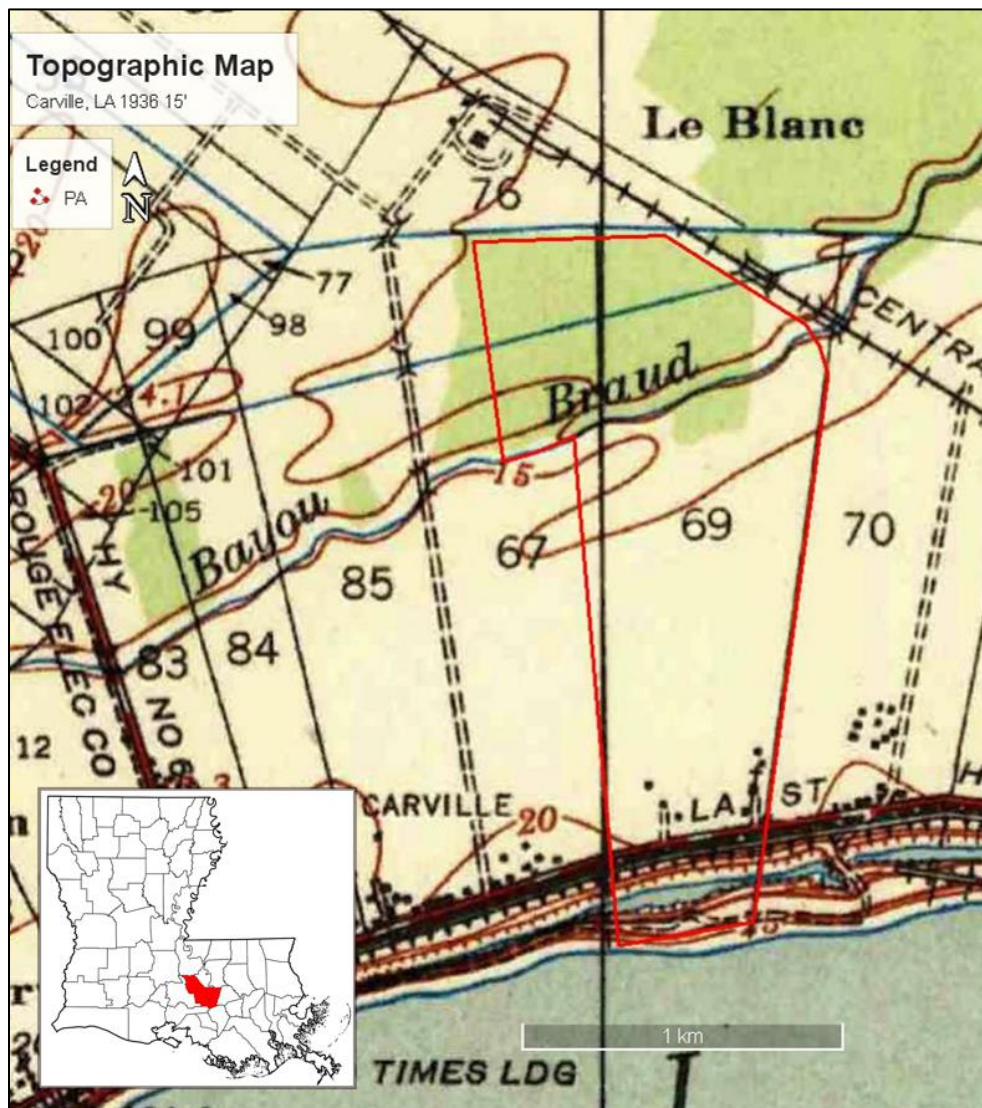


Figure 3. Portion of Carville, LA 1936 15-minute map (USGS).

In the 1953 topographic map (Figure 4), Bayou Braud is still depicted running through the northern portion of the PA. The various structures and roads, as well as the Illinois Central railroad, illustrated on the 1936 map within the southern portion are also present.

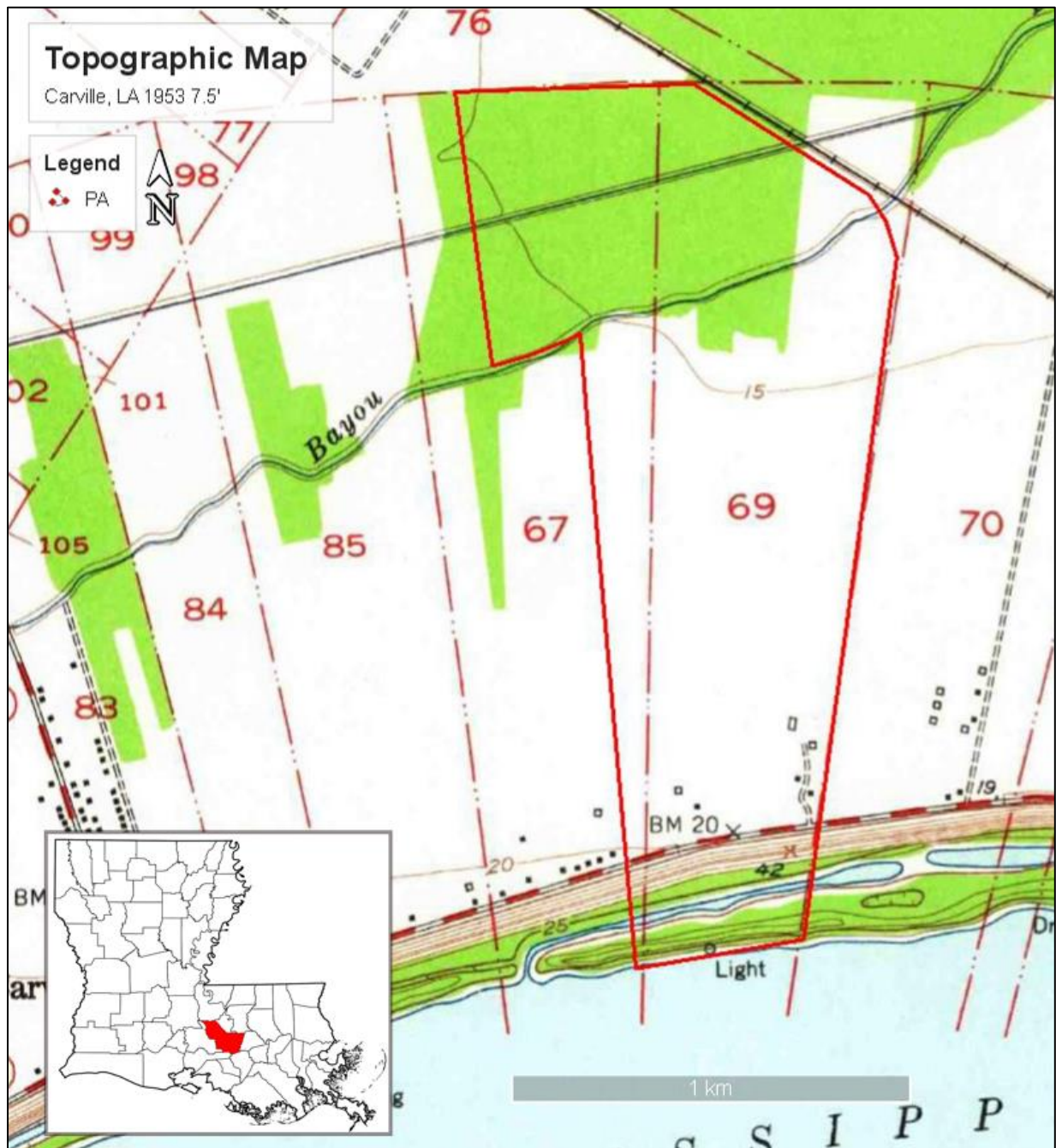


Figure 4. Portion of Carville, LA 1953 7.5-minute map (USGS).

Bayou Braud and the Illinois Central railroad continue to be depicted on the 1992 topographic map, however, the structures and roads are missing from the southern area along LA Highway 75 (Figure 5).

