

Exhibit DD. Iberville Industrial & Technology Park

Desktop Cultural Resources Assessment Report

DESKTOP REVIEW OF CULTURAL RESOURCES BACKGROUND AND RECOMMENDATIONS FOR THE IBERVILLE SITE BASE IBERVILLE PARISH, LOUISIANA

Oct. 15, 2013

SURA, Inc.

Introduction

This report addresses a request from the Baton Rouge Area Chamber (BRAC) to conduct a desktop review of cultural resources and cultural resource possibilities on the 54.98 acre (22.25 hectare) Iberville Site Base tract in Iberville Parish, Louisiana (Figure 1). To perform this work, several tasks were carried out. First, the geomorphology of the Area of Potential Effects (APE) was described. Second, files of the Louisiana Division of Archaeology (LDOA) were examined to determine if the area had received previous archaeological attention. Third, the LDOA's cultural resources map was consulted to determine if there were recorded sites in the project area. Fourth, historic topographic maps from the Louisiana State University Cartographic Information Center (LSUCIC) were researched to see if historic structures appeared on them, as well as to see if physiographic changes had taken place over the past 75-odd years. When these tasks were completed, recommendations were made regarding the advisability of cultural resources fieldwork



Figure 1. Area of Potential Effects (APE) (Blue).

Environment/geomorphology

The most influential factors in determining the natural setting of the project area are the fluvial geomorphological processes associated with the lower Mississippi River. The meandering nature of the river, its associated tributaries and distributaries, the building of natural levees, and crevasses in the natural levee, affected the extent, time, and nature of prehistoric and historic occupations.

The Mississippi River changed abruptly, in geological terms, from a river of braided channels to a meandering stream approximately 12,000 years ago. This change is generally thought to have been caused by a rise in sea level dating from the end of the last Ice Age (Gagliano 1984, Figure 2)

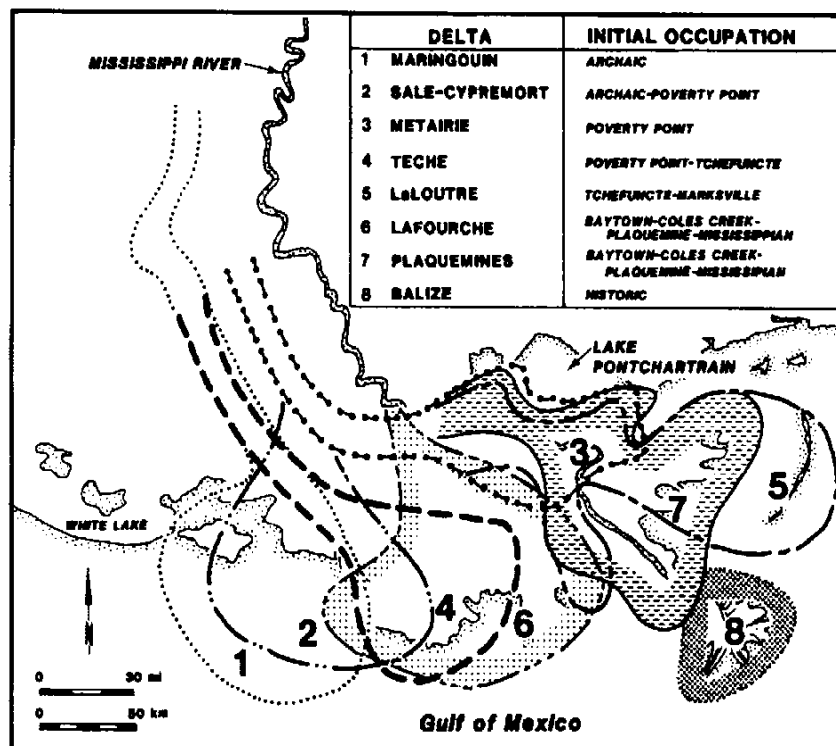


Figure 2. Major delta complexes and associated archaeological complexes in the Mississippi River deltaic plain (Adapted from Gagliano 1984:40).

The soils in the study area are mapped as pertaining to the Commerce and Sharkey associations. The first consists of loamy soils on the highest portions of the natural levees of the Mississippi River. Sharkey soils are clays that occur on the lower elevations of natural levees of the Mississippi River (USDA 1971). Most of the soils in the APE are Sharkey soils.

