

NATCHITOCHEs INDUSTRIAL PARK

**LOUISIANA CERTIFIED SITES
PROGRAM APPLICATION**

**CITY OF NATCHITOCHEs
NATCHITOCHEs PARISH, LOUISIANA**

Application

Prepared by:

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September, 2014

Date	9/4/2014
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Louisiana Certified Sites Program Application

Site name	Natchitoches Industrial Park	
Street Address or other physical location	400 Industrial Drive Natchitoches, LA 71457	
City/town(nearest), State, and Zip code		
Parish	Natchitoches	
Contact person and title (owner, Director, etc.)	Randy Lacaze Director of Community Development	
Organization	City of Natchitoches	
Address	P.O. Box 37	
City/State/Zip	Natchitoches, LA 71458	
Telephone	Office 318-357-3838	Cell 318-471-9974
E-mail	rlacaze@natchitochesla.gov	

Statement of Affirmation

I have examined this application and all accompanying materials, and to the best of my knowledge, the information provided herein is correct and complete. I will notify Louisiana Economic Department in writing of any subsequently discovered errors in the information provided and will clarify, amend or supplement any information as requested by the department.

In submitting this application, I do freely participate in the Louisiana Certified Sites Program. Certification of the site by Louisiana Economic Development is made at its sole discretion and its decision is not appealable.

I therefore request certification pursuant to this application.

Randy S. Lacaze Signature	Director of Community Development Title	9/5/2014 Date
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Table of Contents

Instructions	4
Minimum Criteria Check List.....	10
I. Verification of Site Availability	11
A. Site Identification	11
A. Site Identification (continued) – Owner#1 information	13
A. Site Identification (continued) – Owner #2 information	14
A. Site Identification (continued) – Owner #3 information	15
A. Site Identification (continued) – Owner #4 information	16
B. Option to Purchase Site (<i>if applicable</i>)	17
C. Site Zoning, Tax Assessment, and Special Economic Development Districts ...	18
D. Existing Structures on-site	20
E. Land Transferability and Encumbrances.....	21
F. Fire Protection Rating and Proximity to Emergency Medical Care.....	23
II. Utilities and infrastructure	24
A. Potable Water Infrastructure	24
B. Wastewater Infrastructure	26
C. Electricity Infrastructure.....	28
D. Natural Gas Infrastructure.....	29
E. Local Product Pipelines.....	31
F. Telecommunications Infrastructure.....	32
G. Roadway Transportation Infrastructure.....	33
H. Air Transportation Infrastructure	35
I. Rail Infrastructure.....	36
J. Water Transportation Infrastructure	37
K. Geography and Geological Assessment.....	38
L. Environmental Assessment.....	40
Required/Desired Documents Check List	42

Foreword

As you prepare to undertake the LED certification process, please understand that you are preparing, in effect, a *proposal to a prospective buyer*. Do not think of this document as “busy work” necessary to get your site certified by LED. That could be a big mistake. The exhibits being required herein will go, in their entirety, to prospective buyers from across the US and, potentially, across the globe. Do your best effort to have high-quality exhibits that will represent you and your site well with all prospective buyers. Do not short-change your site with hastily prepared exhibits. Take your time and show your site in its best light. A minimum quality submittal will get minimal interest from buyers.

Prospective buyers that contact LED are often considering multiple states. Your site submittals may be compared to a dozen sites under consideration from other states. Do what you can via enhanced submittals to make sure your site makes it to the second round and you get a site visit from the buyer.

Do NOT fill out this application if you have not received LED’s review and approval of the pre-application form.

Instructions

Save yourself time, effort, and rework. Please read these instructions carefully.

Also, to eliminate the need to complete this document a second time, please download the latest version from LED’s website. Don’t bother submitting an out-of-date version.

This is a “protected form.” Please enter all data into the white spaces provided. Do not enter data into the gray spaces, which are reserved for LED use only.

Pressing the TAB key will automatically take the user from blank to blank.

Requirement - Upper/Lower Case

All responses MUST BE in upper/lower case. Upper/lower case responses are easier to read. Responses in all UPPER CASE are the hardest to read and will be rejected.

Requirement - Descriptive Titles on All Exhibits

In order to prepare all submissions for inclusion in a hyperlinked submission to prospective buyers, LED requires that all exhibits be given very descriptive titles. Please give an exhibit a title as long as is necessary to properly describe the contents of the exhibit.

Submissions with brief, non-descriptive titles will be rejected. For example, the titles “Exhibit B – SHPO” and “Exhibit C – Wetlands” will both be rejected since they do not properly convey the contents of the exhibit. But, the titles “Exhibit B – SHPO Letter of Site Clearance” and “Exhibit C –

Wetlands Delineation” are both acceptable since they do communicate the contents sufficiently to avoid unnecessary clicks by prospective buyers.

Requirement - Large, Clear Labeling of All Exhibits

All attachments submitted with the questionnaire should be CLEARLY labeled as exhibits: Exhibit A, Exhibit B, etc. All exhibits should also have a title: “Exhibit A – Property Boundary Survey,” preferably at the top of the page.

NOTE: Applicants are requested NOT to use Brother “PTouch” and other similar tape-based labeling systems as this results in a significantly degraded exhibit when the tape-labeled exhibit is rescanned into the computer. Instead, use one of the myriad of the computer tools like Adobe Acrobat, discussed elsewhere herein, or PDF-Exchange (free) that allow users to submit 1st generation copies.

DO NOT place the exhibit label any closer than ½ inch from any edge of the exhibit as the exhibit name may be lost during any later scans of the image/document. Scanners often truncate text/graphics near edges.

The Exhibit labels (both exhibit number and title) need to be placed at the top of the page on the document itself. Exhibit labels should be in BOLD font and at least 16-points in size if the document allows.

Note: To accomplish the above, may require the applicant to purchase a copy of Adobe Acrobat (not to be confused with Adobe READER.) Adobe ACROBAT (~\$99) allows the user to edit PDF documents and place text at the top of any PDF file. So, if the user has a scanned PDF document of a letter from the Corps or a survey boundary, the user can label it properly to reflect the Exhibit number and title.

Requirement – Consistent Exhibit Naming

LED does not have any special requirement regarding exhibit numbering/naming except that all exhibits must have the same general format. If you use letters (a, b, c, etc.) to name your exhibits (“Exhibit A – XXXX”), then use letter designators on all exhibits. When you get to Exhibit Z, start over with Exhibit AA, AB, AC, until done. If you choose to use numbers to identify exhibits, then start at Exhibit “1” and increase the exhibit numbers by “1” until you are complete.

Requirement – All Exhibits Referenced at Least Once

Lastly, all exhibits should be referenced in the application at least once.

Requirement – Titles of Filenames Must Exactly Match Exhibit Names

It is the intent of the department to send an electronic copy to prospective purchasers. For that reason, LED is asking that all documents be submitted in both hardcopy and electronic form. In addition to 16-point exhibit names on the top page of each document (discussed above), all files submitted electronically should have a similar filename. That is, the “Exhibit A – Property Boundary Survey”, when submitted electronically, should have a filename similar to: “Exhibit A – Property File Survey.”

Note: It is critical that the documents in electronic form be clearly labeled: the titles (“filenames”) of the electronic files must contain 1) exhibit numbers and 2) document contents AND the document when opened, should have the 1) Exhibit number and 2) title prominently (16-point or larger as mentioned above) at the top of the page.

Requirement – Map Specifications and Quality

The site must be clearly outlined on all maps, aerial photos, etc. in a wide line that contrasts sharply with the surrounding colors on the map/photo.

Maps showing utilities (pipelines, electrical, sewer, etc.) should clearly delineate the utility by using wide lines drawn in contrasting colors.

All maps should be first generation copies; prospective buyers will have a difficult time reading 2nd and 3rd generation maps.

Requirement – Roadway Maps

At least one map should be included to show the roadways in the area of the site. At least one roadway map should highlight the nearest Interstate highway; prospective buyers are always interested in interstate access. If the nearest interstate is too far from the site to show local highways in sufficient detail, a second roadway map zoomed in closer to the site should be included.

Requirement – Legible Exhibits

LED plans to send a high-quality set of the exhibits to all prospective buyers and interested parties. To accomplish that, all exhibits must be very legible. A 2nd or 3rd generation copy is not acceptable.

LED understands that some exhibits, especially those from courthouses, are only available via microfiche and the microfiche copies from a courthouse are not always the best. Original courthouse copies are acceptable even if of poor quality. Third and 4th generation copies of a poor-quality courthouse document are not acceptable.

If the only copy of a document you have, such a parish ordinance or deed, is of poor quality, it will be necessary to contact the appropriate authorities to get a clear copy.

Copies of color maps and aerial photographs should be original print copies; not copies of copies. Colors and lines blend together with each successive photocopy of a document and prospective buyers will not be able to distinguish key features.

Refrain from using scans of color documents/maps. Scanners are very poor at copying the minute details embedded within maps. Scanners are also very poor at reproducing colors accurately. Always produce original prints for maps, not scanned prints.

IMPORTANT NOTE: Some of the required maps, such as the National Resource Conservation Soils map, the FEMA floodplain map, the National Wetlands Inventory map, etc., must be submitted with the site clearly outlined. But, the on-line Federal mapping program only gives the user a PDF of the map. The federal automated mapping program does not give the user an opportunity to outline the site. Even then, the user should NOT print a hardcopy of the PDF map, manually outline the site, and then scan the outlined map into the computer. Too many important details, colors and other pertinent data is lost via this process. This process results in a map of poor quality that will frustrate prospective buyers. Instead, while it might take a bit longer and may require the brief, one-time use of an IT person, the user must edit the PDF directly (without resorting to hardcopy edits) to place the site outline in a bright contrasting color with a wide line so the site is clearly delineated. There are numerous tools available from Adobe and others to accomplish this task.

Minimum Criteria for Entry into the Louisiana Certified Sites Program

Note: A site does not have to be certified to have its profile published on Louisiana Economic Development's interactive sites and building website.

- **Size:** At least 25 contiguous, buildable acres, free of impediments to development such as existing structures not appropriate for future commerce, soil contaminants, wetlands, flood plain, protected species and/or cultural resources.
- **Price per Acre:** A fixed purchase price or a fixed leasing price per acre for a specified time period is required to certify and publish a site.
- **Property Control/Ownership:** Control of the site through option, purchase or other legally binding agreement must be obtained and maintained as a condition of certification. It is required that the property can be obtained free and clear of encumbrances.
- **Zoning:** The site must be zoned or otherwise approved for industrial applications. If zoned, a zoning district description and map are required. Only sites suitable for industrial use will be considered. Sites adjacent to significant residential development or other land uses incompatible with industrial activities will not be considered.
- **Flood:** At least 25 contiguous, buildable acres must be above the 100 year flood plain. Alternatively, the applicant may provide a formal cost estimate, construction plan and funding source by which construction footprints can be elevated above the plain and meet FEMA standards.
- **Water Supply:** Delivery prior to any potential project startup, either by line or by well, a minimum of 250,000 gallons of potable or process water per day. If an existing source of water supply is not available, certification will require submission of an order-of-magnitude cost estimate, conceptual design and funding source to meet the minimum level of service within a reasonable timetable.
- **Sanitary Sewer:** Provide a minimum of 250,000 gallons per day of available sanitary sewer capacity in a reasonable time period upon notification. If existing capacity is not available to the property boundary, certification will require submission of an order-of-magnitude cost estimate, conceptual design, and funding source to meet the minimum level of service within a reasonable timetable.
- **General Road Access:** The roads accessing the site must be able to support vehicles with a maximum gross weight of 83,400 pounds, such as semi-trucks and trailers. If an access road does not exist, certification will require submission of an order-of-magnitude cost estimate, conceptual design and funding source to meet the required access within a reasonable timetable.
- **Electricity:** Identify service provider or providers that can deliver reliable 3-Phase power service to the site prior to any potential project startup. If existing capacity is not available at the site, certification will require submission of an order-of-magnitude cost estimate, conceptual design and funding source to meet the minimum level of service within a reasonable timetable.
- **Natural Gas:** Natural gas must be available to the property boundary or available prior to any potential project startup. If natural gas is not available, certification will require submission of an order-of-magnitude cost estimate, conceptual design and funding source to meet the minimum level of service within a reasonable timetable.
- **Listing:** The property owner must agree to have the site published by the Louisiana Economic Development on its interactive sites and building website.
- **Phase I Environmental Assessment:** The site must have undergone a Phase I environmental assessment as a prerequisite for being considered for participation in the certification process. The Phase I Environmental Assessment must be less than 5 years old from the date of submission.

- **Remediated Sites:** If there are unresolved environmental issues, the site cannot be certified until a *No Further Action* letter or its equivalent from the Louisiana Department of Environmental Quality (DEQ) is provided.
- **Due Diligence:** The following due diligence action items must be completed for certification.

- **Phase I Environmental Assessment:** The site must have undergone a Phase I environmental assessment as a prerequisite for being considered for participation in the certification process. The Phase I Environmental Assessment must be less than 5 years old from the date of submission.
- **Wetland and Stream Delineation:** Applicants must have a wetland and stream field survey conducted to delineate all wetlands and “waters of the U.S.” on the site. If wetlands and waters of the U.S. will likely be impacted by planned development of the site (i.e., wetlands are in the middle of the site or in areas likely to undergo construction), the applicant must submit the wetlands delineation to the U.S. Army Corps of Engineers for a formal Jurisdictional Determination. This formalizes the wetlands delineation and provides some assurance from the Corps that wetlands are no more extensive than the delineation purports.

Notes: Wetlands mitigation is NOT required of an applicant but applicants with wetlands in the prime areas of their site are encouraged to mitigate those wetlands.

- **Topographic Survey and 100/500 year Floodplain Designation:** Obtain a USGS map of the site. The map should be zoomed in close enough to the site so as to be able to read topographical data (elevations). Obtain the latest FEMA DFIRM map, whether preliminary or final. Demonstrate that the site is either above the 100/500 year floodplain or a site manufacturing pad can be cost effectively constructed to raise the site above the floodplain.
- **Preliminary Geotechnical Investigation:** Obtain a preliminary geotechnical investigation of the site generally characterizing the site’s soil, rock and groundwater conditions. Substantiate that unfavorable geotechnical conditions do not exist at the site. The geotechnical investigation required for certification should involve no less than 3 and no more than 5 borings spread evenly across the site, unless engineers recommend more for a very large site.
- **Cultural Resources Investigation:** Obtain a database research level cultural and archeological investigation of the site from a qualified third party archeologist to document that there are no known cultural resource sites existing on the site. Provide the results of this third party investigation to the State Historical Preservation Office (SHPO) and request a letter from SHPO indicating whether the site is cleared for development or if the site requires a Phase I Cultural Resources Assessment. If a clearance letter cannot be obtained from SHPO, then a Phase I cultural resources survey must be performed.
- **Endangered Species Investigation:** Secure a letter from the Louisiana Department of Wildlife and Fisheries (LDWF) indicating that development on the site will not impact any protected or endangered species on or near the site. Work requested by LDWF for a clearance letter must be done.
- **Land Use Development Plan:** Prepare a land use development plan for the site including an order-of-magnitude cost estimate for clearing, grading and storm water management for the site’s planned developable acreage.
- **Railroad Accessibility:** If the site can be served by railroad, determine if a right-of-way can be secured and that there is a cost effective manner to reach the site. Also, determine if the railroad owner is a short line or single Class 1 railroad and if a long term commitment has been made by the railroad to keep the rail in service. Obtain an order-of-magnitude cost estimate for rail service to the site, if appropriate. A letter from the rail provider should be obtained stating their willingness to serve the site.
- **Utility, Oil/Gas Well and Pipeline Easements and Rights-of-Way:** Identify any and all existing

easements, utility rights-of-way, well heads, pipelines, etc. on the site that may be potential impediments to fully utilizing the site. Determine if the identified impediments can be cost effectively relocated.

- **Roadway Accessibility:** A four lane major highway within close proximity of the site is preferred. Determine if there is a cost effective means to obtain right-of-way and construct an access road from the site to the four lane highway. Obtain an order-of-magnitude cost estimate for the access road construction, if needed. The roads accessing the site must be able to support vehicles with a maximum gross weight of 83,400 pounds, such as semi-trucks and trailers.

Minimum Criteria Check List		
Criteria	Minimum Requirement	Yes/No
Acres above 100-yr flood plain using latest DFIRM maps	25 acres or greater	Yes
Price per acre	Price/Lease quoted in writing	Yes
Control of property	Ownership/Option/Other	Yes
Use classification (zoning)	If the site is in an area with zoning, the site must be zoned for industrial use (or capable of being rezoned to industrial use within a reasonable timetable) and, if zoned, a zoning map and zoning regulations attached.	Yes
Water supply	250,000 gpd or greater is available on site within a reasonable timetable. If the water source is not available to the property boundary, a construction plan and cost estimate is attached.	Yes
Wastewater	250,000 gpd or greater is available at the site within a reasonable time frame. If existing capacity is not available to the property boundary, a construction plan and cost estimate is attached.	Yes
Electricity	Reliable 3-phase on site or a construction plan and cost estimate is attached.	Yes
Natural Gas	Must be available to the property boundary or a construction estimate and plan for bringing to the site attached.	Yes
Environmental	Phase I (less than 5 years old). Phase 2 may be required if Phase 1 indicates issues exist on the property.	Yes
Cultural Resources	Phase I is required if the State Historical Preservation Office does not clear the site for development.	Yes
Endangered Species	A clearance letter from the Louisiana Department of Wildlife and Fisheries indicating that development on the site will not impact threatened/endangered species.	No
Highway access	Capable of supporting 83,400 pounds gross weight.	Yes
Maps and Attachments	Have all REQUIRED Maps and attachments, as a minimum, been included with this submittal? (See list of REQUIRED/DESIRED Exhibits near the end of the form.)	Yes

I. Verification of Site Availability

A. Site Identification			
1.	Site name	Natchitoches Industrial Park	
2.	Address or physical location (include accurate latitude/longitude, if available)	400 Industrial Drive, Natchitoches, LA N31 43' 50" W93 04' 50"	
3.	City/town (nearest), state/zip code	Natchitoches, LA 71457	
4.	Parish	Natchitoches	
5.	Contact person and title	Randy Lacaze, Director of Community Development	
6.	Address	P.O. Box 37	
7.	City/State/Zip	Natchitoches, LA 71458	
8.	Telephone	Office 318-357-3838	Cell 318-471-9974
9.	E-mail Contact(s)	rlacaze@natchitochesla.gov	
10.	Total acres for lease/sale?	48.2	
	Total contiguous developable acreage above the 100-year flood plain	48.2	
11.	Number of parcels making up acreage	1	
12.	Number of owners of the separate parcels	1	
13.	Total selling price for all acres (\$) Note: Include a total price, not a unit price per acre or per sq. foot. You may include both total and unit costs but a total cost is required.	\$723,000.00	
14.	Total acreage annual lease (\$)	N/A	
15.	Is there a lease-purchase option? (YES/NO)	No	
	If yes, description/comment on lease-purchase option:		
	N/A		
16.	Is there a right-of-first-refusal feature? (YES/NO)	No	

	If yes, description/comment on right-of-first refusal option:			
	N/A			
17.	Has a title abstract been submitted with this application? (YES/NO)			No
	If YES, Exhibit # and name of document?		N/A	
18.	Is the acreage sub-divisible? If yes, complete box 18a. (YES/NO)			Yes
18a	Parcel description	Acres	Lease or selling price per acre (\$)	Total Lease or selling price (\$)
	South of Industrial Drive	31.7	\$15,000	\$475,500.00
	North of Industrial Drive	16.5	\$15,000	\$247,500.00

A. Site Identification (continued) – Owner#1 information			
1.	Site name	Natchitoches Industrial Park	
2.	Owner name	City of Natchitoches	
3.	Contact person	Randy Lacaze	
4.	Address	P.O. Box 37	
5.	City/State/Zip	Natchitoches, LA 71458	
6.	Telephone	Office 318-357-3838	Cell 318-471-9974
7.	E-mail	rlacaze@natchitochesla.gov	
8.	Total acres within the site owned by this owner	48.2	
9.	Total selling price of this acreage (\$)	\$723,000.00	
10.	Total annual lease price of this acreage (\$)	N/A	
11.	Has an "intent to sell" letter from this owner regarding this acreage been included with this application? (YES/NO) If YES, please include Exhibit# and title of document.	This parcel belongs to the City.	
12.	Comments regarding the immediate availability of this parcel: This parcel is available immediately. The road right-of-way can be abandoned by the City.		

A. Site Identification (continued) – Owner #2 information		
1.	Site name	
2.	Owner name	
3.	Contact person	
4.	Address	
5.	City/State/Zip	
6.	Telephone	Office <input type="text"/> Cell <input type="text"/>
7.	E-mail	<input type="text"/>
8.	Total acres within the site owned by this owner	<input type="text"/>
9.	Total selling price of this acreage (\$)	<input type="text"/>
10.	Total annual lease price of this acreage (\$)	<input type="text"/>
11.	Has an “intent to sell” letter from this owner regarding this acreage been included with this application? (YES/NO) If YES, include Exhibit# and name of document.	<input type="text"/>
12.	Comments regarding the immediate availability of this parcel: <input type="text"/>	

A. Site Identification (continued) – Owner #3 information			
1.	Site name		
2.	Owner name		
3.	Contact person		
4.	Address		
5.	City/State/Zip		
6.	Telephone	Office	Cell
7.	E-mail		
8.	Total acres within the site owned by this owner		
9.	Total selling price of this acreage (\$)		
10.	Total annual lease price of this acreage (\$)		
11.	Has an “intent to sell” letter from this owner regarding this acreage been included with this application? (YES/NO) If YES, include Exhibit# and name of document.		
12.	Comments regarding the immediate availability of this parcel:		

A. Site Identification (continued) – Owner #4 information			
1.	Site name		
2.	Owner name		
3.	Contact person		
4.	Address		
5.	City/State/Zip		
6.	Telephone	Office	Cell
7.	E-mail		
8.	Total acres within the site owned by this owner		
9.	Total selling price of this acreage (\$)		
10.	Total annual lease price of this acreage (\$)		
11.	Has an “intent to sell” letter from this owner regarding this acreage been included with this application? (YES/NO) If YES, include Exhibit# and name of document.		
12.	Comments regarding the immediate availability of this parcel:		

B. Option to Purchase Site (if applicable)			
1.	Option holder		
2.	Contact person and organization (as appropriate)		
3.	Address		
4.	City		
5.	Telephone	Office	Cell
6.	E-mail		
7.	Total number of acres under option to purchase		
8.	Option expiration date		
9.	Is the option assignable? (YES/NO)		
10.	Is there a mechanism to renew the option upon expiration? (YES/NO)		
11.	Has a copy of the option to purchase been included with this application? (YES/NO) If YES, include Exhibit# and name of document.		
12.	Special comments, if any, relative to option to purchase:		

C. Site Zoning, Tax Assessment, and Special Economic Development Districts

1.	Is site within incorporated municipal limits? (YES/NO)		Yes
	If so, what municipality?	City of Natchitoches	
	If the site is NOT within an incorporated municipality, how far is it to the boundary line of the nearest incorporated area (miles)? What is the name of the incorporated municipality/city/town?	N/A	
2.	Is the site within a zoning district? (YES/NO)		Yes
	If YES, contact name, agency name, address and phone of zoning authority.	Juanita Fowler, Natchitoches Planning and Zoning 700 Second Street, Natchitoches, LA 71457 318-357-3840	
	If zoned, briefly describe the property's current zoning classification?	Industrial: I-2 Heavy Industry	
	If zoned, has a copy of the zoning regulation been attached? (YES/NO) If zoning regulation is attached, include Exhibit# and name of document.	Yes	
3.	Are there any restrictions on noise level? (YES/NO)		No
	If YES, please describe:	N/A	
4.	Are there any height restrictions? (YES/NO)		Yes
	If YES, please describe:	Due to airport clear zone maximum height above the ground is 531' +/-	
5.	Describe any land use restrictions (e.g., hours of operation)	There are no land use restrictions	
6.	How long will it take for required city/parish re-zoning permits or other required permits to be issued? (months)	N/A	
7.	Are adjacent properties zoned the same as the site? (YES/NO)		Yes

8.	Please describe previous and current uses of the adjacent sites and planned projects. Please note any nearby schools, churches, or residential developments.		
	North: Previous and current: agricultural. A residential area is within 600'		
	East: Railroad, State highway, then commercial/industrial		
	South: Previous and current: agricultural		
	West: Previous: agricultural; Current: industrial		
9.	What is the current property tax millage applied to the site? Include units (per acre, etc.)	None, exempt	
10.	What is the current assessed valuation of the site?	None, exempt	
11.	Has a copy of the latest assessment been provided with this application? (YES/NO)		Yes
	If YES, include Exhibit# and name of document.	Exh #5 - Assessor's Map and Parcel Listing	
12.	Is the site located within a Foreign Trade Zone? (YES/NO)	No	
13.	Is the site located within a Renewal Community? (YES/NO)	Yes	
14.	Is the site located within a Louisiana Enterprise Zone? (YES/NO)	No	

D. Existing Structures on-site

	Buildings	Size (sq ft)	Year Built	Latest use	Included in sale (YES/NO)
1.	None				
2.	Paved surfaces				
	None				
3.	Fences				
	None				
4.	Are there any cemeteries located on the site? (YES/NO)				No
	If YES, please describe.	N/A			
5.	Can any structures not included in the sale be removed within a reasonable timetable such as 180 days or less? (YES/NO)				N/A
	If current and existing structures will be removed, does a work plan exist to remove structures? (YES/NO)			N/A	
If YES, include Exhibit# and name of document.					

E. Land Transferability and Encumbrances

1.	Has a copy of the deed been included with this application? (YES/NO)	No
	NOTE: Deeds that have no deed restrictions are not required documents; deeds with any form of easements, limitations of use, or other encumbrances must be attached as an exhibit.	
	If YES, include Exhibit# and name of document.	N/A
2.	Has the required boundary/property survey been included with this application? (YES/NO)	Yes, Preliminary
	If YES, include Exhibit# and name of document.	Exh #3 - Preliminary Boundary Survey
3.	List and describe rights-of-way (include property survey indicating rights-of-way). Feel free to attach as a separate Exhibit if lengthy.	
	Include Exhibit # and name of document if attached as a separate document.	N/A
4.	List and describe other easements (include property survey indicating easements)	
	Include Exhibit # and name of document if attached as a separate document.	N/A
5.	List and describe any liens against the property.	
	Include Exhibit # and name of document if attached as a separate document.	N/A
6.	List and describe any judgments impacting development of the site.	
	Include Exhibit # and name of document if attached as a separate document.	N/A

7.	List and describe any restrictive covenants. Include Exhibit # and name of document if attached as a separate document.
	N/A
8.	List and describe other encumbrances. Include Exhibit # and name of document if attached as a separate document.
	N/A

F. Fire Protection Rating and Proximity to Emergency Medical Care

1.	Is the site within the coverage area of a fire department? (YES/NO)	Yes
2.	Name of agency or other provider of fire protection services to the site	City of Natchitoches
3.	Rating of fire service provider	2
4.	Distance to fire station (miles)	2.5
	Name of Fire Station providing services to the site	Central
5.	Distance to emergency medical care (miles)	3.5
	Name and brief description of nearest emergency medical care facility:	Natchitoches Regional Medical Center

II. Utilities and infrastructure

A. Water Supply Infrastructure			
1.	Has a site map indicating the location of all existing water utilities been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit #7 - Site Utility Map	
2.	Company/agency name, address and phone of provider of potable or process water to the site	City of Natchitoches Utility Department 318-357-3850	
3.	Distance to the closest potable/process water line to service the site (feet) (Note: The line must be available to the property boundary or a construction plan and cost estimate must be attached to this application.) If a construction plan is attached, include Exhibit# and name of document	Potable water main distribution is available at the boundary of this site.	
4.	Size of potable/process water line closest to the site (inches in diameter)	8"	
5.	Static and residual pressures of the potable/process water line closest to the site	Static 65	Residual 45
6.	Source of potable or process water (lake, well, other source)	Lake	
7.	Total potable/process water system capacity (millions of gallons per day)	12 mgd	
8.	Current average daily use of the water system (millions of gallons per day)	3 mgd	
9.	Peak demand (millions of gallons per day)	7 mgd	
10.	Excess capacity of the existing water system (millions of gallons per day)	9 mgd	
11.	Has a letter from the provider confirming the excess capacity been provided with this application? (YES/NO) If YES, include Exhibit# and name of document.	No	
12.	Distance to closest elevated potable water storage tank (miles)	2.0	
13.	Capacity of closest elevated potable water storage tank (gallons)	500,000	
14.	Distance to the appropriate booster station (miles)	0.5	
15.	Is or will there be adequate pressure and flow at site to combat fires? (YES/NO)	Yes	

16.	Has a plan to improve or upgrade the existing water system (including construction budget and schedule) been provided with this application? (YES/NO)	No	
	If YES, include Exhibit# and name of document.		
	If YES, can this plan be executed within a reasonable timetable such as 180 days or less? (YES/NO)		N/A
	If the plan can be implemented within a reasonable time frame, what is the basis for this assertion? Discussions with water company? Engineering schedule? Contractor discussions?	N/A	

B. Wastewater Infrastructure		
1.	Has a site map indicating the location of all existing wastewater utilities been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit # 7 - Site Utility Map
2.	Provider of sewer service (company name, municipal name, etc.). Include name, address, phone number and contact name, as appropriate.	City of Natchitoches Utility Department 100 Power Plant Drive, Natchitoches, LA 71457 Bryan Wimberly, 318-357-3850
3.	Distance to the closest wastewater collection line to service the site (feet) (Note: Line must be available to the site boundary or a construction plan and cost estimate must be attached.)	Sanitary sewer collection main is available at the site.
4.	Size of wastewater collection line closest to the site (inches diameter)	8"
5.	Is there a force main at or near the site? (YES/NO)	No
6.	Capacity of nearest lift station (gallons/day)	216,000
7.	NPDES permit number of sewer provider	LA0095222
8.	Total capacity of wastewater system (gallons/day)	12 mgd
9.	Current average daily use of wastewater system (gallons/day)	3 mgd
10.	Peak load on wastewater system (gallons/day)	7 mgd
11.	Excess capacity of wastewater system (gallons/day)	9 mgd
12.	Has a letter from the provider confirming the excess capacity been provided with this application? (YES/NO)	Yes
	If not, what is the basis for the excess capacity assertion?	N/A
13.	What are the pre-treatment requirements to discharge to the wastewater system? If lengthy, please include the pretreatment requirements as a separate attachment. If included as a separate document, please include Exhibit# and title of document here.	
	Exhibit # 16 - Industrial Waste Discharges	

14.	<p>Has a plan to improve or upgrade the existing wastewater system (including construction budget and schedule) been provided with this application? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>	No	
If YES, can this plan be executed within a reasonable time frame such as 180 days or less? (YES/NO)		N/A	
15.	<p>Has a plan to establish an on-site wastewater treatment facility been provided with this application? (YES/NO)</p> <p>If YES, please include the Exhibit# and title of document.</p>	No	

C. Electricity Infrastructure		
1.	Has a site map, with the site clearly outlined, indicating the location of all existing electrical lines been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit # 7 - Site Utility Map
2.	Local provider of electrical power (company name, address, phone and contact person, as appropriate)	City of Natchitoches Utility Department 100 Power Plant Drive, Natchitoches, LA Bryan Wimberly 318-357-3850
3.	Distance to provider's nearest distribution line (feet)	On Site
4.	Size of provider's nearest distribution line (kV)	13.8 and 69
5.	Distance to nearest transmission line equal to or greater than 69 kV (miles)	on east boundary
6.	Is reliable 3-phase service available at the site today? (YES/NO) (Note: If existing 3-phase service is not available at the site, certification will require submission of a formal cost estimate, construction plan and funding source to meet the minimum level of service within a reasonable timetable.)	Yes
	If 3-Phase is NOT available at the site, include Exhibit# and title of document containing the plan to install 3-phase.	N/A
	What additional services are to be included with this upgrade?	N/A
	Can these plans be executed within a reasonable timetable such as 180 days or less? (YES/NO)	N/A
7.	Is dual feed available? That is, can the site be supplied power from two substations such that if one substation has an outage, the site still has power? (YES/NO)	Yes
8.	Peak load capacity available at site (MW)?	40
9.	Distance to nearest substation to serve the site (miles)	0.4
10.	Distance to the next closest substation to serve the site (miles)	1.63

D. Natural Gas Infrastructure		
1.	Has a site map, with the site clearly outlined, indicating the location of all existing natural gas lines near/adjacent to the site been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit # 7 - Site Utility Map
2.	Local supplier of natural gas (Company/agency name, address, phone and contact name, as appropriate)	Atmos Energy, 300 Industrial Drive Natchitoches, LA 71457 318 352 5824 Michael Rodgers, Operations Supervisor
3.	Distance to nearest distribution service line (NOT transmission line) (feet)	Distribution line is on north & west boundaries
4.	Size of distribution service line (inches)	2" & 4"
5.	Pressure of distribution service line (psi)	40 psig
6.	If the distribution line is not on or immediately adjacent to the site, has a plan to extend the line (including construction budget and schedule) been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	N/A
	If the line needs to be extended to the site, can this plan be executed within a reasonable timetable such as 180 days or less? (YES/NO)	N/A
	What is your basis for asserting that the plan can be completed in a reasonable timetable? Engineering/construction estimate? Letter from natural gas supplier? etc.	
	N/A	
7.	Transmission provider of natural gas	Atmos Energy
8.	Distance to nearest transmission line (NOT distribution line) (miles)	0.84
9.	Size and pressure of transmission line (inches and PSI)	101 psig
10.	Are any known transmission or distribution upgrades or infrastructure improvements planned that will impact service to the site? (YES/NO)	No

11.	List and describe services to be upgraded or improved.
	N/A
	Can these plans be executed within a reasonable timetable such as 180 days or less? (YES/NO) If so, what is the basis for this assertion?
	N/A

E. Local Product Pipeline Crossings

1.	<p>Do any pipelines of any type (natural gas, water, crude oil, etc.) cross the site? (YES/NO)</p> <p>If YES, has a site map, with the site clearly outlined, indicating the location of any existing or proposed underground (or above-ground) product pipelines been provided with this application? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>	No
2.	Pipeline owner	
	Primary contents of pipeline	
3.	Pipeline owner	
	Primary contents of pipeline	
4.	Pipeline owner	
	Primary contents of pipeline	
5.	Pipeline owner	
	Primary contents of pipeline	
6.	Pipeline owner	
	Primary contents of pipeline	

F. Telecommunications Infrastructure		
1.	Has a site map indicating the location of all existing telecommunications lines been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit #7 - Site Utility Map
2.	Local provider of telecommunications services (Company, name, address, phone and contact name, as appropriate)	CP-Tel, 5909 Highway One Bypass Natchitoches, LA 71457 Brian Mills
3.	Distance to provider's nearest telecommunications line (feet)	on east and west boundary
4.	Distance to nearest central office (CO) serving the site (miles)	<3
5.	Is digital switching available at the site? (YES/NO)	Yes
6.	Is fiber optic cable currently available at the site? (YES/NO)	Yes
7.	Are T-1 lines available at the site? (YES/NO)	
8.	Are T-3 lines available at the site? (YES/NO)	
9.	Is cellular or PCS wireless service available at the site? (YES/NO)	Yes
10.	Is satellite or commercial grade with an unobstructed view of the sky available at the site? (YES/NO)	Yes
11.	If a plan is underway to improve telecommunications at/near the site, has a copy of the plan to improve the existing telecom lines or systems (including construction budget and schedule) been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	N/A
	If a plan has been developed, which services are to be included:	
	N/A	
	Can these plans be executed within a reasonable timetable such as 180 days or less? (YES/NO) If YES, what is the basis for this assertion?	N/A

G. Roadway Transportation Infrastructure

1.	Has the required site map, with the site clearly outlined, indicating the location of all existing roadways abutting or crossing the site been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.		Yes Exhibit # 6 - Existing Site Map		
2.	Nearest roadway	Roadway number	Distance from site (road miles)	Number of lanes	Width of lanes
	Parish road				
	State highway	LA 1	0.53	2	12
	U.S. highway	US 71 & 84	12.5	2	12
	North-south Interstate highway	I49	6.3		
	East-west Interstate highway				
3.	Can parish road sustain HS20 capacities (3-4 axle vehicles, such as semi-trucks and trailers)? (YES/NO)				Access not by Parish Road
4.	What is the weight limit of the parish road in pounds (lbs)?				N/A
5.	Can state highway sustain HS20 capacities (3-4 axle vehicles, such as semi-trucks and trailers)? (YES/NO)				Yes
6.	What is the weight limit of the state highway in pounds (lbs)?				80,000 100,000 w/permit
7.	Is access to site controlled by a traffic light? (YES/NO)				No
8.	Are there any known improvements planned for local roadways? (YES/NO). If YES, please complete the blocks below.				No
	Local roadway to be improved	Description of improvement, Including controlling or funding authority		Schedule	
9.	Are there any known road improvements planned that will impact access to the Interstate highway? (YES/NO)				No

	If YES, how long will access to the interstate be impacted?	
10.	Are any roadway improvements required to access the site? (YES/NO)	No
	If YES, please describe required improvements.	
	If YES, is there a state or local commitment to making these improvements? (YES/NO)	
11.	Do any rights-of-way need to be obtained to access the site? (YES/NO)	No
	If YES, please describe Right-of-Way needs.	
	If YES, what is the time schedule for obtaining these rights-of-way?	