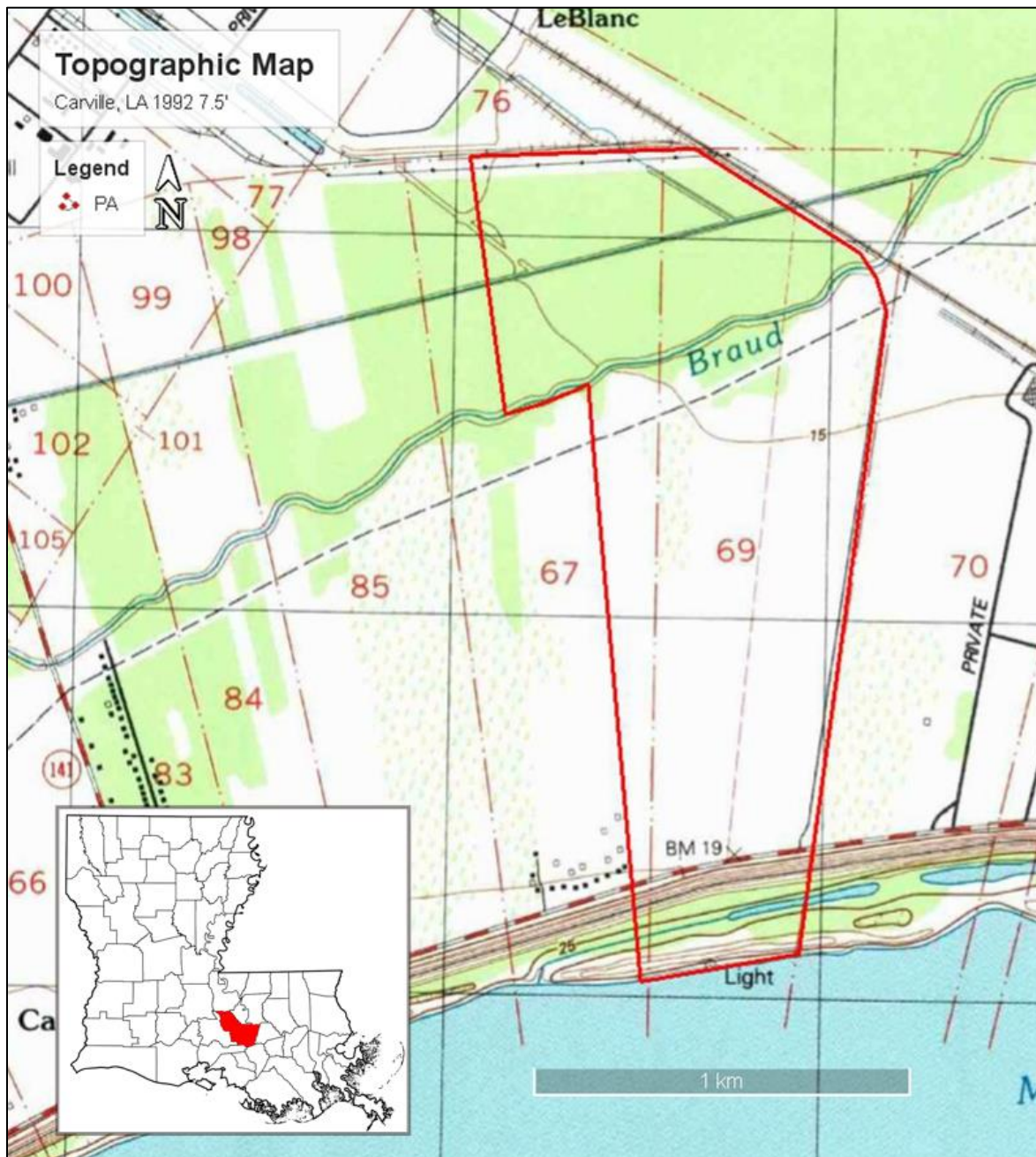


Figure 5. Portion of Carville, LA 1992 7.5-minute topographic map (USGS).

In the 1963 topographic map (Figure 6), no changes are depicted other than the absence of the structures outside the southwestern boundary of the PA.

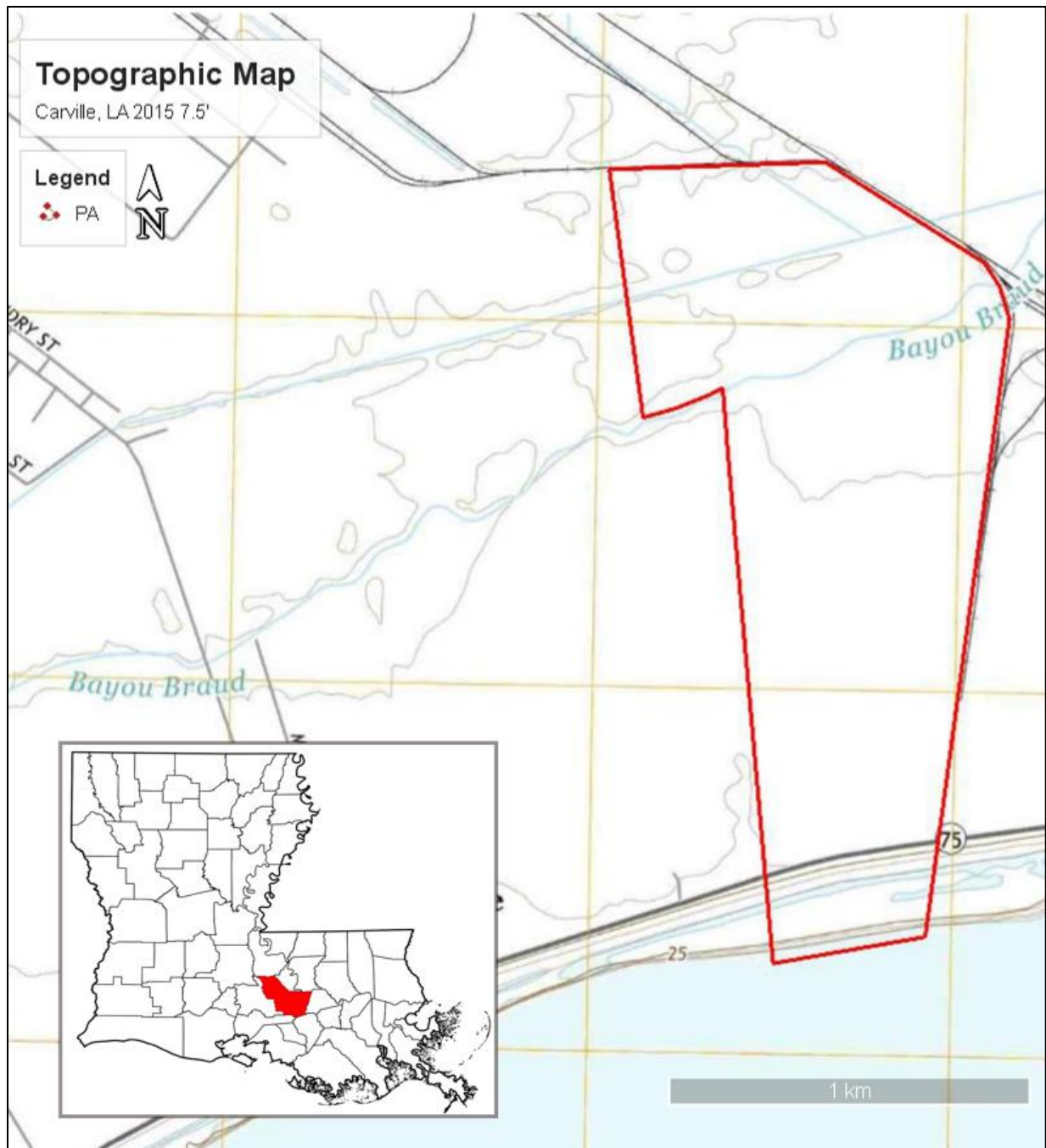


Figure 6. Portion of Carville, LA 2015 7.5-minute topographic map (USGS).

Satellite Imagery

The PA is currently being utilized as a pasture for livestock. A review of satellite images shows that other than pastoral use for livestock, there has been no change to the PA proper (Figure 7-9). Moreover, the northern, wooded portion remains seemingly untouched.

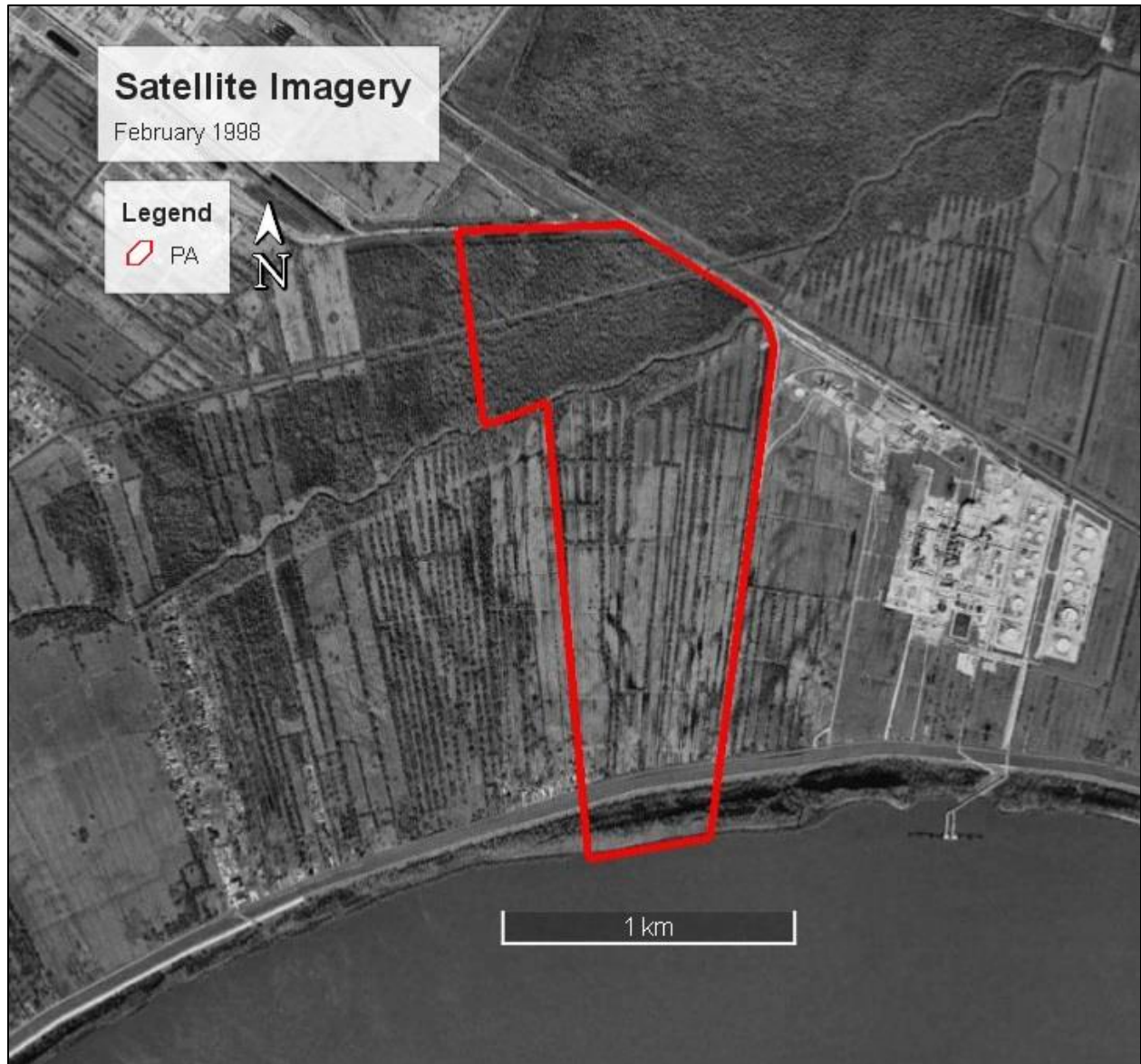


Figure 7. Satellite imagery of the PA, February 1988 (Google Earth).