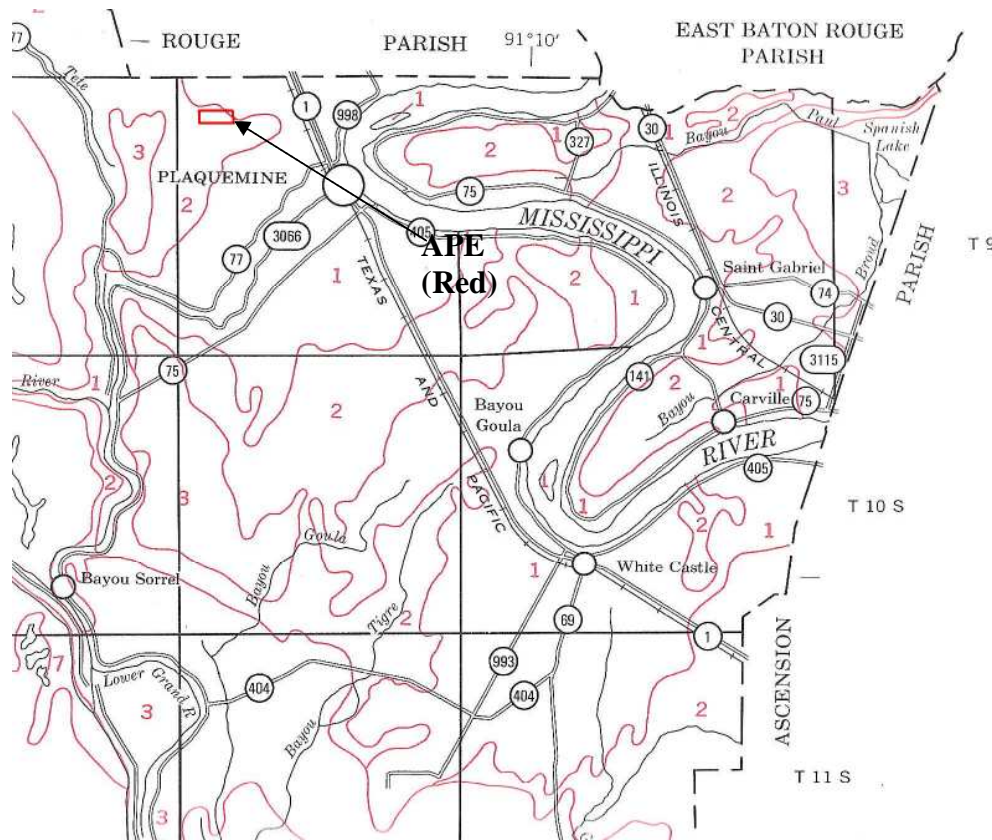


Figure 3. Soils areas for the APE (Source: USDA 1971).

In terms of natural vegetation, this region contains a mix of cypress (*Taxodium distichum*) and such hardwood varieties as water oak (*Quercus nigra*), hickory (*Carya spp.*), and hackberry (*Celtis laevigata*). In the areas of lower elevation that are affected by alluviation, species such as palmetto (*Sabal minor*) and water willow (*Salix nigra*) grow in abundance. Other flora are rich and varied and include broomsedges, briars, and poison ivy.

Animal life is likewise 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 contortrix*), 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.

From the above, it seems likely that any cultural deposits in the APE date no earlier than the period of the Lafourche delta (i.e., ca. 1,500 B.P.). In historic times, the APE was an area of some natural levee (Commerce soils) and backswamp (Sharkey soils), well away from both the Mississippi River and Bayou Grosse Tete.

Previous archaeological projects in the Area of Potential Effects (APE)

A number of previous archaeological projects have taken place in/adjacent to this APE. Table 1 presents these projects, their acreage (when known), results, and authors.

Table 1. Archaeological studies in the environs of APE (Source: LDOA).

Report No.	Type	Org.	Findings	In/Adjacent to APE?	Acres	Citation
22-0089	Storage/Pipeline	CEI	Neg.	No	Unk	Brooks & Weinstein 1977
22-0752	Sewage	/	Neg.	Yes	1,000+	McIntire 1980
22-2140	Residential	SURA	No el. Sites	No	400	Wells et al. 1998
22-2245	Industrial	CEI	No el. sites	Yes	275	Wells 1999
22-2261	Channel Improv.	RCG	Land use study	No	N/A	Draughon et al. 1999
22-2456	Pipeline	ESI	No el. sites	Yes	430	Smith et al. 2001
22-2930	Pipeline	URS	Neg.	Yes	>10	Cassedy et al. 2007
22-2977	Pipeline	CEI	5 sites	Yes	>20	Hunter 2007a
22-2977-1	Pipeline	CEI	Neg.	Yes	>20	Hunter 2007b
22-3036	Pipeline	SWCA	Neg.	Yes	450	Crow et al. 2009
22-3453	Pipeline	SWCA	Neg.	Yes	40	Peyton and Mehok 2010
22-3229-2	Pipeline	URS	Neg.	No	3.35	Handly and Dafoe 2009
22-3559	Pipeline	URS	No el. sites	No	4,900*	King et al. 2011
22-3760	Pipeline	URS	No el. sites	Yes	2,744*	Handly et al. 2011

*Only a small portion of APE in Iberville Parish.

Figure 4 provides a visual of the previously surveyed areas closest to the APE and the designations of the particular projects.