H. Air Transportation Infrastructure		
1.	Name and address of nearest commercial airport with scheduled passenger service	KAEX - Alexandria International
2.	Distance in road miles to the nearest commercial airport	50
3.	Average travel time to nearest commercial airport	50 minutes
4.	Number of air carriers serving nearest commercial airport	3
5.	Is direct international passenger service available at this airport? (YES/NO)	No
6.	Is international passenger service available within a two-hour flight? (YES/NO)	Yes
7.	Is international cargo service available? (YES/NO)	No
Optional – Enter a second commercial airport that might be near your facility if your site can be accessed fairly easily from both airports.		
8.	Name and address of second closest commercial airport with scheduled passenger service	KSHV - Shreveport Regional
9.	Distance in road miles to the second closest commercial airport	79
10.	Average travel time to second closest commercial airport	1 hr 15 min
11.	Number of air carriers serving second closest commercial airport	4
12.	Is direct international passenger service available at this airport? (YES/NO)	No
13.	Is international passenger service available within a two-hour flight at this airport? (YES/NO)	Yes
14.	Is international cargo service available at this airport? (YES/NO)	No

I. Rail Infrastructure		
1.	Is the site currently served by rail? (YES/NO) (Is there a rail spur currently on the site or adjacent to the site?)	Yes
2.	Name of carrier of nearest freight railroad line?	Union Pacific
3.	Distance to the nearest carrier's freight railroad line (miles)	Adjacent to site
4.	Second carrier's closest freight railroad line, if a second carrier is available.	Kansas City Southern
5.	Distance to the second closest carrier's freight railroad line (miles)	13
6.	Location of nearest intermodal rail yard	Shreveport
7.	Distance in rail miles to nearest intermodal rail yard	54
8.	If rail does not serve the site, has a plan to provide service (including construction budget, construction plan, and source of funding) been attached? (YES/NO) If YES, please include Exhibit# and title of document.	N/A
	In what time frame (number of months) can rail service to the site be provided?	N/A
	What is the basis for this assertion? Engineering estimate? Letter from rail company? etc.	
	N/A	
9.	If rail is not currently on or adjacent to the site, do rights-of-way (ROW) exist for extension of rail line to site? (YES/NO)	N/A
	Do these rights-of-way cross federal, state, or parish roadways? (YES/NO)	N/A
10.	What party is responsible for ongoing maintenance of line extended to the site?	N/A

J. Water Transportation Infrastructure

1.	Name, address, phone and contact name (as appropriate) of nearest shallow draft port	Natchitoches Parish Port Commission Post Office Box 2215, Natchitoches, LA 71457 Robert Breedlove, Director, 318-356-9686	
2.	Name of waterway at shallow draft port	Red River	
3.	What water depth is maintained at the shallow water port? (feet)	15'	
4.	Distance in road miles to nearest shallow draft port	10	
5.	Does the shallow water port site currently have barge docking facilities? (YES/NO)	Yes	
6.	Name, address, phone and contact name (as appropriate) of nearest deepwater port	Port of Greater Baton Rouge, 2425 Ernest Wilson Drive Port Allen, LA 70767-0380 Ph: 225-342-1660 Jay Hardman, P.E., Executive Director	
7.	Name of body of water at deepwater port	Mississippi River	
9.	Distance in road miles to nearest deepwater port	189	
10.	Does the deepwater port currently have deepwater vessel docking facilities? (YES/NO)	Yes	
11.	How much draft can this deepwater port accommodate?	45	

K. Geography and Geological Assessment		
1.	<p>Has the required U.S. Geological Survey quad map, with the site clearly outlined, been provided with this application? (YES/NO)</p> <p>Note: We prefer a map where the site has been zoomed into close enough to where the topographical data (elevations) is legible. We do not need the whole USGS quad map but would appreciate it if both exhibits are attached.</p> <p>If YES, please include Exhibit# and title of document.</p>	<p>Yes Exhibit # 1 - USGS & Other Topo Maps</p>
2.	<p>Has the required Soils Conservation Service (SCS) map, with the site clearly outlined, been provided with this application? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>	<p>Yes Exhibit # 8 - Soil Survey Data</p>
3.	<p>Has the required National Wetlands Inventory (NWI) map, with the site clearly outlined, been provided with this application? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>	<p>Yes Exhibit # 9 - Wetlands Inventory Map</p>
4.	<p>Has the required FEMA 100-year flood plain map, with the site clearly outlined, been provided with this application? (YES/NO)</p> <p>Please use the latest FEMA DFIRM map, even if preliminary.</p> <p>If YES, please include Exhibit# and title of document.</p>	<p>Yes Exhibit # 11 - FEMA Base Flood Elevation</p>
5.	Minimum topographical elevation (ft, MSL)	109
6.	Maximum topographical elevation (ft, MSL)	111
7.	Topographical variation (maximum elevation minus minimum elevation) (ft)	2
8.	Indicate the general grade or percentage slope of the site.	0.1%
9.	Described the general terrain of the site (e.g., flat, gently rolling, greatly sloping, etc.).	Flat
10.	Described the general type of vegetation on the site.	Grass and row crops

11.	Identify any bodies of water or wetlands on or abutting the site.	Identify authority with jurisdiction over water body.
	None	
12.	Has a copy of a preliminary geotechnical study been provided with this application? (YES/NO) Note: By "geotechnical study," we mean the study must have included soil borings by a licensed geotechnical contractor at the site or a nearby adjacent site. A GeoCheck report, while useful information, is not deemed sufficient to satisfy this criteria. If YES, please include Exhibit# and title of document.	Yes Exhibit # 15 - Geotechnical Report
	If YES, does the geotechnical study indicate that the site is compatible with industrial development? (YES/NO)	Yes
	If YES, does the study indicate the soils are suitable for building foundations and/or construction of on-site roadways?	Yes
	If YES, is soil augmentation required for construction of a "typical" 100,000 sq ft industrial manufacturing building? (YES/NO)	No
13.	Depth to groundwater (ft)	Varied 4' to 20'
14.	Has the required color aerial photo (from the past 24 months, with the site clearly outlined, been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit # 2 - Aerial Photo

L. Environmental Assessment			
1.	Has the required copy of the Phase I Environmental Assessment been included with this application? (YES/NO) If YES, please include Exhibit# and title of document.	Yes Exhibit # 12 - Phase I Environmental Assessment	
2.	Was the result from Phase I "No Further Action"? (YES/NO) If NO, what additional recommendations were made?	Yes	
3.	Do the findings of Phase I require a Phase II? (YES/NO)		No
	If YES, has a Phase II environmental assessment been completed? (YES/NO)		No
	If a Phase II has been completed, has a copy of the Phase II assessment executive summary been provided with this application? (YES/NO) If YES, please include Exhibit# and title of document.	N/A	
	Was the result from Phase II "No Further Action"? (YES/NO)		N/A
4.	Has the required letter from the LA Dept. of Wildlife and Fisheries indicating that development will not impact any endangered species and that the site is cleared for development been included with the application? (YES/NO) Please include Exhibit# and title of document.	No	
5.	Has a wetlands delineation/determination been conducted for this site? (YES/NO)		Yes
	If a wetlands determination has been conducted, has a copy of the wetland delineation/determination been provided with this application? (YES/NO) If a copy has been included, please include Exhibit# and title of document.	Yes Exhibit # 10 - Environmental Overview	
	If a wetlands determination has been conducted, did it indicate the presence of wetlands and/or other waterways on site? (YES/NO)	No	

	<p>If wetlands are present, has a Corp of Engineers Sec 404 Permit Application been submitted? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>	N/A	
	<p>If wetlands are present, has a Corp of Engineers Sec 404 Permit been received? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>	N/A	
	<p>If wetlands are present, have all wetlands on the site been mitigated? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document showing signed agreement with wetlands bank or other substantiation.</p>	N/A	
	<p>Any other comments related to the possible presence of wetlands on site?</p>	None	
6.	<p>Has the required State Historical Preservation Officer (SHPO) letter regarding the presence of historical or cultural artifacts on the site been provided with this application? (YES/NO)</p> <p>Note: The "SHPO" in Louisiana is the Louisiana Office of Culture, Recreation and Tourism (CRT), Division of Historic Preservation.</p> <p>Please include Exhibit# and title of document.</p>		Yes Exhibit #13 - SHPO Response
	<p>Has the SHPO cleared the site for development? (YES/NO)</p>		Yes
	<p>If the SHPO has NOT cleared the site for development, has the required Phase I Cultural Resources Assessment been performed? (YES/NO)</p> <p>If YES, please include Exhibit# and title of document.</p>		SHPO cleared site but Phase I Cultural Resources Assessment was Done EXH #14 - Phase I Cultural Resources Assessment

Required Documents/Exhibits List

- 1. U.S. Geological Survey quad map **with the site outlined**
- 2. Color aerial photo from the past 24 months **with the site outlined**
- 3. Boundary survey (including rights-of-way and easements)
- 4. Copy of the deed or other documents, including parish, state or federal ordinances that would restrict construction or operations at the site of any type.
- 5. Topographical map **with the site outlined** (The USGS Quad map will satisfy this requirement if the topo/elevation data is clearly visible on the portion of the Quad map included as an exhibit.)
- 6. Roster of owners
- 7. Site map, **with the site outlined**, indicating the location of all existing roadways abutting and/or crossing the site
- 8. Site map, **with the site outlined**, indicating location of existing water, wastewater, electrical, natural gas, telecommunications and other utilities lines
- 9. USDA Natural Resources Conservation Service Web Soil Survey map **with the site outlined**
- 10. National Wetlands Inventory (NWI) map **with the site outlined**
- 11. If 10% or more of a site is thought to be wetlands, a wetlands delineation must accompany submission. (It must be completed by a Professional Wetlands Scientist (PWS) or, as a minimum, someone who has been thru the Army Corps' Wetland Delineation course.)

The submitted wetlands delineation does not have to be a "jurisdictional wetlands determination," that is, a delineation officially approved by the Corps of Engineers. Nor is a Corps of Engineers 404 wetlands permit required. However, if a permit or jurisdictional wetlands delineation has been completed, a copy of the wetland determination or Corps of Engineers wetlands permit should be submitted with the application.

- 12. FEMA flood plain map **with the site outlined**
- 13. Phase I environmental assessment (must be within the last 5 years.)
- 14. If a Phase II environmental assessment has been completed, a copy of a Phase II assessment report in its entirety.
- 15. La. Dept. of Wildlife and Fisheries (LDWF) determination – A clearance letter from LDWF indicating that development will not impact any endangered species.
- 16. State Historical Preservation Officer (SHPO) letter regarding the presence of historical or cultural artifacts on the site. The letter from SHPO will indicate that the site is cleared or may indicate that further evaluation is required.
- 17. Phase I cultural resources assessment if letter from SHPO asks for further evaluation of the site.

18. Copy of a geotechnical study for the site.

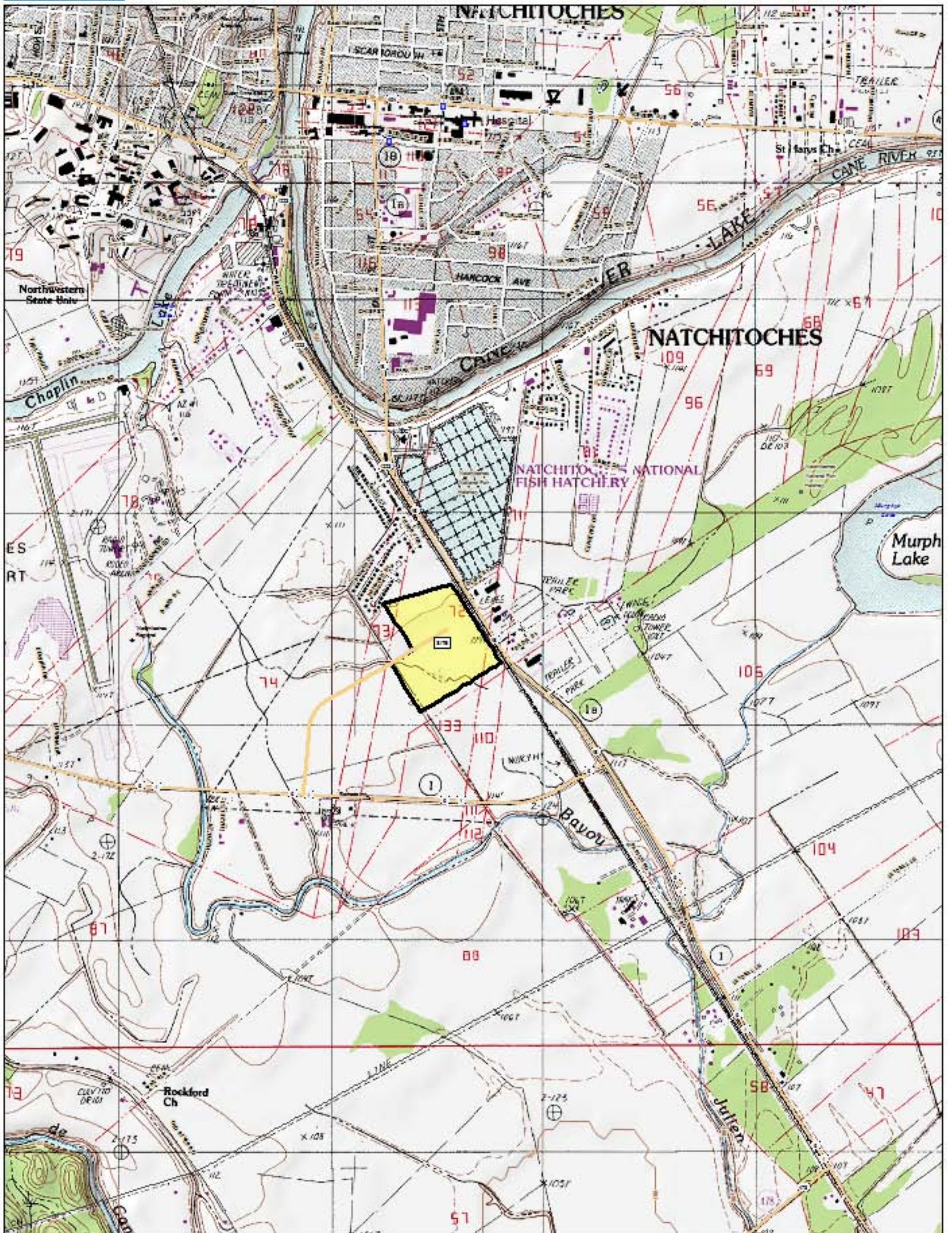
Desired Documents List

- 19. Copy of the deed, if not required above
- 20. Copy of title abstract
- 21. Copy of the latest property assessment from the parish assessor
- 22. If applicable, a plan to improve or upgrade the existing potable water system to meet 50 thousand gal./day certification threshold (including construction budget & schedule)
- 23. Letter from the local water provider confirming excess water capacity.
- 24. If applicable, a plan to improve or upgrade the existing wastewater system to meet 50 thousand gal./day certification threshold (including construction budget & schedule)
- 25. If applicable, a plan to extend existing electrical lines, or upgrade current system, to meet 3-phase certification threshold (including construction budget & schedule)
- 26. If applicable, a plan to extend the natural gas line (including construction budget & schedule)
- 27. If applicable, a plan to extend and/or improve the existing telecom lines or systems to meet certification threshold (including construction budget & schedule)
- 28. If applicable, a plan to provide service rail service to the site (including construction budget and schedule)

(Last revision: December 2012)

EXHIBIT # 1

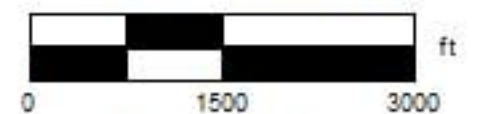
USGS & OTHER TOPO MAPS



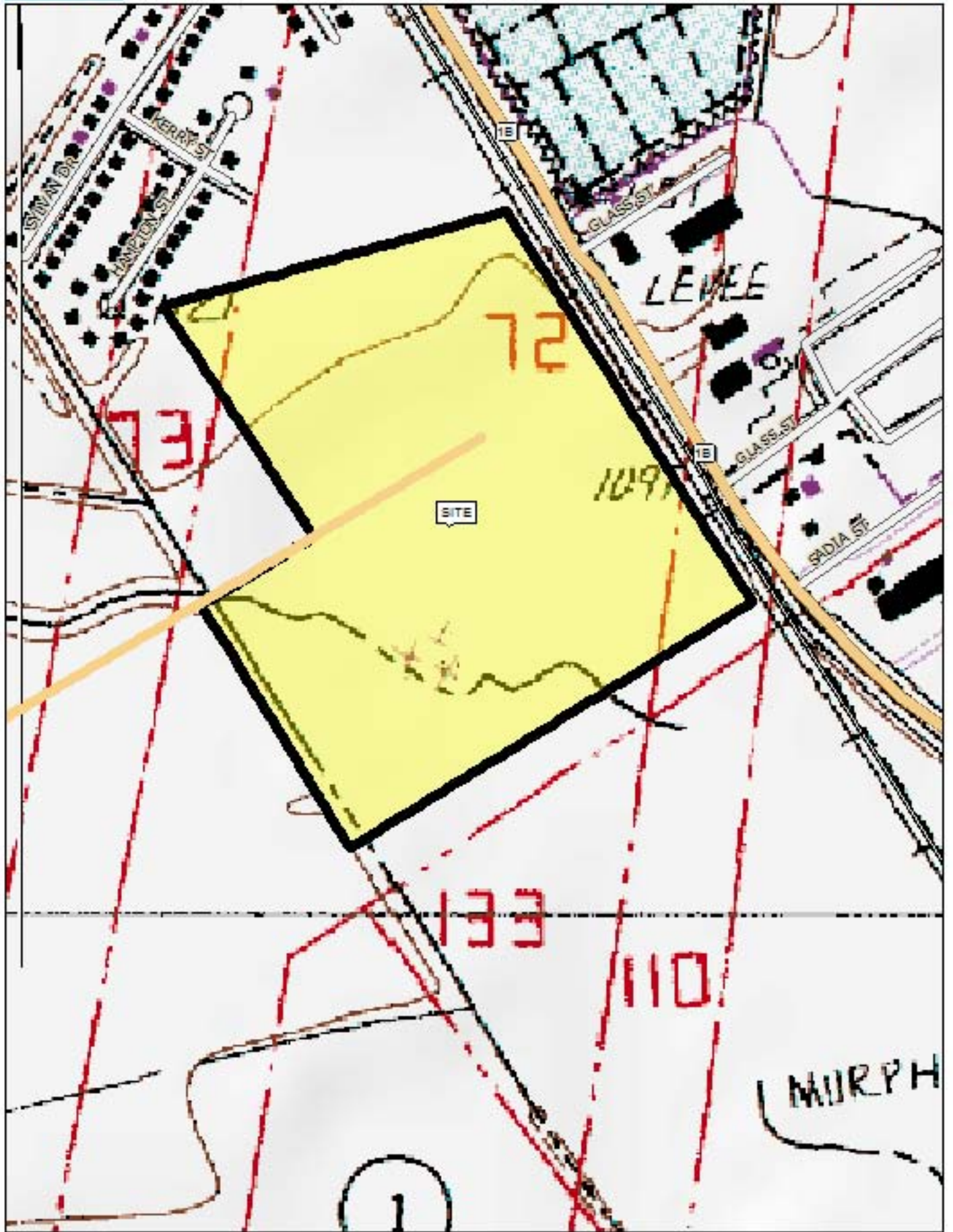
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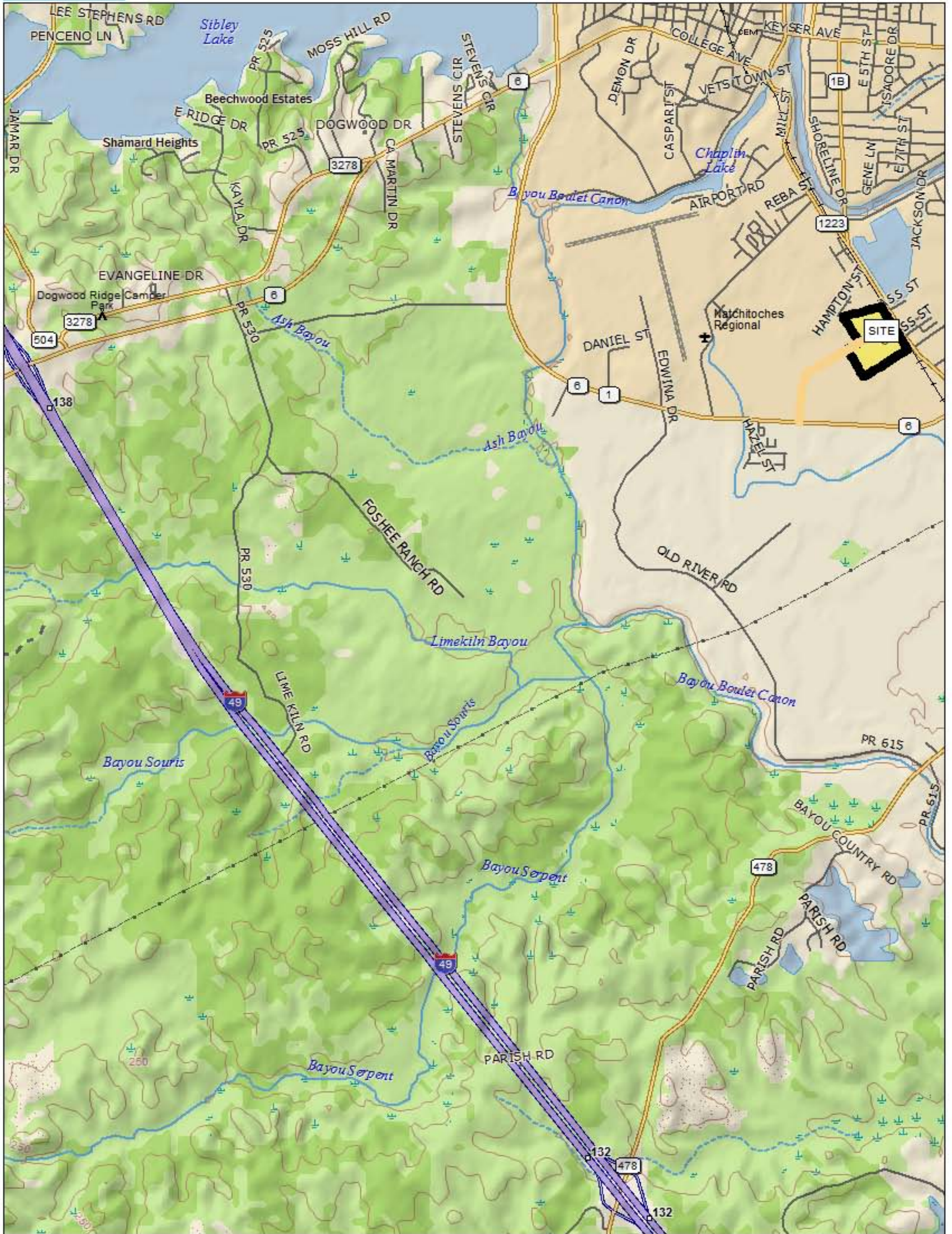
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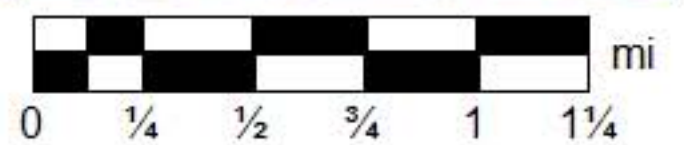
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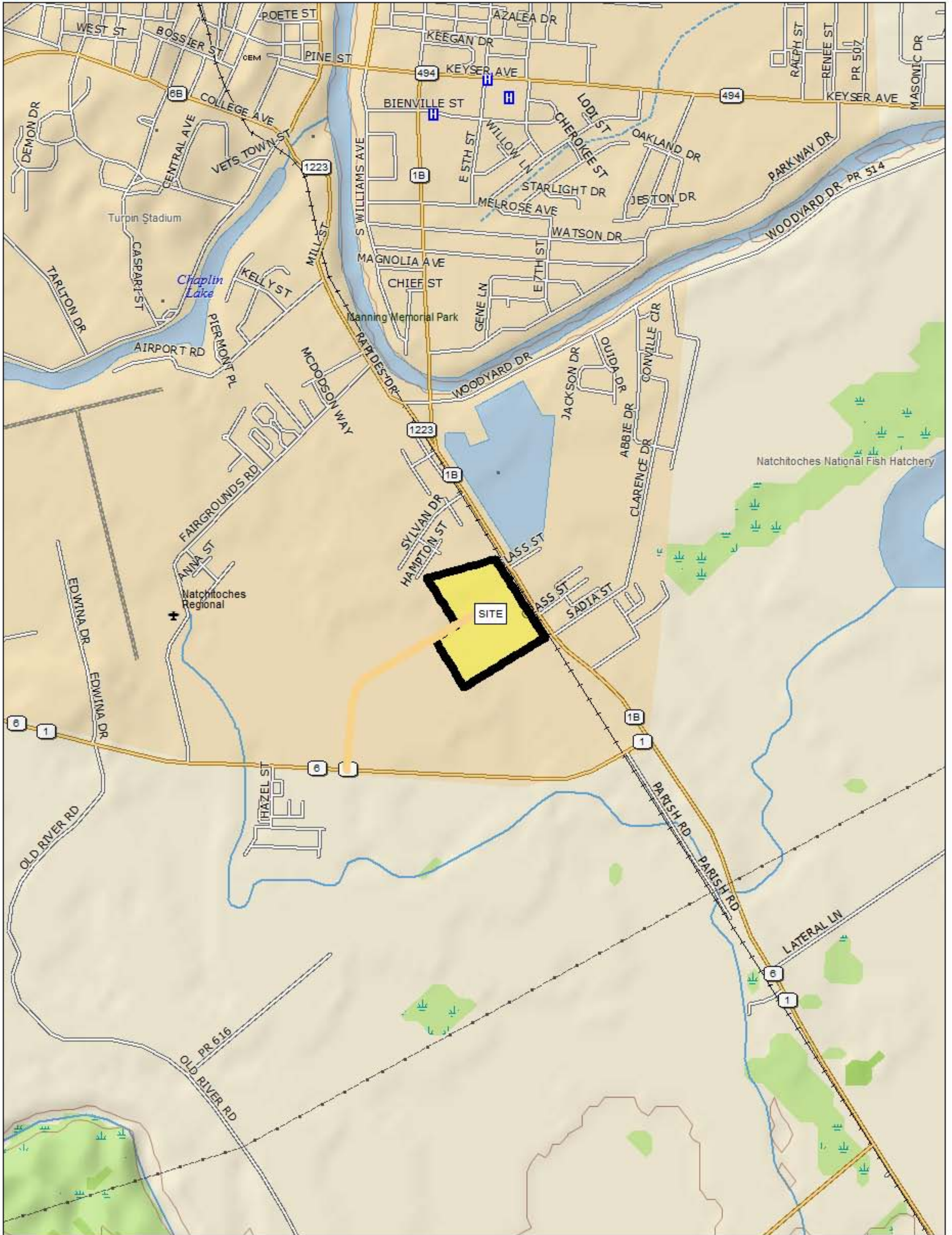
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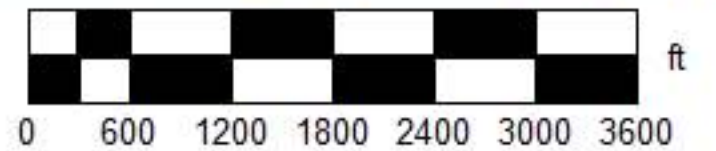
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EXHIBIT # 2

AERIAL PHOTO



Kerry St

Hampton St

Industrial Dr

Glass St

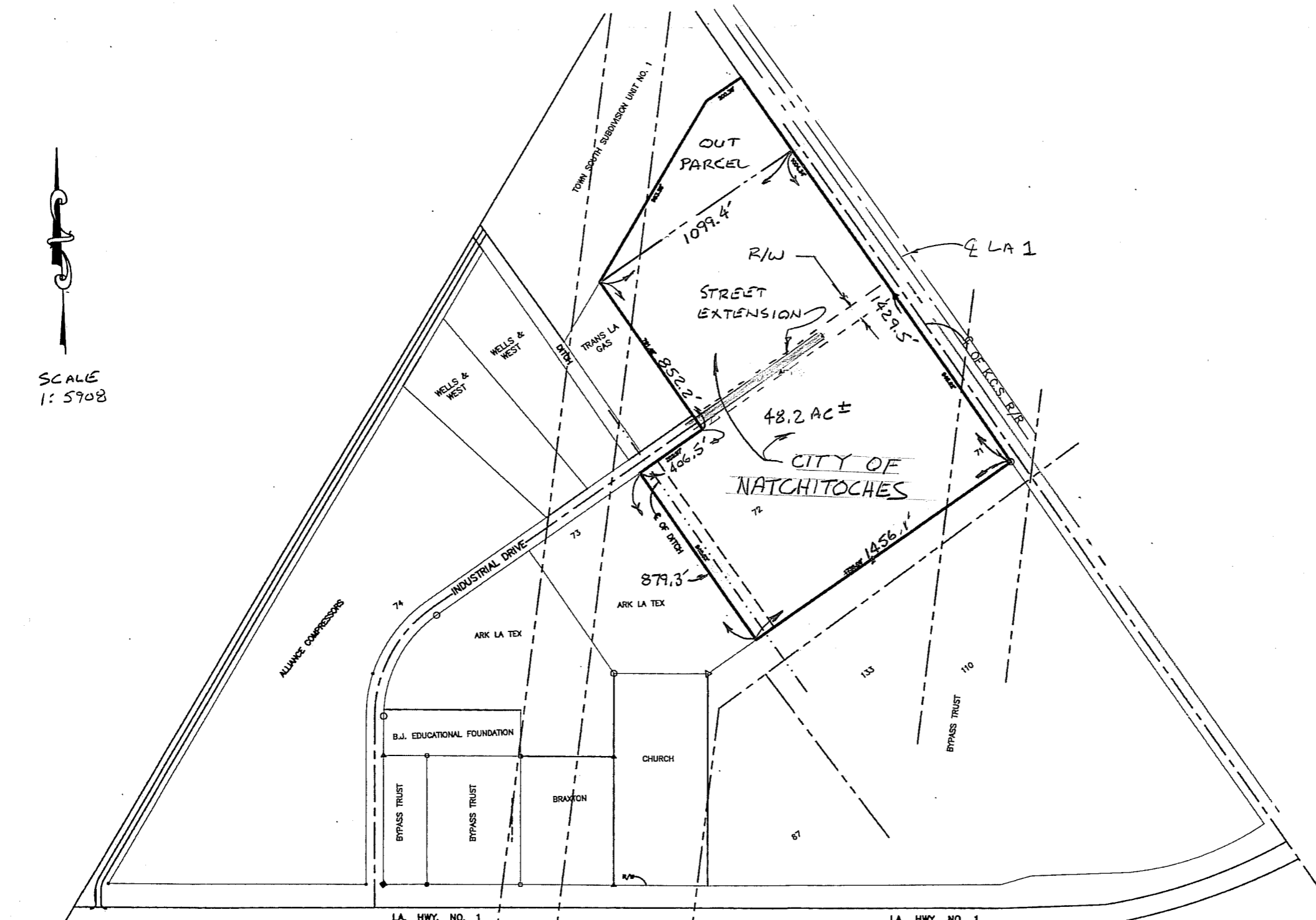
1

South Dr

EXHIBIT # 3

PRELIMINARY BOUNDARY SURVEY

SCALE
1: 5708



1	2	3-A	3-B	4-A	4-B	5	6	7
COMMERCIAL LOTS NATCHITOCHE SOUTH SUBDIVISION BLOCK "A"								
8	9	10-A	10-B	11-A	11-B	12	13	14

HOLIDAY INN
TRACT 3

PRELIMINARY SURVEY

NATCHITOCHE INDUSTRIAL
PARK

FROM RECORD DOCUMENTS

No.	Date	Revision	By

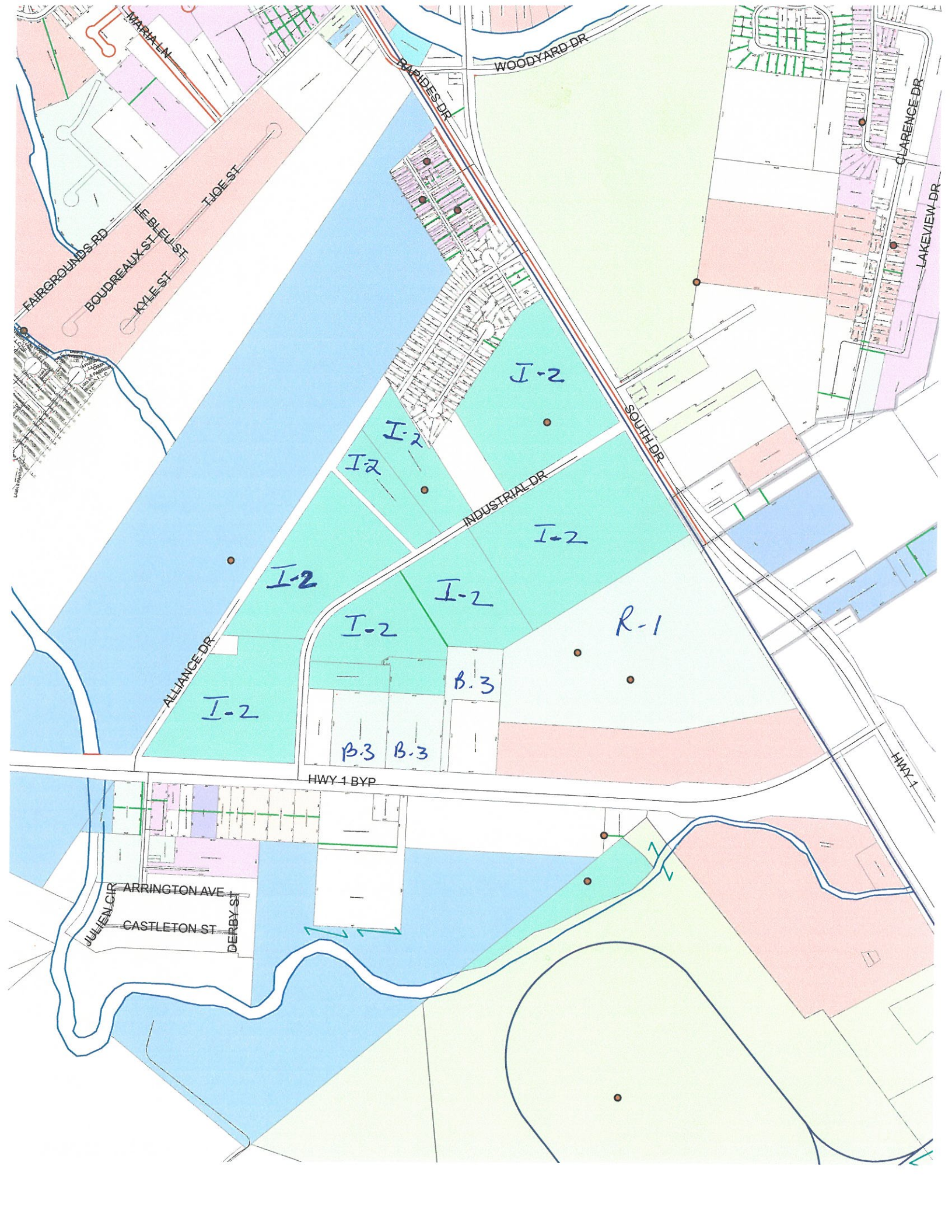
COATHREN, GRAFF, SMOAK ENGINEERING, INC.
 CIVIL • ENVIRONMENTAL • SANITARY • STRUCTURAL • MECHANICAL • ELECTRICAL
 6305 Westport Avenue • Shreveport, LA. 71129-2499 • Ph. 318-687-3732
 116 Hwy. 1 South Suite 105 • Natchitoches, LA. 71457 • Ph. 318-354-6888

Detailed
 Checked
 Eng.
 Scale: AS NOTED
 Date:

K.R.S.
 K.R.S.
 Job No.: 13025
 Sht No.:

EXHIBIT # 4

ZONING MAP AND ORDINANCE



PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

APPENDIX B ZONING REGULATIONS [\[1\]](#)

AMENDED ZONING ORDINANCE

Ordinance No. 1103 of 1974

For the comprehensive regulation, by districts or zones, of the location, height, bulk, number of stories, and size of buildings and other structures, the percentage of the lot which may be occupied, the size of yards, courts, and other open spaces, the density of population, and the uses of buildings, structures, and land for trade, industry, residence, recreation, civic activities, and other purposes. Pursuant to this purpose the said Zoning Ordinance and Zoning Map attached thereto as a part thereof create and divide the affected areas into districts; regulate the use of land, building, and structures, provide for uses by right, uses requiring Planning Commission approval and special exception uses, regulate the erection and alteration of buildings and structures, regulate building site areas and the size of front, rear and side yards, within the said districts; provide for policies, conditions and procedure in connection with planned building groups; establish certain off-street parking and off-street truck loading regulations including minimum required areas, define and regulate nonconforming uses and structures; provide for administration and enforcement including the requiring of permits, licenses, and certificates of occupancy; provide for penalties for violation of the ordinances; establish the Office of Zoning Administration and regulate its powers and duties; and establish an amendment policy and procedure.

[Section I. Definitions.](#)

[Section II. Districts.](#)

[Section III. Supplementary regulations.](#)

[Section IV. Planned building groups.](#)

[Section V. Off-Street parking and off-street truck loading.](#)

[Section VI. Nonconforming uses and structures.](#)

[Section VII. Administration and enforcement.](#)

[Section VIII. Amendments.](#)

[Section IX. Interpretation and validity.](#)

[Section X. \[Separability\].](#)

[Section XI. \[Repealer\].](#)

Section I. Definitions.

For the purpose of this ordinance certain words and phrases used herein are defined as follows:

Accessory Structure. A detached subordinate building located on the same Building Site with the main building, the use of which is incidental to that of the main building.

Accessory Use. A use customarily incidental to the principal use of a Building Site or to a building located upon the same Building Site with the accessory use.

Alley. Any public space or thoroughfare twenty (20) feet or less in width which has been dedicated or deeded for public use.

Alteration. Any structural change in the supporting or load-bearing members of a building, such as bearing walls, columns, beams, or girders.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Bed & Breakfast. A building where, for compensation, a room and/or rooms are rented for temporary residential tourist lodging. This use in no way shall allow for the occupancy of a residence by permanent boarders.

Boarding House. A building where, for compensation and by prearrangement, five or more persons other than occasional or transient customers are provided with meals.

Building. Any covered structure intended for the shelter, housing, or enclosure of persons, animals, or chattels; the term "building" shall be construed to include the term "structure".

Building Site. The land area occupied or to be occupied by a building and its accessory buildings and including such open spaces, yards, minimum area, off-street parking facilities and off-street truck loading facilities as are required by this ordinance; every Building Site shall abut upon a street.

Building Site Boundary. Any line separating a Building Site from a street, an alley, another Building Site, or any land not part of the Building Site.

Church. A building, together with its accessory buildings and uses, where persons regularly assemble for religious worship, and which building, together with its accessory buildings and uses, is maintained and controlled by a religious body organized to sustain public worship.

City Commission. The Mayor and Board of Commissioners of the City of Natchitoches, Louisiana.

Clinic, Dental or Medical. A building in which one or more physicians and/or dentists are engaged in carrying on their profession; the clinic may include a dental or medical laboratory but it shall not include in-patient care or operating rooms for major surgery.

Completely Enclosed Structure. A building enclosed by a permanent roof and by solid exterior walls pierced only by windows and customary entrance and exit doors.