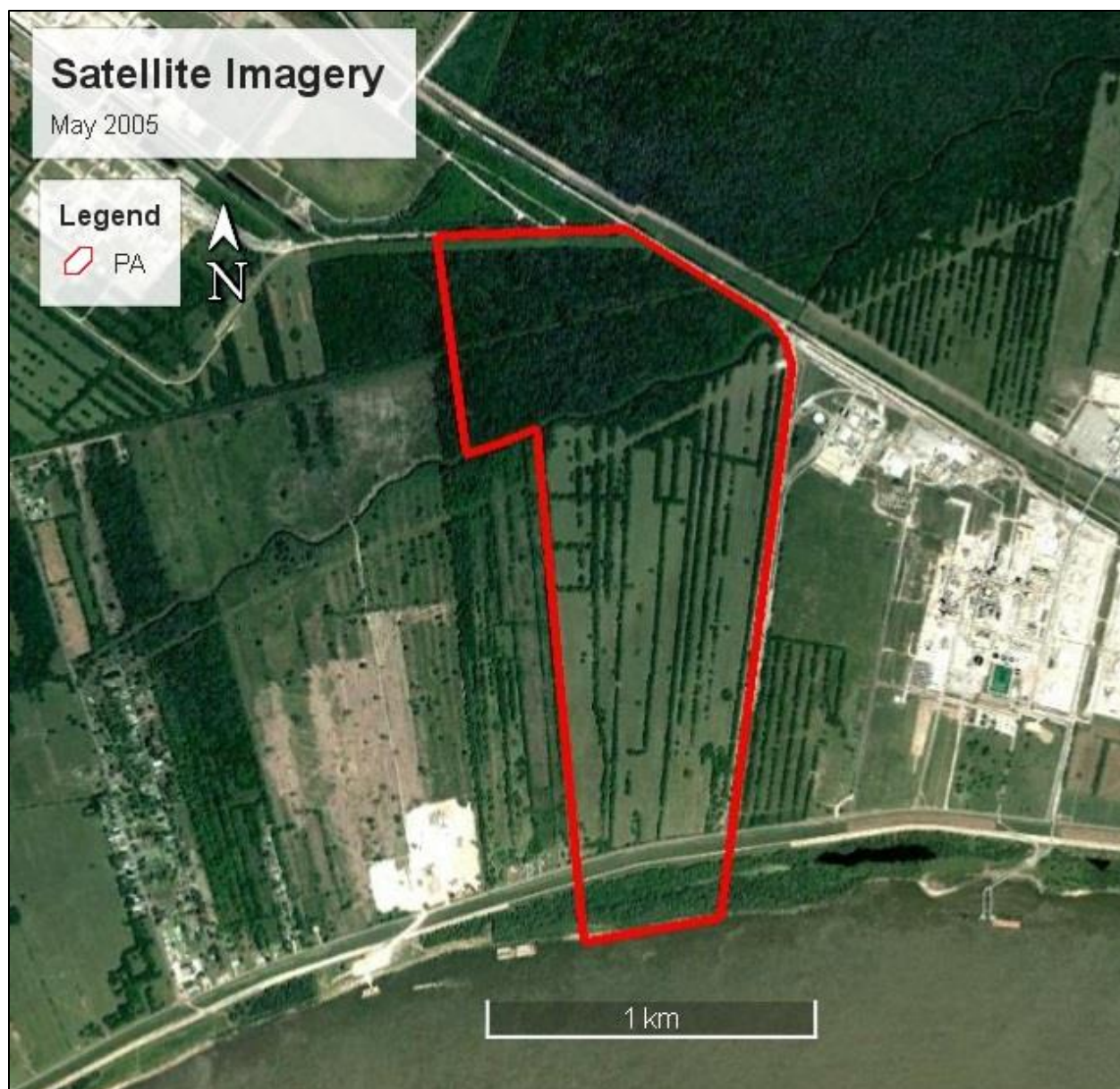


Figure 8. Satellite imagery of the PA, May 2005 (Google Earth).

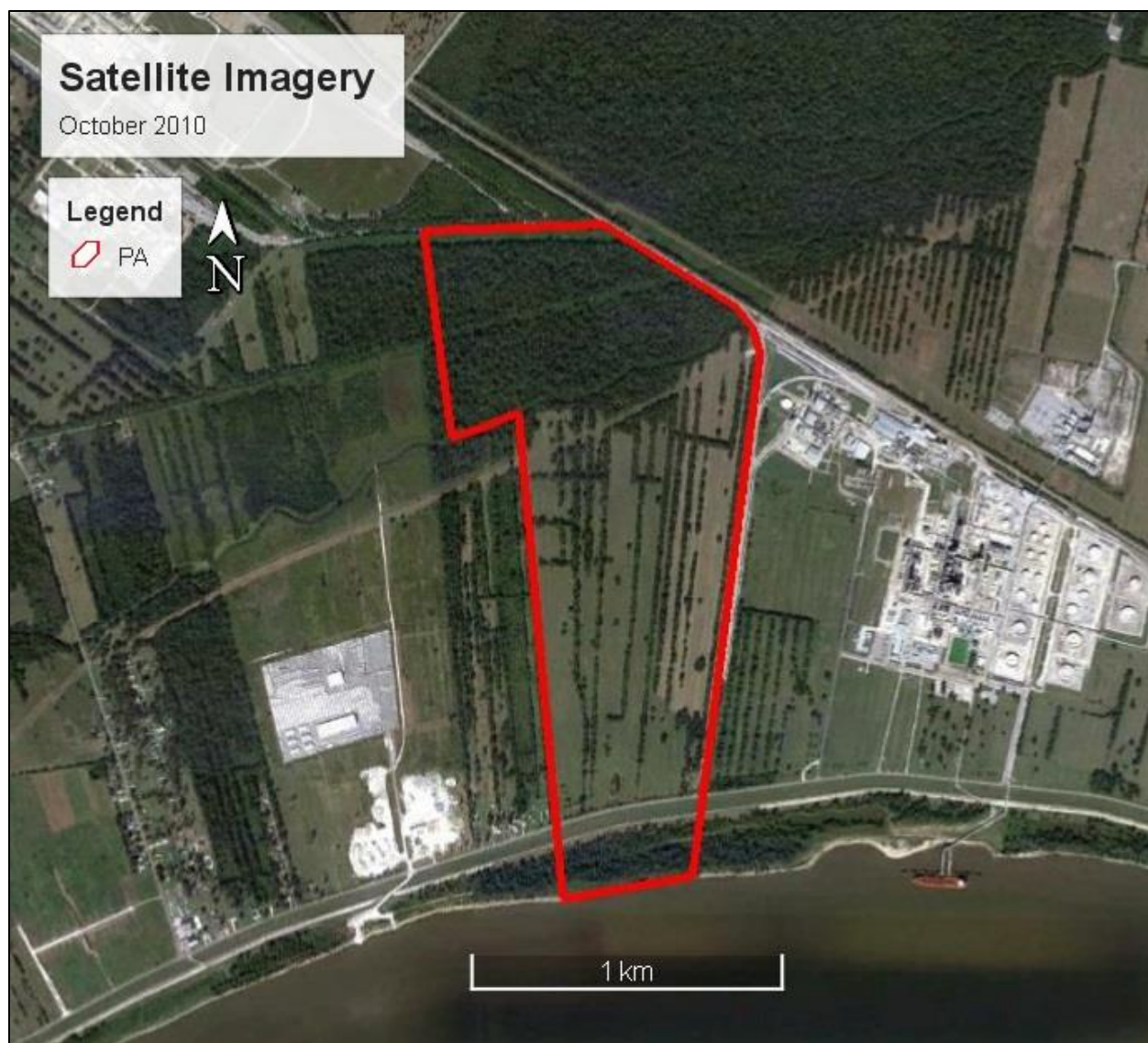


Figure 9. Satellite imagery of the PA, October 2010 (Google Earth).

CHAPTER THREE: PREVIOUS INVESTIGATIONS

Projects within 1 mi (1.6 km) of Project Area

There are eleven projects recorded within one mile of the PA boundaries. They are summarized in Table 1 and depicted in Figure 9.