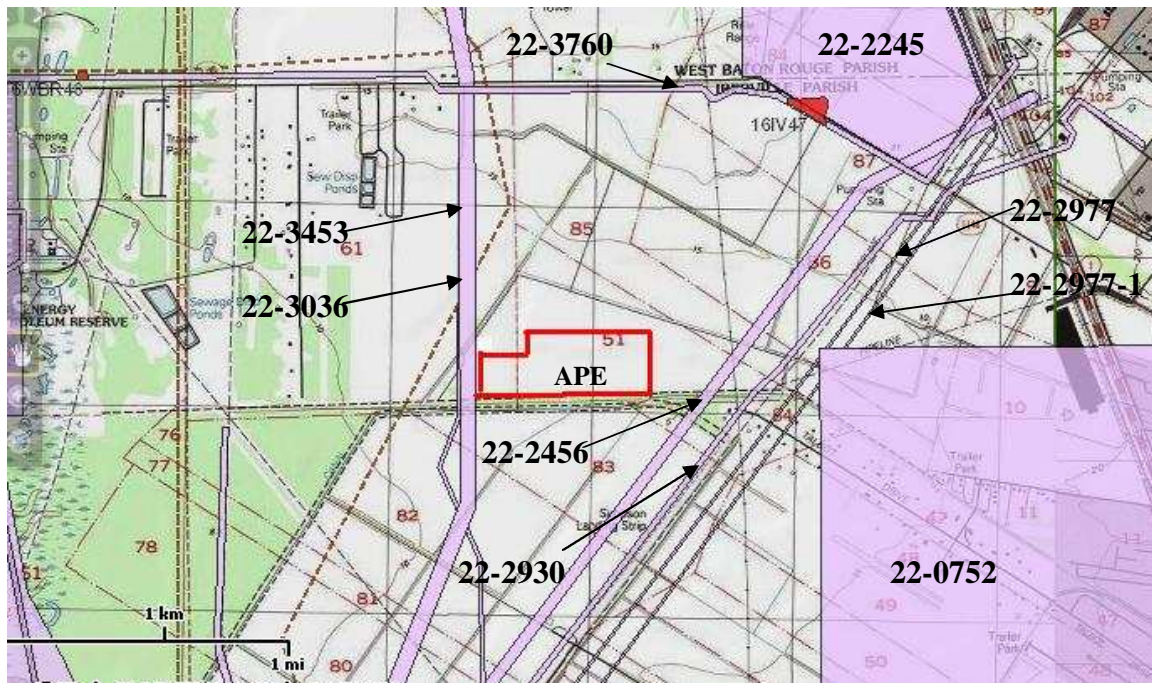


Figure 4. Visual, showing areas previously surveyed in relation to APE (Source: LDOA).

The above indicates there have been eight projects adjacent to or near the current APE (McIntire 1980; Wells 1999; Cassidy et al. 2007; Hunter 2007a,b; Crow et al. 2009; Peyton and Mehok 2010; and Handly et al. 2011). Of these, only one (Hunter 2007a) recorded sites that were of possible NRHP eligibility. None of these sites were within the current APE. Wells (1999) recorded one historic site (16IV47) on the northern periphery of the APE but judged it ineligible for the NRHP. Thus, in terms of previous experience, little of archaeological value has been found in these environs. In their investigation of a 400-acre (162 hectare) tract to be used for The Island community, between Bayous Plaquemine and Jacob, SURA considered the possibility of Chitimacha settlements in the general area but found no evidence for them (Wells 1998); the main Chitimacha Village (16IV158) was recorded at the confluence of Bayous Plaquemine and Grosse Tete (Kniffen 1938).

As for the quality of the coverage in the projects listed, all but one seem to have met current standards for level-of-effort in terms of the area assigned to them on the LDOA cultural resources map. The exception is that of McIntire, who performed a survey for a sewage planning area in and around Plaquemine (McIntire 1980). While the LDOA map shows a large block for the area he surveyed (22-0752), his report states:

The field inspection covered both known sites and location of new sites that might be located along the proposed sewer system corridors (McIntire 1980:9).

These corridors appear to be primarily along Bayou Plaquemine (McIntire 1980:3).

No judgment is made concerning McIntire's level-of-effort in the corridors he investigated. He was a careful surveyor and it is probable that his work met the standards applicable at that time. To imply that the entire area in purple on the LDIOA map was covered, however, would be misleading: McIntire performed archival research for this bloc but his fieldwork took in only the corridors mentioned.

Previously recorded archaeological sites in the APE

No archaeological sites have been recorded for the APE. The locations of nearby sites are given in Figure 5 and a list of sites is presented in Table 2.

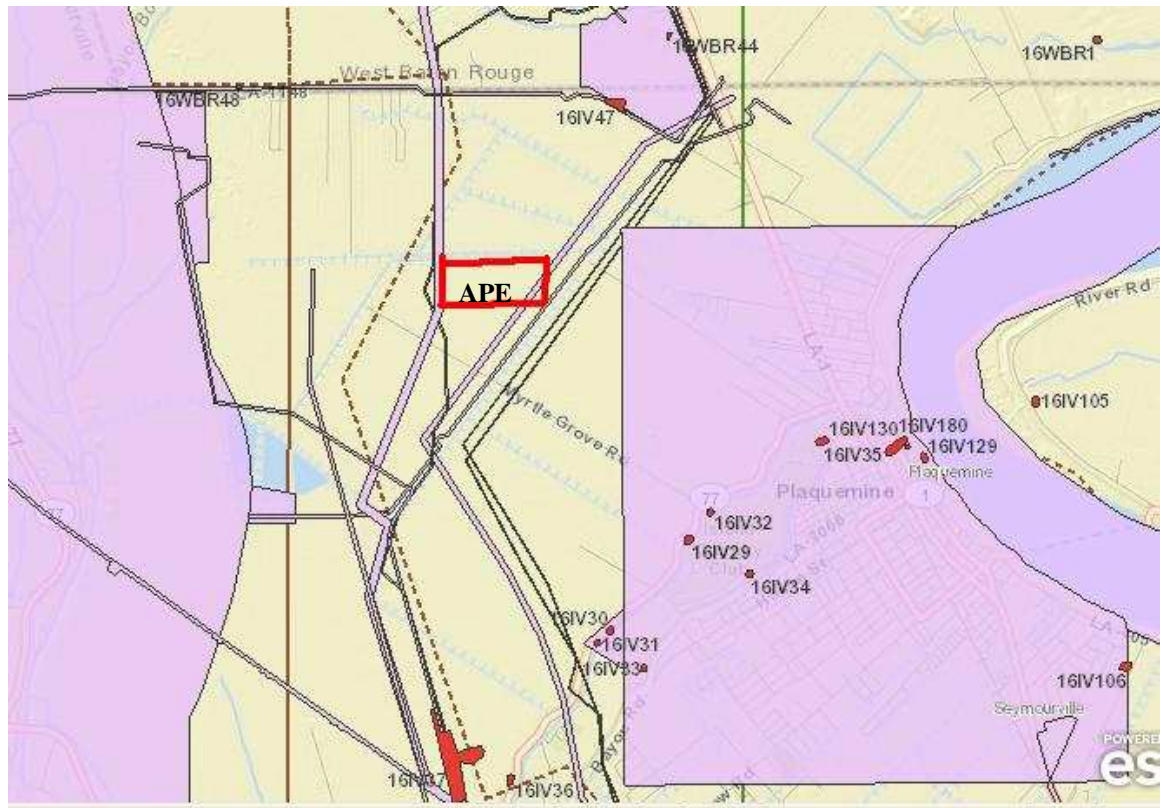


Figure 5. LDOA map showing locations of recorded archaeological sites in APE.