Cross [Gross] Floor Area. The sum of the gross horizontal areas of the several floors of a building, including interior balconies and mezzanines; all horizontal dimensions shall be measured between the exterior faces of walls, including the walls of roofed porches having more than one wall. The gross floor area of a building shall include the floor area of accessory buildings on the same Building Site, measured the same way.

Dwelling Unit. One or more rooms in the same structure, connected together and constituting a separate, independent housekeeping unit for permanent residential occupancy and with facilities for sleeping and cooking.

Dwelling, One-family. A detached building containing one dwelling unit and used exclusively by one family.

Dwelling, Town House. Single family attached dwellings on individual lots for sale; served by servitudes of access and providing common open spaces in lieu of typical single family yards.

Dwelling, Two-Family. A detached building containing two dwelling units and used by two families living independently of each other.

Dwelling, Multiple-Family. A detached building containing three or more dwelling units and used by three or more families living independently of each other; the term includes apartment house.

Family. An individual or two or more persons who are related by blood or marriage living together and occupying a single house-keeping unit with single culinary facilities, or a group of not more than four persons living together by joint agreement and occupying a single house-keeping unit with single culinary facilities on a non-profit, cost sharing basis.

Fraternity/Sorority House. A building leased, occupied or maintained by a social association of college students, or where organization-sponsored functions are held.

Home Occupation. An occupation for gain or support conducted only by members of a family residing in a dwelling and conducted entirely within the dwelling, provided that no article is sold or offered

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

for sale except such as may be produced by members of the family residing in the dwelling and further provided that the occupation is incidental to the residential use of the premises and does not utilize more than twenty-five percent (25%) of the floor area of the dwelling. Home occupations shall include, in general, personal services such as are furnished by a physician, dentist, musician, artist, cosmetician, or seamstress when performed by the person occupying the building as his or her private dwelling, and not including the employment of any additional persons in the performance of such services.

Hotel. A building containing guest rooms in which lodging is provided with or without meals for compensation, and which is open to transient or permanent guest, or both, and where no provision is made for cooking in any guest room; the term includes "motel".

Lot of Record. A lot which is part of a subdivision, the plat of which has been recorded in the office of the Clerk of Court and Recorder of Natchitoches Parish, or a lot described by metes and bounds, the description of which has been recorded in the office of the Clerk of Court and Recorder of Natchitoches Parish.

Mobile home. A structure transportable in one or more sections, which in the traveling mode, is eight body feet or more in width or forty body feet or more in length or, when erected on site is 320 or more square feet, and which is built on a permanent chassis and designed to be used as a dwelling with or without a permanent foundation when connected to the required utilities and includes the plumbing, heating and air conditioning, and electrical systems contained therein. For purposes of this ordinance, the terms "mobile home," "manufactured home" and "manufactured housing" may be used interchangeable and apply only to structures bearing the permanently affixed seal of the United States Department of Housing and Urban Development.

Mobile home park. Any contiguous parcel of land to be used for the accommodation of mobile homes for rental purposes to either persons owning their own mobile home or for rent by the owner of the mobile home park who rents a mobile home and lot as a unit.

Mobile home lot. A designated parcel of land within a mobile home park designed for the accommodation of one (1) mobile home and its accessory equipment or buildings for the exclusive use of the occupants.

Modular home. Factory-built housing designed for long-term residential use, and which is transported to a site and installed as a permanent structure that is not designed to be moved again after it is installed on its permanent foundation. For the purpose of this ordinance, the term "pre-cut home" (which includes kit, log and dome homes and panelized home) may be used interchangeably.

Nonconforming Structure. A building or part thereof lawfully existing on the effective date of this ordinance and which does not conform to all of the regulations of the district in which it is located.

Nonconforming Use. A use which lawfully occupied a building or land on the effective date of this ordinance and which does not conform to the regulations of the district in which it is located (to the use regulations of the district in which it is located).

Official Map. The map established by the City Commission, showing the streets existing and established as public streets and the lines of planned new streets or street extensions, widenings, narrowings or vacations.

Permitted Structure. A structure meeting all the requirements established by this ordinance for the district in which the structure is located.

Rooming House. A building, other than a hotel, where for compensation and by prearrangement, five or more persons other than occasional or transient customers are provided with lodging.

Street. A public right-of-way which provides vehicular and pedestrian access to adjacent properties.

Street Line. The line or boundary separating the public right-of-way from the land or property adjoining.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Structure. Anything constructed or erected which requires location on the ground or attached to something having a location on the ground; provided, however, that utility poles and fences and walls (other than building walls) shall not be considered to be structures.

Yard, Front. An open, unoccupied space on the same Building Site with a main building, extending the full width of the Building Site and situated between the street line and the front line of the building projected to the side lines of the Building Site. The depth of the front yard shall be measured between the front line of the building and the street line.

Yard, Rear. An open, unoccupied space on the same Building Site with a main building, extending the full width of the Building Site and situated between the rear line of the Building Site and the rear line of the building projected to the side lines of the Building Site. The depth of the rear yard shall be measured between the rear line of the Building Site and rear line of the building.

Yard, Side. An open, unoccupied space on the same Building Site with a main building, situated between the side line of the building and the adjacent side line of the Building Site and extending from the rear line of the front yard to the front line of the rear yard; if no front yard is provided, the front boundary of the side yard shall be the front line of the Building Site, and if no rear yard is provided, the rear boundary of the side yard shall be the rear line of the Building Site.

(Ord. No. 64-2001, § 1, 7-9-2001)

Section II. Districts.

A. GENERAL PROVISIONS

1. *Creation of districts.* For the purposes of this ordinance the City of Natchitoches is divided into the following districts:

R-1 Districts: Residence Districts - One-Family

RMH-1 Districts: Residence/Mobile Home Districts - One-Family

R-1.5 Districts: Residence Districts - Town House

R-2 Districts: Residence Districts - Multiple Family

R-3 Districts: Residence Districts - Multiple Family

R-MHP Districts: Mobile Home Park Districts

RED Districts: Residential Estates District

B-1 Districts: Transition Business District

B-2 Districts: Neighborhood Business Districts

B-3 Districts: Community and Central Business Districts

B-A Districts: Businesses Selling Alcoholic Beverages for Consumption on the Premises

B-SOB Districts: Sexually Oriented Business Districts

I-A Districts: Industry-Agriculture Districts

I-1 Districts: Light Industry Districts

I-2 Districts: Heavy Industry Districts

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

2. *Zoning map.* The zoning districts and the boundaries thereof are shown on the attached Zoning Map of the City of Natchitoches, 1972, which map is hereby made a part of this ordinance.
3. *District boundaries.* Except where specifically shown by dimension or otherwise on the Zoning Map, the boundaries of districts are lot or property lines, the center lines of streets or alleys or such lines extended, railway right-of-way lines, natural boundary lines such as water courses, and the municipal corporate limit lines as they may exist from time to time. Questions concerning the exact location of any district boundary shall be decided by the Planning Commission.
4. *Annexed territory.* All territory annexed to the City of Natchitoches, Louisiana, hereafter shall be classified as "R-1" One-Family Residence District until permanently zoned by the governing body of the City of Natchitoches. The Planning Commission shall as soon as practicable, after annexation of any territory to the City of Natchitoches, institute proceedings on its own motion to give the newly annexed territory a permanent zoning and the procedure to be followed shall be same as is provided by law for the adoption of the original zoning regulations.
5. *Application of regulations.* Except as hereinafter provided:
 - a. No land shall be used or occupied, no structure shall be designed, erected, altered, used, or occupied, and no use shall be operated unless in conformity with the regulations herein prescribed for the district in which such structure or land is located;
 - b. No structure shall be designed, erected, altered, used, or occupied to exceed the height limits herein established, to have less building site area, or to have narrower or smaller front, side, and rear yards than herein prescribed for the district in which the structure is located;
 - c. No part of a yard or other open space required about any structure for the purpose of complying with the provisions of this ordinance shall be included as a part of the yard or other open space similarly required for another structure;
 - d. No Building Site shall be so reduced or diminished that the building site area, yards, or other open spaces shall be smaller than prescribed by this ordinance;
 - e. Every structure, other than an accessory structure, hereafter designed, erected, altered, used, or occupied shall have provided and continuously maintained for it a separate Building Site as herein defined;
 - f. Every use, unless expressly exempted by this ordinance, shall be operated entirely within a completely enclosed structure.

(Ord. No. 64-2001, § 2, 7-9-2001; Ord. No. 71-2003, § 1, 11-10-03)

B. RESIDENTIAL DISTRICTS

INTENTIONALLY REMOVED FOR THIS INDUSTRIAL SITE CERTIFICATION PACKAGE

C. BUSINESS DISTRICTS

INTENTIONALLY REMOVED FOR THIS INDUSTRIAL SITE CERTIFICATION PACKAGE

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

D. INDUSTRY DISTRICTS

1. *I-A Districts: Industry-Agriculture districts.* These districts are comprised of lands lying within areas set forth on the Master Plan for industrial development. Existing land uses therein are mainly agriculture, livestock raising or vacant, and these regulations are designed to protect the essentially open character of the districts by prohibiting the establishment of uses that are unsuited or unrelated to the district as a whole. It is intended that a subdivision of land within these areas shall be approved and proper zoning action be executed before land uses other than those specified herein shall be permitted.

a. *Permitted uses.* In I-A Districts only the following uses are permitted:

(1) *Uses by right.* The uses listed below are permitted subject to the conditions specified:

Accessory Use

Dwelling, One-Family, intended for use by the owner, members of his family, and employees

Extraction of oil, gas or other natural mineral deposits

Farming and Truck Gardening; need not be enclosed within structure

Golf Course, but not including commercial miniature course or commercial driving range; need not be enclosed within structure

Home Occupation

Livestock and Poultry Raising, including Dairy; need not be enclosed within structure

Name Plate; need not be enclosed within structure

Outdoor General Advertising Structure; need not be enclosed within structure

Park or Playground (public), including Recreation Center; need not be enclosed within structure

(2) *Uses requiring planning commission approval.* The uses listed below are permitted upon approval of the location and site plan thereof by the Planning Commission as being appropriate with regard to transportation and access, water supply, waste disposal, fire and police protection, and other public facilities, as not causing undue traffic congestion or creating a traffic hazard, and as being in harmony with the orderly and appropriate development of the district in which the use is located:

Fire Station

Pipe Line or Electric Transmission Line; need not be enclosed within structure

Railroad Right-of-Way, but not including shops, yards, and team tracks; need not be enclosed within structure

Revival, Church

School, Elementary and/or Secondary, meeting all requirements of the compulsory education laws of the State of Louisiana

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

University or College (non-profit)

Water Storage; need not be enclosed within structure

Water or Sewage Pumping Station

- (3) *Special exception uses.* These uses are declared to possess such characteristics of unique or special form that each specific use shall be considered an individual case and shall be subject to approval of the City Commission after a Public Hearing and Recommendation by the Planning Commission:

Airport; need not be enclosed within structure

Airport and Dusting Service; need not be enclosed within structure

Cemetery; need not be enclosed within structure

Church, including Parish House, Community House, and Educational Buildings

Correctional, Detention, or Penal Institution

Electric Substation; need not be enclosed within structure but must be enclosed within a wall or fence at least ten feet high

Radio and Television Broadcasting Transmitter, but not including studio

- b. *Building site area.* Except as provided in Section III, the minimum building site area shall be:

For a one-family dwelling7,200 sq. ft.

For any other permitted use10,000 sq. ft.

- c. *Building height limit.* Except as provided in Section III, no structure shall be erected or altered to exceed thirty-five (35) feet.

- d. *Yards required.* Except as provided in Section III, the minimum dimensions of yards shall be:

Front Yard25 ft.

Side Yard10 ft.

Rear Yard25 ft.

2. *I-1 Districts: Light industry districts.* These districts are composed of land and structures used for light manufacturing or wholesaling, or suitable for such uses, where the use and its operation do not directly adversely affect nearby residential and business uses. These districts are usually separated from residential areas by business areas or by natural barriers. The district regulations are designed to allow a wide range of industrial activities subject to limitations designed to protect nearby residential and business districts.

- a. *Permitted uses.* In the I-1 Districts only the following uses are permitted:

- (1) *Uses by right.* The uses listed below are permitted subject to the conditions specified:

Accessory Use

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Air Conditioning Sales and Service

Airport and Dusting Service; need not be enclosed within structure

Airport; need not be enclosed within structure

Armory

Automobile and Truck Body Repair

Automobile and Truck Laundry, including steam cleaning

Automobile and Truck Maintenance Shops and Garages

Automobile and Truck Sales and/or Repair, but not including commercial wrecking, dismantling, or auto salvage yard; need not be enclosed within structure provided the unenclosed part shall comply with the requirements for maintenance of off-street parking facilities

Automobile Storage (commercial); need not be enclosed within structure

Aviary; need not be enclosed within structure

Bakery, Wholesale

Barber and Beauty Supplies and Equipment Sales

Battery Manufacture

Beverage Manufacture (not including alcoholic)

Brooms and Brushes Manufacture

Canvas Products Manufacture

Carnival or Circus; as a temporary use on permit issued by the Zoning Administrator, such permit to be good for a period not exceeding three days and renewal for not more than three such periods; need not be enclosed within structure

Carting, Express, Crating, Hauling and Storage

Clothing Manufacture

Coffee Roasting

Cold Storage Plant

Concrete and Concrete Products Manufacture; need not be enclosed within structure

Contractor's Storage Yard for vehicles, equipment, materials and/or supplies; need not be enclosed within structure

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Cosmetics (compounding only)

Creamery

Dairy Equipment Sales

Dog Pound; need not be enclosed within structure

Drug Manufacture

Dry Cleaning

Dry Goods, Wholesale

Electric Repair Shop

Electric Substation; need not be enclosed within structure

Electroplating

Fairgrounds, Baseball Park or Stadium; need not be enclosed within structure

Farm Equipment and Supplies Sales

Farming and Truck Gardening; need not be enclosed within structure

Feed Store

Fire Station

Fixture Sales

Food Locker Plant, renting only individual lockers for home customer storage of food; cutting and packaging of meats and game permitted, but not including any slaughtering or eviscerating thereof

Food Products Manufacture

Food Products, Wholesale Storage and Sales

Foundry

Freight Depot, Railway and/or Truck

Frozen Food Plant

Fruit and Produce, Wholesale

Gas Regulator Station

Glass Products Manufacture (from glass stock)

Hardware Manufacture

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Hardware, wholesale storage and sales
Hatchery
Hosiery Mill
Ice Cream Manufacture
Ice Manufacture
Laboratory
Laundry, Linen Supply, or Diaper Service
Lumber Yard and Building Materials; need not be enclosed within structure
Machine Shop
Machinery, Tools, and Construction Equipment, sales and service
Mail Order House
Mattress Manufacture and Rebuilding
Metal Products Fabrication
Metal Sharpening
Millinery Manufacture
Millwork and similar wood products manufacture
Novelty and Souvenir Manufacture
Office
Office Equipment and Supplies Manufacture
Oil Well Supplies and Machinery; need not be enclosed within structure
Optical Goods, Wholesale
Outdoor General Advertising Structure; need not be enclosed within structure
Packing and Gasket Manufacture
Painting and Decorating Contractor
Paper Products Manufacture
Paper Supplies, Wholesale
Passenger Depot, Railway or Bus
Pipe Line or Electric Transmission Line

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Pipe Storage; need not be enclosed within structure

Plumbing Shops

Printing, Publishing, and Allied Industries

Railroad Facilities, except shops; need not be enclosed within structure

Restaurant Supplies Sales

Revival, Church (temporary); as a temporary use on permit issued by the Zoning Administrator, such permit to be good for a period not exceeding one week and renewal for not more than three such periods

Roofing and Sheet Metal Shop

Rug Cleaning

Sand and Gravel Storage Yard; need not be enclosed within structure

Seed Store

Shoe Manufacture

Shoe Store, Wholesale

Sign Shop

Sporting Goods Store, Wholesale

Telephone Exchange, including shops and garages

Toy Manufacture

Trailer Sales; need not be enclosed within structure

Trade School

Transit Vehicle Storage and Servicing; need not be enclosed within structure

Venetian Blind and Metal Awning Fabrication and Cleaning

Water Distillation

Water or Sewage Pumping Station

Water Storage; need not be enclosed within structure

Welding Shop

Well Drilling Company

Wholesale and Warehousing

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- (2) *Uses requiring planning commission approval.* The uses listed below are permitted upon approval of location and site plan thereof by the Planning Commission as being appropriate with regard to transportation and access, water supply, waste disposal, fire and police protection, and other public facilities, as not causing undue traffic congestion or creating a traffic hazard, and as being in harmony with the orderly and appropriate development of the district in which the use is located:

Theater, Outdoor; need not be enclosed within structure

Mobile Home Park (Must comply with R-MHP district requirements)

Trailer Court; must meet the following requirements: water, sewerage and electric power connections for each trailer unit; a site providing a minimum of 3500 square feet per trailer site; and adequate plan for traffic circulation on the site. Yard requirements for each trailer unit as follows:

Front Yard20 feet

Side Yard 5 feet

Rear Yard25 feet

- b. *Building site area.* The minimum building site area shall be 10,000 sq. ft.
- c. *Building height limit.* Except as provided in Section III, no structure shall be designed, erected, or altered to exceed forty-five (45) feet.
- d. *Yards required.* Except as provided in Section III, the minimum dimensions of yards shall be:

Front Yard25 feet

Side Yard10 feet

Rear Yard25 feet

3. *I-2 Districts: Heavy industry districts.* These districts are composed of land and structures used for heavy manufacturing and related activities or suitable for such uses. Located for convenient access from existing and future arterial thoroughfares and railway lines, these districts are in many instances separated from residential areas by business or light industry areas or by natural barriers; where they are adjacent to residential areas some type of artificial separation may be required. The district regulations are designed to permit the development of the district for almost any industrial uses, subject to the minimum regulations necessary for the mutual protection of the uses.

- a. *Permitted uses.* In the I-2 Districts only the following uses are permitted:

- (1) *Uses by right.* The uses listed below are permitted subject to the conditions specified:

Abrasives Manufacture

Accessory Use

Acetylene Gas Manufacture and/or Storage

Air Products Manufacture

Airport and Dusting Service; need not be enclosed within structure

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Airport; need not be enclosed within structure

Alcohol Distillation and/or Storage

Ammonia, Bleaching Powder, and Chlorine Manufacture

Armory

Asbestos Products Manufacture

Asphalt Products Manufacture

Automobile and Truck Body Manufacture

Automobile and Truck Body Repair

Automobile Manufacture

Automobile Storage (commercial); need not be enclosed within structure

Aviary; need not be enclosed within structure

Battery Manufacture

Boiler and Tank Works

Brewery

Carnival or Circus; as a temporary use on permit issued by the Zoning Administrator, such permit to be good for a period not exceeding three days and renewal for not more than three such periods; need not be enclosed within structure

Carting, Express, Crating, Hauling and Storage

Caustic Soda Manufacture

Celluloid Manufacture

Chemicals (heavy or industrial) Manufacture and/or Processing

Clothing Manufacture

Cold Storage Plant

Concrete and Concrete Products Manufacture; need not be enclosed within structure

Cotton Compress

Cotton Ginning and Baling

Contractors Storage Yard for vehicles, equipment, materials and/or supplies

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Detergents, Soaps, and By-Products Using Animal Fat, Manufacture
Diesel Engine Repair
Disinfectant, Insecticide, or Poison Manufacture
Dog Pound; need not be enclosed within structure
Drug Manufacture
Dyestuff Manufacture
Electric Power Generating Station
Electric Substation; need not be enclosed within structure
Electroplating
Farming and Truck Gardening; need not be enclosed within structure
Felt Manufacture
Fire Station
Food Products Manufacture
Food Products, wholesale storage and sales
Foundry
Freight Depot, Railway and/or Truck
Frozen Food Plant
Fungicides Manufacture
Glass Manufacture
Glass Products Manufacture (from glass stock)
Grain Drying or Feed Manufacture from refuse, mash, or grain
Grain Milling, Storage and Elevators
Graphite Manufacture
Hair Products Manufacture or Processing
Hardware Manufacturing
Hosiery Mill
Ice Manufacture
Incinerator

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Insulation Manufacture or Fabrication

Laboratory

Linoleum Manufacture

Lumber Yard and Building Materials; need not be enclosed within structure

Machine Shop

Metal Products Fabrication

Millwork and similar wood products manufacture

Office

Office Equipment and Supplies Manufacture

Oil Well Supplies and Machinery; need not be enclosed within structure

Oils and Fats (animal and vegetable) Manufacture

Outdoor General Advertising Structure; need not be enclosed within structure

Packing and Gasket Manufacture

Paints, Pigments, Enamels, Japans, Lacquers, Putty, Varnishes, Whiting, and Wood Filler, Manufacture or Fabrication

Paper Products Manufacture

Paper, Pulp, Cellulose, and Rayon Manufacture

Pipe Line or Electric Transmission Line

Pipe Storage; need not be enclosed within structure

Plastics Manufacture

Potash Works

Railroad Facilities; need not be enclosed within structure

Revival, Church (temporary); as a temporary use on permit issued by the Zoning Administrator, such permit to be good for a period not exceeding one week and renewal for not more than three such periods

Rock Crusher; need not be enclosed within structure

Roofing and Sheet Metal Shop

Sand and Gravel Storage Yard; need not be enclosed within structure

Saw Mill or Planing Mill

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Sewage Disposal Plant

Shoe Manufacture

Shoe Polish or Stove Polish Manufacture

Soda and Washing Compound Manufacture

Stone Cutting

Sugars and Starches Manufacture

Syrup Manufacture

Tar Distillation or Manufacture

Telephone Exchange, including shops and garages

Tool Manufacture

Toy Manufacture

Trade School

Trailer Manufacture

Transit Vehicle Storage and Servicing, need not be enclosed within structure

Water or Sewage Pumping Station

Water Storage; need not be enclosed within structure

Welding Shop

Well Drilling Company

Wood Preserving by Creosote or other Impregnation Treatment

- (2) *Uses requiring planning commission approval.* The uses listed below are permitted upon approval of the location and site plan thereof by the Planning Commission as being appropriate with regard to transportation and access, water supply, waste disposal, fire and police protection, and other public facilities, as not causing undue traffic congestion or creating a traffic hazard, and as being in harmony with the orderly and appropriate development of the district in which the use is located:

None

- (3) *Special exception uses.* These uses are declared to possess such characteristics of unique or special form that each specific use shall be considered an individual case and shall be subject to approval of the City Commission after a Public Hearing and recommendation by the Planning Commission:

Acid Manufacture (hydrochloric, nitric, picric, sulphuric, sulphanous, carbolic)

Animal Black, Lamp Black, or Bone Black Manufacture

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Animal Reduction

Automobile Wrecking, Dismantling or Salvage; need not be enclosed within structure but must be enclosed within a fence not less than seven feet nor more than ten feet high and adequate to screen the area from public view

Bones, Distillation

Butane and other liquefied petroleum products storage and sales; need not be enclosed within structure

Cement, Lime, Gypsum and Plaster Manufacture

Clay and Clay Products Manufacture; need not be enclosed within structure

Explosives, Fireworks and Gunpowder Manufacture and/or Storage

Fertilizers Manufacture or Processing

Garbage Dumping; need not be enclosed within structure

Glue, Size, or Gelatin Manufacture

Junk Yard, including storage, baling or sale of rags, paper, iron, or junk; need not be enclosed within structure but must be enclosed within a fence not less than seven feet nor more than ten feet high and adequate to screen the area from public view

Matches Manufacture

Meat Slaughtering and/or Packing

Metal Ingots, Pigs, Castings, Sheets, or Bars Manufacture

Petroleum and Petroleum Products Manufacture, Processing, or Storage

Rubber or Gutta Percha Manufacture, Processing, or Reclaiming

Stockyards; need not be enclosed within structure

Tannery, including curing of hides

- b. *Building site area.* The minimum building site area shall be 10,000 sq. ft.
- c. *Building height limit.* Except as provided in Section III, no structure shall be designed, erected, or altered to exceed forty-five (45) feet.
- d. *Yards required.* Except as provided in Section III, the minimum dimensions of yards shall be:
 - Front Yard25 ft.
 - Side Yard10 ft.
 - Rear Yard25 ft.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

(Ord. No. 64-2001, § 5, 7-9-2001)

Section III. Supplementary regulations.

A. SUPPLEMENTARY USE REGULATIONS

1. *Areas subject to inundation.* Certain areas are subject to periodic inundation, making them unsafe and unfit for human habitation. No structure or portion thereof which is designed for dwelling use or as a place of public assembly shall be erected or altered for such uses where the land to be covered by such structure or portion thereof has been designated by the Zoning Administrator as uninhabitable, until the conditions making the land uninhabitable have been corrected. Land that is permitted to be used shall not be considered to be guaranteed by the City against flood or other hazard.
2. *Natural production uses.* In any district the extraction of oil, gas, or other natural mineral deposit, except top soil, may be permitted upon the approval of the Planning Commission and subject to such terms and conditions as the Commission may fix for the protection of adjacent property and uses.
3. *Illumination of uses.* Lighting facilities used to illuminate signs, parking areas, or for other purposes shall be so arranged that the source of light is concealed from adjacent residence properties and does not interfere with traffic.
4. *Individual mobile homes and all portable structures.*
 - a. *General.* No person, firm, partnership or corporation shall erect or move any building or structure including mobile homes or any other portable structures supported by wheels or skids and place any such structure or mobile home on any lot or plot of ground that is zoned other than RMH-1, R-MHP, B-3 or Industrial.
 - b. *Exceptions.* The provisions of Paragraph a. above shall not apply to individual small units, overnight campers, or campers mounted on the beds of $\frac{1}{2}$ or $\frac{3}{4}$ ton trucks, provided that said individual small units, campers, or campers mounted on trucks are not connected to electricity or to the sewerage system or water system of the City of Natchitoches. If any said unit or camper is occupied or lived in, then it shall be deemed a mobile home and the prohibitions of paragraph a. shall be applicable.
 - c. *Temporary permit.* Before any mobile home or other portable structure, as described in Paragraph a. above, can be placed temporarily on any lot or parcel of ground, a permit must first be obtained from the City. Said permits will be valid for a maximum period of fifteen (15) days.
 - d. *Permanent permit.* In the event any person wishes to install a mobile home, or any portable structures supported by wheels or skids upon any plot or lot of ground located in the City of Natchitoches which is zoned other than RMH-1, R-MHP, B-3 or Industrial, he must first make application for Planning Commission approval. An affidavit signed by the Assessor for the Parish of Natchitoches setting forth the names and addresses of all property owners located within three hundred (300) feet of the lot on which it is proposed to locate the mobile home (or other portable structure as defined above) shall be attached to the application. The application shall be submitted to the Planning Commission at its regular meeting. Planning Commission approval for the installation of mobile homes shall not exceed one mobile home for one lot of ground. Recognizing the fact that the Assessor's list is based upon his rolls as they appear at the beginning of the tax year, it shall be the duty of the applicant to conclusively show to the Planning Commission that there have been no changes in the ownership of the property owners within the three-hundred-foot distance subsequent to the closing of the assessment rolls the date of the filing of the application.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

General requirements: All mobile/manufactured homes to be placed on any lot or parcel within the City of Natchitoches must comply with the standards defined herein. These regulations are designed to protect the residential character of the area protected by these standards and to ensure a residential environment and compatibility with adjoining sites. For the purpose of this section, travel trailers and recreational vehicles shall not be authorized for use as permanent residents and shall not be provided sewer, water or electric utility connections in residentially zoned area. The prohibitions provided in this section shall not apply to the placement of temporary construction trailers used as an office related to a permitted construction project.

Development permit/application fee required. A nonrefundable application fee of \$50.00 shall accompany each application for mobile home placement review.

Minimum lot area. The minimum lot area required for mobile home placement shall be no less than 6,500 square feet.

Setback requirements. Mobile home lots shall have the following building setbacks.

Front yard: 25 feet

Side yard: 5 feet

Rear yard: 25 feet

Site plan required. A scaled site plan showing the lot dimensions, location and placement of the mobile home, location of the driveway, proposed parking areas, name and location of adjacent streets and any additional information deemed necessary to document conformance with this section must accompany the application.

Age Restriction of Structure. Mobile homes shall have a date of manufacture of not more than (5) years from the date of application for a permit to install. The applicant shall be responsible for providing documentation acceptable to the Zoning Administrator that the mobile home complies with the age restriction.

Installation Standards. Installation and anchoring of manufactured homes shall be in compliance with the provisions of the City of Natchitoches Municipal Code and with the standards for manufactured housing as contained in NFPA 501. Each mobile home shall be permanently sited (nonmobile). The wheels, axles and tongue must be removed.

- (1) *Skirting.* Mobile homes must be skirted with acceptable skirting which includes vinyl or metal. Skirting must be reinforced with framing material that will increase the rigidity of the skirting wall.
- (2) *Parking and access.* A paved driveway with a minimum width of ten (10) feet shall be provided. At least two on-site parking spaces must be provided. Parking may be in tandem. Parking shall be constructed in accordance with the drainage and surfacing requirements as set forth in Section V.A.(3) a Off-Street Parking Requirements of the Zoning Regulations.
- (3) *Inspection required.* The site shall be checked by the City Building Inspector for availability of utility connections and property drainage. Utility services, whether provided by the City of Natchitoches or other utility companies providing services to the site shall not be authorized until the required installation standards have been met and the appropriate permit issued.

Nonconforming uses. A mobile/manufactured home presently located in the City of Natchitoches covered by this section at the time of the enactment or subsequent

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

amendment of this section but not in conformity with the provisions thereof, may be continued in such nonconforming use by its present owner or transferee provided that the nonconforming mobile/manufactured home shall be required to comply with the regulations contained in Section VI. Nonconforming uses and structures of the Zoning Regulations. The relocation of a nonconforming mobile home to a new site shall be deemed a new placement and shall for the purpose of regulation be required to comply with the requirements of this section.

- e. *Penalties and fines.* Any person, firm, partnership or corporation who installs a mobile home or other portable structure without first obtaining the permits as provided for herein shall be guilty of a misdemeanor and upon conviction thereof shall be fined not more than one hundred and No/100 Dollars (\$100.00) or imprisonment not to exceed ten (10) days or both. Each day that the violation continues shall be considered a separate offense.

B. SUPPLEMENTARY AREA REGULATIONS

1. *Dwelling on small building site.* Where a lot located in a residence district contains an area less than the required building site area for the district and on the effective date of this ordinance was existing and of record and held in separate and different ownership from any lot immediately adjoining, such lot may be used as the Building Site for a one-family dwelling.
2. *Visibility at intersections.* On a corner Building Site in any district in which a front yard is required, no fence, wall, hedge, or other structure or planting more than three (3) feet in height shall be erected, placed, or maintained within the triangular area formed by the intersecting street lines and a straight line connecting such street lines at points thirty (30) feet from the point of intersection measured along such street lines.

C. SUPPLEMENTARY HEIGHT REGULATIONS

1. *Height exceptions.* The height limits for the various districts shall not apply to church spires, belfries, cupolas, penthouses, or domes not used for human habitation, nor to chimneys, ventilators, skylights, water tanks, parapet walls, cornices, or necessary mechanical appurtenances usually carried above the roof level and non-commercial radio and television tower, provided that such features are limited to that height necessary for their proper functioning.
2. *Excess height.* In any district any main structure may be erected or altered to a height in excess of that specified for the district in which the structure is located provided that each required front, side, and rear yard is increased one foot for each foot of such excess height; provided, further, that where no front yard is required the part of the structure exceeding the height specified for the district shall be set back from the vertical planes of all street lines one foot for each two feet of such excess height.
 - a. *Compensating bulk and open space.* To permit variety in the shape and bulk of structures, in any district part of a main structure may be erected or altered to a height in excess of that specified for the district in which the structure is located without increasing the yards or creating the setback as required above provided a volume of space at least equal to the volume of space occupied by the part of the structure exceeding the height limit is provided and kept open below the height limit; it is intended that such open space below the height limit shall compensate for the excessive bulk above the height limit, and to this and both the excess bulk and the compensating open space shall be provided on the same Building Site.
3. *Accessory structures.* No accessory structure shall exceed the height of the main structure.

D. SUPPLEMENTARY YARD REGULATIONS

1. *Front yard depth.* In any residence district, any Building Site lying between two Building Sites adjacent thereto and having dwellings erected upon them on the effective date of this ordinance

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

shall have a front yard equal in depth at least to the average depth of the front yards of the Building Sites adjacent thereto; provided, however, that no front yard shall be less than twenty (20) feet in depth, and no front yard shall be required to be more than thirty per cent (30%) of the depth of the Building Site.

2. *Side yard at abutting districts.* Where the side line (and the rear line, in the case of a corner lot) of a Building Site in business or industry district, except the B-1 District, abuts upon the side line of a Building Site in any residence district, there shall be provided on the Building Site lying in the business or industry district and adjacent to the residence district a side yard and rear yard in the case of a corner lot not less than forty (40) feet in width.
3. *Corner building site.* In any district a corner Building Site having to its rear a Building Site facing toward the intersecting or side street shall have provided on the intersecting or side street side of the corner Building Site a side yard having a width equal at least to the depth of the front yard required for a structure on the Building Site to the rear of the corner Building Site; provided, however, that this regulation shall not be applied to reduce the buildable width of the corner Building Site to less than thirty (30) feet nor require a side yard of more than twenty (20) feet.
4. *Projecting architectural features.* Every part of a required yard shall be open and unobstructed from the ground to the sky except for permitted accessory structures and for the ordinary projections of sills, belt courses, cornices, buttresses, eaves, and similar architectural features, provided that such projections shall not extend more than two (2) feet into any required yard. Open fire escapes may extend into any required yard not more than three and one-half (3½) feet.
5. *Accessory structures.* In any business or industry district no accessory structure shall occupy any part of a required rear yard; in any residence district no accessory structure shall occupy more than thirty (30) per cent of a required rear yard; in no district shall an accessory structure occupy any part of a required front or side yard.
 - a. *Side yard and rear yard requirements.* No accessory structure shall be erected or altered so that it is closer to any side or rear line than five (5) feet.
 - b. *Corner building site.* No accessory structure on a corner Building Site having to its rear a Building Site facing toward the intersecting or side street shall be erected or altered nearer to the intersecting or side street line than the front building line to be observed by any structure on the Building Site to the rear of the corner Building Site.
6. *Mapped street lines.* Front yard depth and, in the case of a corner Building Site, side yard width shall be measured from the future street right-of-way line where such line has been established on the Official Map to define a mapped street.
7. *Fences and walls.* No fence or wall that obstructs sight shall be erected or altered in any required front yard to exceed a height of three (3) feet, and no fence or wall, other than the wall of a permitted structure, shall be erected or altered in any required side or rear yard to exceed a height of seven (7) feet.

E. PROTECTION STANDARDS

1. *Noise.* There shall be no production by any use of noise which at any boundary of the Building Site is in excess of the average intensity of street and traffic noise at that boundary.
2. *Heat, glare, and vibration.* There shall be no emission by any use of objectionable heat, glare, or vibration which is perceptible beyond any boundary of the Building Site on which the use is located.
3. *Dust, dirt, odors, gases, smoke, and radiation.* There shall be no emission by any use of dust, dirt, odors, gases, smoke, or radiation which is in an obnoxious or dangerous amount or degree beyond any boundary of the Building Site on which the use is located.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

4. *Hazard.* There shall not be created or maintained by any use any unusual fire, explosion, or safety hazard beyond the boundary of the Building Site on which the use is located.
5. *Wastes.* No materials or wastes shall be stored in such a manner that they may be transferred off the Building Site by natural forces or causes.
6. *Hours of operation.* In any B-1 District no store, shop, or other commercial establishment shall be open for business before 7:00 A.M. or after 7:00 P.M.; in any B-2 District no store, shop, or other commercial establishment shall be open for business before 7:00 A.M. or after 12:00 midnight.

F. CLASSIFICATION OF UNLISTED USES

The classification of uses not readily determinable by this ordinance shall be fixed by the Office of Zoning Administration.

G. HOME OCCUPATION APPLICATION

Application shall be made for a home occupation and a statement of Zoning Verification secured from the Office of Zoning Administration to be used to secure an Occupational License to operate.

H. RESIDENCE/MOBILE HOME DISTRICTS - ONE FAMILY DEVELOPMENT STANDARDS

Mobile home subdivisions shall be developed in accordance with the standards for development set forth in the Subdivision Ordinance adopted by the City of Natchitoches.

I. RESIDENCE/MOBILE HOME PARK DEVELOPMENT STANDARDS

Application procedure: Whenever a new mobile home park is proposed, before any contract is made for the construction of same, and before authorization for the erection and/or placement of any structures in such proposed park shall be granted, the developer shall apply for and secure approval of such proposed mobile home park in accordance with the following procedure.

Site plan submittal. A scaled site plan shall be submitted with each application for zoning amendment where a zoning amendment is required. The purpose of the site plan shall be to consider the development from point of view of layout and configuration of lots, streets, easements and emergency vehicle access and the geometric relationships with existing streets and easements which may join or cross the proposed mobile home park and to determine whether the proposed layout is satisfactory from the standpoint of public interest. The site plan shall be drawn in accordance with the preliminary plan requirements in the subdivision ordinance adopted by the City of Natchitoches. Approval of a site plan with an application for zoning amendment shall not constitute construction plans approval.

Construction plans review. An application for construction plans review shall be made on forms provided by the Office of Zoning Administration. Construction plans shall include a scaled site plan and the complete design of the sanitary sewerage and water system, storm drainage system and the street system for the entire area to be developed prepared by a licensed engineer.

The Office of Zoning Administration will confer with the director of utilities, director of public works, the fire chief and a duly authorized agent of the department of health and hospitals, (when applicable) for their review and approval. Each official shall indicate approval by endorsement of the construction plans. The developer shall be advised of any required revisions and shall be required to resubmit such revisions before approval shall be granted.

Planning Commission review and approval. Upon completion of the construction plans review, the Office of Zoning Administration shall present the application for consideration by the Planning Commission at its next regular meeting. The Planning Commission shall consider granting construction plans approval based on the endorsements of the reviewing officials. Such approval shall authorize construction of the proposed park.

Approval of construction plans and specifications shall be valid for a period of six (6) months from the date of approval. The City of Natchitoches shall cancel and revoke approval, in writing, of all construction

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

plans under which no work is commenced within six (6) months. New construction plans conforming to the regulations then in effect must be submitted and approved before construction of any improvements. In any event, construction must be completed within two (2) years of approval.