Table 1. Projects within 1 mi (1.6 km) of the Project Area (PA) (LDOA).

Report No.	Report Title	Contractor	Author(s)	Type of Survey	Date
22-1021	<i>Cultural Resources Survey Louisiana Section of Proposed Pipeline Corridor from Weeks Island to Mississippi Border</i>	William J. McIntire	William J. McIntire	Assessment/Reconnaissance	1981
22-0918	<i>Mississippi River Cultural Resources Survey A Comprehensive Study Phase I Component A Thematic Historical Review</i>	National Park Service	Jerome A. Green et al.	Assessment/Reconnaissance	1984
22-0976	<i>Cultural Resources Survey of Five Mississippi River Revetment Items</i>	R. Christopher Goodwin & Associates	R. Christopher Goodwin et al.	Assessment/Reconnaissance	1985
22-2358	<i>Cultural Resources Study Supporting Supplement I to the Final, Environmental Impact Statement, Mississippi River-Main Line Levee</i>	R. Christopher Goodwin & Associates	William P. Athens	Assessment/Reconnaissance	2000
22-2306	<i>A Land Use History for Alhambra to Hohen-Solms and Hohen-Solms to Modeste Levee Enlargement Projects, Iberville and Ascension Parishes, Louisiana</i>	R. Christopher Goodwin & Associates	William P. Athens	Assessment/Reconnaissance	2000
22-2907	<i>Cultural Resources Survey of a 49.67 ha/122.64 ac Tract Near Carville, Iberville Parish, Louisiana</i>	SURA, Inc.	Malcolm Shuman	Phase I	2007
22-2977	<i>Phase I Cultural Resources Survey for a Proposed Louisiana Aromatix 8-Inch Pipeline, West Baton Rouge and Iberville Parishes, Louisiana</i>	CEI, Inc.	Donald G. Hunter	Phase I	2007
22-4305	<i>Phase I Cultural Resources Survey of a Proposed Transmission Line Right-of-Way, Ascension and Iberville Parishes, Louisiana</i>	CRC, LLC	Malcolm Shuman	Phase I	2013
22-4701	<i>Phase I Cultural Resources Survey of 723 Acres (292.6 Hectares) To Be Certified for Industrial Use, St. Gabriel, Iberville Parish, Louisiana</i>	SURA, Inc.	Malcolm Shuman et al.	Phase I	2014
22-5270	<i>Phase I Cultural Resource Survey-Proposed Syngenta Property, for Wanhua Chemical US Holding, Iberville Parish, Louisiana</i>	AECOM	Lauren Poche and Gary Hawkins	Phase I	2016
22-5292	<i>A Phase I Cultural Resources Survey for the Evans Site at the Historic Claiborne Plantation in Iberville Parish, Louisiana</i>	TerraXpolarations	Amy Carruth et al.	Phase I	2016

Archaeological Sites within 1 mi (1.6 km) of Project Area

There are eleven previously recorded archaeological sites within 1 mi (1.6 km) of the PA, four of which are located within the survey boundaries (Table 2).

Table 2. Archaeological sites within 1 mi (1.6 km) of the PA (LDOA).

Site No.	Name	Component(s)	Culture(s)	Function	NRHP Status	Last Visited
16IV143	Hard Times Plantation	Historic	Civil War & Aftermath, Industrial & Modern	Plantation	Ineligible	1984
16IV144	Carville Dump	Historic	Industrial & Modern	Dumpsite	Ineligible	1984
16IV51	Old Hickory	Historic	Antebellum, Civil War & Aftermath, Industrial & Modern	Plantation	Eligible	1999
16IV50	AHP-2A-01	Historic	Antebellum, Civil War & Aftermath, Industrial & Modern	Plantation	Eligible	1999
16IV225	SAGAH092815a-01	Historic	Industrial & Modern	Residence	Undetermined	2015
16IV222	SAGAH092815b-02	Historic	Antebellum, Civil War & Aftermath, Industrial & Modern	Residence	Undetermined	2015
16IV69	Rescue Plantation No. 1	Historic	Antebellum, Civil War & Aftermath, Industrial & Modern	Farmstead	Undetermined	2015
16IV221	SAGAH092815b-01	Historic	Civil War & Aftermath, Industrial & Modern	Residence	Undetermined	2015
16IV223	SAGAH0922115a-02	Historic	Civil War & Aftermath, Industrial & Modern	Residence	Undetermined	2015
16IV224	SAGAH092215A-04	Historic	Civil War & Aftermath, Industrial & Modern	Residence	Undetermined	2015
16IV226	Claiborne Plantation	Historic	Historic Exploration, Antebellum, Civil War & Aftermath, Industrial & Modern	Plantation, Industrial	Loci 1, 2, 4-12, 16 Ineligible	2016

Standing Structures within 1 mi (1.6 km) of Project Area

There are two historic standing structures located within 1 mi (1.6 km) of the PA. Structure number 22-00499 is depicted within the boundaries of the PA, however, its true location is approximately 3 mi (4.8 km) west of the survey area along HWY 75.

Table 3. Historic Standing Structures Located Within 1 mi (1.6 km) of the PA (LDOA).

LHRI No.	Name	Address	Function	Form	Condition	Listed on NRHP	Date Visited
24-00499	Indian Camp Plantation	Hwy 75 Carville, LA	Residence	Italianate	Excellent	Listed	1983
24-00875	None	275 Railroad Ave., White Castle, LA	Residence	N/A	Good	Undetermined	1984

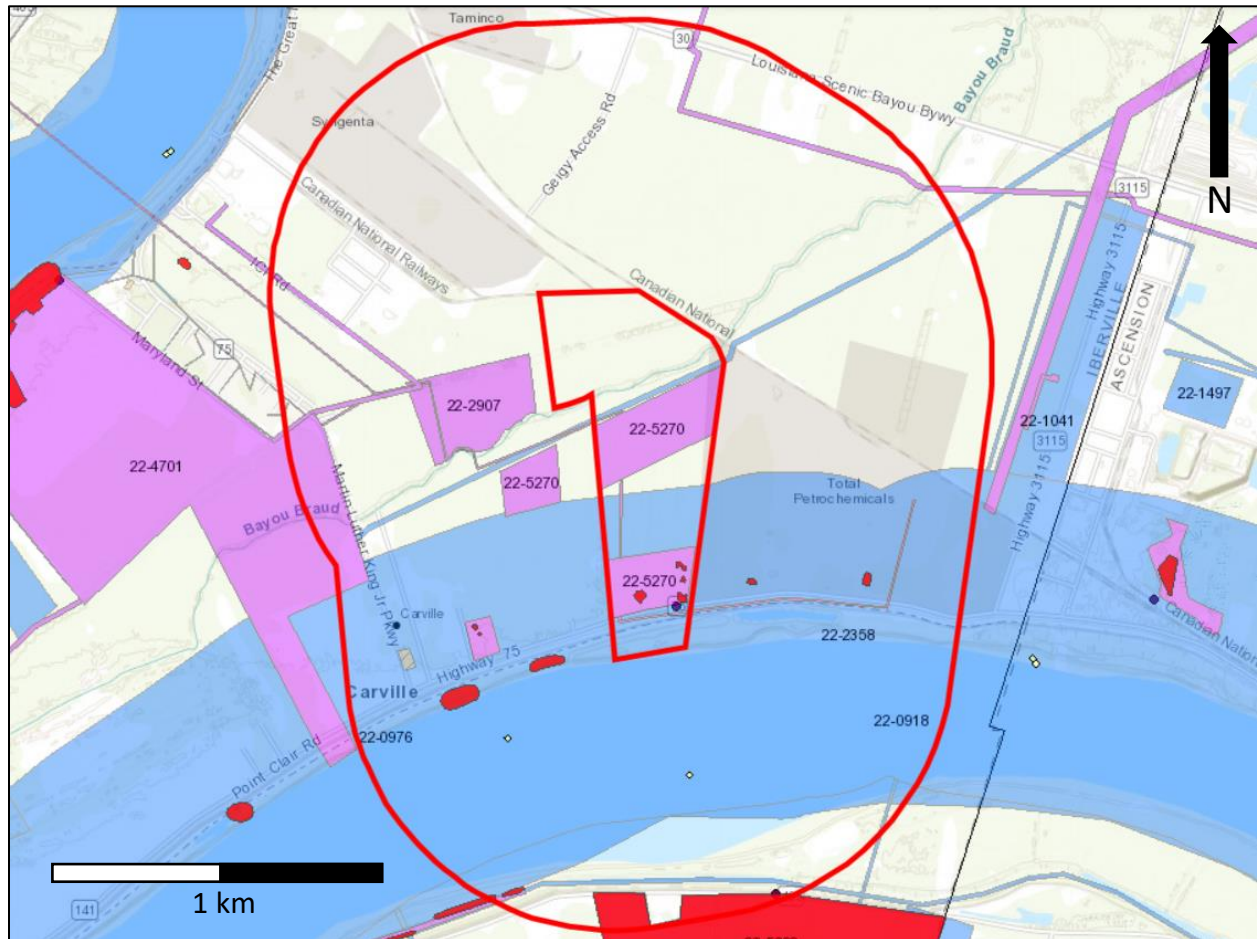


Figure 10. Surveys, Sites, and Historic Standing Structures within 1 mile of the Project Area (LDOA).