Table 2. Recorded archaeological sites in general vicinity of APE (Source: LDOA).

Site #	Site Name	Hist/Pre.	Culture	Function	Lat. extent	Landform	NR status	In/Adj. To APE	Org.
16WBR1	Medora Site	Prehist.	Plaq.	Cer. Center	Undetermined	Batture	Destroyed	No	LSU
16WBR44	(None)	Hist.	AngloAm	Eng. Str.	1.9 ac	Batture?	NE	No	CEI
16WBR48	(None)	Hist.	Unk.	Scatter	.39 ac	Swamp	NE	No	URS
16IV29	Po'Folks Site	Hist.	Euro/AfAm	Residence	.74 ac	Nat Levee	NE	No	SURA
16IV30	Five-in-One Site	Hist.	EuroAm	Residence	1.5 ac	Nat Levee	NE	No	SURA
16IV31	The Brick Site	Hist.	EuroAm	Trash pit	1.5 ac	Nat Levee	NE	No	SURA
16IV32	Manager's House Site	Hist.	AngloAm	Residence	2.47 ac	Nat Levee	NE	No	SURA
16IV33	Little House on the Bayou	Hist.	AngloAm	Residence	.43 ac	Nat Levee	NE	No	SURA
16IV34	Cut Bone Site	Hist.	AngloAm	Residence	.15 ac	Nat Levee	NE	No	SURA
16IV35	Turnerville Dump	Hist.	AngloAm	Town Dump	1.24 ac	Nat Levee	NE	No	SURA
16IV36	(None)	Hist.	Unknown	Residence	3.86 ac	Nat Levee	NE	No	CEI
16IV37	Enterprise Plantation	Hist.	EuroAm	Plantation	138.37 ac	Floodplain	NE	No	PLM, CEI
16IV47	(None)	Hist.	Unk.	Residence	6.9 ac	Crevasse	NE	Yes	CEI, URS
16IV105	(None)	Hist.	Unk.	Residence	1.78 ac	Nat Levee	Unknown	No	LDOA
16IV106	St. Louis Plantation	Hist.	EuroAm	Plantation	2.47 ac	Nat Levee	Unknown	No	LSU
16IV129	Masonic Hall Site	Hist.	AngloAm	Meeting House	Unk.	Nat Levee	Unknown	No	CEI
16IV130	Plaquemine Lock	Hist.	AngloAm	Eng. Str.	N/A	Nat Levee	Listed	No	CEI
16IV180	Irish Town	Hist.	IrishAm	Neighborhood	.22 ac	Nat Levee	Unknown	No	LSU

The tally of sites in Table 2 brings out several points. First, of the 18 sites in the table, only one, the Medora Site (16WBR1), is prehistoric. The remainder are historic in nature. In terms of NRHP eligibility, only one site, the Plaquemine Locks (16IV130) is listed; one site, the Medora Site (16WBR1), would have certainly been eligible but is now largely destroyed; and four sites (16IV105, 16IV106, 16IV129, and 16IV180) are of unknown eligibility status. Thus, considering the 18 sites as a whole, only 33 percent do qualify, could qualify, or could have qualified, for NRHP listing. Eliminating the four sites of unknown eligibility, some of which probably would not be eligible after further examination, the number of significant sites drops by two-thirds, to 11 percent. Finally, all but one of the 18 sites are located within ½ mile (805 m) of a major water course (Mississippi River, Bayou Bourbeaux, Bayou Jacob, Bayou Plaquemine). The sole exception, 16WBR48, is an historic scatter that is ineligible for the NRHP.

Historic Topographic Maps

Historic topographic maps from the Louisiana State University Cartographic Information Center (LSUCIC) were examined. These includes the Addis, La. 1953, 1971, 1980, and 1992 7.5-minute sheets; the Baton Rouge, La. 1939 15-minute sheet; the Grosse Tete, La. 1932, 1934, 1935, and 1940 15-minute sheets; and the Plaquemine, La. 1953, 1971, 1980, and 1992 7.5-minute sheets. The most relevant maps from the foregoing will be presented below.

The earliest maps available are the Baton Rouge, La. 1939 and Grosse Tete, La. 1932 15-minute maps, which are shown in a composite in Figure 6. They show no structures or features within the APE. The same is true of the Addis, La. 1953 and Plaquemine, La. 1953, 1971, 1980, and 1992 7.5-minute sheets (Figures 7-10).