Construction shall at all times be subject to inspection by representatives of the City of Natchitoches, but shall in no way relieve the developer or his engineer of close supervision and final compliance with approved plans. Any revisions to approved plans, shall require Planning Commission approval.

Street Standards.

- (a) *Streets dedicated.* Streets dedicated to the public shall be designed in accordance with the street improvement and width requirements contained in the Subdivision Ordinance adopted by the City of Natchitoches.
- (b) *Streets not dedicated.* Streets not dedicated to the public shall be paved with a hard surface and have a minimum surface width of twenty-one (21) feet. Street pavement, shape and drainage features shall be subject to approval by the City of Natchitoches and said streets shall be maintained by the owner of the mobile home park in perpetuity.

Screening requirements. Where a mobile home park development abuts any part of a residence district zoned other than R-MHP there shall be constructed and properly maintained in perpetuity by the park owner, a permanent screening device (wooden fence or wall) of not less than six (6) feet in height.

Floodplain management provisions. Any mobile home park or portion thereof which is located within a special flood hazard area, as depicted on FEMA flood insurance rate maps, shall be required to comply with the guidelines of the City of Natchitoches Flood Damage Prevention Ordinance.

Service building. Within those mobile home parks where service buildings are to be provided for such purposes as laundry facilities, storage or sanitation purposes, such building shall be designed in accordance with applicable building codes adopted by the City of Natchitoches.

Existing mobile home parks. Mobile home parks in existence before the adoption of this zoning district amendment will be considered nonconforming and governed by the restrictions under this classification. Any extensions of existing mobile home parks shall comply with the R-MHP district requirements.

J. WIRELESS COMMUNICATION FACILITIES

1. *Purpose and Goals.*

The purpose of this sub-section is to establish general guidelines for the siting of Wireless Communication Facilities. The goals of this section are to:

Establish adequate development and design criteria to enhance the ability of providers of telecommunications services to provide service to the community quickly, effectively, and efficiently;

Encourage collocation and site sharing of new and existing wireless communication facilities to reduce the number of new communications towers needed within the City of Natchitoches;

Protect residential and historic areas from the uncontrolled development of towers by requiring reasonable siting conditions;

Promote the use of suitable sites (public and private) for the location of wireless communication facilities.

Insure the harmonious, orderly and efficient growth and development of the City;

Provide clear performance standards addressing the siting of towers;

Provide a range of locations for wireless communication facilities in various zoning districts; and

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Promote cooperation between the City of Natchitoches and the Board of the Natchitoches Regional Airport regarding regulation and control of wireless communication facilities.

2. *Definitions.* For the purpose of this section certain words, phrases and terms used herein shall be interpreted as stated in this section.
 - a) *Antenna array.* An antenna array is one or more rods, panels, discs or similar devices used for the transmission or reception of radio frequency signals, which may include omnidirectional antenna (rod), directional antenna (panel) and parabolic antenna (disc). The antenna array does not include the support structure.
 - b) *Attached Wireless Communication Facility (Attached WCF).* An attached WCF is an antenna array that is attached to an existing building or structure (attachment structure), which structures shall include but not be limited to utility poles, signs, water towers, rooftops, towers with any accompanying pole or device (attachment device) which attaches the antenna array to the existing building or structure and associated connection cables, and an equipment facility which may be located either inside or outside of the attachment structure.
 - c) *Collocation/Site Sharing.* Collocation/site sharing shall mean use of a common WCF or common site by more than one wireless communication license holder or by one wireless license holder for more than one type of communications technology and/or placement of a WCF on a structure owned or operated by a utility or other public entity.
 - d) *Equipment Facility.* An equipment facility is any structure used to contain ancillary equipment for a WCF which includes cabinets, shelters, a buildout of an existing structure, pedestals, and other similar structures.
 - e) *FAA.* Federal Aviation Administration.
 - f) *FCC.* Federal Communications Commission.
 - g) *FTA.* Federal Telecommunications Act of 1996.
 - h) *Fall Zone.* A fall zone is the area measured by radius that is equal to the height of the WCF.
 - i) *Height.* When referring to a WCF, height shall mean the distance measured from ground level to the highest point on the WCF, including the antenna array.
 - j) *Setback.* Setback shall mean the required distance from the property line of the parcel on which the WCF is located to the perimeter fence surrounding the support structure, or, in the case of guy-wire supports, the guy anchors.
 - k) *Support Structure.* A support structure is a structure designed and constructed specifically to support an antenna array, and may include a monopole, self supporting (lattice) tower, guy-wire-support tower and other similar structures. Any device (attachment device) which is used to attach an attached WCF to an existing building or structure (attachment structure) shall be excluded from the definition of and regulations applicable to support structures.
 - l) *Tower Use Permit (TUP).* A permit issued by the City specifically for the location, construction and use of a WCF subject to an approved site plan and any special conditions determined by the Zoning Administrator to be appropriate under the provision of this section.
 - m) *Wireless Communications.* Wireless Communications shall mean any personal wireless services as deemed in the Telecommunications Act of 1996, which includes FCC licensed commercial wireless telecommunications services including cellular, personal

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

communication services (PCS), specialized mobile radio (SMR), enhanced specialized mobile radio (ESMR), paging, and similar services that currently exist.

- n) *Wireless Communication Facility (WCF)*. A WCF is any un-staffed facility for the transmission and/or reception of wireless telecommunications services, usually consisting of an antenna array, connection cables, an equipment facility, and a support structure to achieve the necessary elevation.
3. *General Guidelines and Requirements.*
- a) *District height limitations.* The requirements set forth in this section shall govern the height limitation of wireless communication facilities. The height limitations applicable to buildings and structures shall not apply to Wireless Communications Facilities.
 - b) *Permit Required.* No person, firm or corporation shall install or construct any WCF unless and until a Tower Use Permit (TUP) has been issued pursuant to the requirements of this section.
 - c) *Pre-existing Wireless Communications Facility.* Wireless communications facilities for which a permit has been issued prior to the effective date of this ordinance shall not be required to meet the requirements of this section; however, nothing in this ordinance shall alter the effect of other regulations in full force and effect on the date that this ordinance adopted.
 - d) *Airport Zoning.* Any WCF located or proposed to be located in airport areas governed by the FAA shall also comply with the provisions of all applicable local, state and federal airport regulations.
 - e) *Building Codes.* Construction of all WCF's shall comply with the requirements of the Natchitoches Building Codes and permitting process in addition to the requirements of this section.
 - f) *Fire Safety.* Construction of all WCF's shall comply with the provisions of local fire safety and prevention regulations in addition to the requirements of this section.
 - g) *Limitations on tower approvals.* All tower approvals shall be limited to the specific request as applied for. Any approvals which are not exercised within six (6) months of such approval shall become null and void. The planning director may approve a six (6) month extension provided the applicant provides satisfactory proof of extenuating circumstances to the planning director prior to the expiration of the current approval period. The maximum number of extensions that may be granted for non-development of any tower use approval shall not exceed two (2) six-month extensions.
 - h) *Inventory of existing sites.* Each applicant for an antenna and/or tower permit shall provide to the Planning Director, at the time of application, an inventory of its existing antenna and tower locations that are either within the jurisdiction of the city or within ¼ mile of the border thereof, including specific information about location, height, and design of each tower. The Planning Director may share such information with other applicants applying for use approval under this section, provided however that the city is not, by sharing such information, in any way representing or warranting that such sites are available or suitable.
4. *Location of Wireless Communication Facilities.* Location preference for Wireless Communication Facilities shall be given to publicly owned structures, co-location sites and industrial or commercial sites. Preference shall also be given to attached wireless communication facilities. New wireless communication facilities should avoid sites located near residential areas.
- a) *Attached Wireless Communication Facilities.* Attached Wireless Communication Facilities may be allowed in all zoning districts subject to the Planning Commission hearing process and upon compliance with the development criteria set forth herein.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- b) *Wireless Communication Facilities.* Wireless Communication Facilities will be limited to the following districts: B-3 Central Business, I-A Industry/Agriculture, I-1 Light Industry or I-2 Heavy Industry subject to the Planning Commission hearing process and upon compliance with the development criteria set forth herein.

5. *Development Criteria.*

- a) *Height Standards.* The following height standards shall apply to all wireless communications facility installations.

Attached wireless communications facilities. Antenna arrays for attached wireless communication facilities shall not add more than twenty (20) feet to the height of the existing building or structure to which it is attached (attachment structure). However, antenna attachment to existing communication towers shall not increase the height of the tower above the maximum permitted height of the attachment tower.

Wireless communication facilities with support structures. Wireless communication facilities with support structures shall be sited so as to provide a minimum fall zone measured by radius that is equal to the height of the facility. A fall zone is an area within which no other structure or property use can be located around a telecommunications facility.

- b) *Setback Standards.* The following setback standards shall apply to all wireless communication facility installations.

Attached Wireless Communication Facilities. Antenna arrays for attached wireless communications facilities are exempt from the setback provisions of the zone in which they are located. An attached wireless communication facility antenna array may extend up to thirty (30) inches horizontally beyond the edge of the attachment structure so long as the antenna array does not encroach upon an adjoining parcel.

Wireless Communications Facilities with Support Structure. Wireless communications facilities with support structures shall meet the setback requirements for principle structures of the underlying zones in which they are located. For the purpose of determining whether the installation of a wireless communication facility complies with setback requirements, the dimensions of the entire lot shall control even though the facility may be located on leased parcels within such lots.

- c) *Landscaping and Screening.* The following landscaping and screening requirements shall apply to all Wireless Communications Facility installations. A landscape plan shall accompany each request for a Tower Use Permit.

Wireless Communication Facilities with support structures shall be landscaped with a buffer of plant materials that effectively screens the view of the tower compound.

Existing vegetation on a wireless communication facility site may be used in lieu of required landscaping where approved by the Planning Commission. Any proposed landscaping should be visually compatible with existing vegetation in the vicinity.

Existing mature tree growth and natural land form on the site shall be preserved to the extent feasible; provided however, that vegetation that causes interference with the antennas or inhibits access to the equipment facility may be trimmed or removed.

- d) *Aesthetics, Placement, Materials and Colors.* Wireless Communications Facilities shall be designed so as to be compatible with the existing structures and surroundings to the extent feasible, including placement in a location which is consistent with proper functioning of the Wireless Communications Facility, the use of compatible or neutral colors, or stealth technology.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- e) *Lighting and Signage.* The following lighting and signage requirements shall apply to all Wireless Communications Facility installations.

Artificial Illumination. Wireless Communications Facilities shall not be artificially illuminated, directly or indirectly, except for security and safety lighting of equipment buildings if such lighting is appropriately down shielded to keep light within the boundaries of the site and for such illumination of the Wireless Communications Facility as may be required by the FAA or other applicable authority installed in a manner to minimize impacts on adjacent residences.

Signage. Wireless Communications Facilities shall not display any signage, logos, decals, symbols or any messages of a commercial or noncommercial nature, except for a small message containing provider identification and emergency telephone numbers and such other information as may be required by local, State or federal regulations governing Wireless Communications Facilities.

- f) *Security Fencing.* Wireless Communications Facilities with Support Structures shall be enclosed by an opaque security fence not less than six (6) feet in height. Security features may be incorporated into the landscaping and screening requirements for the site. Nothing herein shall prevent security fencing that is necessary to meet requirements of State or Federal agencies.

- g) *Radio Frequency Emissions/Sound.* The following radio frequency emissions standards shall apply to all Wireless Communications Facility installations:

RF Impact. The FTA gives the FCC jurisdiction of the regulation of Radio Frequency (RF) emissions, and wireless communications facilities that do not exceed the FCC standards shall not be conditioned or denied on the basis of RF impact.

FCC Compliance. In order to provide information to its citizens, copies of ongoing FCC information concerning wireless communications facilities and RF emissions standards may be requested. Applicants for wireless communications facilities shall be required to provide information with the application on the measurement of the effective radiated power of the facility and how this meets the FCC standards.

Sound Prohibited. No unusual sound emissions such as alarms, bells, buzzers or the like are permitted.

- h) *Structural Integrity.* Wireless communications facilities with support structures shall be constructed to the Electronics Industries Association/Telecommunications Industries Association (EIA/TIA) 222 Revision F Standard entitled "Structural Standards for Steel Antennas Towers and Antenna Support Structures" (or equivalent), as it may be updated and amended. Each support structure shall be capable of supporting multiple antenna arrays.

- i) *Collocation Agreement.* All applicants for wireless communications facilities are required to submit a statement with the application agreeing to allow and reasonably market collocation opportunities to other wireless communications facility users. The statement shall include the applicant's policy regarding collocation of other providers and the methodology to be used by the applicant in determining reasonable rates to be charged other providers. The collocation agreement shall be considered a condition of issuance of a TUP (Tower Use Permit). A Tower Use Permit shall not be issued unless the applicant complies with the collocation policy outlined in this section.

6. *Review Process.* All Wireless Communication Facilities, regardless of type or location shall be subject to the Planning Commission hearing process.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Provided, further, that any Wireless Communications Facility (attached or with a support structure), regardless of type, to be located within an established historic area shall be subject to review by the Historic District Commission in accordance with that District ordinance and administrative procedures.

Wireless communications facilities as part of a proposed residential or nonresidential subdivision, Planned Unit Development, site plan, conditional rezoning, or other coordinated development approval shall be reviewed and approved through those processes.

7. *Application Process.*

- a) *Application Submission.* All requests for a Tower Use Permit, regardless of wireless communication facility type shall submit an application in accordance with the requirements of this section.
 - b) *Application Contents.* Each applicant requesting a TUP under this section shall submit a scaled site plan containing a scaled elevation view and other supporting drawings, calculations and other documentation, signed and sealed by the appropriate licensed professionals, showing the location and dimensions of the Wireless Communications Facility and all improvements associated therewith, including information concerning specifications, antenna locations, equipment facility and shelters, landscaping, existing vegetation, topography, parking, access, fencing, adjacent uses and other information deemed necessary by Planning Director to be necessary to assess compliance with this section. Such application shall also include the signatures of all property owners of the proposed tower location. Applicants proposing to collocate on an existing wireless communication facility shall include a Radio Frequency Intennodulation Study with their application.
 - c) *Submission requirements.* Application for a TUP shall be submitted to the City on forms prescribed by the City. The application shall be accompanied by a site plan containing the information described above and a copy of the appropriate FCC license. If Historic District or Airport Commission review is required, the application and site plan shall be placed on the next available Commission agenda in accordance with the agenda deadlines established by the City.
 - d) *Application Fees.* A plan review fee of five hundred (\$500) and a Radio Frequency Intermodulation Study review fee of five hundred (\$500) {collocation applicants only} shall accompany each application. These fees may be used by the City to engage an engineer(s) or other qualified consultant(s) to review the technical aspects of the application and Radio Frequency Intennodulation Study (if required).
 - e) *Technical Assistance.* In the course of its consideration of an application, the City, the Zoning Administrator, the Planning Commission or the City Council may deem it necessary, in complex situations, to employ an engineer(s) or other consultant(s) qualified in the design and installation of wireless communication facilities to assist the City in the technical aspects of the application. In such cases, any additional reasonable costs incurred by the City not to exceed fifteen hundred dollars (\$1,500) for the technical review and recommendation shall be reimbursed by the applicant prior to the final City hearing on the TUP.
8. *Shared Facility and Collocation Policy.* All new wireless communication facilities shall be engineered, designed and constructed to be capable of sharing the facility with other providers, to collocate with other existing wireless communication facilities and to accommodate the future collocation of other wireless communication facilities. A TUP shall not be issued until the applicant proposing a new wireless communications facility shall demonstrate that it has made a reasonable good faith attempt to locate its WCF onto an existing structure. Competitive conflict and financial burden are not deemed to be adequate reasons against collocation.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

All WCF's with support structure up to a height of one hundred fifty (150) feet shall be engineered and constructed to accommodate at least the three (3) antenna array. All WCF's with support structure up to a height of more than one hundred fifty (150) feet shall be engineered and constructed to accommodate at least the four (4) antenna array.

9. *Removal of Abandoned Wireless Communication Facilities.* Any wireless communication facility that is not operated for a continuous period of twelve (12) months shall be considered abandoned, and the City, at its election, may require the wireless communication facility owner to remove the wireless communication facility within ninety (90) days after notice from the City to remove the wireless communication facility. If the abandoned wireless communication facility is not removed within ninety (90) days, the City may remove it and recover its costs from the wireless communication facility owner. If there are two or more users of a single wireless communication facility, this provision shall not become effective until all providers cease to use the wireless communication facility. If the owner of an abandoned wireless communication facility cannot be located or is no longer in business, the requirements of this section shall be the responsibility of the landowner on whose property the wireless communication facility is located.
10. *Nonconforming Wireless Communications Facilities.* Wireless Communication Facilities in existence on the date of the adoption of this section which do not comply with the requirements of this section (nonconforming wireless communications facility) are subject to the following provisions:
 - a) *Expansion.* Nonconforming wireless communication facilities may continue in use for the purpose now used, but may not be expanded without complying with this section except as further provided in this section.
 - b) *Additions.* Nonconforming wireless communications facilities may add additional antennas (belonging to the same provider or other providers) subject to planning commission review under this section.
 - c) *Repairs or Reconstruction.* Nonconforming wireless communications facilities which become damaged due to any reason or cause, may be repaired and restored to its former use, location, and physical dimensions subject to the provisions of this section. Provided, however, that if the damage to the wireless communication facility exceeds 50% of replacement cost, said wireless communication facility may only be reconstructed or repaired in compliance with this section. Any wireless communications facility not in use for six (6) months shall be deemed abandoned and all rights as a nonconforming use shall cease.
11. *Revocation of Tower Use Permits.* Any tower use permit issued pursuant to this section may be revoked after a hearing as provided hereinafter. If the Zoning Administrator finds that any permit holder has violated any provision of this section, or has failed to make good faith reasonable efforts to provide or seek collocation, the Zoning Administrator shall notify the permit holder in writing that the TUP is revocable due to the permit holder's noncompliance with the conditions of the permit and the Zoning Administrator shall convene a meeting with the permit holder no later than thirty (30) days from the date of the letter. The Zoning Administrator may, require the permit holder to correct the violation within a reasonable amount of time or the Zoning Administrator may recommend to the City Council that the tower use permit be revoked. After the appropriate public hearing, the Mayor and City Council may revoke the tower use permit (TUP) upon such terms and conditions, if any, that the Mayor and City Council may determine. Prior to initiation of revocation proceedings, the City shall notify the permit holder, in writing, of the specific areas of non-compliance and specify the date by which such deficiencies must be corrected. The time for correction of deficiencies shall not exceed sixty (60) days. The permit holder shall provide the city with evidence that the required corrective action has been taken. Should the permit holder fail to correct any deficiencies in the time required, the Mayor and City Council shall convene a public hearing to consider revocation of the Tower Use Permit. The

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

hearing shall be conducted pursuant to notice by publication in a newspaper with general circulation in the city not less than ten (10) days prior to the hearing and by written notice to the permit holder. The Mayor and City Council may impose reasonable restrictions with respect to time and procedure.

12. *Penalty.* The fine or penalty for violating any provisions of this section, shall be as set forth and prescribed at Section 1-9 of the Code of Ordinances of the City of Natchitoches.

K. ON-PREMISE AND OFF-PREMISE SIGNS.

1. *Intent.* The purpose of this ordinance is to promote the reasonable, orderly and effective display of on-premise and off-premise advertising and to promote and enhance the beauty, order and attractiveness of the city to residents, tourists and visitors and positively influence the economic prosperity of the City of Natchitoches.
2. *Definitions.* The following terms, as used in this ordinance, are hereby defined as follows:
 - a. *Double-faced sign* - a sign with two sign faces, generally back to back.
 - b. *Ground sign* - an outdoor advertising display sign when such sign is supported by uprights or braces in or upon the ground; or when such sign is mounted upon a vehicle, trailer, or mobile structure principally used for the purpose of advertising. A ground sign includes three basic kinds of detached signs: (1) pole signs, (2) detached reader-board signs (skid-mounted signs) as set forth in subsection 4(h) herein, and (3) monument signs.
 - c. *Height* - the vertical distance measured from the ground level to the highest point of the sign.
 - d. *Monument sign* - any ground sign which is placed in or on the ground with little or no open area below the face.
 - e. *Pole sign* - any ground sign which is supported by poles, columns or other similar structures or supports in or on the ground and independent of support from any building.
 - f. *Sign* - a name, identification, description, display, illustration or device that is affixed to or represents directly or indirectly upon a building, structure or land and that directs attention to a product, place, activity, person, institution or business.
 - g. *Sign, face* - that part of the sign where copy and display matter is or could be located.
 - h. *Sign, off-premise* - any outdoor sign, display, figure, painting, drawing, message, plaque, poster, billboard, flag, or any other thing which is designed, intended or used to advertise or inform, which is not located within the public right-of-way, and part of which advertising or information content is visible from any place on the main travelway of the interstate system or any public street in the city.
 - i. *Sign, on-premise* - any sign that advertises goods, products, services, business, persons or activity found on the premises where the sign is located or a sign of a noncommercial nature placed on the premises by the owner or occupant thereof.
 - j. *Sign, surface* - the total area of a plane that contains the sign face or faces.
 - k. *Temporary sign* - any sign that is intended to be displayed for a specified or limited time period such as a sale, single event, or until a permanent sign can be installed. Included in this category are sandwich (A-frame) signs, banner signs, inflatable or gas-filled signs and retailers' signs displayed for the purpose of informing the public of a sale or special offer.
 - l. *Visibility triangle* - the triangle formed by the intersecting street right-of-way lines and a straight line connecting such street lines at points 30 feet from the point of intersection measured along such street lines.
 - m. *Wall sign* - any sign affixed to or attached to the exterior of any building or structure.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

3. *General provisions.* The following regulations shall apply to signs in all districts unless otherwise provided for elsewhere in this ordinance.
 - a. No sign shall be erected as to prevent free ingress or egress from any door, window, or fire escape; and no sign of any kind shall be attached to any fire exit, fire exit access, fire hydrant, fire protection standpipe or fire escape.
 - b. No sign shall be erected at the intersection of any streets in such a manner as to obstruct free and clear vision or at any location where, by reason of position, it may interfere with or obstruct the view of traffic sight lines or traffic control devices.
 - c. All signs shall be constructed and erected in accordance with the pertinent requirements of the latest building codes and if illuminated, the National Electric Safety Code of the City of Natchitoches (Sec. 12.2 of the Code of Ordinances) including the securing of all permits and payment of any fees regarding such codes.
4. *On-premise signs.*
 - a. *Residential districts.* Signs to be erected in the Historic District shall conform with the provisions of Chapter 16.1 Article III. Section 16.1-40 of the Natchitoches Code of Ordinances.

PERMITTED SIGNS.

The following signs shall be permitted in any residential district as defined by the official zoning map of the City of Natchitoches.

- (1) Those signs described in subsection (n) of this Section.
 - (2) Permanent detached signs for the purpose of identification of a residential or townhouse subdivision/development, limited to one sign per subdivision/development entrance and not exceeding 7 feet in height and 72 square feet in size per sign face.
 - (3) Permanent detached signs for the purpose of identification of any use that requires specific approval by the Planning Commission limited to one double-faced sign per building site and not exceeding 15 feet in height and 72 square feet per sign face for sites with less than 200 feet of frontage. Sites with frontage greater than 200 feet, shall be limited to one double-faced sign per building site and not exceeding 30 feet in height and 150 square feet per sign face.
 - (4) Permanent detached signs for the purpose of identification of a multifamily complex/development, limited to one double-faced sign at the principal entrance and not exceeding 15 feet in height and 72 square feet in size per sign face.
 - (5) Residential nameplate not exceeding one square feet for single-family or two-The following signs shall be permitted in any business or industrial district as defined by the official zoning map of the City of Natchitoches.
- b. *Business and industrial districts.* Signs to be erected in the Historic District shall conform with the provisions of Chapter 16.1 Article III Section 16.1-40 of the Natchitoches Code of Ordinances.

Permitted Signs.

The following signs shall be permitted in any business or industrial district as defined by the official zoning map of the City of Natchitoches.

Detached signs not exceeding 35 feet in height in B-1 and B-2 districts; detached signs not exceeding 45 feet in height in B-3 districts and detached signs not exceeding 60 feet in height in I-A, I-1 and I-2 districts if such signs are located more than 300 feet from residentially zoned properties; otherwise, signs shall not exceed 45 feet in height.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- c. *Advertisement of nonconforming uses.* Any sign used in the advertisement of a nonconforming use, structure, business, etc., shall comply with all of the provisions of this ordinance for the zoning district in which the property is located.
- d. *Signs in rights-of-way.* Notwithstanding any other provision of this ordinance, no sign shall be permitted within the street right-of-way.
- e. *Number and location of ground signs.* For each building site, only one onsite detached monument or pole sign shall be permitted. However, when more than one business occupies a single building or a series of buildings joined or grouped together, but acting as an individual entity (e.g., a shopping center, office complex, etc.) one detached sign containing all business identification signs will be permitted for each 200 feet of frontage or fraction thereof. Each frontage shall act independently of the other. (See note below.)

Note:

0—200 feet = one sign

201-400 feet = two signs

401-600 feet = three signs, etc.

- f. *Pole sign.* A detached pole sign shall have a minimum height of ten feet from the bottom of the sign display surface to the grade surface, unless the top of the sign is not more than three feet above the grade surface. The display surface of all such signs shall be set back at least ten feet from any street right-of-way. Flagpoles displaying flags bearing a company name, logo, insignia, etc., shall be considered a sign and will be limited to 35 feet in height with a display surface not to exceed five feet by eight feet.
- g. *Monument signs.* A detached monument sign shall be set back at least five feet from the property line and in no case shall such signs be placed within 15 feet of the curb or edge of pavement.
- h. *Detached reader-board.* In addition to the allowable number and location of permanently detached signs as set forth in subsection 4(c) herein, one reader-board shall be permitted for every 200 feet of frontage or fraction thereof provided the following requirements are met:
 - (1) Screening of the base, e.g., skirting or landscaping, is encouraged.
 - (2) Signs shall not exceed 50 square feet in size per sign face.
 - (3) A sign permit shall be required.
 - (4) Signs shall be prohibited in residential districts.
 - (5) Signs shall not be placed in a parking space that is part of the minimum parking requirements.
 - (6) Signs shall be set back at least five feet from the property line and in no case shall such signs be placed within 15 feet of the curb or edge of pavement.
- i. *Wall signs.* A sign permit is required when the sign is painted on other material, which in turn is mounted or attached to the wall.
- j. *Temporary signs.* Unless otherwise noted in subsection (n) of this section, no permit shall be required if a temporary sign is less than 60 square feet in size; however, a business shall be limited to two temporary signs not exceeding 60 square feet each.

In the case of air-filled advertising displays, the following shall apply:

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- (1) Must be set back from any property line a distance equal to or greater than its height.
 - (2) Maximum allowable time at any one location is 30 days.
 - (3) Permits will be required for each location.
 - (4) Displays attached to buildings or vehicles are prohibited.
- k. *Permit fees.*
The permit fee for on-premise signs shall be \$35.00 per sign.
- l. *Prohibited signs.* Strictly prohibited are signs which:
- (1) Are of a size, shape, location, movement, content, coloring or manner of illumination which may be confused with or construed as a traffic-control device or which hides from view any traffic or street sign or signal.
 - (2) Street signs, banners and streamers suspended over or above dedicated streets or alleys are prohibited.
- m. *Illuminated and electronic signs.* Illuminated and electronic variable message signs shall be constructed and located so as to protect the general welfare of all citizens and the safety of the motoring public as follows.
- (1) The light from any illuminated sign shall be so shaded, shielded, or directed that the light intensity or brightness will not be hazardous or objectionable to the adjacent or surrounding areas.
 - (2) Beacons or revolving lights shall not be permitted.
 - (3) Neither the direct nor the reflected light from a primary light source shall create a traffic hazard to operators of motor vehicles on public thoroughfares.
- n. *Signs exempt from permit requirements.* The signs listed in this subsection are exempt from the permit requirements of this section only if the sign does not exceed six square feet in size, except where otherwise specifically enumerated, and complies with structural and safety requirements.
- (1) Residential name plate signs for single-family and two-family residences.
 - (2) Street number signs in all districts for all uses.
 - (3) Directional signs erected solely for the purpose of:
 - a. Identifying and giving directions for phone booths, restrooms, and parking areas.
 - b. Providing directions to motorists within parking lots and structures.
 - c. Aiding and directing the movements of pedestrians.
 - (4) Signs protecting private property or identifying property hazards.
 - (5) Temporary signs for the purposes listed below, which shall be removed upon completion of activity (in real estate, completion shall mean closing) or project denoted by sign:
 - a. Identifying the location of rummage and garage sales.
 - b. On-premises advertising of residentially zoned property for sale, lease or rent, including open house signs up to eight square feet.
 - c. Contractor, developer or construction project identification signs and limited to a maximum size of forty square feet.
 - d. Political signs located on residential zoned property up to thirty two square feet.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- (6) Notices posted by public agencies (e.g., notice of zoning change).
 - (7) Public utility signs and safety signs required by law.
5. *Off-premise signs.*
- a. *Location of signs.*
 - (1) No off-premise sign shall be permitted in any residential or commercial zoned area as defined by the official zoning map of the City of Natchitoches.
 - (2) Approved off-premise signs shall be permitted in any industrial zoned areas as defined by the official zoning map of the City of Natchitoches.
 - (3) Signs to be erected in the Historic District shall conform with the provisions of Natchitoches Code, Chapter 16.1 Article III. Section 16.1-40.
 - (4) The following requirements shall apply:
 - (i) Off-premise signs must maintain a setback of ten (10) feet from the front property line.
 - (ii) No side yard will be required.
 - (iii) No rear yard will be required unless the adjacent property is a residential zoned district where the rear yard will be twenty-five (25) feet.
 - (iv) No off-premise sign shall be located on or project over a building.
 - b. *Size of signs.*
 - (1) The following sign requirements per location for each face are as specified in Industrial zoning districts.
 - Maximum area of total sign surface per side (square feet)350
 - Maximum height of total sign surface per side (feet)15
 - Maximum length of total sign surface per side (feet)30
 - Maximum height of sign (feet)60
 - (2) The maximum area, heights of surface, and length of surface dimensions are exclusive of any border or trim, the base or supports, and other structural members.
 - (3) The maximum height of any sign shall be measured as the vertical distance between the highest part of the sign and either the ground level at its supports or the nearest edge of the adjacent interstate highway right-of-way or public street right-of-way, whichever is higher in elevation.
 - (4) When two off-premise sign surfaces are placed back-to-back or V-type on the same structure with an angle between them of not more than 60 degrees, each sign surface shall conform to the maximum size limitations. No more than two sign surfaces are allowed on one structure. No more than two sign faces may comprise one sign surface.
 - c. *Spacing of signs.* Property facing on the interstate system and public streets and all other property within 660 feet of the nearest edge of the right-of-way of such roads and streets which is zoned so as to permit the construction and maintenance of outdoor advertising signs shall be subject to the following spacing restrictions:
 - (1) For the purpose of this ordinance, each side of the interstate system or public street shall be considered separately.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- (2) V-type or back-to-back sign surfaces on the same structure with an angle between them of not more than 60 degrees shall be considered one sign. However, the foregoing notwithstanding, only two sign surfaces are allowed on one structure and each surface shall conform to the size and spacing requirements of this ordinance.
 - (3) The following spacing requirements shall be applied:
 - Interstate 491,000 feet
 - Public Streets100 feet
 - (4) The maximum distance between off-premise signs shall be measured along the nearest edge of the pavement between points directly opposite the signs on each side of the highway and shall apply only to off-premise signs located on the same side of the highway.
 - (5) An off-premise sign shall maintain a minimum spacing of 200 feet from any residential zoning district with frontage on the same side of the same street, as measured linearly along the same street right-of-way frontage.
 - (6) No sign shall be located within 200 feet of any public park of more than one acre.
- d. *Lighting.* Signs may be illuminated, subject to the following restrictions:
- (1) No revolving or rotating beam or beacon of light that simulates any emergency light or device shall be permitted as part of any sign. Flashing devices shall not be permitted upon a sign; however, illuminated signs which indicate such customary public service as time, date, temperature or other similar information shall be permitted.
 - (2) External lighting, such as floodlights, thin line and goose neck reflectors are permitted provided the light source is directed on the face of the sign and is effectively shielded so as to prevent beams or rays of light from being directed or reflected onto any portion of the interstate highway or public street.
- e. *Permit fees.* The chief building official shall collect twenty-five cents (\$0.25) per square foot per sign for all off-premise signs.
- f. *Temporary signs.*
- (1) Except as herein after provided, off-premise temporary signs related to political elections or off-premise temporary signs in connection with nonprofit promotions or special events may be erected in any zoning district of the city but not within the public right-of-way provided they are of community-wide interest and approved for placement by the chief building official.
 - (2) Off-premise temporary signs placed in residential areas shall not exceed 32 square feet in area and no such sign in other zoning districts shall not exceed 32 square feet. Such temporary signs shall be removed within one week of the event's conclusion. For the purpose of this subsection, "temporary signs" shall refer to those signs described in subsection g(4) which follows.
- g. *Prohibited signs.* The following signs shall not be permitted to remain or be erected.
- (1) Signs and structures not meeting construction standards.
 - (2) Signs which have been erected without a city permit.
 - (3) Signs which are illegal under state laws or regulations.
 - (4) Signs that are not securely fixed on a substantial structure, securely connected to the ground in such a way that it cannot easily be moved from one location to another, including trailer-mounted signs.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

- (5) Signs which attempt or appear to regulate, warn or direct the movement of traffic which interferes with, imitates or resembles any official traffic sign, signal or device.
 - (6) Signs which are erected or maintain upon trees or painted or drawn upon rocks or other natural features.
 - (7) Signs located on public property, unless placed thereon under lease arrangements or otherwise permitted by legal authority.
 - (8) Signs which contain statements, words, or pictures of an obscene nature as defined by law.
 - (9) Signs which contain as part of the message mirror-like surfaces.
 - (10) Signs which are constructed so as to periodically change the direction toward which any plane containing the sign surface area is oriented.
 - (11) Signs which emit smoke, vapor, particles, or odor.
 - (12) Signs which are not consistent with the standards in this section.
- h. *Visible sign backs.* Visible backs of signs shall be suitably painted or otherwise covered to present a neat and clean appearance.
 - i. *Owner identification.* All off-premise signs shall include an identification plaque 200 square inches or less on each sign surface. The plaque shall contain the name (or easily recognized logo) of the sign owner and be clearly legible.
 - j. *Installer requirements.* All persons and sign companies operating off-premise signs in the city must be licensed and submit to the chief building official an annual certificate of liability insurance with minimum limits of \$100,000.00 for any one accident, prior to the issuance of any permit. This section does not apply to the erection of signs as set forth in subsection "f." (Temporary Signs).
6. *Enforcement.* The chief building official shall have the authority to determine compliance with the provisions of this ordinance. Upon presentation of proper credentials, he or his authorized representative may enter any building, structure or premises in the city to perform any duty imposed upon him by this ordinance.
 7. *Permit requirement.* No sign shall be erected, altered, or relocated without first securing a permit from the chief building official. No permit will be required when changing out the sign face of an existing business. However, a permit will be required when changing out the sign face to a new business or ownership. Such permit shall contain the location of the sign structure, the name and address of the sign owner, the sign erector, a drawing or drawings showing the design and location of the sign and such other pertinent information as the building inspector may require to ensure compliance with all ordinances of the city.
 8. *Sign removal.* The chief building official may order the removal of any sign erected or maintained in violation of this ordinance. He shall give 30 days written notice by certified mail to the owner of such sign or of the building, structure or premises on which such sign is located to remove the sign or to bring it into compliance. However, in the case of temporary signs, the chief building official shall only be required to give 7 days written notice by certified mail. He may remove a sign at cost to the owner, immediately and without notice if, in his opinion which shall be final, the sign presents an immediate threat of danger to the safety of the public or if the sign is located within the right-of-way.
 9. *Nonconforming signs.* On premise and off-premise signs legally in existence prior to the adoption of this ordinance and not conforming to the provisions of this ordinance shall be considered "grand fathered" and shall not be enlarged in overall dimensions or otherwise altered except to conform to the provisions of this ordinance. Such nonconforming sign may be rebuilt at its existing location or an alternate location provided that written application is made by

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

the owner to the City Council and after notice is given to all property owners within 300 feet of the subject property and a public hearing is held. However, no alternative site shall be approved in any area zoned "Residential" under the Zoning Ordinance. Nothing contained herein shall be construed to prevent normal maintenance and repairs, repainting, or posting of such signs or structures.

10. *Penalty.* The fine or penalty for violating any provisions of this ordinance shall be as set forth and prescribed at Section 1-9 of the Code of Ordinances of the City of Natchitoches.

(Ord. No. 3-1989, § 1, 3-13-89; Ord. No. 64-2001, §§ 6—9, 7-9-2001; Ord. No. 98-2001, § 1, 11-12-2001; Ord. No. 06-2003, Art. I, 2-24-2003; Ord. No. 056-2007, § 1, 7-9-2007)

Section IV. Planned building groups.

A. POLICY ON PLANNED BUILDING GROUPS

1. *Purpose of provisions.* Under the regulations prescribed by this ordinance for the various districts, a separate Building Site is required for each structure other than an accessory structure. For the purpose of allowing and encouraging greater variety of design and flexibility of location for buildings comprising a planned group, the provisions of this section waive the requirement for a separate Building Site for each building and permit two or more buildings to be erected and maintained on the same Building Site when certain conditions hereinafter set forth are met. Examples of such building groups that might be erected under the provisions of this section are multiple-family dwelling projects and shopping centers.
2. *Limitations.* The provisions of this section are applicable in all districts except the R-1 and R-1.5 Districts.