CHAPTER FOUR: METHODOLOGY

Procedures

Methodology for the survey included archival research and fieldwork. Initially, historic maps and aerial photographs at the United States Geological Survey (USGS) were consulted to determine any structures or roads that might have existed on the property in the early and mid-twentieth century. In addition, the site files and report library of the Louisiana Division of Archaeology (LDOA) were examined to determine archaeological sites reported for this area by previous investigators. This research showed that as early as 1936 a portion of Bayou Braud ran through the northern portion of the Project Area (PA) and the Illinois Central railroad has abutted a portion of the northeastern PA since as early as 1936. With the added presence of drainages running north of Bayou Braud both within and outside of the PA boundaries, as well as the existence of an unnamed railroad along the northern boundary and multiple sites within a 1 mile radius, it was determined that the entire PA be subjected to High Probability (HP) interval shovel testing (Figure 11). HP intervals consisted of transects spaced 98.4 ft (30 m) apart with a shovel test excavated every 98.4 ft (30 m). All shovel tests were excavated to 50 cm or clay, whichever came first. Material recovered from the shovel tests was screened using .25-inch hardware cloth. Archaeological sites were defined using the protocol described in the LDOA Guidelines.

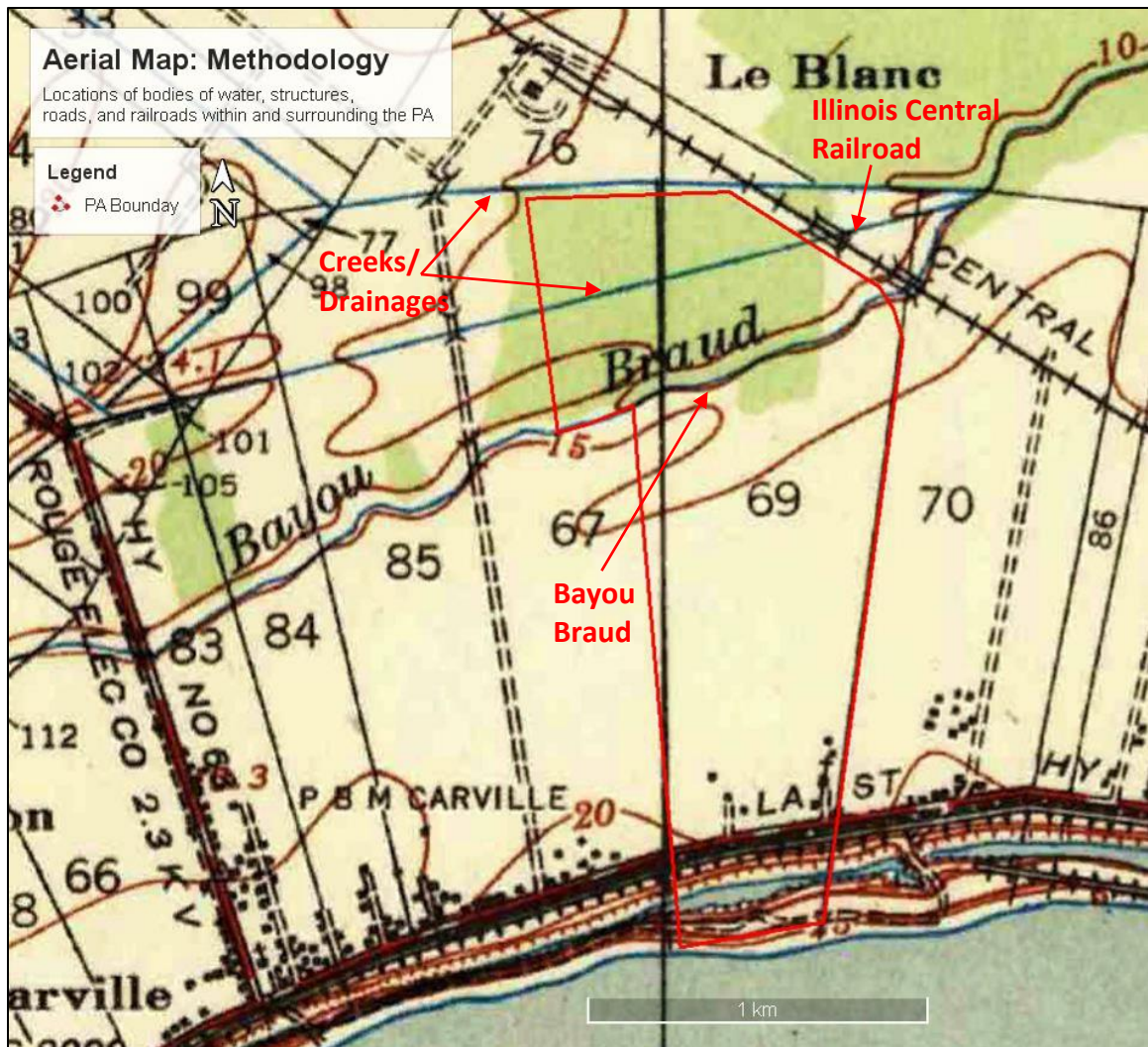


Figure 11. Depiction of probability methods based on archival research (USGS).

Eligibility for the National Register of Historic Places

According to the National Register of Historic Places Bulletin 15 (1995:2), “The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association are potentially eligible for the National Register of Historic Places.” To evaluate this significance, four criteria have been developed. Eligible properties...

- “A. ... are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. ... are associated with the lives of persons significant in our past; or
- C. ... embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or...
- D. ... have yielded, or may be likely to yield, information important in history or prehistory” (NRHP 1995:2).

Laboratory Methods

All artifacts recovered during the survey were processed according to models outlined in Archaeological Laboratory Methods (Sutton and Arkush 1996), and the 2018 LDOA standards. Each positive shovel test was assigned a labeled, resealable, polyethylene bag into which the respective artifacts were placed for transport back to the SURA laboratory for analysis. At the lab, artifacts were cleaned, sorted, weighed, and classified. The classification of artifacts and their provenience were documented on an artifact catalog form. Afterward, artifacts were labeled with their respective catalog number using a small coat of reversible resin (Acryloid B-72 or 67) as a base upon which the number was written using archival quality black ink (or white ink for dark colored artifacts). The labeled artifacts were then placed in new resealable polyethylene bags along with an acid-free (Tyvek™) card denoting the site number, site name (optional), catalog number, provenience, archaeologist's name/name of organization, and date of collection. Finally, artifact bags were placed in a box along with the appropriate documentation (two copies of the artifact catalog on acid-free paper; one unbound copy of the final report, site form(s), field records, and any supplemental laboratory and analysis data, and a box inventory) in accordance with standards set by the LDOA and delivered to LDOA for curation.

Curation Statement

Artifacts are returned to the SURA laboratory, washed, analyzed and catalogued and will be deposited with the Louisiana Division of Archaeology, along with associated documents, at:

LDOA Curation/CRT
Central Plant North Building, 2nd Floor
1835 N. Third Street
Baton Rouge, Louisiana 70802

CHAPTER FIVE: RESULTS OF THE SURVEY

Fieldwork

Field survey was carried out from September 24th to October 10th, 2019. The PA consisted of 250 ac (101.2 ha) and was sectioned into areas of HP and previous survey (Figure 12). A total of 1,099 shovel tests were excavated during the Phase I survey and an additional twenty-four were excavated during subsequent site update. Within the survey area south of the levee, twenty-seven shovel tests were unable to be dug due to inundation.

The PA consisted of pastures with livestock, low-lying marshes with heavy inundation along the levee, as well as wooded areas to the north. Bayou Braud runs east to west through the northern, wooded portion of the PA. Additionally, two drainages also run east to west, north of Bayou Braud, with one falling along the northern boundary. Along the northeastern boundary lies the Illinois Central railroad.

Each section of the PA will be discussed in more detail below.



Figure 12. Aerial map depicting beginning and ending transect shovel tests within high probability areas of the PA, previously surveyed areas, and areas of inundation (Google Earth).

High Probability Areas

The PA consisted of three areas surveyed at a HP protocol. Each will be discussed in detail below.

High Probability 1 (Levee)

HP survey on the levee consisted of 27.5 ac (11.1 ha) on the south side of LA Highway 75 of marshy woods near the Mississippi River. A total of 97 shovel tests were excavated at a HP protocol, with twenty-seven unable to be dug due to marshy inundation in three areas. Along the southern boundary of the PA, a total of 5.88 ac (2.4 ha) were unable to be surveyed due to the encroaching Mississippi River. Additionally, two smaller areas were found to be inundated and were, therefore, not subjected to shovel testing. The central area of inundation consisted of 0.58 ac (0.23 ha) and the eastern area consisted of 0.40 ac (0.16 ha). No cultural resources were encountered during HP survey of the levee.

An aerial image depicting the beginning and ending transect shovel tests, plus areas of inundation, can be seen in Figure 13. A Munsell of the soils encountered is represented in Table 3. Figures 14-17 provide a representation of the topography of Levee.