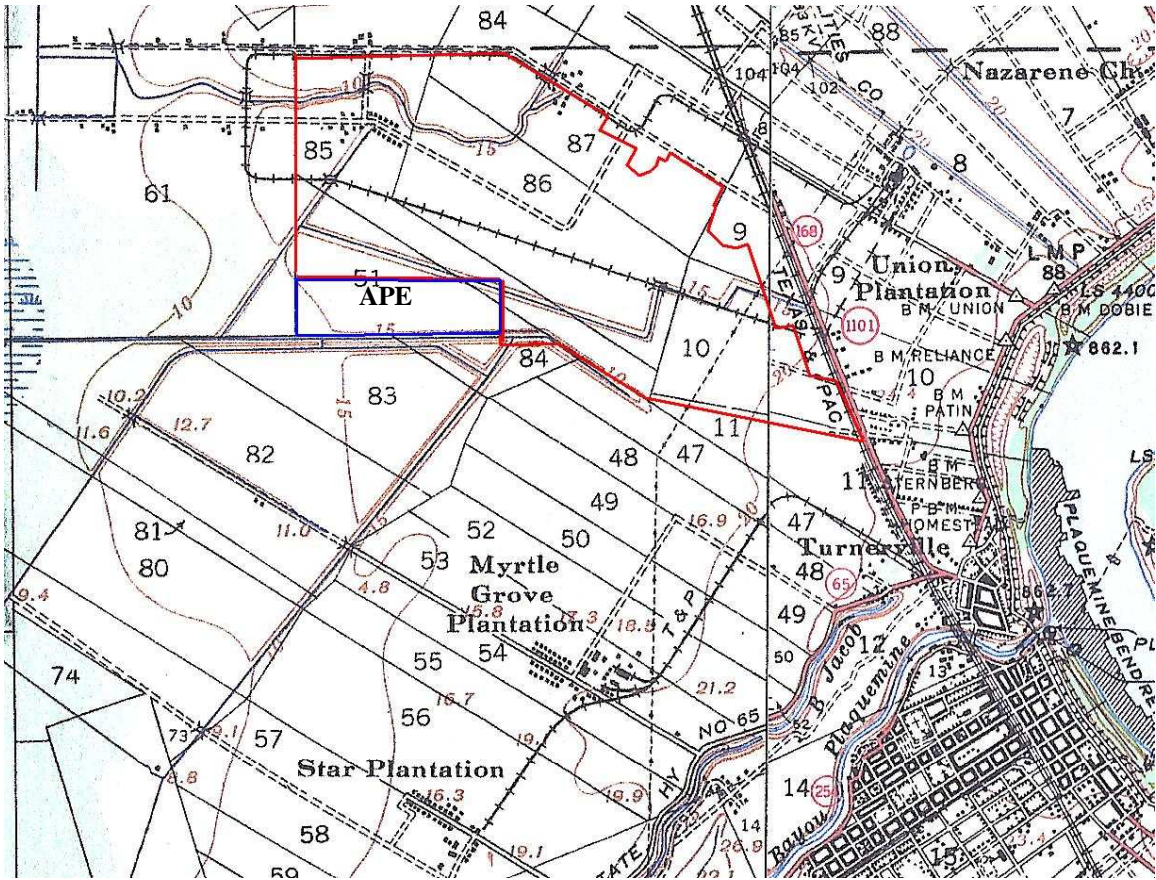


Figure 6. Composite of Baton Rouge, La. 1939 and Grosse Tete, La. 1932 15-minute Topographic Quadrangles, showing approximate APE (Blue boundary lines).

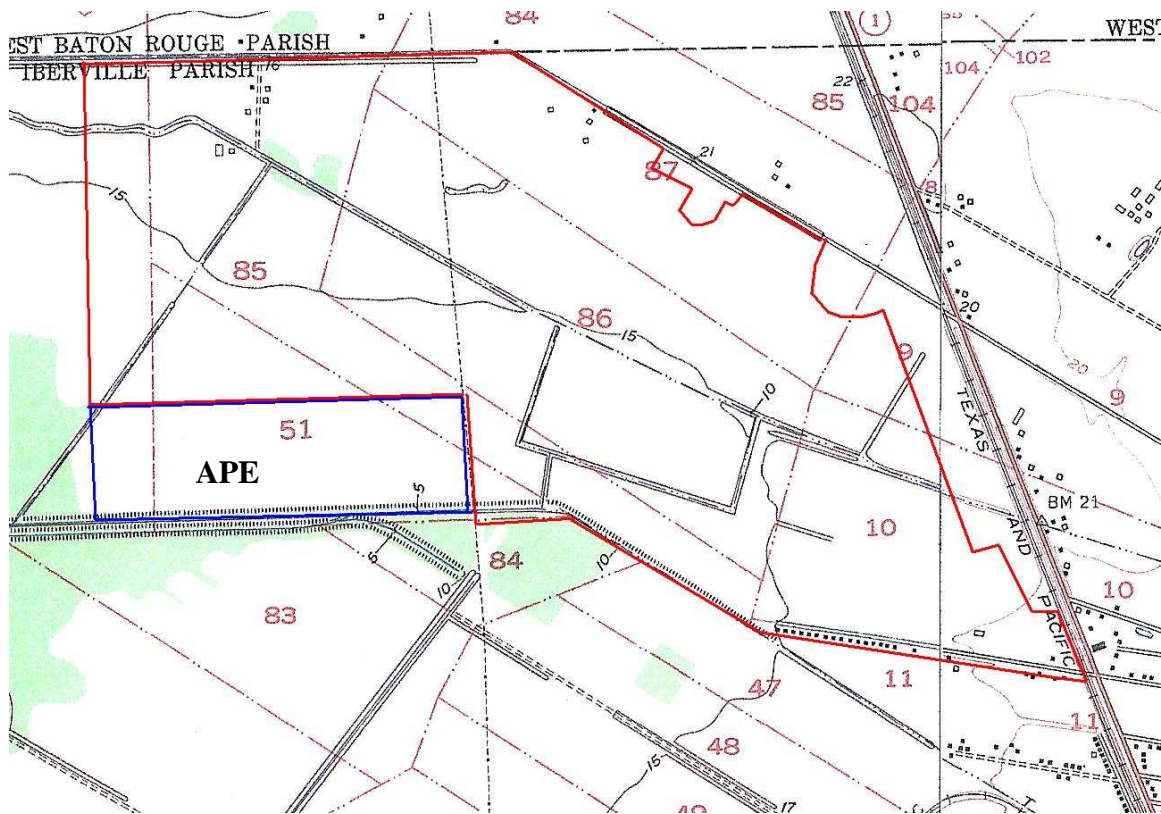


Figure 7. Composite of Addis, La. 1953 and Plaquemine, La. 1953 7.5-minute Topographic Quadrangles, showing approximate APE (Blue boundary lines).