B. CONDITIONS TO BE MET BY SPECIAL PLANS FOR BUILDING GROUPS

1. *District regulations.* Every building group erected and maintained under the provisions of this section shall comply with all of the regulations established by this ordinance for the district in which the building group is located except the regulation requiring a separate Building Site to be provided and maintained for each principal structure; such building group may be considered as one building for the purpose of complying with the building site area, height, yard and other regulations of the ordinance.
2. *Site plan and improvements.* A special plan for a building group shall show and there shall be provided the following:
 - a. *Drainage.* Adequate facilities for the drainage of surface water, including storm sewers, gutters, paving, and the proper design of finished grades;
 - b. *Circulation.* Adequate facilities for the safe and convenient circulation of pedestrian and vehicular traffic, including walks, driveways, off-street parking areas, off-street loading areas, and landscaped separation spaces between pedestrian and vehicular ways;
 - c. *Play areas.* In dwelling building groups, adequate and safely located play areas for small children;
 - d. *Protection of residence districts.* In business building groups near or adjoining residence districts, adequate provision (including fences, walls, and planting) to screen and protect the residence districts from parking lot illumination, headlights, fumes, heat, noise, blowing papers and dust, and the visual encroachment of commercial buildings, service areas, signs, and commercial activity on the privacy and neighborhood character of the residence district.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

3. *Building spacing and orientation.* The following spacing between buildings shall be measured perpendicularly between exterior walls; it does not apply to corner-to-corner placement of buildings where walls do not overlap:
 - a. *Spacing of buildings.* A building wall shall be located no closer to another building than a distance equal to the height of the taller building of the two; provided, further that for a building containing dwelling units such distance shall not be less than fifty (50) feet in the case of a wall having windows and not less than twenty-five (25) feet in the case of a wall having no windows;
 - b. *Orientation of buildings containing dwelling units.* In buildings containing dwelling units, walls having main window exposures shall be so oriented as to insure adequate light and air, to avoid exposure to highways and other high-volume trafficways, and to preserve visual and audible privacy between buildings;
 - c. *Access by emergency vehicles.* The buildings in a planned building group shall be so arranged that every inhabited building is accessible by emergency vehicles.

C. PROCEDURE ON SPECIAL PLANS FOR BUILDING GROUPS

1. *Application for approval.* An application for approval of a special plan for a building group shall be filed with the Office of Zoning Administration and shall contain the following information:
 - a. *Interest and ownership.* The applicant's name, address, and interest in the application, and the name, address, and interest of every person, firm, or corporation represented by the applicant in the application; the concurrence of the owner or owners of the entire land area included in the special plan and all incumbrances of such land; and sufficient evidence to establish that the applicants are all the owners and incumbrancers of the designated land area, intend actually to develop the designated area, and have both the means and ability to do so;
 - b. *Plans for building group.* Plans showing the land area included within the special plan, with the boundaries and dimensions and present zoning classification of the area, the adjoining properties and the present zoning classification thereof, all public and private easements and rights-of-way, both existing and proposed, within or bounding the designated area and the adjoining properties, the location of buildings and the use of the land on adjoining properties, proposed contours not to exceed two foot intervals and necessary finished grades, the location, number of stories, and gross floor area of proposed principal buildings and accessory buildings, curb cuts, driveways, off-street parking areas, off-street loading areas, walks, open areas to be set aside for special purposes, the location and height of proposed walls, fences, and screen planting, the types of paving or other surfacing to be used in the various areas, and such other site information as may be necessary to describe completely the proposed building group.
2. *Administrative examination.* Upon receipt of an application for approval of a special plan for a building group, properly and completely made out, the Office of Zoning Administration shall examine the application and make such investigation as is necessary. Within thirty days of the receipt of an application the Office of Zoning Administration shall transmit the application, together with its report and recommendation, to the Planning Commission. The Office of Zoning Administration may also transmit a copy of the application to any department or agency which might be affected by the approval of the application, and such department or agency may transmit its report and recommendation to the Planning Commission.
3. *Review by planning commission.* The Planning Commission shall review each application and shall approve or disapprove the special plan; approval may establish conditions and limitations, which may include a performance bond. The Planning Commission shall then return the application, together with its report of approval or disapproval to the Office of Zoning

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Administration, and the Office of Zoning Administration shall notify the applicant of the approval or disapproval of the special plan by the Planning Commission.

4. *Registration of special plan.* Upon approval of a special plan, a copy of such plan shall be registered among the records of the Office of Zoning Administration and shall thereafter be binding upon the applicants, their heirs, successors, and assigns, shall limit and control the issuance and validity of permits and certificates, and shall restrict and limit the use and operation of all land and structures within the area designated in such special plan to all conditions and limitations specified in such special plan and the approval thereof; provided, however, that the Office of Zoning Administration may, upon a showing of engineering necessity therefor, permit minor changes in the location of structures and site improvements if such minor changes will not change the character of the development, increase the gross floor area, intensity of use, or ground coverage, reduce the total building site area, the space between buildings, or the ratio of off-street parking area and off-street loading area to gross floor area, or otherwise cause the special plan to fail to meet the conditions specified herein.
5. *Amendment or withdrawal of special plan.* Pursuant to the same procedure and subject to the same limitations and requirements by which the special plan was approved and registered, any special plan may be amended or withdrawn, either partially or completely, if all land and structures remaining under such special plan comply with all the conditions and limitations of the special plan and all land and structures withdrawn from such special plan comply with all regulations established by this ordinance and unrelated to the special plan.

Section V. Off-Street parking and off-street truck loading.

A. OFF-STREET PARKING REQUIREMENTS

1. *Provision and maintenance required.* Except in the Central Business District area, as shown on the Zoning Map, no land shall be used or occupied, no structure shall be designed, erected, altered, used, or occupied and no use shall be operated unless the off-street parking facilities herein required are provided in at least the amount and maintained in the manner herein set forth; provided, however, that off-street parking facilities in excess of the amounts heretofore required by law, need be neither provided nor maintained for land, structures, or uses actually used, occupied and operated on the effective date of this ordinance unless, after the effective date of this ordinance, such land, structures, or uses are enlarged, expanded, or changed in which event, the land, structures, and uses hereby excluded shall not be used, occupied, or operated unless there is provided for the increment only of such land, structures, and uses, and maintained as herein required, at least the amount of off-street parking facilities that would be required hereunder if the increment were a separate land, structure, or use. The provision and maintenance of the off-street parking facilities herein required shall be the joint and several responsibility of the operator and owner of the use and the operator and owner of the land on which, or the structure in which, is located the use for which off-street parking facilities are required to be provided and maintained.
2. *Size and location.* Each off-street parking space shall be an area at least ten (10) feet wide and twenty (20) feet deep, exclusive of access or maneuvering area, ramps and other appurtenances. Maneuvering area, ramps and other appurtenances shall be located off the street right-of-way and except for one-family and two-family dwellings, facilities shall be so planned that vehicles do not have to back into the roadway. Except as otherwise permitted under a special plan for location or sharing of facilities, off-street parking facilities shall be located on the Building Site on which the use or structure for which they are provided is located. In residentially zoned districts, required off-street parking spaces shall not occupy more than fifty (50) percent of the required front yard.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

3. *Parking design standard.* Vehicular access to individual parking spaces shall comply with the minimum off-street parking requirements for 60-degree and 90-degree parking as furnished by the City of Natchitoches.
4. *Combined facilities.* The off-street parking facilities required of two (2) or more uses located on the same Building Site may be combined and used jointly, provided, however, that where the facilities are combined and used jointly by two (2) or more uses having different standards for determining the amount of facilities required, the off-street parking facilities shall be adequate in area to provide the sum total of the facilities required of all such uses; provided, further, that where the facilities are combined and used jointly by two (2) or more uses having the same standard for determining the amount of facilities required, all of such uses, for the purposes of this section, shall be considered as a single unit in determining the amount of off-street parking facilities required.
5. *Amounts of off-street parking facilities required.* At least the following amounts of off-street parking facilities shall be provided. The classification of uses shall be deemed to include and apply to all uses, and if the classification of any use for the purpose of determining the amount of off-street parking facilities to be provided is not readily determinable hereunder, the classification of the use shall be fixed by the Office of Zoning Administration.

Bed and Breakfast	One space per guest bedroom in addition to parking required for single-family dwelling unit
Single-family Dwellings	Two spaces per family dwelling unit
Town Houses	Two spaces per dwelling unit plus one visitor space per each two dwelling units
Dwelling, one- and two-family	One and one-half per dwelling unit
Dwelling, multi-family:	
Up to 500 square feet unit	One and one-half per unit
501 to 700 square feet unit	One and three-fourths per unit
700 square feet unit	Two per unit
Dwelling, multi-family; mid- or high-rise:	
Four to nine stories	One and one-fourth per unit
Over nine stories	One per unit
Hotels, Motels, Rooming Houses, Tourist	One space per guest room

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Courts	
Mobile Home Parks	Two space per mobile home lot
College Fraternities and Sororities	One space per two beds
Hospitals and Sanitariums	One space per two beds
Institutions for Children or the Aged, Convalescent Homes	One space per four beds
Theaters, Auditoriums	One space per three seats
Gymnasiums, Convention Halls, Churches	One space per three seats
Funeral Homes	One space per three seats in parlors and chapels
Schools, Elementary	One space per classroom
Schools, Secondary	Six spaces per classroom
Business College and Trade Schools	One space per four seats
Restaurant	One space per 100 sq. ft.
Beauty and Barber Shops	One space per 100 sq. ft.
Furniture Store, retail	One space per 400 sq. ft. reserved parking area with the following amounts surfaced for active use:

Square Feet	Percentage
Up to 5,000	100

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

5,001 to 10,000	90
10,001 to 15,000	85
15,001 to 20,000	80
20,001 to 30,000	70
30,001 to 40,000	60
Over 40,000	50

General Business, Commercial And Personal Service Establishments, Commercial Amusements, Offices, Filling Stations, Repair Shops, Medical and Dental Clinics:	
Up to 25,000 sq. ft.	One per 200 sq. ft. of gross floor area, adjusted accordingly to combination of individual uses
25,001 to 400,000 sq. ft.	One per 200 sq. ft. of leasable floor area, regardless of individual uses
Over 400,000 sq. ft.	One per 200 sq. ft. of leasable floor area, regardless of individual uses
Libraries, Museums, Art Galleries	One space per 300 sq. ft. of gross floor area
Clubs Lodges	One space per 300 sq. ft. of gross floor area
Industrial and Manufacturing Establishments	One space per 400 sq. ft. of gross floor area
Warehouses:	

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

Up to 10,000 sq. ft.	One per 400 sq. ft.
Over 10,000 sq. ft.	One per 1,200 sq. ft.

6. *Special plan for location or sharing of facilities.* Under the standard provisions of this ordinance, off-street parking facilities are required to be provided on the same Building Site as the use or structure for which the facilities are provided and are required to be provided in an amount based on the listed requirement for the individual use or structure. Pursuant to the procedure hereinafter set forth, either part or all of the required off-street parking facilities may be located on another site than the one occupied by the use or structure for which the facilities are provided; also, two (2) or more uses may share the same off-street parking facilities and each of such uses may be considered as having provided such shared space individually.
 - a. *Limitations on separation from use.* In B-3 Districts off-street parking facilities may be located on a separate site from the Building Site on which the use is located, provided such separate site is no farther from the Building Site of the use for which provided than four hundred (400) feet; all such distances shall be measured by a straight line from the nearest point of the Building Site on which the use is located to the nearest point of the separated off-street parking facilities.
 - b. *Limitations on sharing facilities.* No use shall be considered as individually having provided off-street parking facilities which are shared with one (1) or more other uses unless the schedules of operation of all such uses are such that none of the uses sharing the facilities require the off-street parking facilities at the same time as any other use sharing them.
 - c. *Applications for approval of special plan.* An application for approval of a special plan hereunder shall be filed with the Office of Zoning Administration by the owner or owners of the entire land area to be included within the special plan, the owner or owners of all structures then existing on such land area, and all encumbrances of such land area and structures and, additionally, shall contain sufficient evidence to establish that the applicants are all the owners and encumbrances of the designated land area and structures. The application shall contain such information required by this ordinance or deemed necessary by the Office of Zoning Administration and shall include plans showing the location of the uses or structures for which off-street parking facilities are required and the location at which the off-street parking facilities are proposed to be located.
 - d. *Review of application.* Applications hereunder shall be reviewed by the Office of Zoning Administration and either approved or disapproved; any approval may establish conditions and limitations.
 - e. *Registration of special plan.* Upon approval of special plan, a copy of such plan shall be registered among the records of the Zoning Commission and Clerk's Office and shall thereafter be binding upon the applicants, their heirs, successors and assigns, shall limit and control the issuance and validity of permits and certificates and shall restrict and limit the use and operation of all land and structures included within such special plans to all conditions and limitations specified in such plans and the approvals thereof.
 - f. *Amendment or withdrawal of special plan.* Pursuant to the same procedure and subject to the same limitations and requirements by which the special plan was approved and registered, any special plan may be amended or withdrawn, either partially or completely, if all land and structures remaining under such special plan comply with all the conditions and limitations of the special plan and all land and structures withdrawn from such special

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

plan comply with all regulations established by this ordinance and unrelated to the special plan.

B. OFF-STREET TRUCK LOADING FACILITIES

1. *Provision and maintenance required.* No structure shall be designed, erected, altered, used, or occupied unless the off-street truck loading facilities herein required are provided in at least the amount and maintained in the manner herein set forth; provided, however, that off-street truck loading facilities in excess of the amounts heretofore required by law need be neither provided nor maintained for structures actually used, occupied, and operated on the effective date of this ordinance unless, after the effective date of this ordinance, such structures are enlarged, expanded or changed, in which event the structures hereby excluded shall not be used, occupied, or operated unless there is provided for the increment only of such structures, and maintained as herein required, at least the amount of off-street truck loading facilities that would be required hereunder if the increment were a separate structure. The provision and maintenance of the off-street truck loading facilities required shall be the joint and several responsibility of the operator and owner of the structure for which the off-street truck loading facilities are required to be provided and maintained.
2. *Size and location.* For the purposes of this ordinance there shall be considered to be two sizes of off-street truck loading spaces, "large" and "small". Each "large" space shall have an overhead clearance of at least fourteen feet, shall be at least twelve feet wide, and shall be at least fifty feet long, exclusive of access or maneuvering area, platform, and other appurtenances; each "small" space shall have an overhead clearance of at least ten feet, shall be at least eight feet wide, and shall be at least twenty feet long, exclusive of access or maneuvering area, platform, and other appurtenances. Off-street truck loading facilities shall be located on the same Building Site on which the structure for which they are provided is located; provided, however, that facilities provided under a cooperative arrangement as hereinafter permitted may be located on another site not more than 300 feet from the structure for which they are provided.
3. *Maintenance.* Off-street truck loading facilities shall be constructed, maintained, and operated in accordance with the following specifications:
 - a. *Drainage and surfacing.* They shall be properly graded for drainage, surfaced with concrete, asphaltic concrete, or asphalt, and maintained in good condition, free of weeds, dust, trash, and debris;
 - b. *Protective barriers.* They shall be provided with barriers of such dimensions that occupants of adjacent structures are not unreasonably disturbed, either by day or night, by the movement of vehicles;
 - c. *Lighting.* Lighting facilities shall be so arranged that they neither unreasonably disturb occupants of adjacent residential properties nor interfere with traffic;
 - d. *Entrances and exits.* They shall be provided with entrances and exits so located as to minimize traffic congestion.
4. *Cooperative establishment and use of facilities.* Requirements for the provision of off-street truck loading facilities with respect to two or more structures may be satisfied by the permanent allocation of the requisite number of spaces for each use in common truck loading facility, cooperatively established and operated; provided however, that the total number of spaces designated is not less than the sum of the individual requirements unless, in the opinion of the Zoning Administrator, a lesser number of spaces will be adequate, taking into account the respective times of usage of the truck loading facilities by the individual users, the character of the merchandise, and related factors. In order to eliminate a multiplicity of individual facilities, to conserve space where space is at a premium, and to promote orderly development generally, the Office of Zoning Administration is hereby authorized to plan and group off-street truck

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

loading facilities cooperatively for a number of truck loading generators within close proximity to one another in a given area, and especially in the central business district, in such manner as to obtain a maximum of efficiency and capacity, provided consent thereto is obtained from the participants in the cooperative plan.

5. *Amount of off-street truck loading facilities required.* At least the following amounts of off-street truck loading facilities shall be provided for all structures containing uses devoted to commerce, business, industry, manufacturing, storage, warehousing, processing, offices, professional purposes, hotels, multiple-family dwellings, hospitals, airports, railroad terminals, and similar purposes; provided, however, that structures required to provide and maintain less than five off-street parking spaces as per Section V shall be exempt from these requirements:

Sq. Ft. of Gross Floor Area	Required No. of Spaces
0 up to & including 12,500	1 (small)
12,501 up to & including 25,000	2 (small)
25,001 up to & including 40,000	1 (large)
40,001 up to & including 100,000	2 (large)
For each additional 80,000 over 100,000	1 (large)

(Ord. No. 64-2001, § 11, 7-9-2001; Ord. No. 007-2008, § 1, 4-14-08)

Section VI. Nonconforming uses and structures.

A. NONCONFORMING USES: REGULATIONS

1. *Continuance of nonconforming uses.* Except as hereinafter provided, the lawful operation of a nonconforming use as such use existed on the effective date of this ordinance or on the effective date of any amendment hereto by which the use became a nonconforming use, may be continued.
2. *Maintenance of number of dwelling units.* The number of dwelling units in a nonconforming dwelling use shall not be increased over or exceed the number of dwelling units existing in the nonconforming use on the effective date of this ordinance.
3. *Expansion or enlargement of nonconforming uses.* The land area occupied by any nonconforming use on the effective date of this ordinance, or on the effective date of any amendment hereto by which the use became a nonconforming use, shall not be increased except to provide open off-street parking space or open off-street loading space for the nonconforming use, such space to be maintained in accordance with the regulations herein established.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

4. *Extension of nonconforming uses in structures.* A nonconforming use in a structure may be extended throughout the structure provided no structural alterations, except those required by law or ordinance, are made therein.
5. *Change in nonconforming uses.* Except as hereinafter provided, a nonconforming use may be changed to another use enumerated in the same group of Permitted Uses, or in the group of Permitted Uses of a more restricted district, and when so changed shall not thereafter be changed back to the former nonconforming use; a nonconforming use shall not be changed to another use enumerated only in the group of Permitted Uses of a less restricted District. A nonconforming use not conducted in a structure, or one in which a structure is incidental to the use of the land, shall not be changed to any other nonconforming use.
6. *Termination of nonconforming uses.* Except as hereinafter provided, a nonconforming use that has been abandoned or discontinued for a period of six months shall not thereafter be reestablished.
 - a. *Open land nonconforming uses.* A nonconforming use not conducted in a structure, or one in which a structure is incidental to the use of the land, shall, after three years from the effective date of this ordinance, become a prohibited and unlawful use and shall be discontinued.
 - b. *Destruction, damage, or obsolescence of structures.* The right to operate and maintain any nonconforming use shall terminate whenever the structure or structures in which the nonconforming use is operated and maintained are damaged, destroyed, or become obsolete or substandard beyond the limits hereinafter established for the termination of nonconforming structures.

B. NONCONFORMING STRUCTURES: REGULATIONS

1. *Continuance of nonconforming structures.* Except as hereinafter provided, any nonconforming structure may be occupied and operated and maintained in a state of good repair.
2. *Enlargement or extension of nonconforming structures.* A nonconforming structure in which a nonconforming use is operated shall not be enlarged or extended; a nonconforming structure in which only permitted areas are operated may be enlarged or extended if the enlargement or extension can be made in compliance with all of the provisions of this ordinance established for structures in the district in which the nonconforming structure is located.
3. *Restoration of damaged nonconforming structures.* A nonconforming structure damaged in any manner and from any cause whatsoever to the extent of not more than 75% of its replacement cost may be restored, provided restoration is begun within one year and completed within two years of the date of the damage; provided, further, that any structure so restored shall conform to the height, building site area, and yard requirements of the district in which it is located and to the off-street parking requirements and the off-street loading requirements of this ordinance.
4. *Restoration of obsolete nonconforming structures.* A nonconforming structure which becomes obsolete or substandard under any applicable ordinance and for which the cost of placing such structure in lawful compliance with the applicable ordinance exceeds 50% of the replacement cost shall be removed.

Section VII. Administration and enforcement.

A. GENERAL PROVISIONS FOR ADMINISTRATION AND ENFORCEMENT

1. *Applicability to all land and structures.* No land shall be used or occupied and no structure shall be erected, altered, used, or occupied except in conformity with all regulations herein established and upon performance of all conditions herein set forth.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

2. *Permits and licenses.* No building or other permit, license, or other documents of approval, the use of which may be subject to the provisions of this ordinance, shall be issued by any department, agency, or board of the municipality until the Office of Zoning Administration shall have certified that the use to be made of the permit, license, or other document is in full compliance with the provisions of this ordinance.
3. *Certificate of occupancy.* Except as hereinafter provided, no structure, or land shall be used, occupied, or changed in use until a Certificate of Occupancy shall have been issued therefor by the Office of Zoning Administration, stating that the proposed use of land or the structure and the proposed use thereof is in full compliance with the provisions of this ordinance.
 - a. *Structures.* Application for a Certificate of Occupancy for a new structure or for an existing structure to be altered shall be made coincident with application for a building permit; after erection or alteration of such structure shall have been completed in compliance with the provisions of this ordinance and within three clear legal days after written request is made to the Office of Zoning Administration the Certificate of Occupancy shall be issued.
 - b. *Land.* Application for a Certificate of Occupancy for the use of vacant land or for a change in the character of the use of land shall be made before any such land is occupied or used, and a Certificate of Occupancy shall be issued by the Office of Zoning Administration within three clear, legal days if such proposed use or change in use is in compliance with the provisions of this ordinance.
 - c. *Farming, truck gardening and livestock raising.* The use of land for farming, truck gardening, and livestock raising and the erection and alteration of structures that are accessory to such use of the land are exempted from the requirement for a Certificate of Occupancy.
4. *Plans required.* Each application for a Certificate of Occupancy for a new structure or for the alteration of an existing structure shall be accompanied by a drawing or plat, in duplicate, showing the site plan, the location of the building on the site, accurate dimensions of the building and site, location of off-street parking and off-street loading spaces required, and such other information as may be necessary for the enforcement of these regulations.
5. *Prior building permits.* Nothing herein contained shall require any change in the plans, construction, or designated use of a structure for which a building permit has been heretofore legally issued and the construction of which shall have actually begun within ninety days of the date of such permit and which entire structure shall be completed, according to such plans as are filed, within two years after the effective date of this ordinance; provided, however, that any permit which does not authorize the alteration or erection of a designated structure on the basis of complete plans and specifications shall not be deemed a building permit and shall not come within the foregoing exclusion.
6. *Offenses and liabilities preserved.* All offenses committed and all liabilities incurred prior to the effective date of this ordinance shall be treated as though all prior applicable zoning ordinances and amendments thereto were in full force and effect for the purpose of sustaining any proper suit, action, or prosecution with respect to such offenses and liabilities.
7. *Violations.* Any person, firm, or corporation violating any provision of this ordinance shall be fined upon conviction not less than five dollars nor more than one hundred dollars or imprisoned for not more than ten days or both, for each offense; each day that a violation is permitted to exist shall constitute a separate offense. The imposition of any penalty hereunder shall not preclude the municipality or any proper person from instituting any appropriate action or proceedings to require compliance with the provisions of this ordinance and with administrative orders and determinations made hereunder.

B. OFFICE OF ZONING ADMINISTRATION

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

1. *Establishment.* There is hereby established an Office of Zoning Administration, hereinafter called the "Office"; there is hereby vested in the Office the duties of administering and enforcing this ordinance and the power necessary for such administration and enforcement. The Zoning Administrator shall be the officer in charge of the Office.
2. *Administration.* In carrying out its administrative duties the Office shall:
 - a. *Building permits, certificates of occupancy, special plans.* Review all application for Building Permits, Certificates of Occupancy, and approvals of special plans hereunder; approve or disapprove such applications as they relate to zoning and make the necessary certifications and issue the necessary certificates and approvals of special plans.
 - b. *Applications for amendment.* Receive all applications for amendments to this ordinance, including the Zoning Map; refer such applications to the Planning Commission for examination and hearing and submit to the City Commission all such applications together with the recommendations of the Planning Commission.
 - c. *Procedures.* Establish and administer rules and regulations for proceedings with and within the Office, together with the regular forms for such proceedings, and a schedule of fees for processing amendments, issuing Certificates and registering in its records those matters and things required by this ordinance to be registered.
 - d. *Zoning map.* Maintain the Zoning Map showing the current classification of all land.
 - e. *Record of actions.* Maintain records of all action taken by the Office under this ordinance.
 - f. *Zoning commission.* Intervene for and on behalf of the Municipality in all public hearings before the Zoning Commission, present facts and information to assist the Commission in reaching a decision, resist and oppose any deviations from the standard provisions of this ordinance and have decisions of the Zoning Commission reviewed in a court of proper jurisdiction when, in the judgment of the Zoning Administrator and with the approval of the Mayor, such review is desirable.
 - g. *Initiation of amendments.* Propose and recommend the enactment of such amendments to this ordinance, including the Zoning Map as are made desirable or necessary because of changing conditions or because of judicial or administrative proceedings or for the purpose of improving administration and enforcement, all in accordance with the Amendment Procedure set forth herein.
3. *Enforcement.* In carrying out its enforcement duties the Office shall:
 - a. *Investigations and surveys.* Conduct investigations and surveys to determine compliance or non-compliance with the provisions of this ordinance. Incidental to such surveys and investigations, an authorized representative of the Office may enter into and upon any land or structure other than a dwelling to be inspected or examined.
 - b. *Enforcement.* Issue written orders requiring compliance with the provisions of this ordinance; such orders shall be served personally or by registered mail upon the person, firm, or corporation deemed by the Office to be violating the provisions of this ordinance; provided, however, that if such person, firm, or corporation is not the owner of the land on or the structure in which the violations is deemed to exist or to have occurred, a copy of the order shall be sent by registered mail to the owner of such land or structure, the owner to be determined from the tax roll for the preceding year in the office of the Tax Assessor of Natchitoches Parish. The date of mailing shall be deemed the date of service of any order served by registered mail.
 - c. *Legal proceedings.* Institute, in courts of proper jurisdiction, proceedings for the enforcement of the provisions of this ordinance and administrative orders and determinations made hereunder when in the judgment of the Zoning Administrator and with the approval of the Mayor such measures are desirable.

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

4. *Appeals from the office.* Any person aggrieved or any officer or department may appeal to the Zoning Commission from any order or decision of the Office.
 - a. *Procedure.* Such appeal shall be taken by filing with the Office and with the Zoning Commission, within the time provided by the rules of the Commission, a notice of appeal specifying the particular grounds upon which the appeal is taken. Upon receipt of a notice of appeal, the Office shall transmit to the Zoning Commission all of the original documents and materials, or true copies thereof, constituting the record upon which the order or decision appealed from was based.
 - b. *Effect of appeal.* An appeal from the Office to the Zoning Commission shall stay all proceedings unless the Zoning Administrator certifies that, by reason of the facts stated in the certificate, a stay would in his opinion cause imminent peril to life or property. When such certificate is filed, proceedings shall not be stayed except by a restraining order granted, after due notice to the Office, by the Zoning Commission or a court of proper jurisdiction.

Section VIII. Amendments.

- A. AMENDMENT POLICY. This ordinance, including the Zoning Map, is based on comprehensive planning studies and is intended to carry out the objective of a sound, stable, and desirable development. It is recognized that casual change or amendment to the ordinance would be detrimental to the achievement of that objective, and it is therefore declared to be the public policy to amend this ordinance only when one or more of the following conditions prevail:
 1. *Error.* There is a manifest error in the ordinance;
 2. *Change in conditions.* Changed or changing conditions in a particular area, or in the metropolitan area generally, make a change in the ordinance necessary and desirable;
 3. *Increase in need for sites for business or industry.* Increased or increasing needs for business or industrial sites, in addition to sites that are available, make it necessary and desirable to rezone an area or to extend the boundaries of an existing district;
 4. *Subdivision of land.* The subdivision or imminent subdivision of open land into urban building sites makes reclassification necessary and desirable.
- B. AMENDMENT PROCEDURE
 1. *By whom initiated.* Amendments to this ordinance may be initiated by the City Commission on its own motion or by the Planning Commission; amendments may also be initiated by any person, firm, or corporation by filing a written application therefor with the Office of Zoning Administration.
 2. *Amendment application.* An application for amendment to this ordinance shall contain at least the following:
 - a. *Interest and ownership.* The applicant's name, address, and interest in the application, and the name, address, and interest of every person, firm, or corporation represented by the applicant in the application, the concurrence of the owner or owners of the entire land area to be included within the proposed district, the owner or owners of all structures then existing thereon and all incumbrancers of such land area and structures, and, additionally, sufficient evidence to establish that the applicants are all the owners and incumbrancers of the designated land area and structures, intend actually to develop the designated area, and have both the means and ability to do so;
 - b. *Plat.* If the proposed amendment would require a change in the Zoning Map, a plat showing the land area which would be affected, the present zoning classification of the

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

area, the land area of all abutting districts and the present zoning classification thereof, public rights-of-way and easements bounding and intersecting the designated area and the abutting districts, the locations of all existing and proposed structures with supporting open facilities, and the specific ground area to be provided and continuously maintained for the proposed structure or structures;

- c. *Development schedule.* The time schedule for the beginning and completion of development planned by the applicant in the area; if the development is planned in stages, the time schedule shall indicate the successive stages and the development planned for each stage;
 - d. *Market information.* If the proposed amendment would require a change in the Zoning Map by rezoning an area from an existing Residential District to a free-standing Business District, would require more than double the area of an existing Business District entirely surrounded by Residential Districts, or would enlarge the area of an existing Business District by more than eight acres, the applicant shall furnish a written description of the market area to be served by the development, the population thereof, the effective demand for the proposed facilities and any other information describing the relationship of the proposed development to the needs of the applicable area;
 - e. *Public need.* The changed or changing conditions in the applicable area, or in the metropolitan area generally, that make the proposed amendment necessary and desirable for the promotion of the public health, safety, or general welfare;
 - f. *Effect of amendment.* A report giving the nature, description, and effect of the proposed amendment; if the proposed amendment would require a change in the Zoning Map, a description of the probable effect on the surrounding land uses and properties;
 - g. *Error.* The error in this ordinance that would be corrected by the proposed amendment.
3. *Administrative examination.* Upon receipt of an application for amendment, properly and completely made out, the Office of Zoning Administration shall examine the application and shall make such investigation as is necessary. Within thirty days of the receipt of an application the Office of Zoning Administration shall transmit the application, together with its report and recommendation, to the Planning Commission.
 4. *Preliminary hearing by planning commission.* The Planning Commission shall hold a preliminary hearing on each application for amendment to this ordinance and shall notify the applicant and the Office of Zoning Administration of the time and place of such preliminary hearing. After holding a preliminary hearing the Zoning Commission shall certify the application for public hearing and shall notify the applicant of the time and place of such public hearing. Within ten days after such notification the applicant shall:
 - a. *Additional information.* Furnish the Commission with such additional information as it may request;
 - b. *Owners of surrounding property.* If the proposed amendment would require a change in the Zoning Map, furnish the Commission with the name, description of property owned, and mailing address of each owner or property lying within a distance of three hundred feet of the fronting corners of the property the classification of which is sought to be changed, such distance to be measured along the property lines of the streets on which such property is located and along any other streets crossing the same or leading therefrom; in the case of a corner lot, the rear corner on the side street shall be considered a fronting corner;
 - c. *Fee.* Deposit fifty dollars (\$50.00) with the Planning Commission to cover the cost of advertising and processing the amendment.
 5. *Public hearing by planning commission.* The Planning Commission shall fix a

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

reasonable time for a public hearing and shall give public notice thereof, as required by law, as well as notice to the applicant and to the Office of Zoning Administration; if it deems necessary, the Commission may also notify the owners of surrounding property by mail as the names and addresses of such owners have been furnished by the applicant and may post a notice of such hearing on the property included within the proposed district. The Commission shall prepare a record of its proceedings for each case showing the grounds of its recommendation. The record of the proceedings shall be filed in the office of the Commission and shall be public record; a certified copy of the record of proceedings shall be transmitted to the City Council:

6. *Legislative disposition.* The City Council shall examine all such applications and reports submitted to it and shall take further action as it deems necessary and desirable. Before enacting any amendment the City Council shall hold a public hearing thereon and shall give public notice thereof, as required by law.
 - a. *Conditions.* If an application for an amendment to the Zoning Map contains representations that a specified area will be developed in accordance with a given plan and time schedule, and if the area is rezoned substantially as proposed in the application, the City Council shall fix conditions, which conditions may include a performance bond, in the amendment so as to require performance of the development in accordance with such plan and time schedule. Such conditions, among other things shall provide that, upon a failure to develop the area within the specified time and in accordance with the conditions fixed, no permit for the construction of any structures within the area shall be issued until the area has been examined and zoned or rezoned for its more appropriate use. Conditions fixed in amendments relating to rezoning shall run with the land in the area involved and shall be binding upon applicants for amendments, their heirs, successors, and assigns. As a mandatory condition for such amendment, or for any waiver of side yard dimensions or the like, the City Council shall fix in the ordinance a stipulation that the proposed construction shall begin on the property within six (6) months from the date of the passing of the ordinance, in default of which, the amendment shall cease to be effective and the property will either revert to its original zoning, or the waiver will [be] considered inapplicable, whichever is appropriate. However, the City Council may provide in the ordinance for such longer time as it considers appropriate, and may extend, by resolution the period for one (1) additional six-month period.
 - b. *Reconsideration.* No land for which an application for reclassification has been denied by the Planning Commission and the City Council shall be considered again by the Planning Commission or the City Council for at least six (6) months from the date such application was denied.

(Ord. No. 55-1977, § B, 9-26-77; Ord. No. 16-1981, § A, 5-11-81; Ord. No. 64-2001, § 12, 7-9-2001)

Section IX. Interpretation and validity.

- A. *Interpretation.* In interpreting and applying the provisions of this ordinance they shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. Whenever the provisions of this ordinance require a greater width or size of yards or other open spaces, a lower height of buildings or less number of stories, a greater percentage of lot to be left unoccupied, or other higher standards than are required in any other applicable statute, ordinance, or regulation, the provisions of this ordinance shall govern; whenever other applicable statutes, ordinances, or regulations require higher standards than the provisions of this ordinance, such other applicable statutes, ordinances, or regulations shall govern.
- B. *Validity.* The requirements and provisions of this ordinance are separable, and should any section or part thereof be declared by any court of competent jurisdiction to be unconstitutional or invalid the

PART II - CODE OF ORDINANCES

APPENDIX B ZONING REGULATIONS

decision of the court shall not affect the validity of the ordinance as a whole or any section or part thereof other than the section or part thereof so declared to be unconstitutional or invalid.

Section X. [Separability].

If any part of this Ordinance is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portion of this Ordinance.

Section XI. [Repealer].

All ordinances or parts of ordinances in conflict herewith are hereby repealed, but all ordinances or parts of ordinances which are not in conflict herewith are expressly retained.

INTRODUCED AND PASSED on this the 22nd day of July, 1974, by the Mayor and Commissioners of the City of Natchitoches.

FOOTNOTE(S):

--- (1) ---

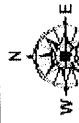
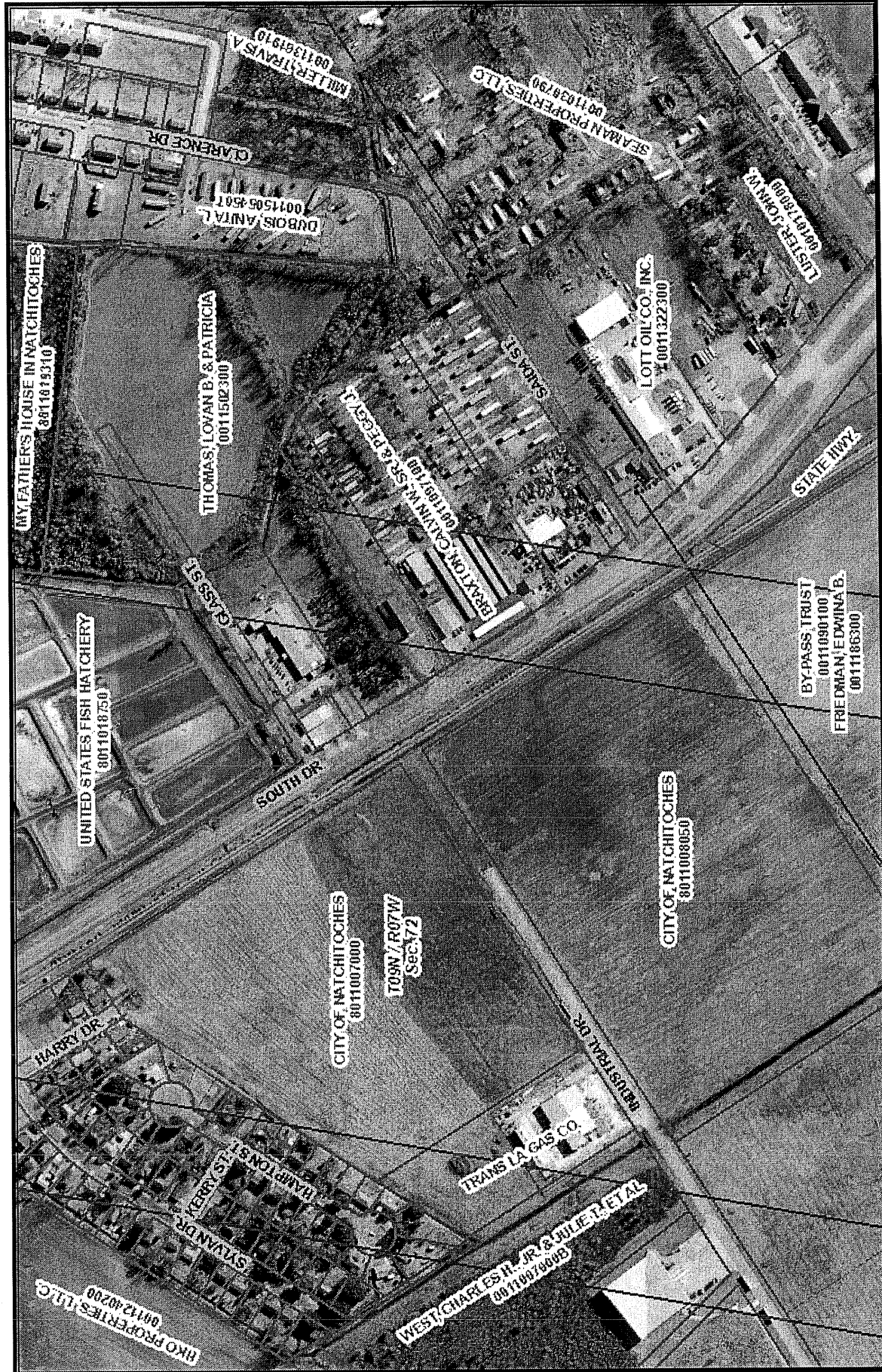
Editor's note— The zoning ordinance of the city, No. 1103 of July 22, 1974, is set out herein as enacted, except that catchlines have been added by the editor where necessary to facilitate indexing. Material enclosed in brackets has been added to the text where necessary for purposes of clarification, except that obviously misspelled words have been corrected without notation. ([Back](#))

Cross reference— Building regulations, Ch. 8; electrical regulations, Ch. 12; fire prevention and protection, Ch. 13; gas regulations, Ch. 15; health and sanitation, Ch. 16; housing regulations, Ch. 17; planning, Ch. 24; streets, sidewalks and public places, Ch. 28; subdivision regulations, App. A. ([Back](#))

EXHIBIT # 5

ASSESSOR'S MAP AND PARCEL LISTING

Natchitoches Parish Assessor



September 8, 2014

1 inch = 397 feet



DISCLAIMER: Every reasonable effort has been made to assure the accuracy of the data presented. The Assessor of Natchitoches Parish makes no warranties, express or implied, regarding the completeness, reliability or suitability of the site data and assumes no liability associated with the use or misuse of said data. The Assessor retains the right to make changes and update data on this site at anytime, without notification. The parcel data on the base map is used to locate, identify and inventory parcels of land in Natchitoches Parish for assessment purposes only and is not to be used or interpreted as a legal survey or legal document. Additional data layers not originating in the Assessor's Offices are also presented for informational purposes only. Before proceeding in any legal matter, all data should be verified by contacting the appropriate county or municipal office.