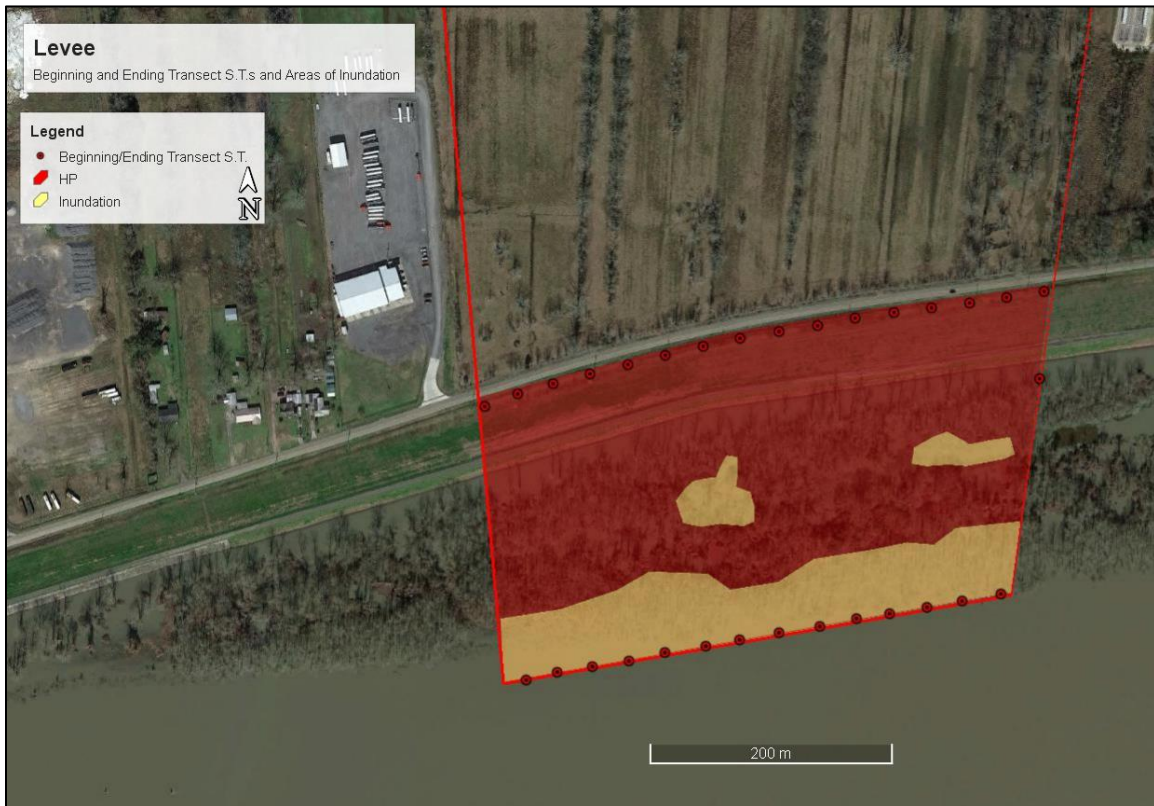


Figure 13. Aerial map depicting beginning/ending transect shovel tests and areas of inundation on the levee (HP1) (Google Earth).



Figure 14. From the top of the Levee (HP1), facing east.



Figure 15. From LA Highway 75 depicting HP1, facing south.



Figure 16. Tree line at HP1, facing west.



Figure 17. Inundation from Mississippi River in HP1, facing south.

Table 4. Representative Munsell of HP1.

Location	Depth	Munsell	Description
Easting 684912 Northing 2244491	0-50 cmbs	10 YR 5/1	Clay mottled with 10 YR 5/2 clay

High Probability 2

High Probability 2 (HP2), consisting of 79.5 ac (32.2 ha), is located within the central portion of the PA with an open pasture interspersed with trees and livestock. A total of 358 transect shovel tests were excavated. No cultural materials were identified in HP2.

An aerial image depicting the beginning and ending transect shovel tests can be seen in Figure 18. A Munsell of the soils encountered is represented in Table 3. Figures 19 and 20 provide a representation of the topography.



Figure 18. Aerial map depicting HP2 (Google Earth).



Figure 19. Southernmost boundary of HP2, facing north.



Figure 20. Northernmost boundary of HP2, facing east.

Table 5. Representative Munsell of HP2.

Location	Depth	Munsell	Description
Easting 685003 Northing 3344940	0-50 cmbs	10 YR 4/1	Clay mottled with 10 YR 4/6 clay
Easting 684669 Northing 3345076	0-50 cmbs	10 YR 4/2	Dark brown silty clay

High Probability 3

High Probability 3 (HP3), consisting of approximately 143 ac (57.87 ha), is located north of the pastures comprising HP2. A total of 644 shovel tests were excavated in HP3. Within this area, Bayou Braud runs E-W through the PA. Additionally, two drainages run E-W north of Bayou Braud, one within the PA and one along the northern boundary. The Illinois Central railroad lies along the northeast portion of HP3.

An aerial image depicting the beginning and ending transect shovel tests can be seen in Figure 25. A Munsell of the soils encountered is represented in Table 4, while Figures 26-30 provide a representation of the topography of HP3.



Figure 21. Aerial map depicting HP3 (Google Earth).



Figure 22. Northernmost boundary of HP3, facing south.



Figure 23. Southernmost boundary of HP3, facing north.



Figure 24. Drainage ditch in HP3, facing southwest.



Figure 25. Bayou Braud in HP3, facing west.



Figure 26. Depiction of Illinois Central railroad in HP3, facing southeast.

Table 6. Representative Munsell of HP3.

Location	Depth	Munsell	Description
Easting 684640 Northing 3345916	0-25 cmbs	10 YR 2/2	Clay
	25-50 cmbs	10 YR 4/4	Sandy loam
Easting 684581 Northing 3346411	0-50 cmbs	10 YR 4/2	Clay mottled with 10 YR 4/3 clay
Easting 684475 Northing 3346131	0-30 cmbs	10 YR 3/2	Dark silty clay
	31-50 cmbs	10 YR 5/3	Light sandy loam

Previously Surveyed

Within the PA boundaries lie two areas of previous survey: 44.5 ac (18.0 ha) directly north of LA highway 75 and 71.7 ac (29.0 ha) between HP2 and HP3. Both areas are comprised of pasture for livestock. These areas were surveyed by AECOM in 2015 under contract to Wanhua Chemical US Holding, Inc. During the Phase I survey, at which time 335 transect shovel tests and 244 delineation shovel tests were excavated, AECOM identified and assessed five historic sites, three historic isolated finds, and six historic standing structures.

The Syngenta land, as the area was referred by AECOM, was divided into Areas A, B, C, D, and E. Areas C, D, and E lie within the current PA (Figure 27). Sites 16IV221 and 16IV222 were encountered in Area D and 16IV225, as well as isolated find SAGAH092815B-03, were identified within Area E. A total of 109 cultural materials were collected at 16IV221 and thirty-nine were collected at 16IV222. The assemblages consisted of late nineteenth to early twentieth century materials consistent with occupation at the structures previously present. AECOM made the following NRHP determination regarding sites 16IV221 and 16IV222: “As the architectural materials recovered are common and the buildings are no longer present, the sites are not considered to NRHP-eligible and we recommend no additional assessment at either location” (Poche and Hawkins 2015:83).

Site 16IV225 was recorded within Area D and consisted of two architectural features believed to be associated with the structures depicted on topographic maps in the early twentieth century. Subsurface artifacts were not encountered and one cultural material was collected from the surface. According to AECOM, the “very limited number of artifacts observed during surface collection (n=1), indicate that the ground surface was scraped at some point, displacing the subsurface deposits to another location” (Poche and Hawkins 2015:83). AECOM, therefore, considered the site ineligible for inclusion to the NRHP and recommended no further assessment.