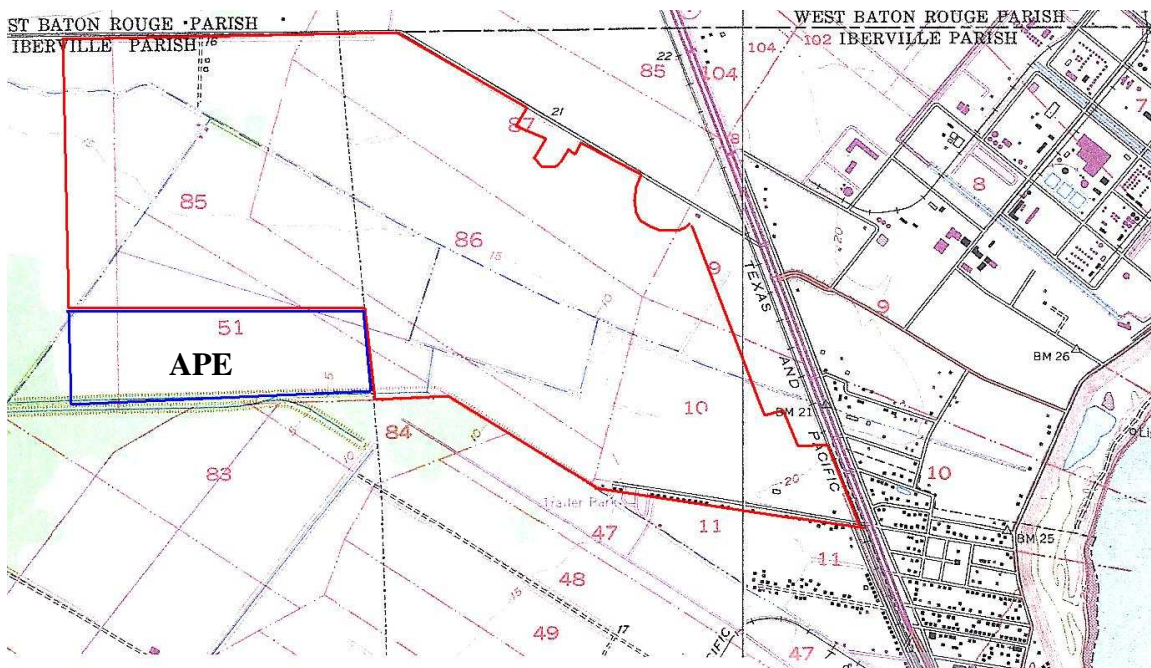


Figure 8. Composite of Addis, La. 1971 and Plaquemine, La. 1971 7.5-minute Topographic Quadrangles, showing APE (Red boundary lines).

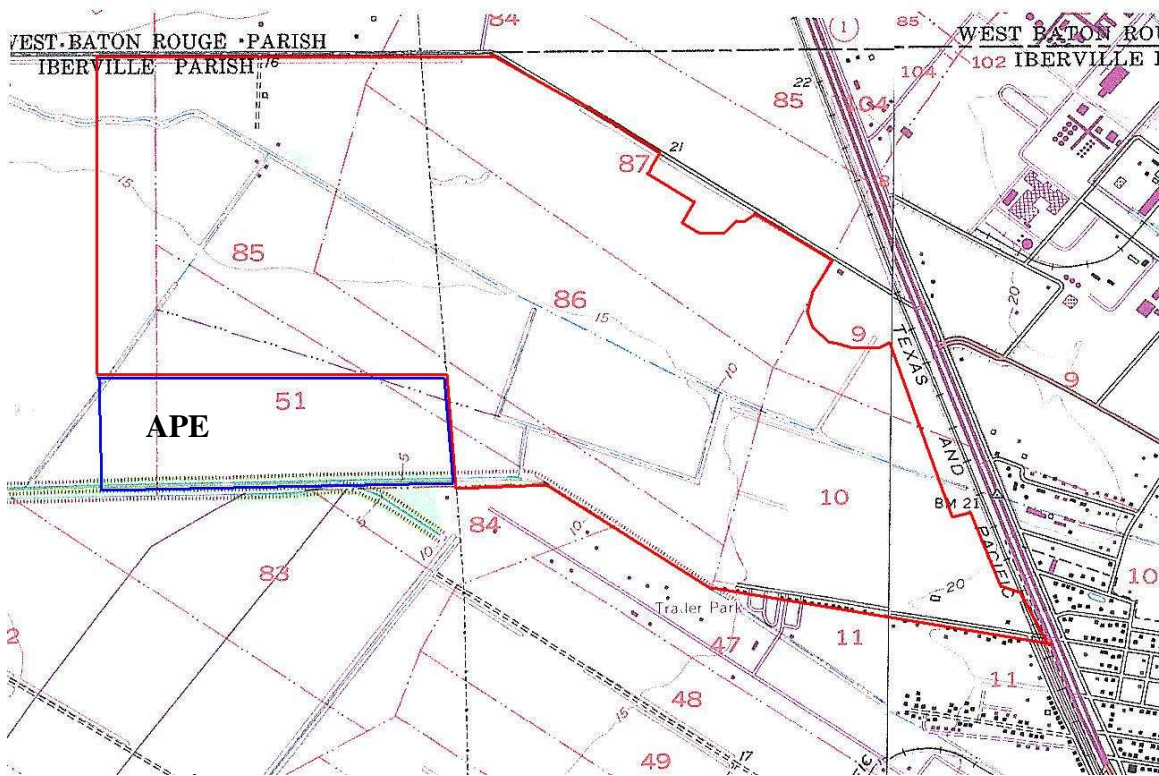


Figure 9. Composite of Addis, La. 1980 and Plaquemine, La. 1980 7.5-minute Topographic Quadrangles, showing APE (Red boundary lines).