2014 PARCEL LISTING

OWNER
 CITY OF NATCHITOCHEs
 P. O. BOX 37
 NATCHITOCHEs, LA 71457

PARCEL# 8011008050

<i>Parcel Number</i> 8011008050	<i>Parcel Type</i> Exempt	<i>Ward</i> W01_Natch	<i>Physical Address</i>
------------------------------------	------------------------------	--------------------------	-------------------------

LOCATIONS- PARCEL#8011008050

<i>Subdivision</i>	<i>Lot</i>	<i>Block</i>	<i>Section</i>	<i>Township</i>	<i>Range</i>	<i>Tract</i>	<i>Unit</i>	<i>Condo</i>
			72	9	7	014		

ITEMS- PARCEL#8011008050

<i>Description</i> 1 EXEMPT PROP.	<i>Assessed Value</i> 0	<i>Homestead Value</i>	<i>Market Value</i>	<i>Units</i> 32.00	<i>HS Units</i> 0.00
Item Totals				32.00	0.00

LEGAL DESCRIPTION- PARCEL#8011008050

31.61 AC -- MORE OR LESS, IN SECS. 74, 73, 72 & 71-9-8, SHOWN ON SURVEY BY JACK E. FARMER, P.L.S., DATED MAY 16, 1996, AND MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A CONCRETE POST AT THE SW COR. OF LOT 1 OF THE COMMERCIAL LOTS IN NATCHITOCHEs SOUTH SUBD. BLOCK "B", AS SHOWN ON A SURVEY BY A. J. BROUILLETTE, R.L.S., RECORDED MAP BOOK 1, PG. 622, PROCEED THENCE N 02 DEG. 35 MIN. 38 SECS. EAST ALONG THE RIGHT OF WAY FOR ALLIANCE ROAD A DISTANCE OF 600.00 FT. TO THE PT. OF BEG. OF THE TRACT HEREIN DESCRIBED; PROCEED THENCE N 02 DEG. 35 MIN. 00 SECS. EAST ALONG SAID RIGHT OF WAY A DISTANCE OF 184.25 FT. TO THE POINT OF CURVATURE OF A CURVE TO THE RIGHT OF WITH A CENTRAL ANGLE OF 54 DEG. 55 MIN. 15 SECS. AND A RADIUS OF 577.27 FT. ALONG SAID RIGHT OF WAY AND HAVING AN ARC DISTANCE OF 553.34 FT. TO THE POINT OF TANGENCY, PROCEED THENCE N 57 DEG. 30 MIN. 10 SECS. EAST 2,613.10 FT., PROCEED THENCE S 32 DEG. 26 MIN. 25 SECS. EAST 948.62 FT., PROCEED THENCE S 57 DEG. 29 MIN. 34 SECS. WEST 1,726.06 FT., PROCEED THENCE N 87 DEG. 25 MIN. 00 SECS. WEST 440.45 FT., PROCEED THENCE S 02 DEG. 35 MIN. 00 SECS. WEST 389.00 FT., PROCEED THENCE N 87 DEG. 25 MIN. 00 SECS. WEST 1,075.00 FT. TO THE PT. OF BEG., LESS 3.15 AC TO RAINBOW LEARNING CENTERS, INC., LESS 13.9 AC TO ARK-LA-TEX INVESTMENT AND DEVELOPMENT CORP., LESS 12.8 AC TO ARK-LA-TEX INVESTMENT & DEVELOPMENT CORP.

NOTE:
 435/658; 445/621; 473/413; 512/874

OWNERSHIP INFORMATION

<i>HS</i>	<i>Owner Name</i>	<i>Primary</i>	<i>% Owned</i>	<i>% Tax</i>	<i>From</i>	<i>To</i>
NO	CITY OF NATCHITOCHEs	YES	100.0000	100.0000	10/27/2000	

PARISH TAXES

<i>Millage</i>	<i>Mills</i>	<i>Taxpayer</i>	<i>Homestead</i>
(01) PARISH WIDE	57.72	0.00	0.00
(02) GEN TAX INSIDE	1.73	0.00	0.00
(04) RED RIVER W/W	2.34	0.00	0.00
(19) SCH DIST #9	15.00	0.00	0.00
(52) NATCH LEVEE	4.22	0.00	0.00
EXEMPT	0.00	0.00	0.00
Totals	81.01	0.00	0.00

2014 PARCEL LISTING

CITY TAXES

<i>Millage</i>	<i>Mills</i>	<i>Taxes</i>
GEN. ALIMONY (NATCHITOCHEs)	7.03	0.00
SPECIAL TAX	10.00	0.00
Totals	17.03	0.00

2014 PARCEL LISTING

OWNER
 CITY OF NATCHITOCHE
 P. O. BOX 37
 NATCHITOCHE, LA 71457

PARCEL# 8011007000

<i>Parcel Number</i> 8011007000	<i>Parcel Type</i> Exempt	<i>Ward</i> W01_Natch	<i>Physical Address</i>
------------------------------------	------------------------------	--------------------------	-------------------------

LOCATIONS- PARCEL#8011007000

<i>Subdivision</i>	<i>Lot</i>	<i>Block</i>	<i>Section</i>	<i>Township</i>	<i>Range</i>	<i>Tract</i>	<i>Unit</i>	<i>Condo</i>
			74	9	7	013		
			74	9	7	022		

ITEMS- PARCEL#8011007000

<i>Description</i>	<i>Assessed Value</i>	<i>Homestead Value</i>	<i>Market Value</i>	<i>Units</i>	<i>HS Units</i>
1 EXEMPT PROP.	0			23.00	0.00
Item Totals				23.00	0.00

LEGAL DESCRIPTION- PARCEL#8011007000

22.65 AC -- LYING IN SECS. 74, 73 & 72-9-7 & SHOWN ON MAP SLIDE 369A, LESS 4.86 AC. TO TRANS LA GAS CO., LESS 20 AC TO ALLIANCE COMPRESSORS, LESS 20 AC TO ALLIANCE COMPRESSORS, LESS 6.55 AC. TO CHARLES H. WEST, JR., ET ALS, LESS 3.15 AC. TO ALLIANCE COMPRESSORS, LESS 13.90 AC. TO ARK-LA-TEX INVESTMENT AND DEVELOPMENT CORPORATION, LESS 8.81 AC. TO CHARLES H. WEST, JR., ET AL

NOTE:

"MISC. LAND -- INDUSTRIAL PARK"

OWNERSHIP INFORMATION

<i>HS</i>	<i>Owner Name</i>	<i>Primary</i>	<i>% Owned</i>	<i>% Tax</i>	<i>From</i>	<i>To</i>
NO	CITY OF NATCHITOCHE	YES	100.0000	100.0000	10/27/2000	

PARISH TAXES

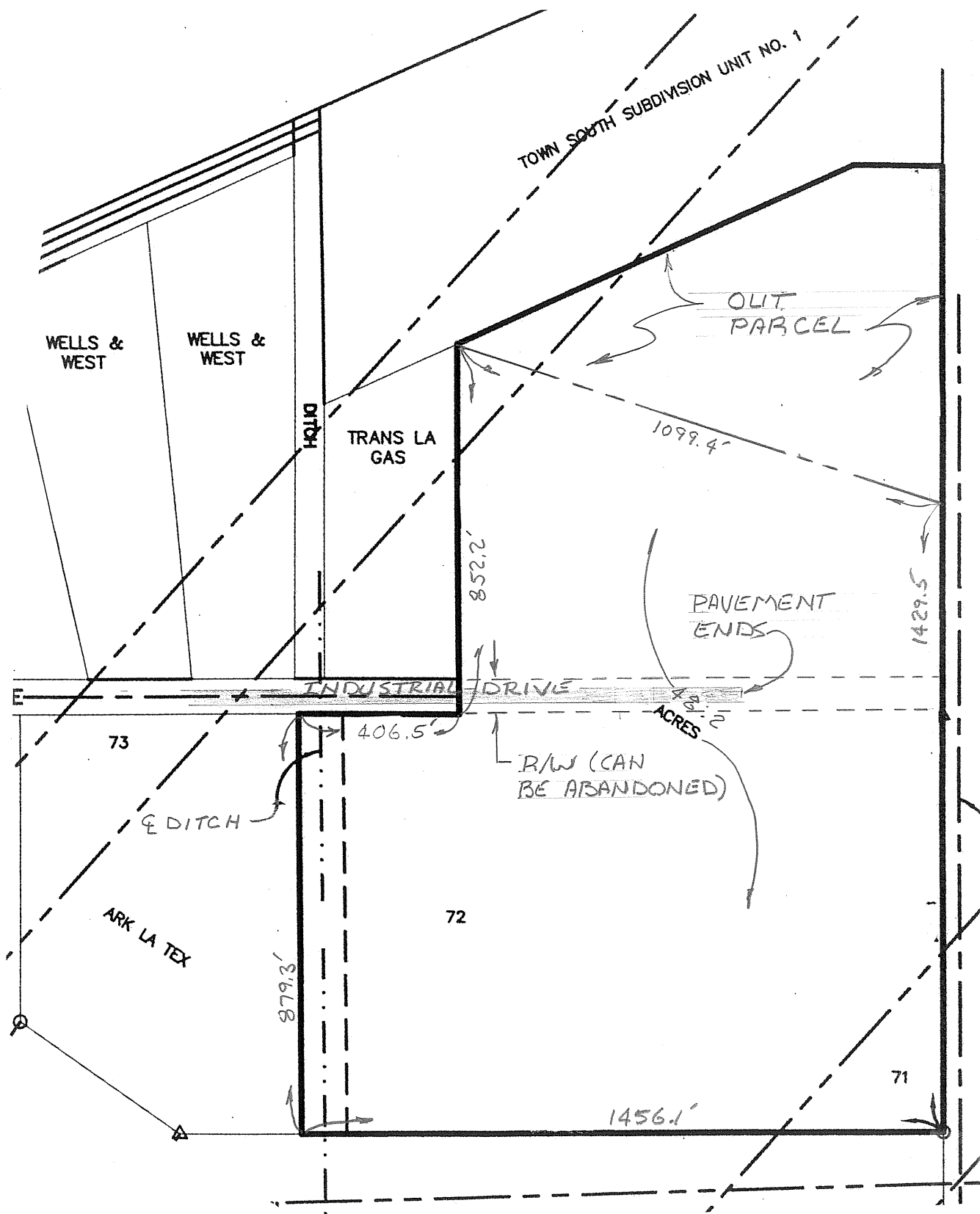
<i>Millage</i>	<i>Mills</i>	<i>Taxpayer</i>	<i>Homestead</i>
(01) PARISH WIDE	57.72	0.00	0.00
(02) GEN TAX INSIDE	1.73	0.00	0.00
(04) RED RIVER W/W	2.34	0.00	0.00
(19) SCH DIST #9	15.00	0.00	0.00
(52) NATCH LEVEE	4.22	0.00	0.00
EXEMPT	0.00	0.00	0.00
Totals	81.01	0.00	0.00

CITY TAXES

<i>Millage</i>	<i>Mills</i>	<i>Taxes</i>
GEN. ALIMONY (NATCHITOCHE)	7.03	0.00
SPECIAL TAX	10.00	0.00
Totals	17.03	0.00

EXHIBIT # 6

EXISTING SITE MAP



SCALE: 1:3832

EXHIBIT 6
EXISTING SITE
MAP

No.	Date	Revision	By

NATCHITOCHEES INDUSTRIAL PARK

COthren, Graff, Smoak Engineering, Inc.
 CIVIL • ENVIRONMENTAL • SANITARY • STRUCTURAL • MECHANICAL • ELECTRICAL
 6305 Westport Avenue • Shreveport, LA. 71129-2499 • Ph. 318-687-3732
 116 Hwy. 1 South Suite 105 • Natchitoches, LA. 71457 • Ph. 318-354-6888
 Est. 1992

Detailed	Checked	Eng.	Scale:	AS NOTED	Date:
	K.R.S.	K.R.S.	Job No.:	13025	Sht No.:

EXHIBIT # 7

SITE UTILITY MAP

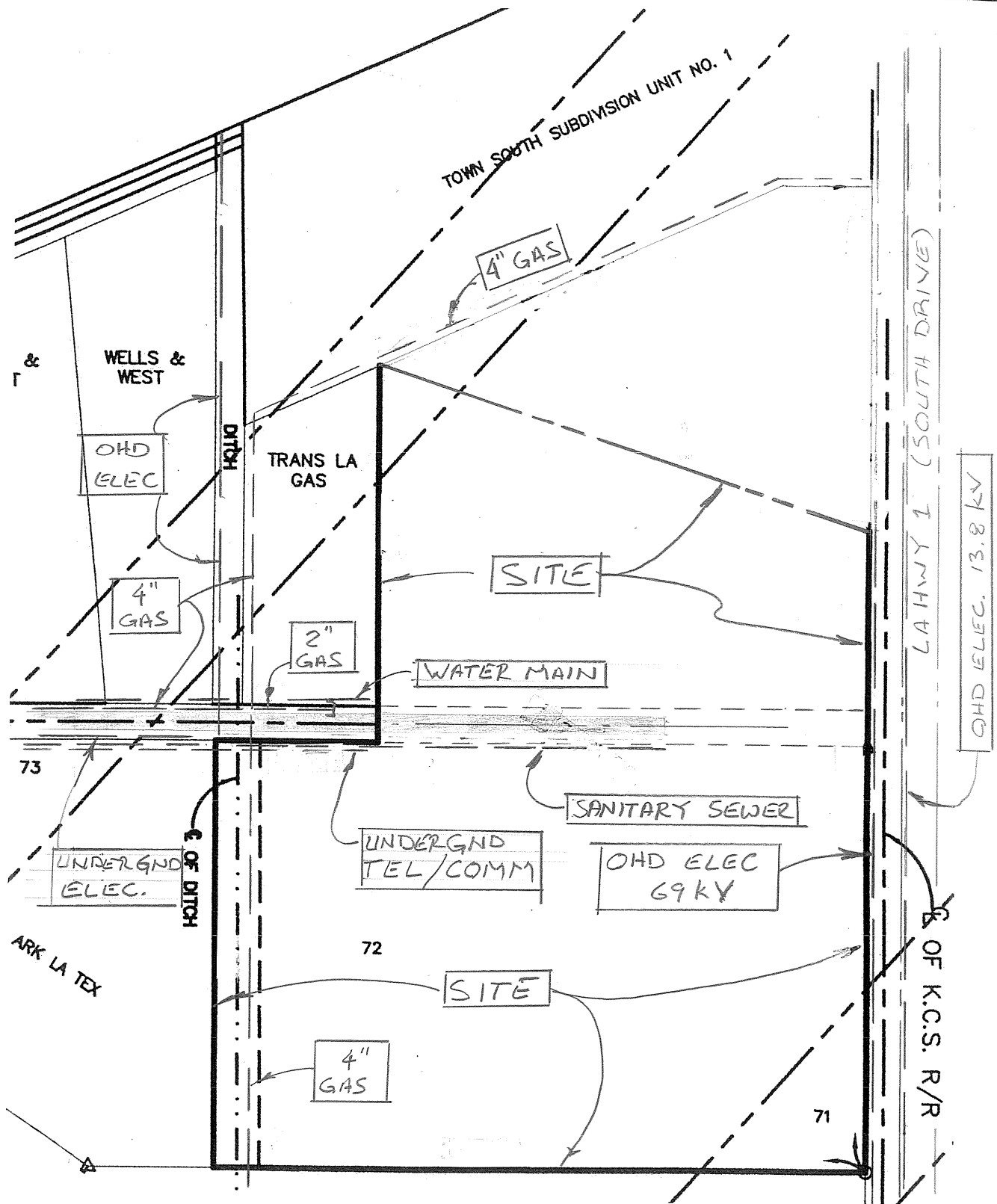


EXHIBIT 7
SITE UTILITY MAP

NATCHITOCHEES INDUSTRIAL PARK

No.	Date	Revision	By



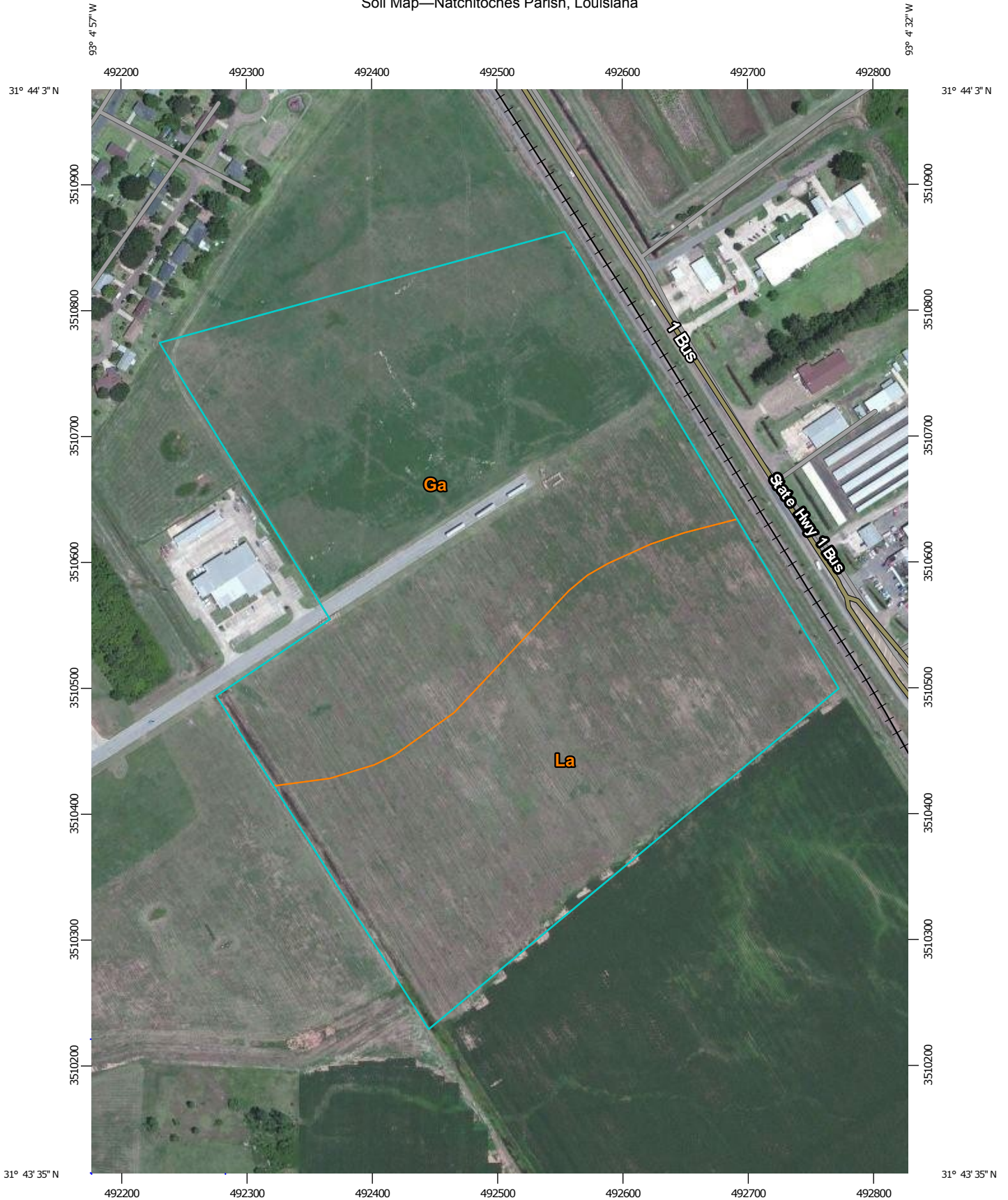
COTHREN, GRAFF, SMOAK ENGINEERING, INC.
 CIVIL • ENVIRONMENTAL • SANITARY • STRUCTURAL • MECHANICAL • ELECTRICAL
 6305 Westport Avenue • Shreveport, LA. 71129-2499 • Ph. 318-687-3732
 116 Hwy. 1 South Suite 105 • Natchitoches, LA. 71457 • Ph. 318-354-6888

Detailed	Checked	Eng.	Scale :	AS NOTED	Date :
	K.R.S.	K.R.S.	Job No.:	13025	Sht No.:

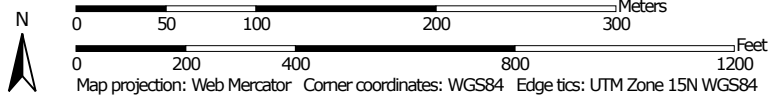
EXHIBIT # 8

SOIL SURVEY DATA

Soil Map—Natchitoches Parish, Louisiana



Map Scale: 1:4,200 if printed on A portrait (8.5" x 11") sheet.




Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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

Soil Survey Area: Natchitoches Parish, Louisiana
 Survey Area Data: Version 10, Dec 9, 2013

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

Date(s) aerial images were photographed: Jan 6, 2011—May 28, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Natchitoches Parish, Louisiana (LA069)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Ga	Gallion silt loam, 0 to 1 percent slopes	27.2	57.6%
La	Latanier clay, 0 to 1 percent slopes, rarely flooded	20.0	42.4%
Totals for Area of Interest		47.2	100.0%

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

References:

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Report—Engineering Properties

Absence of an entry indicates that the data were not estimated. The asterisk "*" denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007 (<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>).

Engineering Properties—Natchitoches Parish, Louisiana														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>Pct</i>	<i>Pct</i>					<i>Pct</i>	
Ga—Gallion silt loam, 0 to 1 percent slopes														
Gallion	87	B	0-10	Silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	93-100	86-99	26-41	9-19
			10-50	Clay loam, silt loam, silty clay loam	CL	A-6	0	0	100	100	94-100	87-100	26-47	9-25
			50-80	Very fine sandy loam, silt loam	CL-ML, CL	A-4, A-6	0	0	100	100	91-100	82-100	24-37	9-18
La—Latanier clay, 0 to 1 percent slopes, rarely flooded														
Latanier	90	D	0-6	Clay	CH	A-7-6, A-7-5	0	0	100	100	85-100	72-97	52-73	29-40
			6-30	Silty clay, clay	CH	A-7-6	0	0	100	100	92-100	91-100	50-66	29-40
			30-80	Very fine sandy loam, silt loam, silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	85-100	69-86	22-39	6-19

Data Source Information

Soil Survey Area: Natchitoches Parish, Louisiana

Survey Area Data: Version 10, Dec 9, 2013

Particle Size and Coarse Fragments

This table shows estimates of particle size distribution and coarse fragment content of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (K_{sat}), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Total fragments is the content of fragments of rock and other materials larger than 2 millimeters in diameter on volumetric basis of the whole soil.

Fragments 2-74 mm refers to the content of coarse fragments in the 2 to 74 millimeter size fraction.

Fragments 75-249 mm refers to the content of coarse fragments in the 75 to 249 millimeter size fraction.

Fragments 250-599 mm refers to the content of coarse fragments in the 250 to 599 millimeter size fraction.

Fragments >=600 mm refers to the content of coarse fragments in the greater than or equal to 600 millimeter size fraction.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (<http://soils.usda.gov>)

Report—Particle Size and Coarse Fragments

Particle Size and Coarse Fragments—Natchitoches Parish, Louisiana										
Map symbol and soil name	Horizon	Depth	Sand	Silt	Clay	Total fragments	Fragments 2-74 mm	Fragments 75-249 mm	Fragments 250-599 mm	Fragments >=600 mm
		<i>In</i>	<i>L-RV-H Pct</i>	<i>L-RV-H Pct</i>	<i>L-RV-H Pct</i>	<i>RV Pct</i>	<i>RV Pct</i>	<i>RV Pct</i>	<i>RV Pct</i>	<i>RV Pct</i>
Ga—Gallion silt loam, 0 to 1 percent slopes										
Gallion	Ap	0-10	-11-	-68-	14-21- 27	—	—	—	—	—
	Bt	10-50	- 7-	-69-	14-25- 35	—	—	—	—	—
	C	50-80	- 7-	-73-	14-20- 26	—	—	—	—	—
La—Latanier clay, 0 to 1 percent slopes, rarely flooded										
Latanier	Ap	0-6	-12-	-29-	40-59- 72	—	—	—	—	—
	Bss	6-30	-10-	-32-	40-59- 65	—	—	—	—	—
	2C	30-80	-27-	-54-	15-19- 27	—	—	—	—	—

Data Source Information

Soil Survey Area: Natchitoches Parish, Louisiana
 Survey Area Data: Version 10, Dec 9, 2013

Physical Soil Properties

This table shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In this table, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In this table, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, saturated hydraulic conductivity (K_{sat}), plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (oven-dry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute linear extensibility, shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates in the table are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity (Ksat) is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. The amount and type of clay minerals in the soil influence volume change.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In this table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter. The content of organic matter in a soil can be maintained by returning crop residue to the soil.

Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in the table as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and Ksat. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind and/or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are described in the "National Soil Survey Handbook."

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Reference:

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. (<http://soils.usda.gov>)

Report—Physical Soil Properties

Physical Soil Properties—Natchitoches Parish, Louisiana														
Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
										Kw	Kf	T		
	<i>In</i>	<i>Pct</i>	<i>Pct</i>	<i>Pct</i>	<i>g/cc</i>	<i>micro m/sec</i>	<i>In/In</i>	<i>Pct</i>	<i>Pct</i>					
Ga—Gallion silt loam, 0 to 1 percent slopes														
Gallion	0-10	-11-	-68-	14-21- 27	1.35-1.65	4.23-14.11	0.16-0.20	1.4-3.7	0.5-2.0	.43	.43	5	5	56
	10-50	- 7-	-69-	14-25- 35	1.35-1.70	4.23-14.11	0.15-0.19	1.4-5.2	0.5-1.0	.32	.32			
	50-80	- 7-	-73-	14-20- 26	1.35-1.70	4.23-14.11	0.15-0.19	1.3-3.4	0.0-0.5	.37	.37			
La—Latanier clay, 0 to 1 percent slopes, rarely flooded														
Latanier	0-6	-12-	-29-	40-59- 72	1.20-1.45	0.00-0.42	0.15-0.19	7.3-11.7	1.0-4.0	.32	.32	5	4	86
	6-30	-10-	-32-	40-59- 65	1.20-1.45	0.00-0.42	0.15-0.19	6.0-9.4	0.5-1.0	.32	.32			
	30-80	-27-	-54-	15-19- 27	1.30-1.65	0.42-14.11	0.15-0.19	1.0-3.6	0.5-1.0	.37	.37			

Data Source Information

Soil Survey Area: Natchitoches Parish, Louisiana
 Survey Area Data: Version 10, Dec 9, 2013

EXHIBIT # 9

WETLANDS INVENTORY MAP



U.S. Fish and Wildlife Service

National Wetlands Inventory

|||||

Sep 29, 2014



Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

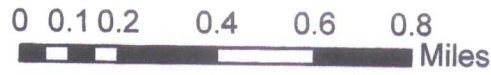
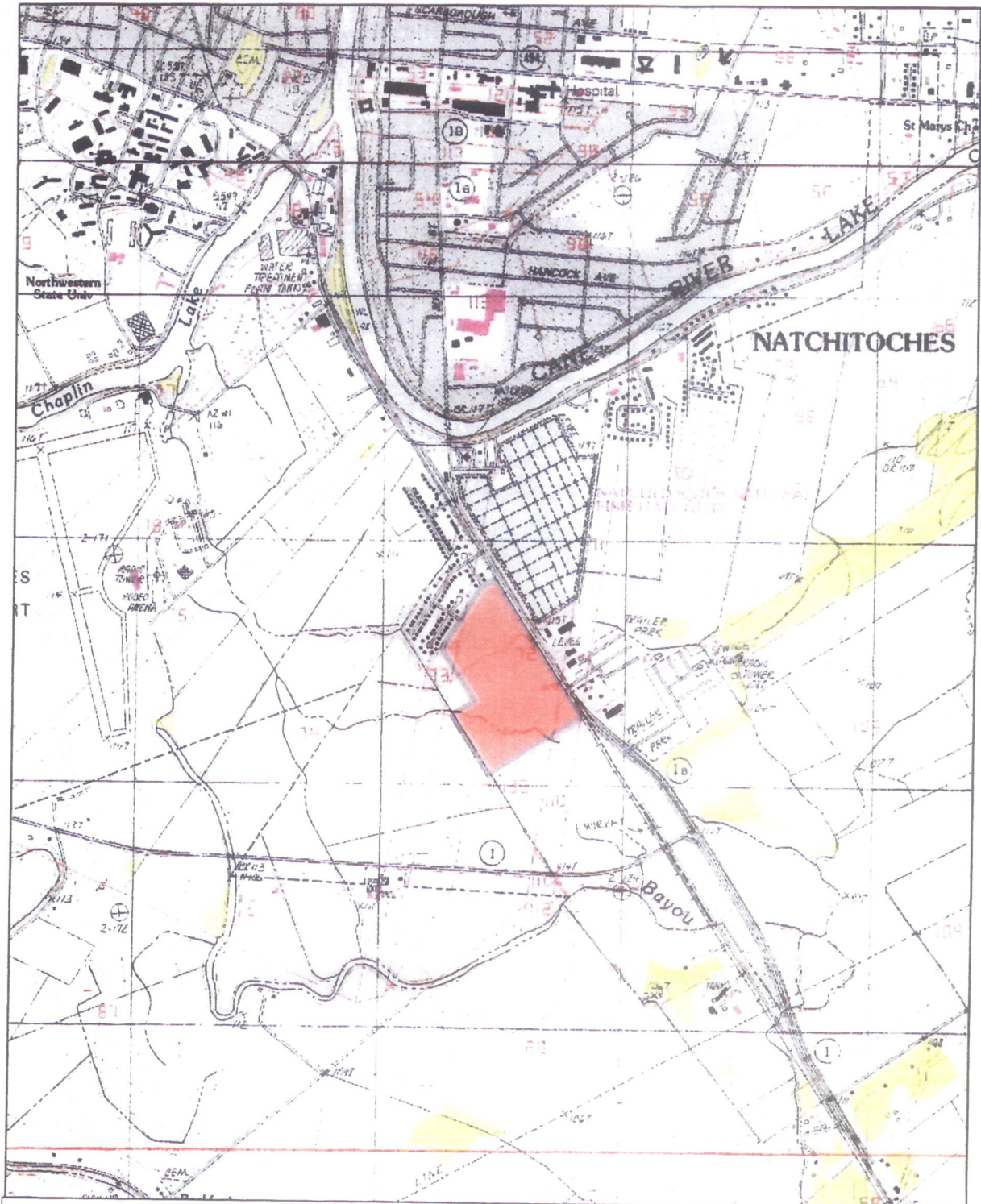
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

EXHIBIT # 10

ENVIRONMENTAL OVERVIEW

CITY OF NATCHITOCHEs
NATCHITOCHEs INDUSTRIAL PARK SITE
LAND GRANTS 71, 72, & 73
NATCHITOCHEs PARISH, LOUISIANA
LOCATION MAP



Legend

Project Area (59 acres)

ENVIRONMENTAL OVERVIEW

On January 30, 2014, Wayne Kilpatrick with NoLa Soil Services, Inc. conducted a wetland determination and environmental overview of the Natchitoches Industrial Park site. This investigation focused on issues and site conditions pertaining to Listed Endangered or Threatened Species and/or their habitat, areas that may be considered jurisdictional under Section 404 of the Clean Water Act and significant historical/cultural sites. Representative photographs, supporting soil data, vegetative survey and hydrology data were taken and are presented for documentation.

The proposed project site consists of 59 acres located in portions of Land Grants 71, 72, and 73, Natchitoches Parish, Louisiana. See the attached map showing the location and layout of the proposed project site.

SETTING AND CONDITIONS

LANDFORM - SOIL RELATIONS:

The landscape is on the Red River Alluvial Plain. The soils formed in recent loamy sediments. Surface characteristics and soil features indicate the exposed surface is an older natural levee of the Cane River. Geological erosion and weathering have resulted in a landscape with gently sloping convex natural levee and very gently sloping back slopes of the natural levee along Cane River.

SOILS:

The proposed project site was traversed on foot and several soil borings were observed, identified and classified. Two soil series were observed on these proposed project sites. These soils are listed below:

Roxana very fine sandy loam: These soils are well drained and are on the highest part of the landscape. A seasonal high water table is at 4.0' to 6.0' Dec. - Apr. They are classified as Typic Udifluvents. Slopes range from 1 to 2 percent. These soils are non-hydric and are not subject to flooding.

Gallion silt loam: These soils are on the middle back slopes of the natural levee. A seasonal high water table is at depths of greater than 6.0' below the surface layers. The Gallion soils are well drained and are classified as Typic Hapludalfs. These soils have more development in the subsoil layers as evidenced by the presence of Argillic horizons. Gallion soils are also non-hydric and are not subject to flooding.

LAND USE

The entire 59 acre parcel has been in cropland and used for hay production for many years. The present land use at the proposed site is hayland. Vegetation consist of grasses, legumes, and forbs. The entire site is located within the boundaries of the Natchitoches city limits. Adjacent properties are either used for residential, industrial, or farmland and hayland.

404 JURISDICTIONAL AREA

The on-site inspection suggests no 404 Jurisdictional areas (wetland or water of U. S.) will be subject to impact by the proposed project. An intermittent drainage ditch is adjacent to the southwest edge of the proposed site. This feature will not be impacted. This determination is based on data collected for soils, hydrology and vegetation (see attached data forms for Routine Wetland Determination).

HISTORICAL AND CULTURAL SITES

The entire project site has been precision leveled and graded due to agricultural operations such as the productions of row crops and hayland. A detailed cultural resourse study is being conducted by Cultural Resource Analysts, Inc. (CRA).

ENDANGERED SPECIES

According to current information on the Region 4 Listed Species by State, Endangered Species; U. S. Fish & Wildlife Service, the listed species for Natchitoches Parish, Louisiana, are the (3) following individuals:

1. Tern, Least (*Sterna Antillarum*) - Occurrence within parish is possible, status is endangered.
2. Sturgeon, Pallid (*Scaphirhynchus albus*)- Occurrence within parish is possible, status is endangered.
3. Woodpecker, Red-Cockaded (*Picoides Borealis*) – Occurrence within parish is known, status is endangered.

Listed below are more detailed descriptions and discussion of the species listed above:

1. The Least Tern occurs along major river systems such as Red River Ecosystem. The Least Tern takes advantage of constantly changing river pool stages and fish concentrations in pools by retreating flows. River impoundment, channelization, and levee construction have caused a decline in the desirable habitat. None of the above features are near the subject area. The proposed project should not impact any of the bird's habitat if it is ever present within the area.

2. The Pallid sturgeon is associated with bottoms of large, turbid, and relatively warm, free flowing rivers. The proposed project should not impact this species. There are no free flowing rivers within the project site.
3. The Red-cockaded woodpecker occurs in mature pine forests; more specifically, those with long leaf pines averaging 80 to 120 years old and loblolly pines averaging 70 to 100 years old. The Red-cockaded woodpeckers are a territorial and non-migratory species. Each group needs an average of 200 acres of old pine forest to support it needs. There is no existing habitat of old age pine near the proposed project; therefore, there should not be any impact on the bird's habitat if it is ever present within the area.

SUMMARY

In Summary, no Threatened or Endangered Species, no 404 Jurisdictional areas and no significant historical and cultural sites were found on the subject lands. A more detailed cultural resource investigation is being conducted by Cultural Resources Analysts, Inc. (CRA). This environmental overview provides reasonable certification that a diligent and reasonable effort was made on the day of the study to ascertain that all environmental issues were addressed.

POINT OF CONTACT

For additional information, please contact Mr. K. Randall Smoak of Cothren, Graff, Smoak Engineering, Inc. at the following address:

Cothren, Graff, Smoak Engineering, Inc.
6305 Westport Avenue
Shreveport, LA 71129-2499
318-687-3732

Or, contact Mr. Wayne Kilpatrick of NoLa Soil Services, Inc. at the following address:

NoLa Soil Services, Inc.
760 Highway 521
Haynesville, Louisiana 71038
Phone: (318) 624-2465
Fax: (318) 624-2465

CITY OF NATCHITOCHEs

NATCHITOCHEs INDUSTRIAL PARK SITE
LAND GRANTS 71, 72, & 73
NATCHITOCHEs PARISH, LOUISIANA

LOCATION FOR VEGETATION, HYDROLOGY AND SOILS DATA MAP



100 M

CITY OF NATCHITOCHEs

NATCHITOCHEs INDUSTRIAL PARK SITE
LAND GRANTS 71, 72, & 73
NATCHITOCHEs PARISH, LOUISIANA

INTRODUCTION TO ROUTINE WETLAND DETERMINATION DATA

The entire proposed project site was traversed on foot. Several soil borings were taken and vegetation data along with hydrologic conditions were noted and recorded. The Gallion and Roxana soils were observed. Presented are COE Data Sheets for the soils observed on this proposed project.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Natchitoches Industrial Park Site City/County: Natchitoches Sampling Date: 1-30-2014
 Applicant/Owner: City of Natchitoches State: LA Sampling Point: S-1
 Investigator(s): W. Wayne Kilpatrick Section, Township, Range: Land Grant 72
 Landform (hillslope, terrace, etc.): Alluvial Plain Local relief (concave, convex, none): Convex Slope (%): 1
 Subregion (LRR or MLRA): 131 Lat: N 31 43 57.5 Long: W 93 4 42.0 Datum: 83
 Soil Map Unit Name: Roxana very fine sandy loam NWI classification: U

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 type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Entire proposed project site is presently used for hayland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15) (LRR U)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> <td></td> </tr> </table>	<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)		Secondary Indicators (minimum of two required) <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)
<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)																					
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>																				
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																					
Remarks: Well drained soil on high part of natural levee of Cane River.																					