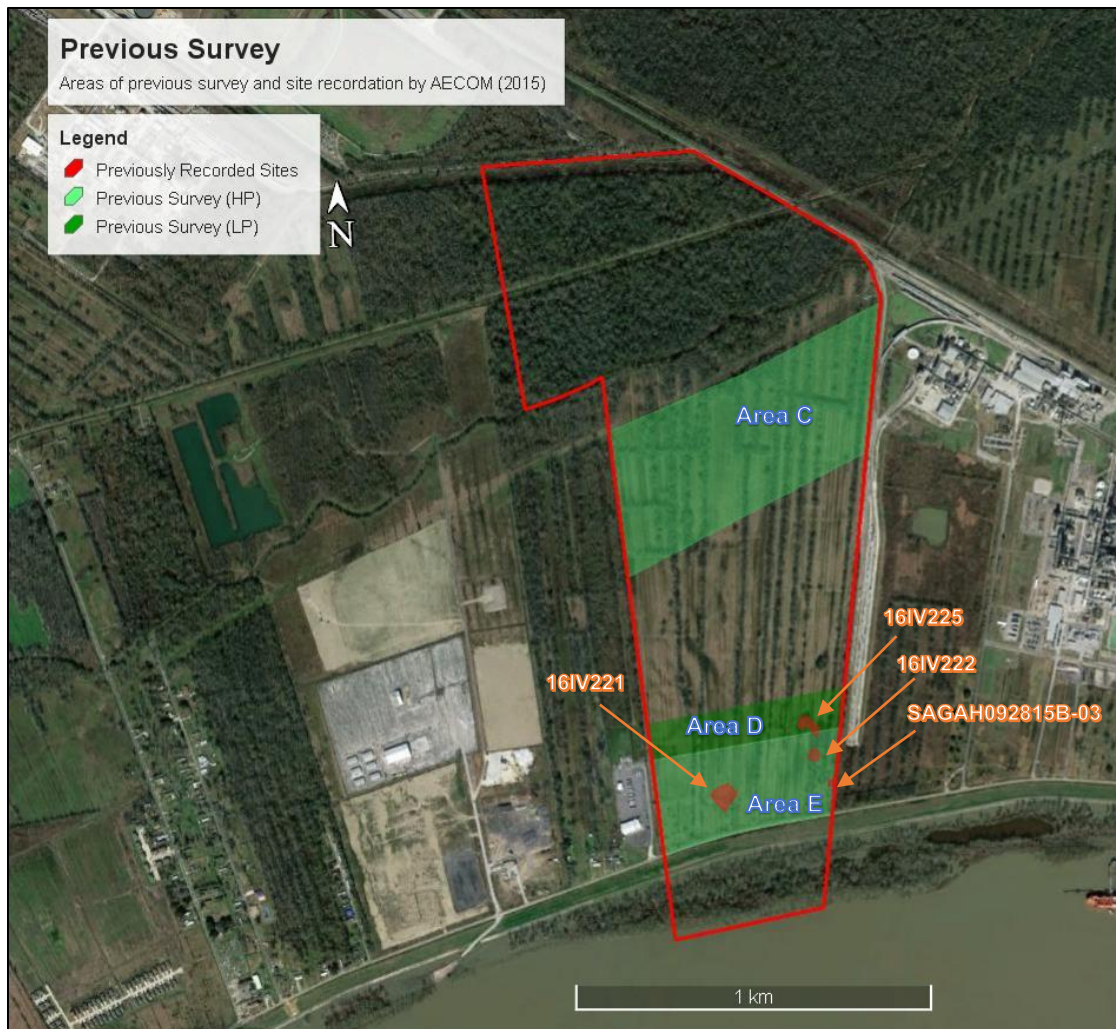


Figure 27. Areas of previous survey and site recordation by AECOM (2015) (Google Earth).

Archaeological Sites

Within the area of previous survey lies four previously recorded sites, 16IV221, 16IV222, 16IV225, and 16IV69. Correspondence with Dr. Rachel Watson at the Louisiana Division of Archaeology (LDOA) determined only site 16IV69 would be subjected to revisit. Sites 16IV221, 16IV222, and 16IV225 were surveyed by AECOM in 2015 and determined to be ineligible to the National Register of Historic Places (NRHP). However, site 16IV69 was last visited in 2007 by CEI and determined to be potentially significant. For this reason, Dr. Watson recommended only site 16IV69 should undergo revisitation. The UTMs provided by the original site form for 16IV69 place the datum of the site on the levee. Therefore, a new datum was established based on the site sketch map, as well as the site overview photo, provided by CEI in 2007. The updated

UTMs are Easting 684908 Northing 3344638. More details of subsequent delineation of 16IV69 are provided below.

Under contract to Pipeline Technology of Baton Rouge, Louisiana, CEI conducted a Phase I survey in 2007 for a proposed 8-inch diameter benzene pipeline running from Dow Chemical Plant north of Plaquemine to the Total Petrochemical Plant in Carville, during which time site 16IV69, along with four other sites (16IV125, 16IV133, 16IV161, and 16IV162) were identified. Site 16IV69 was previously recorded within a pasture fronting the north side of LA Highway 75. The site is described as located on the natural levee at 20 ft elevation approximately 0.2 mi (0.32 km) north of the Mississippi River with no ground surface visibility. The site size was recorded as 70 meters east-west and 70 meters north-south with the depth of deposit between 11-27 centimeters. No cultural features were encountered, and the artifact assemblage included ceramics, container glass, brick rubble, and metal dating to ca. 1800- ca. 1920. The site function was identified as farm and/or rural.

16IV69 Update

Site 16IV69 covers an area of 0.12 ac (0.05 ha). Datum of the site is located at Easting 684908 and Northing 3344638. The site is located within an area surveyed in 2015 by AECOM. Disturbances from the construction of the aforementioned pipeline were not noted, as the pipeline lies along LA Highway 75, approximately 30 m (98.4 ft) south of the site boundary and outside of the locked gate which provides access to the site. 16IV69 is located within a pasture with livestock. Along the southeastern portion of the site lies a gravel road used by both Syngenta Plant employees and livestock owners. Disturbances from construction and continued use of the gravel road were noted and manifested in gravel and *Rangia* shell fill within two of the southeastern delineation shovel tests. Various cages, fences, and troughs are present for the livestock residing in the area. The boundaries of the subsurface artifact collection were determined to extend roughly 20 meters north/south and 40 meters east/west.

Twenty-four delineation shovel tests were carried out at 10-meter intervals at grid cardinal. Testing continued until two negative shovel tests were excavated in each cardinal direction. Within the southeastern portion of the site boundary established in 2007, two shovel tests were dug to approximately 20 cmbs until gravel fill impeded further excavation. No cultural materials were encountered in these shovel tests. Moreover, testing was conducted throughout the site. Four delineation shovel tests within the site boundaries were positive for subsurface artifacts. The soils encountered within the site boundary consisted of 10 YR 2/1 silt loam from 0-30 cmbs and 10 YR 5/3 sandy silt from 31-50 cmbs. Additionally, 7.5 YR 3/2 silt loam was noted from 0-25 cmbs and 10 YR 4/3 silty clay from 26-50 cmbs. Collected artifacts included historic ceramics such as ironstone (n=12), faunal material (n=1), and metal including nails (n=4) dating from the Industrial & Modern period through Post-WWII. Figure 28 shows a detailed aerial image of the site, Figure 29 presents a sketch map of the site, and Figures 30-33 show views from datum. Table 7 describes the representative soil profile, and Table 8 is a list of the recovered artifacts preceding a brief explanation. Figures 34-37 are photographs of artifacts recovered from the site.

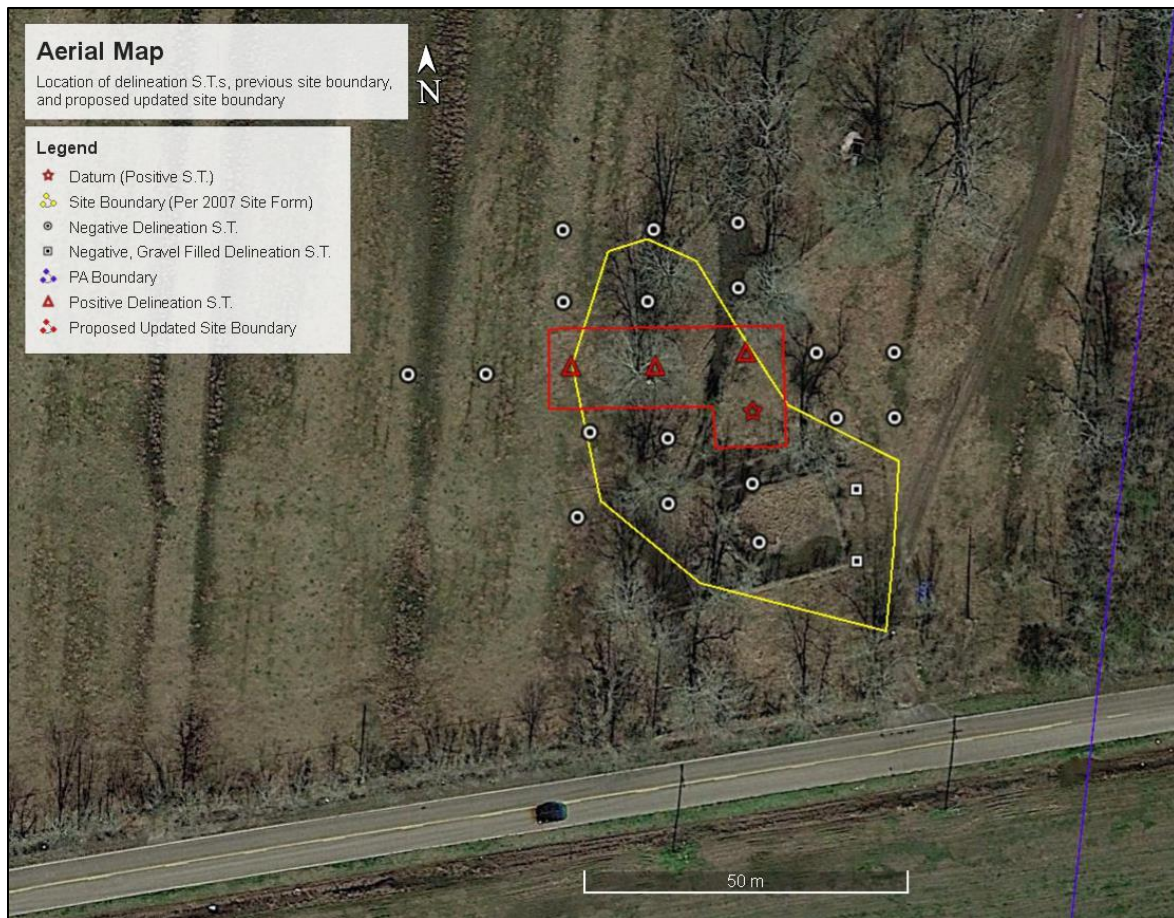


Figure 28. Aerial map of 16IV69 revisit delineations (Google Earth).