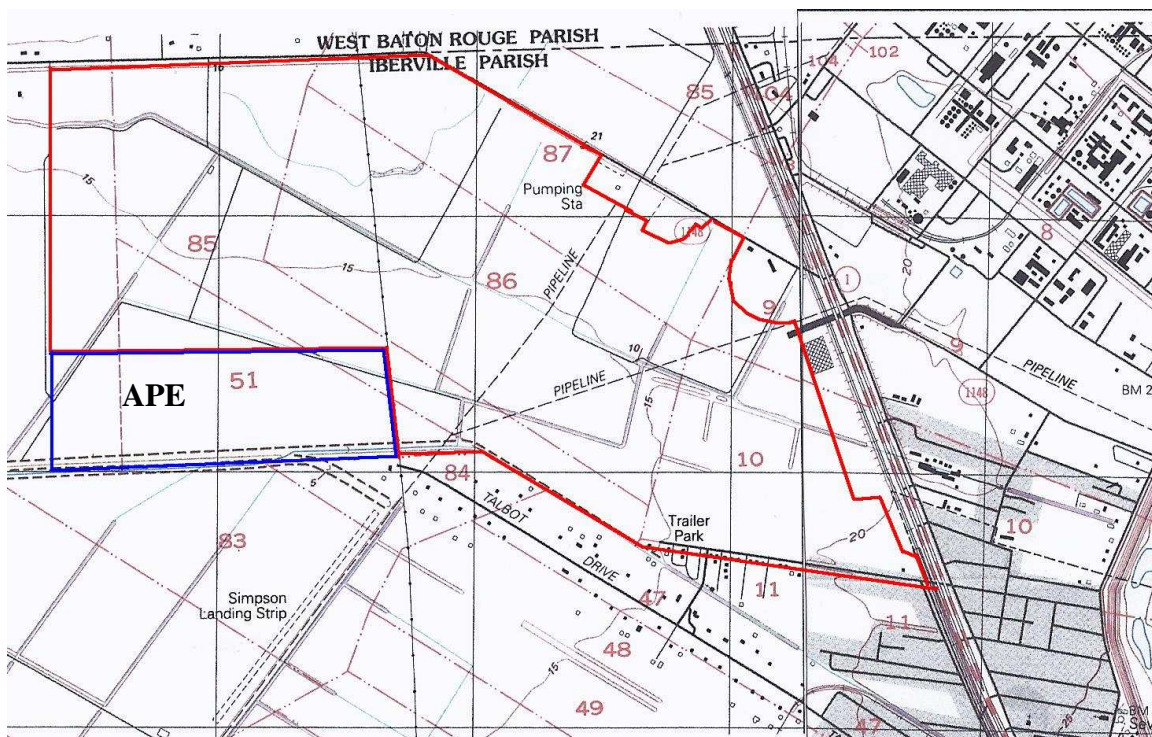


Figure 10. Composite of Addis, La. 1992 and Plaquemine, La. 1992 7.5-minute Topographic Quadrangles, showing approximate APE (Blue boundary lines).

Conclusion and Recommendations

The APE is a reclaimed backswamp, well-removed from major watercourses. As such, it has a low potential for historic or prehistoric deposits.

No previous archaeological projects have covered the APE, though two projects (Crow et al. 2009 and Peyton and Mehok 2010) have covered its adjacent west boundary. All projects listed have been of a level-of-effort sufficient to satisfy contemporary SHPO requirements but McIntire's 1980 study did not cover the entire area shown on the LDOA cultural resources map.

There are no known archaeological sites within the APE.

Topographic maps show no structures or features in the APE.

In accord with the foregoing, the following conclusion is in order: The APE was unsuitable for historic human habitation. Archival research does not show any structures or archaeological sites in that location. Even in the general area of the APE, most recorded sites are relatively modern (i.e., 20th-century) and have been deemed ineligible for the NRHP. While the APE has not been previously surveyed, there seems to be no reason to believe a survey would show the presence of NRHP-eligible structures or deposits.

It is recommended that this tract be exempted from further archaeological attention.

References

- Brooks, Katherine L. and Richard A. Weinstein
1977 *Cultural Resource Survey of Proposed Choctaw Dome Storage Site, Pipeline, and Brine-Disposal Area, Iberville Parish, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.
- Cassedy, Daniel F., Kimberly Parson, and Jeffrey Harbison
2007 *Phase I Archaeological Survey of a Proposed Valero Ammonia Pipeline, Iberville Parish, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.
- Crow, Michael S., Crystal Kauk, Allison King, and Lauren F. Maas
2009 *An Archaeological Survey of Portions of the Proposed Denbury Onshore, LLC—24-Inch CO₂ Pipeline Project: USACE New Orleans District Section*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.
- Draughon, Ralph, Jr., Susan Barrett Smith, Jeremy Horowitz, Michael Godzinski, Denise Matherne, Christopher Mathews, Jennifer Preisler, and Dave D. Davis
1999 *Channel Improvements in the Atchafalaya basin: Land Use Studies in Assumption, Iberia, Iberville, Pointe Coupee, St. Martin, St. Mary, Terrebonne, and West Baton Rouge Parishes*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.
- Dundee, Harold A. and Douglas A. Rossman
1989 *The Amphibians and Reptiles of Louisiana*. Louisiana State University Press, Baton Rouge.
- Gagliano, Sherwood M.
1984 *Geoarchaeology of the Northern Gulf Shore. Perspectives on Gulf Coast Prehistory*. Edited by Dave D. Davis. University Presses of Florida, Florida State Museum, Gainesville, Louisiana.
- Gibson, Jon L.
1982 *Archaeology and Ethnology on the Edges of the Atchafalaya Basin, South Central Louisiana, Avoyelles, St. Landry, Iberia, St. Martin, St. Mary, and Iberville Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Handly, Martin and Hil Dafoe