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

Sampling Point: **S-1**

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30'R</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
0 = Total Cover				
50% of total cover: <u>N/A</u>		20% of total cover: <u>N/A</u>		
Sapling/Shrub Stratum (Plot size: <u>30'R</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
0 = Total Cover				
50% of total cover: <u>N/A</u>		20% of total cover: <u>N/A</u>		
Herb Stratum (Plot size: <u>30'R</u>)				
1.	<u>Cynodon Dactylon</u>	<u>70</u>	<u>Y</u>	<u>FACU</u>
2.	<u>Vicia Angustifolia</u>	<u>25</u>	<u>N</u>	<u>FACU</u>
3.	<u>Lamium Amplexicaule</u>	<u>20</u>	<u>N</u>	<u>FACU</u>
4.	<u>Sorghum Halepense</u>	<u>20</u>	<u>N</u>	<u>FACU</u>
5.	<u>Trifolium Repens</u>	<u>15</u>	<u>N</u>	<u>FACU</u>
6.	<u>Andropogon Virginicus</u>	<u>15</u>	<u>N</u>	<u>FAC</u>
7.	<u>Rubus Trivialis</u>	<u>15</u>	<u>N</u>	<u>FAC</u>
8.				
9.				
10.				
11.				
12.				
180 = Total Cover				
50% of total cover: <u>90</u>		20% of total cover: <u>36</u>		
Woody Vine Stratum (Plot size: <u>30'R</u>)				
1.				
2.				
3.				
4.				
5.				
0 = Total Cover				
50% of total cover: <u>N/A</u>		20% of total cover: <u>N/A</u>		
Remarks: (If observed, list morphological adaptations below).				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>30</u>	x 3 = <u>90</u>
FACU species <u>150</u>	x 4 = <u>600</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>180</u> (A)	<u>690</u> (B)

Prevalence Index = B/A = 3.88

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 X

SOIL

Sampling Point: S-1

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		
0-6	5YR4/4	100					VFSL	
6-17	5YR4/6	100					VFSL	
17-26	5YR5/6	100					VFSL	
26-45	5YR4/6	100					SIL	

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: None
 Depth (Inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

The soil is identified as Roxana very fine sandy loam. These soils are well drained and are classified as Typic Udifluvents. Roxana soils are non-hydric and are not associated with wetlands.

WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Natchitoches Industrial Park Site City/County: Natchitoches Sampling Date: 1-30-2014
 Applicant/Owner: City of Natchitoches State: LA Sampling Point: S-2
 Investigator(s): W. Wayne Kilpatrick Section, Township, Range: Land Grant 72
 Landform (hillslope, terrace, etc.): Alluvial Plain Local relief (concave, convex, none): Convex Slope (%): 1
 Subregion (LRR or MLRA): 131 Lat: N 31 43 42.0 Long: W 93 4 44.6 Datum: 83
 Soil Map Unit Name: Gallion silt loam NWI classification: U

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

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	Is the Sampled Area within a Wetland? Yes _____ No <u>X</u>
Remarks: Entire proposed project site is presently used for hayland.	

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) _____ <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)	Secondary Indicators (minimum of two required) <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 <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks: Well drained soil on back slope of natural levee of Cane River.	

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

Sampling Point: S-2

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30'R</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	<u>0</u> = Total Cover			
	50% of total cover: <u>N/A</u>			20% of total cover: <u>N/A</u>
Sapling/Shrub Stratum (Plot size: <u>30'R</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
	<u>0</u> = Total Cover			
	50% of total cover: <u>N/A</u>			20% of total cover: <u>N/A</u>
Herb Stratum (Plot size: <u>30'R</u>)				
1.	<u>Sorghum Halepense</u>	<u>60</u>	<u>Y</u>	<u>FACU</u>
2.	<u>Vicia Angustifolia</u>	<u>50</u>	<u>Y</u>	<u>FACU</u>
3.	<u>Lamium Amplexicaule</u>	<u>40</u>	<u>N</u>	<u>FACU</u>
4.	<u>Andropogan Virgincicus</u>	<u>20</u>	<u>N</u>	<u>FAC</u>
5.	<u>Trifollum Repens</u>	<u>20</u>	<u>N</u>	<u>FACU</u>
6.	<u>Rubus Trivialis</u>	<u>15</u>	<u>N</u>	<u>FAC</u>
7.	<u>Cynodon Dactylon</u>	<u>15</u>	<u>N</u>	<u>FACU</u>
8.				
9.				
10.				
11.				
12.				
		<u>220</u> = Total Cover		
	50% of total cover: <u>110</u>			20% of total cover: <u>44</u>
Woody Vine Stratum (Plot size: <u>30'R</u>)				
1.				
2.				
3.				
4.				
5.				
		<u>0</u> = Total Cover		
	50% of total cover: <u>N/A</u>			20% of total cover: <u>N/A</u>
Remarks: (If observed, list morphological adaptations below).				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>35</u>	x 3 = <u>105</u>
FACU species <u>185</u>	x 4 = <u>740</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>220</u> (A)	<u>845</u> (B)

Prevalence Index = B/A = 3.84

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 X

SOIL

Sampling Point: S-2

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		
0-6	7.5YR4/4	100					SIL	
6-17	5YR4/6	100					SIL	
17-26	5YR5/6	90	5YR6/4	10	C	M	SICL	
26-45	5YR4/6	100					SICL	

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.)

<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)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
<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: None

Depth (Inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks: This well drained soil is identified as Gallion silt loam. Gallion soils are classified as Typic Hapludalfs. These soils are not associated with wetlands.

CITY OF NATCHITOCHEs
NATCHITOCHEs INDUSTRIAL PARK SITE
LAND GRANTS 71, 72, & 73
NATCHITOCHEs PARISH, LOUISIANA
SITE PHOTOGRAPHS



Photograph: 1

Project: Natchitoches Industrial Park Site

Photo Description: This view is in a northward direction along the west side of the proposed project site. The entire parcel of property is presently used for hay production. The landscape is a natural levee and the soils are well drained.



Photograph: 2

Project: Natchitoches Industrial Park Site

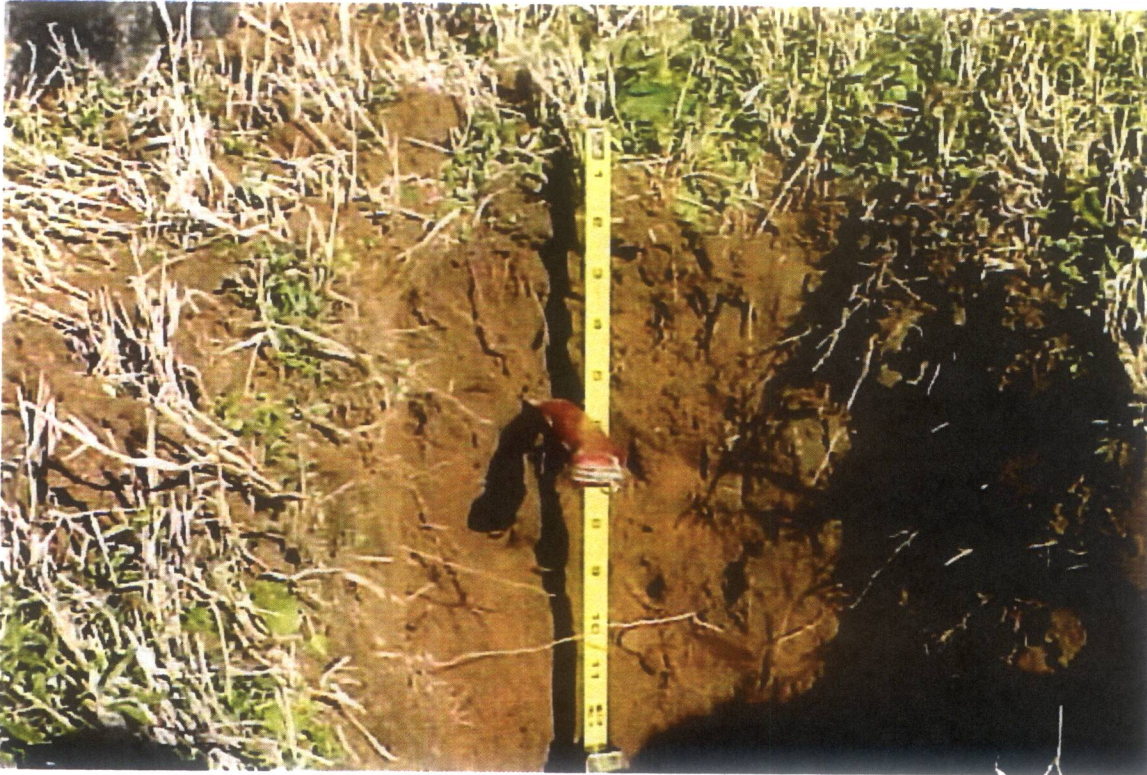
Photo Description: A northward view from the southwest corner of the proposed project site. This property has been in agricultural production for several years. It has been precision leveled and land graded for production of row crops such as cotton, corn, and soybeans. The soils are well drained.



Photograph: 3

Project: Natchitoches Industrial Park Site

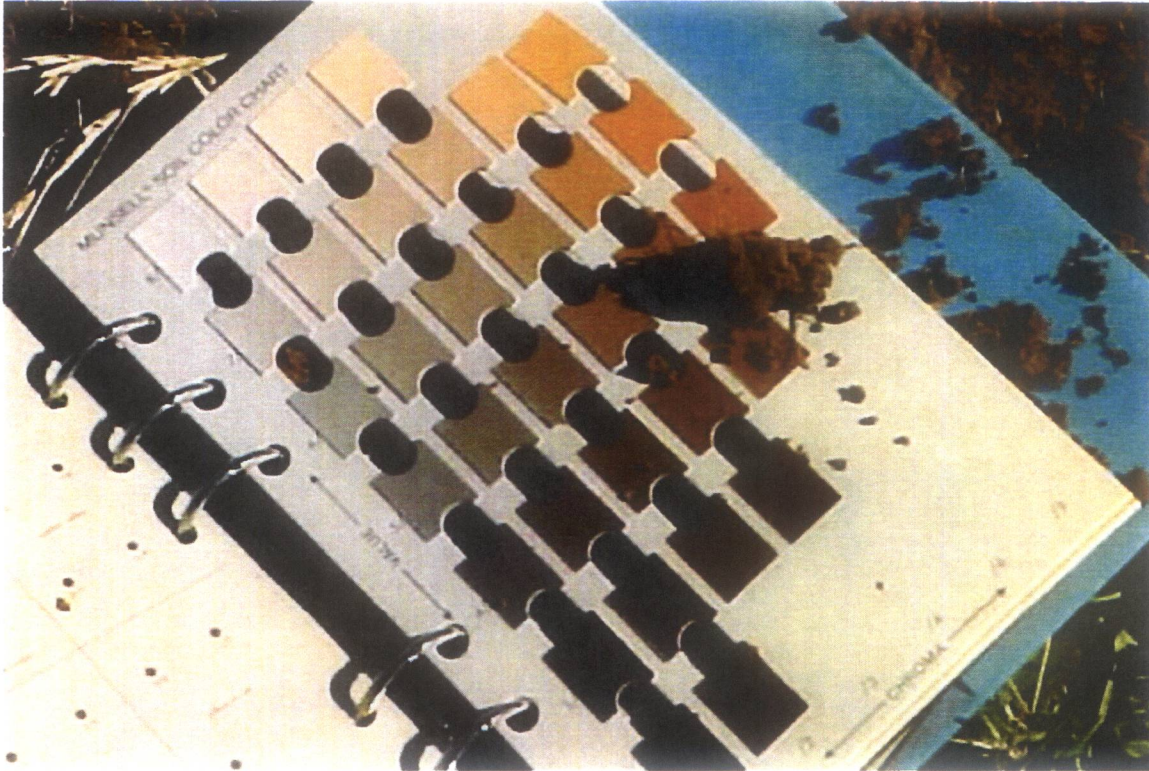
Photo Description: Looking northwestward from southeast corner of project site. A railroad and La. Hwy. 1 borders this side of the site. There are no wetlands on the proposed project site.



Photograph: 4

Project: Natchitoches Industrial Park Site

Photo Description: This soil profile indicates the soils are loamy and well drained. Only two soil series were found on the project site. These soils are Roxana and Gallion; both are well drained and non-hydric. Wetland criteria is not present on the proposed site.



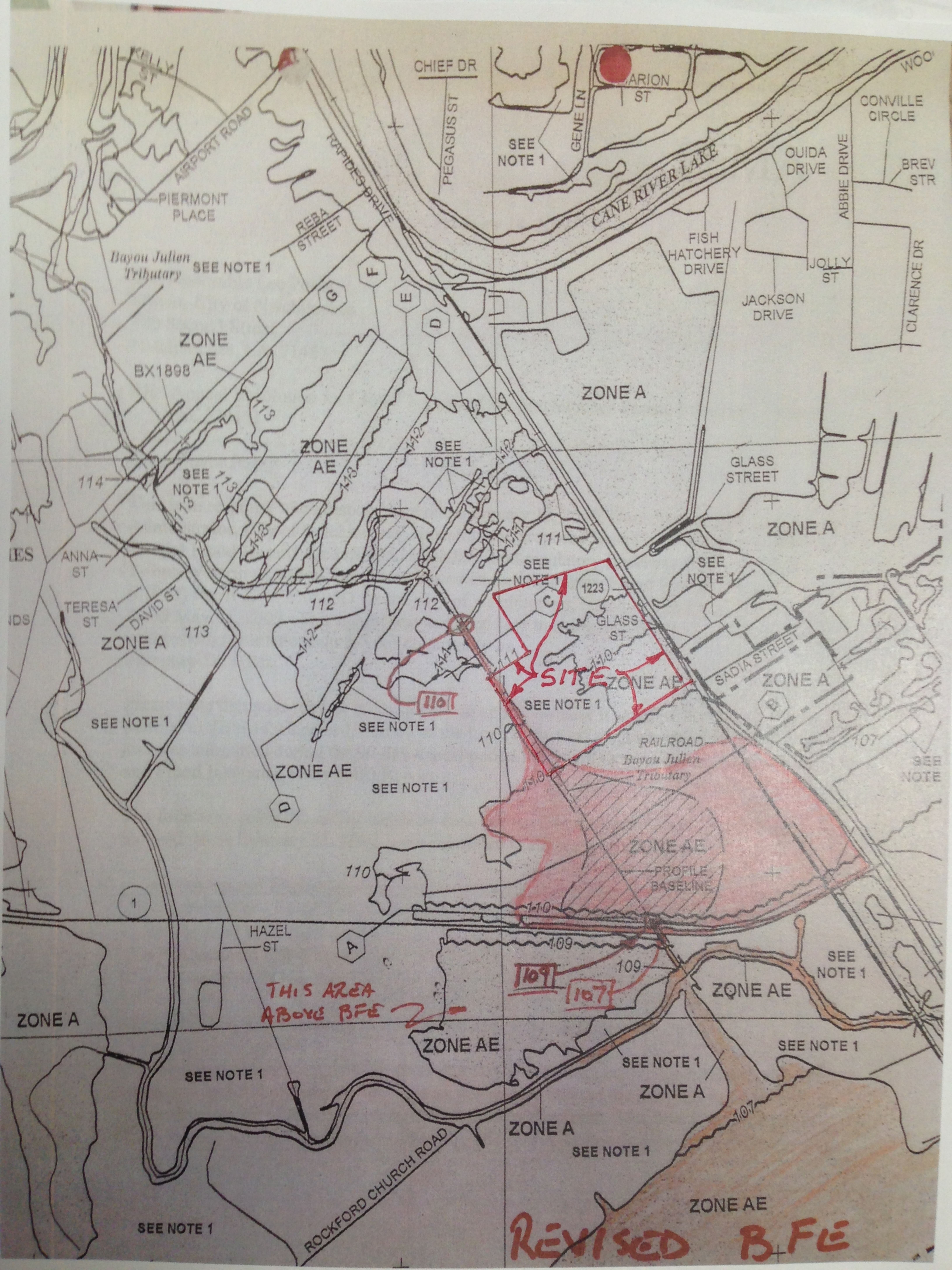
Photograph: 5

Project: Natchitoches Industrial Park Site

Photo Description: The Munsell soil color chart indicates these soils are reddish brown and yellowish red. The soils are classified as Typic Udifluvents and Typic Hapludalfs. The reddish colors indicate these soils are well drained and are non-hydric.

EXHIBIT # 11

FEMA BASE FLOOD ELEVATION



CHIEF DR

ARION ST

SEE NOTE 1

CONVILLE CIRCLE

PIERMONT PLACE

REBA STREET

PEGASUS ST

CANE RIVER LAKE

OUIDA DRIVE

ABBIE DRIVE

BREV STR

Bayou Julien Tributary

FISH HATCHERY DRIVE

JOLLY ST

JACKSON DRIVE

CLARENCE DR

ZONE AE

BX1898

ZONE A

ZONE AE

SEE NOTE 1

GLASS STREET

ZONE A

SEE NOTE 1

SEE NOTE 1

SEE NOTE 1

ANNA ST

1223

TERESA ST

GLASS ST

DAVID ST

112

112

111

SADIA STREET

ZONE A

SEE NOTE 1

SEE NOTE 1

SEE NOTE 1

RAILROAD Bayou Julien Tributary

SEE NOTE

ZONE AE

SEE NOTE 1

ZONE AE

PROFILE BASELINE

110

110

HAZEL ST

A

1109

109

SEE NOTE 1

ZONE A

THIS AREA ABOVE BFE

ZONE AE

SEE NOTE 1

ZONE AE

SEE NOTE 1

SEE NOTE 1

ZONE A

ZONE A

SEE NOTE 1

ZONE AE

SEE NOTE 1

ROCKFORD CHURCH ROAD

REVISED BFE



FEMA

February 18, 2014

The Honorable Lee Posey
Mayor, City of Natchitoches
700 Second Street
Natchitoches, LA 71457

JAN 23

RE: Appeal Resolution for City of Natchitoches, Natchitoches Parish, Louisiana, Community No. 220131

Dear Mayor Posey:

This is in response to correspondence dated January 12, 2010, from Juanita Fowler, Floodplain Administrator, City of Natchitoches, appealing the proposed Base Flood Elevations (BFEs), Special Flood Hazard Area (SFHA) boundary, and regulatory floodway for Bayou Julien Tributary north of Bayou Julien 1 as presented on preliminary Flood Insurance Rate Map (FIRM) Panel 22069C0505D for the City of Natchitoches, Natchitoches Parish, Louisiana, dated May 21, 2009. This appeal was assigned case tracking number NAT_LA_1367 in an acknowledgment letter sent to your community on February 24, 2010.

Please note that your request is considered an appeal because it satisfied the data requirements defined in Title 44, Chapter I, Part 67 of the Code of Federal Regulations (44 CFR Part 67), and was submitted during the 90-day appeal period for the aforementioned preliminary FIRM and Flood Insurance Study (FIS) Report.

The following scientific and/or technical data, prepared by Cothren, Graff, Smoak Engineering Inc. and dated February 12, 2010, were submitted in support of this request:

- An Appeal Engineering Analysis Report summarizing current conditions, errors in the preliminary FIRM's engineering analysis, and revised engineering conclusions
- Revised HEC RAS model
- Annotated FIRM map
- Two WSPRO models

We received all data necessary to resolve this appeal by September 24, 2010.

The submitted engineering data indicates that Bayou Julien appears to have been modified at Highway 1 and Relief Lateral L-4C. It was determined that the hydrology did not change but the distribution of flows did change (149cfs to existing path, 346cfs to Relief Lateral L-4C). The resulting analysis shows a BFE of 107.4 feet at the confluence of the tributary,

which is lower than the BFE of 108.94 feet from the preliminary study. The area of Bayou Julien Tributary that changed is just downstream of modeling station 4,300 feet. This appeal indicated that the BFE is reduced by one foot, the floodplain width is reduced by 130 feet, and the floodway should also be reduced.

We have resolved this appeal in accordance with the requirements of 44 CFR Part 67. We have determined that the proposed BFEs, SFHA boundary, and regulatory floodway for Bayou Julien Tributary as shown on preliminary FIRM Panel 22069C0505D dated May 21, 2009, should be revised based on the submitted data. However, due to the presence of flood protection levees in the area, we will be reverting back to the mapping as shown on the September 18, 1987, effective FIRM as part of Seclusion. Your community agreed to Seclusion for all areas protected by levees in correspondence dated August 16, 2013.

Please submit any comments regarding this appeal resolution within 30 days of the date of this letter to the following address:

Federal Emergency Management Agency (FEMA) Region 6
Mitigation Division
800 North Loop 288, Denton, TX 76209
Attention: Shona Gibson

When submitting comments, please reference case tracking number NAT_LA_1367 in the letter and indicate the comments are in response to the final resolution.

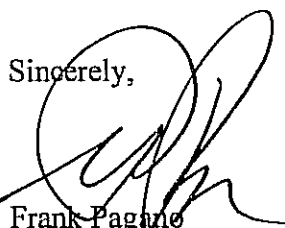
If you feel that the technical issues originally raised have not been adequately addressed by this resolution letter and that an acceptable resolution will not be feasible through the submittal of additional comments as outlined above, please note that FEMA makes Scientific Resolution Panels (SRPs) available to support the appeal resolution process. SRPs are independent panels of experts in hydrology, hydraulics, and other pertinent sciences established to review conflicting scientific and technical data and provide recommendations for resolution. An SRP is an option after FEMA and a local community have been engaged in a collaborative consultation process without a mutually acceptable resolution.

Your community may contact Shona Gibson at our FEMA Regional Office in Denton, Texas at the telephone number listed below for additional information on the specific eligibility requirements for the SRP or refer to the enclosed SRP Fact Sheet. To request that an SRP review your scientific or technical data, your community must complete the enclosed SRP Request Form and submit it to the address above within 30 days of the date of this letter.

If we do not receive any comments or the completed SRP Request Form from your community during the 30-day review period associated with this resolution, we will consider the appeal and protest resolution period complete for the preliminary FIRM and FIS for Natchitoches Parish and incorporated Areas dated May 21, 2009.

Please note that the Seclusion process is ongoing within Natchitoches Parish and incorporated areas. The products of this process will result in a revised preliminary FIRM and FIS Report anticipated to be released later this year. There will be an additional comment period for this FIRM and FIS and then FEMA will issue a Letter of Final Determination (LFD). The LFD will explain the adoption/compliance process and will state the date when the FIRM and FIS report will become effective.

We appreciate your community's comments and commitment to having the most accurate flood hazard information available reflected on the FIRM and in the FIS Report. If you have any questions regarding this matter, please contact Shona Gibson at our FEMA Regional Office in Denton, Texas, by telephone at (940) 383-7326 or by e-mail at Shona.Gibson@fema.dhs.gov.

Sincerely,

Frank Pagano
Mitigation Division Director

Enclosures: SRP Fact Sheet
SRP Request Form

cc: Juanita Fowler, Floodplain Administrator, City of Natchitoches
K. Randal Smoak, Cothren, Graff, Smoak Engineering, Inc.
Cindy O'Neal, NFIP State Coordinator, Louisiana Department of Transportation and
Development
Rigel Rucker, RSC 6 Coordinator



SUBJECT TO FAILURE OR OVERTOPPING DURING LARGER FLOODS.

COMMUNITY-PANEL NUMBER

220131 0003 C

EFFECTIVE DATE:

SEPTEMBER 18, 1987



LEGEND

- SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD
- ZONE A** No base flood elevations determined.
- ZONE AE** Base flood elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE A99** To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- ZONE V** Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- ZONE VE** Coastal flood with velocity hazard (wave action); base flood elevations determined.
- FLOODWAY AREAS IN ZONE AE
- OTHER FLOOD AREAS
- ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.
- OTHER AREAS
- ZONE X** Areas determined to be outside 500-year flood plain.
- ZONE D** Areas in which flood hazards are undetermined.
- Flood Boundary
- Floodway Boundary
- Zone D Boundary
- Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.
- Base Flood Elevation Line; Elevation in Feet*
- Cross Section Line
- (EL 987) Base Flood Elevation in Feet Where Uniform Within Zone*
- RM7_x Elevation Reference Mark

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

EXHIBIT # 12

PHASE I ENVIRONMENTAL ASSESSMENT

REPORT ON

**PHASE I ENVIRONMENTAL
SITE ASSESSMENT**

**100 Industrial Drive
Natchitoches, Natchitoches Parish, Louisiana**

March 2014

For

**The City of Natchitoches
P.O. Box 37
Natchitoches, Louisiana 71457**

By



***P. O. Box 17867
Shreveport, Louisiana 71138-0867
(318) 687-3771***

**PHASE I ENVIRONMENTAL
SITE ASSESSMENT REPORT**

**100 Industrial Drive
Natchitoches, Natchitoches Parish, Louisiana**

March 2014

For

**The City of Natchitoches
P.O. Box 37
Natchitoches, Louisiana 71457**

By

ALTEC Environmental Consulting, LLC
Written/Submitted by



Dana H. Beck
Environmental Scientist

ALTEC Environmental Consulting, LLC
Reviewed/Approved by



Christopher Johnson
Geologist / Environmental Division Manager

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	i
1.0	INTRODUCTION.....	1
	1.1 Purpose	1
	1.2 Detailed Scope-of-Services	1
	1.3 Significant Assumptions	2
	1.4 Limitations and Exceptions.....	2
	1.5 Special Terms and Conditions	2
	1.6 User Reliance	2
2.0	PROPERTY AND VICINITY INFORMATION	3
	2.1 Location and Legal Description	3
	2.2 Physical Description.....	3
	2.3 Site and Vicinity General Characteristics	3
	2.4 Current Use of the <i>Property</i>	3
	2.5 Descriptions of Structures, Roads, and Other Improvements	3
	2.6 Current Uses of Adjoining Properties	3
	2.7 Utilities	3
3.0	USER PROVIDED INFORMATION.....	4
	3.1 Title Records	4
4.0	RECORDS REVIEW	4
	4.1 Environmental Record Sources	4
	4.2 Database Listings for the <i>Property</i>	9
	4.3 Standard Database Listings for Surrounding Properties	9
	4.3.1 RCRA-CESQG.....	9
	4.3.2 UST.....	9
	4.4 Other Database Listings for Surrounding Properties	10
	4.4.1 Oil and Gas Wells.....	10
	4.4.2 Water Wells	10
	4.5 Physical Setting Sources	10
	4.5.1 Geology	10
	4.5.2 Soil.....	10
	4.5.3 Hydrology.....	11
	4.5.4 Topography.....	11
	4.5.5 FIRM Information	11
	4.6 Historical Use Information on the <i>Property</i> and Adjoining Properties	11
	4.6.1 Land Usage	11
	4.6.2 Topographic Maps.....	12
	4.6.3 Aerial Photographs	12
	4.6.4 Sanborn Fire Insurance Maps	13
	4.6.5 City Directories.....	13
5.0	INTERVIEWS.....	13
6.0	SITE RECONNAISSANCE.....	14

6.1	General <i>Property</i> Description	14
7.0	CONCLUSIONS	15
7.1	Environmental Professional Statement	16
8.0	DISCLAIMER	16
9.0	APPENDICES	17

EXECUTIVE SUMMARY

ALTEC Environmental Consulting, LLC (ALTEC) was retained by the City of Natchitoches (the City) to conduct a Phase I Environmental Site Assessment (ESA) on a property located in Natchitoches, Natchitoches Parish, Louisiana (the *Property*).

This Phase I ESA was performed in general accordance with guidelines set forth in the American Society of Testing and Materials (ASTM) *International Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (Designation: Practice E1527-05)*. The intent of this Phase I ESA was to identify any obvious adverse environmental conditions, suspicious activities, or hazardous waste storage/disposal sites on or near the *Property* and identify any concerns on the *Property* that may be considered *recognized environmental conditions (RECs)*. A *REC* is defined in ASTM Standard E1527-05 as the “presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, ground water, or surface water of the property.”

The Phase I ESA Site inspection was conducted on February 14, 2014. At the time of this Phase I ESA, the *Property* was not in use and was historically utilized for agricultural use. The *Property* is bounded by railroad tracks and LA Highway 1-Business to the east, residential properties to the north, open pasture to the south, and Atmos Energy and residential properties to the west.

Based on the Phase I ESA, including the site inspection, database search, historical records review, information provided by City personnel, and interviews, no *RECs* were identified at the Site.

1.0 INTRODUCTION

ALTEC Environmental Consulting, LLC (ALTEC) was retained by the City of Natchitoches (the City) to conduct a Phase I Environmental Site Assessment (ESA) on a property located in Natchitoches, Natchitoches Parish, Louisiana (the *Property*).

1.1 Purpose

The purpose of a Phase I ESA is to identify, to the extent feasible, pursuant to the processes prescribed herein, *recognized environmental conditions (RECs)* in connection with the *Property* in accordance with American Society of Testing and Materials (ASTM) Standard Practice E1527-05 and the Environmental Protection Agency's (EPA's) "All Appropriate Inquiries" (AAI) Rule (40 CFR 312). The term *recognized environmental condition* means "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the *Property*. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

This Phase I ESA is intended to reflect a commercially prudent and reasonable inquiry in order to satisfy one of the requirements to qualify for the *innocent landowner defense* under the CERCLA. This Phase I ESA will also encompass two additional landowner liability protections under the 2002 Brownfields Law: (1) the bona fide prospective purchaser, and (2) the contiguous property owner protections.

1.2 Detailed Scope-of-Services

The Phase I ESA was conducted in general accordance with ASTM Standard E 1527-05 for conducting ESAs. The assessment included an environmental database search, historical records review, inspection of accessible areas, review of relevant Site records made available to ALTEC, and interviews with individuals associated with the *Property*.

The following tasks were conducted during the assessment:

- attempts to interview personnel associated with the *Property*;
- review of federal and state environmental databases and historical records (e.g., fire insurance maps, city directory, etc.);
- review of historical aerial photographs of the *Property*;
- review of past and current *Property* use and adjacent property occupancy;

- physical inspection of the *Property*;
- observations of conditions that represent potential environmental concerns; and
- review of aboveground and underground storage tank records.

ALTEC's work scope for the Phase I ESA did not include evaluations of any non-scope considerations as defined in the ASTM Standard Practice E1527-05. Non-scope considerations can include:

- asbestos surveys;
- lead-based paint testing;
- radon testing;
- PCB testing;
- an evaluation of vapor intrusion potential and indoor air issues;
- mold and moisture inspections;
- natural hazard assessment potential; and
- an evaluation of geologic hazards (flood zones, fault zones, fire zones, etc.).

1.3 Significant Assumptions

While this report provides an overview of potential environmental concerns, both past and present, the environmental assessment is limited by the availability of information at the time of the assessment. The conclusions and recommendations regarding environmental conditions that are presented in this report are based on a scope of work authorized by the City. Note, however, that virtually no scope of work, no matter how exhaustive, can identify all contaminants or all conditions above and below ground.

ALTEC assumes that information provided by persons interviewed, Environmental Data Resources, Inc. (EDR), U.S. Environmental Protection Agency (EPA), Louisiana Department of Natural Resources (LA DNR), and the Louisiana Department of Environmental Quality (LDEQ) regarding regulatory status of facilities referenced in this report is complete, accurate, and current.

1.4 Limitations and Exceptions

No specific limitations or exceptions were associated with this Phase I ESA.

1.5 Special Terms and Conditions

The findings and conclusions of this report are not scientific certainties, but rather, probabilities based on professional judgment concerning the significance of the data gathered during the course of this assessment. ALTEC was not able to verify that the *Property* or adjoining land contains no hazardous substances, petroleum products, or other latent condition beyond that detected or observed during the assessment. The possibility always exists for contaminants to migrate through surface water, air, soil, or groundwater. The ability to address accurately the environmental risks associated with transport in these media was beyond the scope of this assessment. The opinions expressed by ALTEC with reference to the *Property* only pertain to the conditions that existed at the *Property* during the time in which the site inspection was conducted.

1.6 User Reliance

This report and other instruments of service were prepared and made available for the sole use of the City and its designated representatives. The contents of this report may not be used or relied upon by any other person or entity without the express written consent and authorization of ALTEC.

2.0 PROPERTY AND VICINITY INFORMATION

2.1 Location and Legal Description

The *Property* encompasses an area of approximately 58.7 acres and is located in Section 72, Township 9 North, Range 7 West, Natchitoches, Natchitoches Parish, Louisiana. The approximate center of the *Property* is located at Latitude 31° 43' 55.92" and Longitude 93° 04' 47.28". A Site Map of the *Property* is located in **Appendix A** of this report.

2.2 Physical Description

The *Property* consists of a multi-angular shaped area formerly utilized for agriculture. The *Property* is bordered to the east by the Kansas City Southern railroad and LA Highway 1-Business; and open pasture and LA Highway 1 to the south. An Area Street Map is provided in **Appendix B**.

2.3 Site and Vicinity General Characteristics

The *Property* is located in a primarily rural area south of Natchitoches, Natchitoches Parish, Louisiana. The general topographic gradient at the *Property* is toward the east. An Area Street Map is provided as **Appendix B**.

2.4 Current Use of the *Property*

At the time of this Phase I ESA, the *Property* is currently unused.

2.5 Descriptions of Structures, Roads, and Other Improvements

At the time of this Phase I ESA, no structures were located on the *Property*. The *Property* is bounded by a railroad to the east and a ditch bordering the south and west edge.

2.6 Current Uses of Adjoining Properties

The *Property* is bordered by the following properties:

- North – Louisiana Highway 1-Business, thence the Natchitoches National Fish Hatchery;
- South – Agriculture land and Louisiana Highway 1;
- East – Louisiana Highway 1-Business, thence residential and industrial properties, and;
- West – Atmos Energy Corporation and residential properties.

An extensive record search of federal and state environmental databases was conducted for the *Property* and the adjoining properties within the ASTM search radii surrounding area, including a radius search. The results of the radius search are discussed in more detail in Section 4.0 of this report. The Radius Map Report is included in **Appendix C** of this report.

2.7 Utilities

Utilities provided in the vicinity of the *Property* include:

- Atmos Energy - natural gas service
- City of Natchitoches, Louisiana – electric, water, and sewage service

3.0 USER PROVIDED INFORMATION

As defined by ASTM Standard E1527-05, ALTEC's client, the City of Natchitoches, is the *User* of this Phase I ESA.

3.1 Title Records

No title records were provided by the *User*, nor was a title records search included in ALTEC's scope of work for this Phase I ESA.

3.2 Environmental Lien or Activity and Use Limitations

The *User* was not aware of any environmental liens or activity and use limitations (AULs) associated with the *Property*, and a search of potential environmental liens was not included in ALTEC's scope of work for this Phase I ESA. The database search provided by Environmental Data Resources, Inc. (EDR) revealed no AULs associated with the *Property*.

3.3 Commonly Known or Reasonably Ascertainable Information

A *User* questionnaire was completed in accordance with the ASTM Standard E1527-05. Mr. Randy S. LaCaze, Director for Economic and Community Development for the City of Natchitoches, completed the *User* questionnaire, which is provided in **Appendix D**. Based on the answers to the questionnaire, no areas of concern indicative of environmental impact were revealed.

3.4 Owner Information

The City of Natchitoches of 700 Second Street, Natchitoches, Louisiana 71457 is the current owner of the *Property*.

4.0 RECORDS REVIEW

4.1 Environmental Record Sources

The purpose of the regulatory record review is to obtain and review reasonably ascertainable records that help identify *RECs* in connection with the *Property*. For this review, ALTEC relied on records obtained from an environmental database search firm, Environmental Data Resources (EDR). The radius search distances chosen were selected using ASTM International guidelines. These search distances may have been expanded to ensure the distances would include sites as measured from the *Property* boundaries. The Radius Map Report includes a listing of all the databases searched and the sites that were identified on the *Property*, on adjoining properties, or on other properties within the search radii.