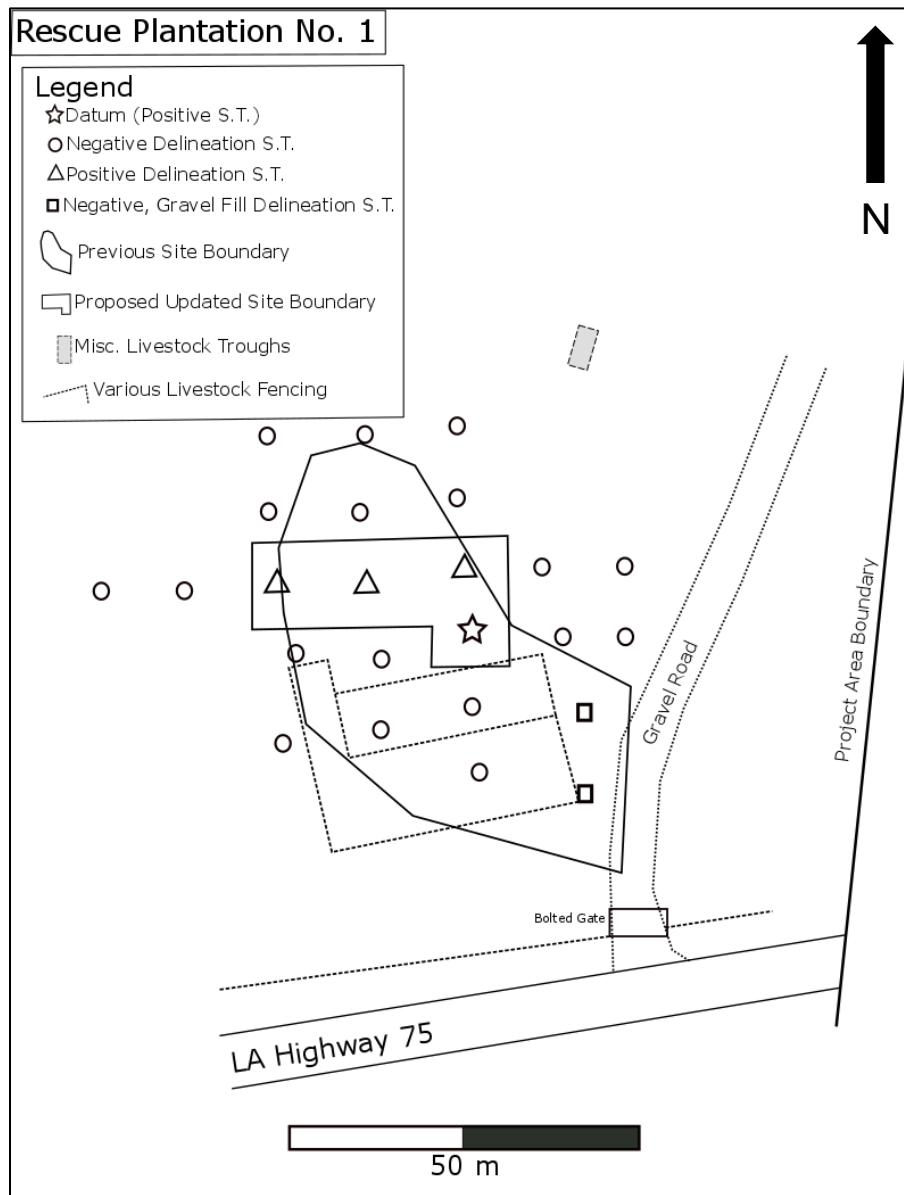


Figure 29. Site sketch map of 16IV69.



Figure 30. Datum, 16IV69, facing west.



Figure 31. Datum, 16IV69, facing south.



Figure 32. Datum, 16IV69, facing north.



Figure 33. Datum, 16IV69, facing east.

Table 7. Representative Munsell of positive shovel tests, 16IV69.

Location	Depth	Munsell	Description
Datum: Easting 684908 Northing 3344638	0-30 cmbs	10 YR 2/1	Dark silty loam
	31-50 cmbs	10 YR 5/3	Light sandy silt
10N: Easting 684907 Northing 3344647	0-20 cmbs	10 YR 3/1	Grey silty clay
	30-50 cmbs	10 YR 5/3	Silty loam
10N10W: Easting 684893 Northing 3344645	0-25 cmbs	7.5 YR 3/2	Dark brown silty loam
	31-50 cmbs	10 YR 4/3	Silty clay
10N20W: Easting 684880 Northing 3344645	0-20 cmbs	10 YR 3/1	Grey silty clay
	21-50 cmbs	10 YR 4/3	Silty Clay

Table 8. Artifact Tally, 16IV69.

	Datum	10N	10N10W	10N20W	TOTAL
Ceramics					
Ironstone ware					
Plain		3	3	6	12
Metal					
Iron					
Nails					
Cut	2		1		3
Unidentified	1				1
Construction Material					
Terracotta			1		1
Bone					
Avian	1				1
TOTAL	4	3	5	6	18



Figure 34. Ironstone sherd, 10N20W, 16IV69.



Figure 35. Avian bone, Datum, 16IV69.



Figure 36. Unidentified ferrous metal, Datum, 16IV69.



Figure 37. Iron cut nail, 10N10W, 16IV69.

Artifacts recovered from the site included twelve plain ironstone sherds, three iron square cut nails, one unidentified ferrous metal fragments, one fragment of mammal bone, and one terracotta sherd. Dating of the artifacts is consistent with occupation from the Industrial and Modern period through Post-WWII period. The artifact assemblage likely represents remains of previous residence at the structures depicted on the 1936 topographic map.

Summary of Fieldwork

Between September 24th and October 10th, 2019, Surveys Unlimited Research Associates, Inc. (SURA), conducted a Phase I cultural resources survey of 250 ac (101.2 ha) south of LA Highway 75 and along the Mississippi River near Carville, Iberville Parish, Louisiana. The survey methodology consisted of archival research, pedestrian reconnaissance, and high probability-interval shovel testing.

The PA was divided into areas of HP and previous survey. The HP areas consisted of locations south of the levee at the Mississippi River, pasture fields, and woods to the north. Within the 27.5 ac (11.1 ha) that comprised HP testing south of the levee, 124 shovel tests were excavated, with twenty-seven unable to be dug due to inundation. The three areas that were unable to be surveyed totaled to 6.86 ac (2.79 ha). The second area of HP was located with a pasture interspersed with trees. Within the 79.5 ac (32.2 ha) of HP2, 358 shovel tests were excavated. The final area of HP, HP3, is located within low-lying woods with Bayou Braud running E-W, as well as a drainage running E-W north of Bayou Braud. A total of 644 shovel tests were excavated within the 143 ac (57.87 ha) comprising HP3.

Within the PA boundaries lie two areas of previous survey: 44.5 ac (18.0 ha) directly north of LA Highway 7 and 71.7 ac (29.0 ha) between HP2 and HP3. These areas were surveyed in 2015 by AECOM, at which time three sites were identified: 16IV221, 16IV222, and 16IV225. Additionally, CEI carried out a Phase I survey for a proposed pipeline in 2007. The pipeline currently runs through HP2. During Phase I investigations by CEI, site 16IV69 was recorded. After consultation with Dr. Rachel Watson at the Louisiana Division of Archaeology (LDOA), it was determined that, due to its status as “potentially significant” by CEI in 2007, only site 16IV69 would be subjected to revisitation. During delineations, four of the twenty-four shovel tests excavated yielded subsurface cultural materials (n=18).

Due to the low density of artifacts, continued disturbance due to lawn maintenance and livestock, as well as the lack of any associated features, site 16IV69 is considered ineligible for nomination to the NRHP based on Criterion A (events), Criterion B (persons), Criterion C (workmanship), and Criterion D (information potential). It is suggested that further work would not provide knowledge above and beyond what is currently known. As a result, SURA recommends the project proceed as planned.

CHAPTER SIX:

CONCLUSIONS AND RECOMMENDATIONS

Between September 24th and October 10th, 2019, Surveys Unlimited Research Associates, Inc. (SURA), conducted a Phase I cultural resources survey of 250 ac (101.2 ha) south of LA Highway 75 and along the Mississippi River near Carville, Iberville Parish, Louisiana. The Project Area (PA) is the future location of a proposed industrial park. The project was carried out as part of due diligence for the Baton Rouge Area Chamber (BRAC) in order to adhere to regulations of Louisiana Economic Development (LED) to fulfill the requirements of Section 106 of the National Historic Preservation Act (NHPA) of 1966. The survey methodology consisted of archival research, pedestrian reconnaissance, and high probability-interval shovel testing.

During the Phase I survey, a total of 1,099 transect shovel tests were implemented, none of which were positive for cultural materials. Due to areas of inundation along the Mississippi River south of the levee, twenty-seven shovel tests were unable to be excavated. During investigation of site 16IV69, four of the twenty-four shovel tests excavated were positive for subsurface materials, including ironstone sherds, cut nails, faunal material, and miscellaneous ferrous metals.

According to the National Register of Historic Places Bulletin 15 (1995:2), "The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association are potentially eligible for the National Register of Historic Places." To evaluate this significance, four criteria have been developed. Eligible properties...

- "A. ... are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. ... are associated with the lives of persons significant in our past; or
- C. ... embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or...
- D. ... have yielded, or may be likely to yield, information important in history or prehistory" (NRHP 1995:2)."

Site 16IV69 was evaluated against Criterion A (events), Criterion B (persons), Criterion C (workmanship), and Criterion D (information potential) of the NRHP. Due to the lack of integrity associated with the site from continued lawn maintenance and pastoral activities, as well as the relatively low artifact density (n=18) and lack of associated features, it is suggested that 16IV69 does not possess the quality of significance for inclusion to the NRHP and further work would not provide knowledge above and beyond what is currently known. As a result, it is suggested that the project proceed as planned.

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Maps

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