- 2009 *Phase I Cultural Resources Investigation, Air Products and Chemicals, Inc. (APCI), Survey Segment 15, Addis to Port Allen 17-Mile Long Hydrogen Pipeline Project, Iberville and West Baton Rouge Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Handly, Martin, Lauren Poche, Jason Grismore, and Stephanie Perrault

- 2011 *Phase I Cultural Resources Investigation—Louisiana Portion of the Proposed Air Products and Chemicals, Inc., Gulf Coast Connection Project, Calcasieu, Jefferson Davis, Acadia, St. Landry, Lafayette, St. Martin, Iberville and West Baton Rouge Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Hunter, Donald G.

- 2007a *Phase I Cultural Resources Survey for a Proposed Louisiana Aromatix 8-Inch Pipeline, West Baton Rouge and Iberville Parishes, Louisiana*. Management Summary. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

- 2007b *Phase I Cultural Resources Survey for a Proposed Louisiana Aromatix 8-Inch Pipeline, West Baton Rouge and Iberville Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Jones, Dennis C. and Malcolm K. Shuman

- 1987 *Archaeological Atlas and Report of Prehistoric Indian Mounds in Louisiana, Vol. II: Ascension, Iberville, Pointe Coupee, St. James, and West Baton Rouge Parishes*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Kelley, David B., Douglas C. Wells, Dana Bowker Lee, Richard A. Weinstein, and Josetta A. LaBoeuf

- 2000 *Cultural Resources Evaluation of the Lower Atchafalaya Basin Backwater Area, South Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

King, Allison, Rebecca Mehok, Andrew Roberts, and Tim Roberts

- 2011 *Phase I Archaeological Survey of Portions of the 268-Mile Acadian Haynesville Extension Project, Red River, Desoto, Natchitoches, Rapides, Avoyelles, St. Landry, Pointe Coupee, West Baton Rouge, Iberville, and Assumption Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Kniffen, Fred B.

- 1938 The Indian Mounds of Iberville Parish. *Louisiana Geological Survey Bulletin 13:189-267*. Department of Conservation, New Orleans, La.

LDOA (Louisiana Division of Archaeology)
n.d. *Site files: Iberville Parish*. Baton Rouge, La.

n.d. Cultural Resources Map.

Lowery, George H.

1955 *Louisiana Birds*. Louisiana State University Press, Baton Rouge.

1974 *The Mammals of Louisiana and its Adjacent Waters*. Louisiana State University Press, Baton Rouge

LSUCIC (Louisiana State University Cartographic Information Center)

2012 *Historic Map files*. Department of Geography and Anthropology. Baton Rouge.

McIntire, William G.

1980 *Cultural Resource Survey for Planning Area Number 2, Iberville Parish, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge

Peyton, Abigail and Rebecca Mehok

2010 *Summary Report for Cultural Resources Survey of Portions of the Proposed Shintech 12.5-Mile Pipeline Project, Iberville and West Baton Rouge Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Shuman, Malcolm K.

1985 *Cultural Resources Survey of an Area of Proposed Water Works Improvement along Bayou Grosse Tete, Iberville Parish, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge

Smith, Rhonda L., Gary Gordon, Mary Beth Weed, Aixa I. Wilson, D. Ryan Gray and Michael Godzinski

2001 *Intensive Cultural Resources Survey of Proposed Dow Pipeline Project, Assumption and Iberville Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

USDA (United States Department of Agriculture)

1971 *Parish General Soil Maps: Iberville Parish*. U.S. Soil Conservation Service, Alexandria, La.

Wells, Douglas

1999 *Phase One Cultural Resources Survey at the Proposed Shintech Facility, Iberville and West Baton Rouge Parishes, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge

Wells, Tom, Dennis C. Jones, Malcolm K. Shuman and Ben Goodwin
1998 *Cultural Resources Investigations of the Proposed Island Golf Community, Iberville Parish, Louisiana*. Unpublished report on file with the Louisiana Division of Archaeology, Baton Rouge.

Maps Consulted

- 1953 Addis, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1971 Addis, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1980 Addis, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1992 Addis, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1939 Baton Rouge, La. 15-minute topographic quadrangle. U.S. Geological Survey
- 1932 Grosse Tete, La. 15-minute topographic quadrangle. U.S. Geological Survey
- 1934 Grosse Tete, La. 15-minute topographic quadrangle. U.S. Geological Survey
- 1935 Grosse Tete, La. 15-minute topographic quadrangle. U.S. Geological Survey
- 1940 Grosse Tete, La. 15-minute topographic quadrangle. U.S. Geological Survey
- 1953 Plaquemine, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1971 Plaquemine, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1980 Plaquemine, La. 7.5-minute topographic quadrangle. U.S. Geological Survey
- 1992 Plaquemine, La. 7.5-minute topographic quadrangle. U.S. Geological Survey