Database	Search Radius
<p>National Priority List (NPL) – The NPL identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. NPL Sites are targeted for possible long-term remedial action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. In addition, the NPL Report includes information concerning cleanup agreements between the USEPA and potentially responsible parties, any liens filed against contaminated properties, as well as the past and current USEPA budget expenditures tracked within the Superfund Consolidated Accomplishments Plan (SCAP).</p>	1 mile
<p>Delisted NPL Database – The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate.</p>	1 mile
<p>Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) – The CERCLIS List contains data on potentially hazardous waste sites that may have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of CERCLA. CERCLIS contains sites which are either proposed to or on the NPL and sites which are in the screening and assessment phase for possible inclusion on the NPL.</p>	0.5 mile
<p>CERCLIS No Further Remedial Action Planned (CERCLIS-NFRAP) – Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA’s knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the NPL, unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.</p>	0.5 mile

Database	Search Radius
<p>Corrective Action Report (CORRACTS) – The CORRACTS Database identifies hazardous waste handlers with RCRA corrective action activity.</p>	1 mile
<p>Resource Conservation and Recovery Act Information (RCRA) Treatment, Storage or Disposal Facility (TSDF) – The RCRA-TSDF Database contains information regarding those facilities that treat, store, or dispose of USEPA-regulated hazardous waste. The following information also is included in the RCRA-TSDF Report: 1) information regarding the status of facilities tracked by the RCRA Administrative Action Tracking System (RAATS); 2) inspections and evaluations conducted by federal and state Agencies; 3) all reported facility violations, the environmental statutes violated and any proposed and actual penalties; and 4) a complete listing of USEPA-regulated hazardous wastes which are generated or stored on site.</p>	0.5 mile
<p>RCRA Large Quantity Generator (RCRA-LQG) – The RCRA-LGQ database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.</p>	Site/Adjacent Property
<p>RCRA Small Quantity Generator (RCRA-SQG) – The RCRA-SGQ database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by RCRA. Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.</p>	Site/Adjacent Property
<p>RCRA - Conditionally Exempt Small Quantity Generators (RCRA-CESQG) – The RCRA-CESQG database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by RCRA. Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.</p>	Site/Adjacent Property
<p>Emergency Response Notification System (ERNS) – ERNS records and stores information on reported releases of oil and hazardous substances</p>	Site only
<p>Toxic Chemical Release Inventory System (TRIS) – The TRIS Database identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.</p>	Site only
<p>US Engineering Controls – The US Engineering Controls Database is a listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or affect human health.</p>	0.5 mile

Database	Search Radius
<p>US Brownfields List – Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments.</p> <p><u>Cooperative Agreement Recipients</u> – States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.</p> <p><u>Targeted Brownfields Assessments</u> – EPA’s Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities, especially those without EPA Brownfields Assessment Demonstration Pilots, minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA’s Brownfields Initiative to promote cleanup and redevelopment of brownfields.</p>	0.5 mile
<p>Superfund (CERCLA) Consent Decrees (Consent) – Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.</p>	1 mile
<p>Records of Decision (ROD) – ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.</p>	1 mile
<p>Department of Defense (DOD) – This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.</p>	1 mile
<p>CERCLA Lien Information (LIENS 2) – A Federal CERCLA (‘Superfund’) lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.</p>	Site only
<p>Potential and Confirmed Sites List (SHWS) – Confirmed status denotes that assessments have been performed and a determination made that: (1) hazardous waste(s) or substance(s) are present at the site, and (2) these sites are under the jurisdiction of the LDEQ Underground Storage Tank and Remediation Division (USTRD). Potential status is an indicator that sites are either waiting to be assessed or the assessment is in progress.</p>	1 mile
<p>Solid Waste Facilities (SWF) Landfill (LF) Sites – The SWF/LF Database contains an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.</p>	0.5 mile

Database	Search Radius
Leaking Underground Storage Tank (LUST) – This database contains information obtained from the Regional Offices. It provides a more detailed explanation of current and historic activity for individual sites, as well as what was previously found in the Incident Management Database. Sites in this database with incident numbers are considered LUSTs.	0.5 mile
Historical LUST (HIST LUST) – This listing includes detailed information for Leaking Underground Storage Tanks reported through November 1999. It is no longer updated. Current LUST incidents, without detail, can be found in the LUST Database.	0.5 mile
Environmental Liens (Liens) – An Environmental Lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC 9607(1) and similar state or local laws. In other words: a lien placed upon a property’s title due to an environmental condition.	Site only
Spills – Spills and/or releases, to land, reported to the Emergency Response Section.	0.5 mile
Institutional and/or Engineering Controls (AUL) – A notice of contamination (nature and levels of contaminants) and restriction of property to non-residential use are placed in the conveyance records for the property.	0.5 mile
Voluntary Remediation Program Sites (VCP) – Sites that have entered the Department of Environmental Quality’s Voluntary Remediation Program	0.5 mile
Drycleaners – A listing of drycleaner facilities.	0.25 mile
Indian Reservations – The Indian Reservations Database identifies Indian administered lands of the United States that have any area equal to or greater than 640 acres.	1 mile
Indian UST – The Indian UST Database identifies USTs on Indian land.	Site/Adjacent Property
Indian LUST – The Indian LUST Database identifies LUSTs on Indian land.	0.5 mile
FTTS: FIFRA/TSCA Tracking System – FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act). FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act).	Site only

Only the sites listed in the databases in the EDR Radius Map Report are discussed in the following sections. Due to incomplete addresses, unregistered sites, etc., additional sites may exist. The Radius Map Report is included in **Appendix D**.

4.2 Database Listings for the *Property*

A review of environmental database records provided by Environmental Data Resources, Inc. (EDR) indicates that the *Property* was included in four (4) database records.

- US AIRS – Air Permits (Alliance Compressors, LLC)
- State AIRS – Air Permits (Alliance Compressors, LLC)
- SPILLS – Incident Status: Case Closed (Alliance Compressors, LLC)
- RCRA – Conditionally Exempt Small Quantity Generator / Facility Index System (Alliance Compressors, LLC)

ALTEC does not consider any of these database reports to represent an environmental concern or *REC* in connection with the *Property*.

4.3 Standard Database Listings for Surrounding Properties

4.3.1 RCRA-CESQG

The RCRA Conditionally Exempt Small Quantity Generators (RCRA-CESQG) database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by RCRA. CESQGs generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA- CESQG list, as provided by EDR, and dated September 10, 2013 revealed one RCRA-CESQG site within approximately ¼-mile of the *Property*.

Facility Name	Address	Distance & Direction
Natchitoches Wood Preserving	8236 Highway 1	0.249 mi. S (lower elevation)

Due to the distance of this site from the *Property* and a lack of violations on record, ALTEC does not consider the listed RCRA-CESQG site to represent an environmental concern in connection with the *Property*.

4.3.2 UST

The Underground Storage Tank (UST) database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Louisiana Department of Environmental Quality's (LDEQ's) Underground Storage Tank Database.

A review of the UST list, as provided by EDR, and dated October 21, 2013 revealed that one UST site is located within approximately a ¼-mile of the *Property*.

Facility Name	Address	Distance & Direction
National Fish Hatchery	615 Highway 1 South	0.228 mi. NW (equal/higher elevation)

Due to the distance of this site from the *Property*, ALTEC does not consider it to represent an environmental concern in connection with the *Property*.

4.4 Other Database Listings for Surrounding Properties

4.4.1 Oil and Gas Wells

Louisiana has a long history of oil and natural gas production. This history, poor recordkeeping, and the large number of wells drilled presents an opportunity for unrecorded wells to be found on sites during construction activities.

ALTEC conducted a search of the LA DNR's electronic database to determine if any oil or gas wells were located on or near the *Property*. The search did not identify any oil or gas wells on or near the *Property*.

4.4.2 Water Wells

ALTEC conducted a search of the LA DNR's SONRIS online system to determine if any water wells were registered on or near the *Property*. The search did not identify any water wells on the *Property*. During the site visit, ALTEC did not identify any water wells on the *Property*.

4.5 Physical Setting Sources

4.5.1 Geology

The surface of Louisiana is underlain by geologically young sedimentary sequences that were deposited in or adjacent to rivers and deltas in a coastal plain setting. These deposits, and those in other states flanking the Mississippi Valley, indicate that a major river system corresponding to the Mississippi River has persisted and been a major topographic feature, at least since the Gulf of Mexico basin began to form by the separation of North America from South America. Holocene alluvium of the Mississippi, Red, Ouachita, and other rivers and smaller tributaries, together with coastal marsh deposits, occupy about 55 percent of the surface of the State. Most of the remaining State's surface (about 20 percent) comprises strata of Tertiary Age, principally on the Sabine Uplift (which lies in the northwest portion of the State), and in the north Louisiana salt-dome basin. Natchitoches Parish is located in the Gulf Coastal Plain physiographic province.

The surface and near surface areas of Natchitoches Parish in the vicinity of the *Property* are covered by sedimentary deposits. According to the *Geologic Map of Louisiana* (1984) prepared by the Louisiana Geological Survey, these sediments are mapped as the Quaternary Prairie Terraces. The Quaternary Prairie Terraces consist of light gray to light brown clay, sandy clay, silt, sand, and some gravel. Sediments of the Wilcox Group Undifferentiated immediately underlie the Quaternary Prairie Terraces in the vicinity of the *Property*.

4.5.2 Soil

According to the United States Department of Agriculture Natural Resources Conservation Service (NRCS), Soil Survey of Natchitoches Parish, Louisiana, the soil units mapped for the *Property* are the Roxana very fine sandy loam (<1 percent slope), Gallion silt loam (<1 percent slope), and Latanier clay (<1 percent slope).

The Roxana series consists of very deep, well drained, moderately permeable soils that formed in loamy alluvium of Permian Red Bed origin. These soils are on level to undulating natural levees.

The Gallion series consists of very deep, well drained, moderately permeable soils that formed in reddish silty alluvium. These soils are on nearly level to gently sloping natural levees along the Red River and the present and abandoned channels of the Arkansas River.

The Latanier series consists of very deep, somewhat poorly drained, very slowly permeable soils that formed in reddish clayey alluvium that overlies reddish loamy alluvium. These soils are on level to very gently sloping alluvial plains of the Arkansas and Red Rivers.

The USDA Web Soil Survey Map of the *Property* is included in **Appendix D**.

4.5.3 Hydrology

Natural drainage is generally to the south and southeast in Natchitoches Parish. The *Property* slopes from west to east. Local groundwater flow and storm water runoff may follow the surface topography, primarily toward the north.

According to the USGS, Natchitoches Parish is located in the Mississippi Embayment aquifer system. The parish has an abundant supply of water resources, including surface water in ponds, lakes, streams, and rivers. Groundwater in the vicinity of the *Property* is produced primarily from the Chicot/Terraces and the Wilcox aquifers. The Wilcox aquifer system consists of sediments of the undifferentiated Wilcox Group of Eocene age. The Wilcox Group deposits, outcropping in northwestern Louisiana, are the oldest sediments in the state containing fresh water. The Wilcox is discontinuous and consists of clay, silt and well-sorted, fine to medium grained, cross-bedded sands, with lignite. Well yields are restricted because the sand beds are typically thin, lenticular and fine textured. The system is confined down dip by the clays and silty clays of the overlying Cane River formation and the regionally confining clays of the underlying Midway Group.

4.5.4 Topography

The topography at the *Property* slopes slightly east. The maximum elevation on the west boundary of the *Property* is approximately 112 feet NGVD, and the low elevation on the east boundary is 109 feet NGVD.

4.5.5 FIRM Information

The *Property* is located on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for Natchitoches Parish, Louisiana, Community Panel Number 2201310003C, with an effective date of September 18, 1987. The *Property* and adjoining parcels are designated as Zone X and AE. Zone X is considered 'minimal risk areas outside the 1-percent and 2-percent-annual-chance floodplains.' Zone AE is considered as 'areas subject to inundation by the 1-percent-annual-chance flood event determined by detailed methods.' A copy of the FIRM is included in **Appendix E** of this report.

4.6 Historical Use Information on the *Property* and Adjoining Properties

4.6.1 Land Usage

Based on interviews and reviews of historical aerial photographs and historical topographic maps, the *Property* was exclusively used for agriculture since at least 1950.

4.6.2 Topographic Maps

Historical topographic maps were reviewed to assist in the identification of historical land use, to document the general development of the *Property* and surrounding area, and to identify potential onsite fill activities. ALTEC reviewed historical topographic maps dated 1937, 1945, 1957, 1983 and 1992 that depicted the *Property*. The following is a summary of observations based on review of the historical topographic maps.

- The 1937 topographic map was reviewed at a scale of 1:31,680 and depicts the *Property* and surrounding area as rural/agricultural land.
- The 1945 topographic map was reviewed at a scale of 1:625,000 and depicts the *Property* in the same basic configuration as the 1937 topographic map.
- The 1957 topographic map was reviewed at a scale of 1:625,000 and depicts the *Property* in the same basic configuration as the 1945 topographic map.
- The 1983 topographic map was reviewed at a scale of 1:24,000 and depicts the *Property* in the same basic configuration as the 1957 topographic map. The addition of residential properties are evident to the north.
- The 1992 topographic map was reviewed at a scale of 1:24,000 and depicts the *Property* in the same basic configuration as the 1983 topographic map.

ALTEC's review of the historical topographic maps revealed no *RECs* or environmental concerns in connection with the *Property*. The topographic contours of the historical maps indicate that the topography shows no apparent changes over time, with slight to moderate slopes to the east. Copies of the historical topographic maps are included in **Appendix F**.

4.6.3 Aerial Photographs

Aerial photographs assist in the identification of Site features and outdoor activities of potential environmental concern. Aerial photographs of the Site for the years 1950, 1966, 1976, 1981, 1990, 1998, 2004, 2007, 2009, 2010, and 2011 were available from Banks Environmental Data and were reviewed by ALTEC. Pertinent observations are summarized below:

- 1950 ASCS Black and White Photograph: The *Property* and surrounding area appears to be developed agricultural land use with two to three residences on the southern adjoining property.
- 1966 ASCS Black and White Photograph: The *Property* and adjoining properties appear similar to the 1950 aerial photograph.
- 1976 USGS Black and White Photograph: The *Property* and adjoining properties appear similar to the 1966 aerial photograph with the exception of the adjoining properties to the north and east. Business and residential properties have emerged.
- 1981 USGS Black and White Photograph: The *Property* and adjoining properties appear similar to the 1976 aerial photograph. Image quality inhibits detail.
- 1990 USGS Black and White Photograph: The *Property* and adjoining properties appear similar to the 1981 aerial photograph.

- 1998 USGS Color Photograph: The *Property* and adjoining properties appear similar to the 1990 aerial photograph with the exception that Industrial Drive appears along with the currently occupied Atmos Energy building to the west.
- 2004 USGS Color Photograph: The *Property* and adjoining properties appear similar to the 1998 aerial photograph.
- 2007 USDA Color Photograph: The *Property* and adjoining properties appear similar to the 2004 aerial photograph.
- 2009 USDA Color Photograph: The *Property* and adjoining properties appear similar to the 2007 aerial photograph.
- 2010 USDA Color Photograph: The *Property* and adjoining properties appear similar to the 2009 aerial photograph.
- 2011 Microsoft Color Photograph: The *Property* and adjoining properties appear similar to the 2010 aerial photograph.

No obvious areas of concern indicative of environmental impact were observed in the aerial photographs. Copies of available aerial photographs are presented in **Appendix G**.

4.6.4 Sanborn Fire Insurance Maps

Sanborn Fire Insurance Company maps assist in the identification of historical land use and commonly indicate the existence and location of aboveground and underground storage tanks, structures, improvements, and facility operations.

Sanborn Maps were not available from EDR as the target *Property* is considered 'Unmapped'.

4.6.5 City Directories

City directories provide a listing of residents or businesses present at a specific address each year. The listings included in the city directories are typically limited to areas within corporate boundaries.

A city directory search was conducted by EDR from the first available directory to the present. Directories were available and were reviewed by ALTEC at approximately 5-year intervals starting in 1999 and ending in 2013. A copy of the City Directory Abstract is included in **Appendix H**.

No areas of concern were observed as a result of the city directory review.

5.0 INTERVIEWS

5.1 Interview with Owner/Report User

Mr. Randy S. LaCaze, Director of Economic and Community Development for the City of Natchitoches, was interviewed at the time of the assessment. According to Mr. LaCaze, the City is unaware of any environmental conditions or concerns, nor is the City aware of any AULs or environmental liens.

5.2 Interview with Key Site Manager

A key site manager was not available for an interview as the *Property* has been historically utilized for farming and agriculture.

5.3 Interviews with Others

ALTEC attempted to contact the Natchitoches Fire Department for historical information, and there was no recollection of any issues within or near the *Property*. Because other reasonably ascertainable information indicates that the *Property* has historically been used for farming and agricultural purposes and no other *RECs* have been identified, the lack of available interviewees with knowledge of the *Property's* history is not considered to alter the conclusions of this Phase I ESA.

6.0 SITE RECONNAISSANCE

ALTEC's environmental professional, Dana Beck, conducted a reconnaissance of the *Property* on February 14, 2014. At the time of reconnaissance the weather was sunny, 65°, light winds gusting to 5 mph from the WSW, 42° dew point, and 73% humidity.

6.1 General *Property* Description

The current configuration of the *Property* consists of an approximate 58.7 acre lot within Section 72, Township 9 North, Range 7 West. The 58.7 acre lot is bounded by railroad tracks and highway to the east, undeveloped agricultural land to the south and west, and a residential neighborhood to the north.

Photographs taken during the site inspections are included in **Appendix I**.

Structures

At the time of this Phase I ESA, no structures were located on the *Property*.

Hazardous Substances and Petroleum Products

No evidence of onsite generation or management of hazardous waste was observed by ALTEC during the *Property* inspection.

Odors

No unusual odors were detected at the *Property*.

Staining

No surface staining was observed at the *Property*.

Drums and Other Containers

No drums were observed at the *Property*.

PCB-containing materials

Pole-mounted transformers were observed on the east edge of the *Property*. As specified in 40 CFR Part 761.2 (a) (2), transformers may be assumed to be mineral oil filled, and unless otherwise labeled, containing polychlorinated biphenyls (PCBs).

The observed pole-mounted transformers were intact and showed no signs of leakage. ALTEC does not consider the transformers to be an environmental concern, and no other potential PCB-containing materials were observed at the *Property*.

Other Observations

No other RECs or potential environmental concerns were noted during the *Property* inspection.

7.0 CONCLUSIONS

ALTEC has performed a Phase I ESA in general conformance with the scope and limitations of ASTM Practice E1527-05 on approximately 57.8 acres in Natchitoches, Louisiana. Any exceptions to, or deletions from, this practice are described in this report. The intent of this Phase I ESA was to identify any obvious adverse environmental conditions, suspect activities, or hazardous waste storage/disposal sites on or near the *Property* and identifies any concerns on the *Property* that may be considered *RECs*, as defined in *ASTM Standard E1527-05*.

An ASTM regulatory database review and the site visit revealed no *RECs* on the *Property* or environmental concerns on adjoining properties that could pose an environmental threat to the *Property*. ALTEC identified no geologic, hydrogeologic, hydrologic, and/or topographic conditions of the *Property* that would indicate potential adverse environmental conditions.

7.1 Environmental Professional Statement

This Phase I ESA was prepared by Environmental Professionals as defined in Section 3.2.29 of the *ASTM International Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process (Designation: Practice E1527-05)*. References for the sources consulted in preparation of this report are located in **Appendix J**. Definitions used in this report are included in **Appendix K**.

We declare that to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR Part 312. We have the specific qualifications based on education, training, and experience to assess a property of this nature, history, and setting. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312. The qualifications of the Environmental Professionals are included in **Appendix L** of this report.

8.0 DISCLAIMER

This environmental site assessment was performed in accordance with generally accepted practices of the profession observing the same degree of care and skill generally exercised by the profession under similar circumstances and conditions. The opinions expressed in this report, together with the observations and findings, are based on professional judgment of the data gathered and developed during the course of this investigation. It is not the intent or purpose of ALTEC to convey by this investigation that the *Property* contains no environmental hazard or contamination beyond that observed by this firm at the time of the site assessment.

This report and the contents herein are the sole property of the City of Natchitoches, and its successors and assigns.

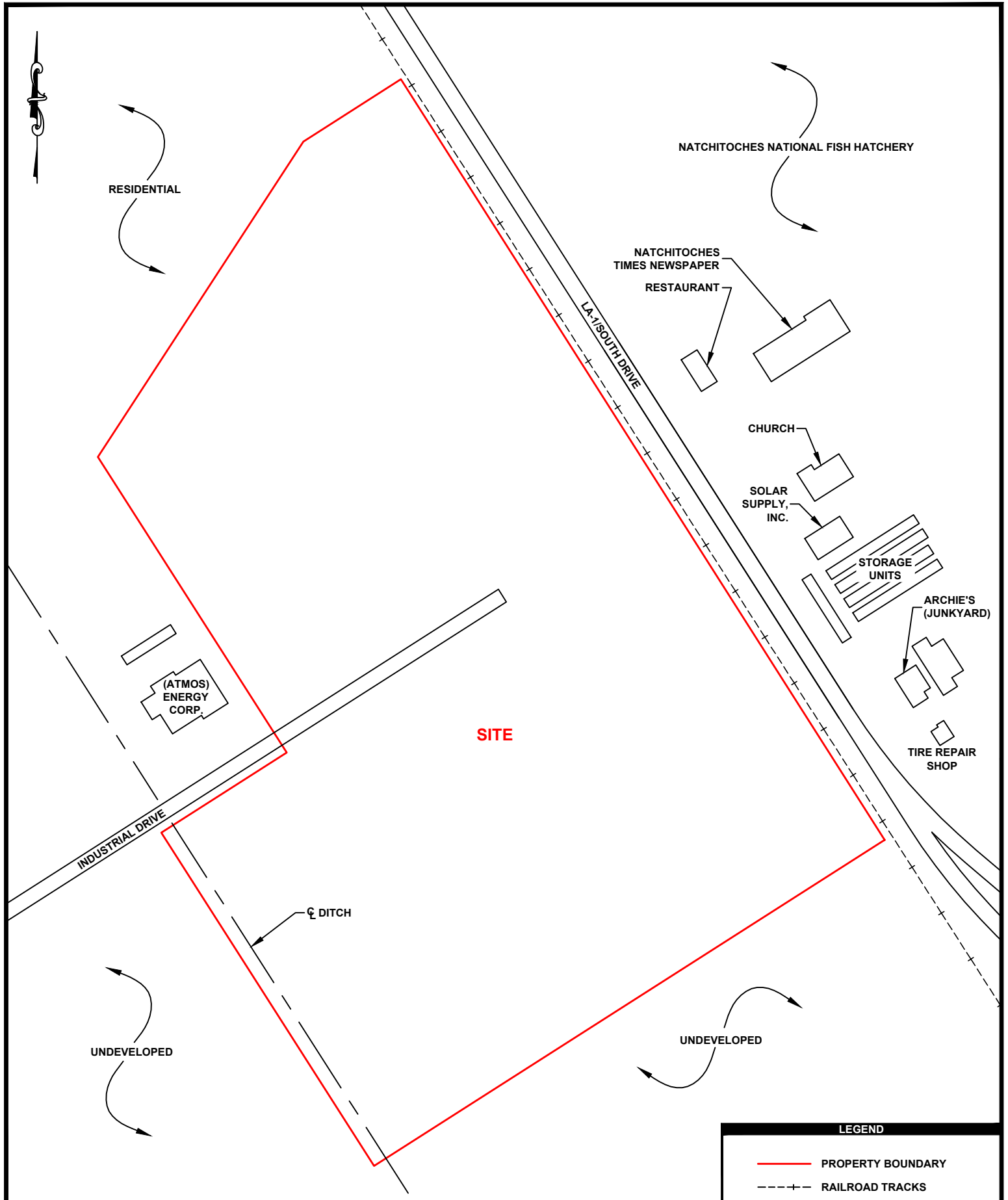
The information presented and the conclusions made in this report are for the use of these entities only.

9.0 APPENDICES

- A. Site Map
- B. Area Street Map
- C. EDR Radius Map Report
- D. USDA Web Soil Survey Map
- E. Flood Insurance Rate Map
- F. Historical Topographic Maps
- G. Historical Aerial Photographs
- H. City Directory Abstract
- I. Photographs
- J. References
- K. Definitions
- L. Environmental Professional Qualifications

APPENDICES

SITE MAP



SITE

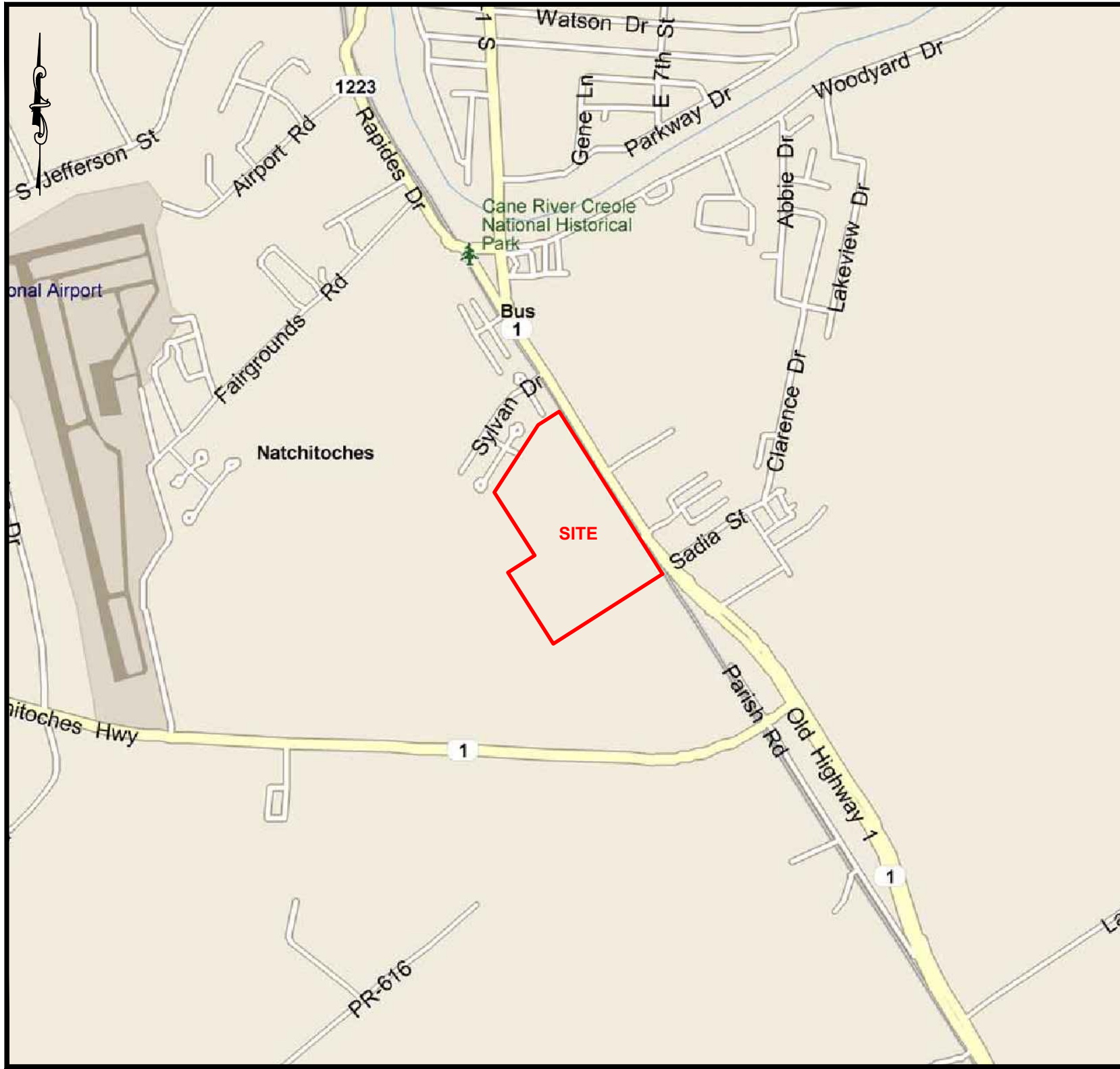
LEGEND	
	PROPERTY BOUNDARY
	RAILROAD TRACKS

F:\Drawings\2013\19722 Cothren, Graff, Smoak Eng Inc. - Phase II\19722 Phase I.dwg

PROJECT NO.	SCALE	LOCATION	TITLE
19722	1" = 300'	PHASE I CITY OF NATCHITOCHESS 58-ACRE VACANT PARCEL 100 INDUSTRIAL DRIVE NATCHITOCHESS, LOUISIANA	SITE MAP
PAGE 1	DRAWN BY LNJ		
SHEET A - 8.5 X 11	DATE 03/06/14		



AREA STREET MAP



TITLE

AREA STREET MAP

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 1500'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

F:\Drawings\2013\19722 Cothren, Graff, Smoak Eng Inc. - Phase I\19722 Phase I.dwg

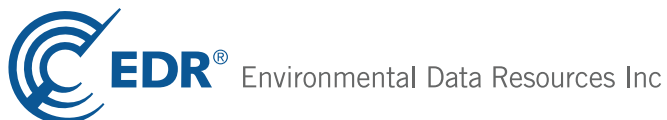
EDR RADIUS MAP REPORT

19722

100 Industrial Drive
Natchitoches, LA 71457

Inquiry Number: 3851620.2s
February 10, 2014

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	24
Zip Scan Report	ZIP-1
Government Records Searched/Data Currency Tracking	GR-1
 <u>GEOCHECK ADDENDUM</u>	
Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	A-6

Thank you for your business.
 Please contact EDR at 1-800-352-0050
 with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

100 INDUSTRIAL DRIVE
NATCHITOCHEs, LA 71457

COORDINATES

Latitude (North): 31.7322000 - 31° 43' 55.92"
Longitude (West): 93.0798000 - 93° 4' 47.28"
Universal Transverse Mercator: Zone 15
UTM X (Meters): 492440.5
UTM Y (Meters): 3510568.8
Elevation: 111 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map: 31093-F1 NATCHITOCHEs SOUTH, LA
Most Recent Revision: 1992

AERIAL PHOTOGRAPHY IN THIS REPORT

Photo Year: 2010
Source: USDA

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

<u>Site</u>	<u>Database(s)</u>	<u>EPA ID</u>
ALLIANCE COMPRESSORS LLC 100 INDUSTRIAL DR NATCHITOCHEs, LA 71457	US AIRS	N/A
ALLIANCE COMPRESSORS 100 INDUSTRIAL DR NATCHITOCHEs, LA	SPILLS Incident Status: Closed	N/A
ALLIANCE COMPRESSORS 100 INDUSTRIAL DR NATCHITOCHEs, LA 71457	RCRA-CESQG TRIS FINDS	71457LLNCC100IN
ALLIANCE COMPRESSORS LLC 100 INDUSTRIAL DR NATCHITOCHEs, LA 71457	AIRS	N/A

EXECUTIVE SUMMARY

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

CERCLIS..... Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY..... Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP..... CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators

Federal institutional controls / engineering controls registries

US ENG CONTROLS..... Engineering Controls Sites List
US INST CONTROL..... Sites with Institutional Controls
LUCIS..... Land Use Control Information System

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS..... Potential and Confirmed Sites List

EXECUTIVE SUMMARY

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Landfill List
DEBRIS..... LDEQ Approved Debris Sites
HIST DEBRIS..... LDEQ Approved Debris Sites

State and tribal leaking storage tank lists

LUST..... Leaking Underground Storage Tanks
HIST LUST..... Underground Storage Tank Case History Incidents
INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

INDIAN UST..... Underground Storage Tanks on Indian Land
FEMA UST..... Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

AUL..... Conveyance Notice Listing

State and tribal voluntary cleanup sites

VCP..... Voluntary Remediation Program Sites
INDIAN VCP..... Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
SWRCY..... Recycling Directory
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL..... Clandestine Drug Labs
DEL SHWS..... Deleted Potential & Confirmed Sites
CDL..... Clandestine Drug Lab
US HIST CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

EXECUTIVE SUMMARY

LIENS..... Environmental Liens

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators
DOT OPS..... Incident and Accident Data
DOD..... Department of Defense Sites
FUDS..... Formerly Used Defense Sites
CONSENT..... Superfund (CERCLA) Consent Decrees
ROD..... Records Of Decision
UMTRA..... Uranium Mill Tailings Sites
US MINES..... Mines Master Index File
TSCA..... Toxic Substances Control Act
FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing
SSTS..... Section 7 Tracking Systems
ICIS..... Integrated Compliance Information System
PADS..... PCB Activity Database System
MLTS..... Material Licensing Tracking System
RADINFO..... Radiation Information Database
RAATS..... RCRA Administrative Action Tracking System
RMP..... Risk Management Plans
UIC..... Underground Injection Wells Listing
DRYCLEANERS..... Drycleaner Facility Listing
NPDES..... LPDES Permits Database
INDIAN RESERV..... Indian Reservations
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
PRP..... Potentially Responsible Parties
LEAD SMELTERS..... Lead Smelter Sites
REM..... Division of Remediation Services Database
ASBESTOS..... Asbestos Projects List
PCB TRANSFORMER..... PCB Transformer Registration Database
COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List
COAL ASH..... Coal Ash Disposal Sites
US FIN ASSUR..... Financial Assurance Information
Financial Assurance..... Financial Assurance Information
COAL ASH DOE..... Steam-Electric Plant Operation Data
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants
EDR US Hist Cleaners..... EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List

EXECUTIVE SUMMARY

RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank
RGA LF..... Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-CESQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-CESQG list, as provided by EDR, and dated 09/10/2013 has revealed that there is 1 RCRA-CESQG site within approximately 0.25 miles of the target property.

<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NATCHITOCHEs WOOD PRESERVING</i>	<i>8236 HWY 1</i>	<i>S 1/8 - 1/4 (0.249 mi.)</i>	<i>9</i>	<i>21</i>

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Environmental Quality's Louisiana Underground Storage Tank Database.

A review of the UST list, as provided by EDR, and dated 10/21/2013 has revealed that there is 1 UST site within approximately 0.25 miles of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
<i>NATIONAL FISH HATCHERY</i>	<i>615 HWY 1 S</i>	<i>NW 1/8 - 1/4 (0.228 mi.)</i>	<i>8</i>	<i>20</i>

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR US Hist Auto Stat: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR US Hist Auto Stat list, as provided by EDR, has revealed that there are 3 EDR US Hist Auto Stat sites within approximately 0.25 miles of the target property.

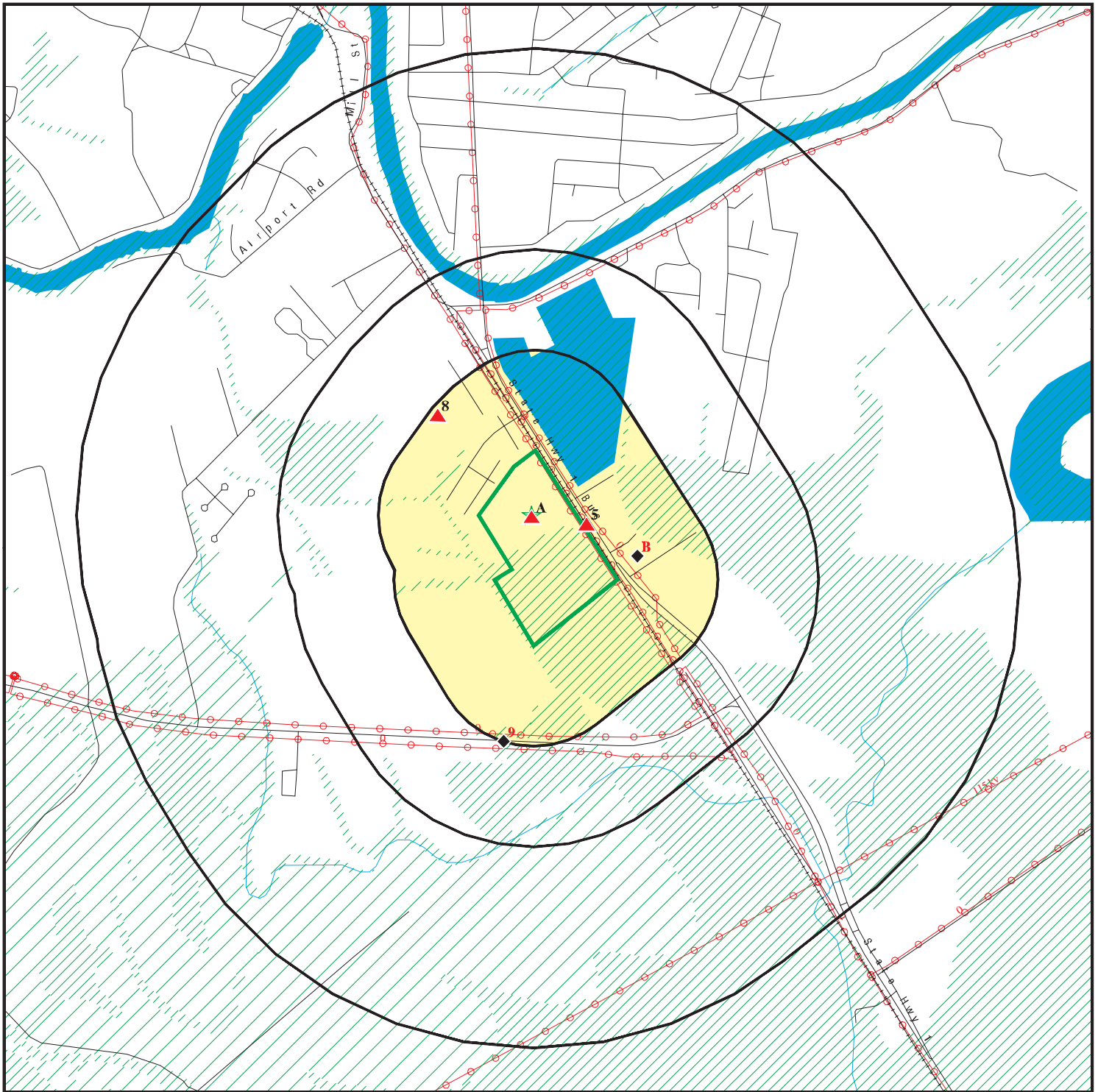
<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	1330 SOUTH DR	E 0 - 1/8 (0.009 mi.)	5	19
<u>Lower Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
Not reported	1821 SOUTH DR	ESE 0 - 1/8 (0.031 mi.)	B6	19
Not reported	1825 SOUTH DR	ESE 0 - 1/8 (0.073 mi.)	B7	19



EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 39 records.

<u>Site Name</u>	<u>Database(s)</u>
KERR-MCGEE #9016	REM
SPANISH TRAIL GROCERY	REM
CLARENCE DEBRIS SITE	DEBRIS
ST. MATHEWS SCHOOL	DEBRIS
NATCHITOCHE C/D LANDFILL	DEBRIS
3 J'S FOURWAY	UST
D&M GROCERY & SS	UST
ALCORKS GROCERY	UST
FULLER'S GROCERY	UST
BROOKSHIRE GROCERY #401	UST
SHOP A LOTT 5	UST
PAK A BAG INC	UST
LISTACHE'S	UST
RAPIDES BANK FARM	UST
TRIPPLE F INC	UST
FRIEDMAN FARM	UST
CUSTOM BUILDERS	UST
DUTILE'S GROCERY	UST
BY PASS EXPRESS	UST
DONALD E COLLINS	UST
CHARLES ROGUE GARAGE	UST
LOTT OIL CO INC - LOMAC OF NATCHIT	UST
M H ANDERSON	UST
SHOP-A-LOTT #21	UST
EZ STOP #100442	UST
K&M CONSTRUCTION	UST
SHOP-A-LOTT #10	UST
FLOYD LUMBER CO	UST
STONE'S GROCERY	UST
DEBLIEUX'S CORNER	UST
MONTGOMERY STORE	UST
BUDDY'S GROCERY	UST
ANTEE STORE	UST
OAK GROVE MINI-MART	UST
SAVE TIME FOOD STORE	UST
RHODES CAFE	UST
PILGRIMS PRIDE CON AGRA POULTRY	RCRA-SQG
BP PIPELINES NA, BLACK LAKE NGL	RCRA-SQG
KELLY HARDEE AUTOMOTIVE	RCRA-CESQG

OVERVIEW MAP - 3851620.2s



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  Oil & Gas pipelines from USGS
-  100-year flood zone
-  500-year flood zone















This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 19722
 ADDRESS: 100 Industrial Drive
 Natchitoches LA 71457
 LAT/LONG: 31.7322 / 93.0798

CLIENT: Altec Env. Consultants
 CONTACT: Dana Beck
 INQUIRY #: 3851620.2s
 DATE: February 10, 2014 12:20 pm

DETAIL MAP - 3851620.2s



-  Target Property
-  Sites at elevations higher than or equal to the target property
-  Sites at elevations lower than the target property
-  Manufactured Gas Plants
-  Sensitive Receptors
-  National Priority List Sites
-  Dept. Defense Sites
-  Indian Reservations BIA
-  Power transmission lines
-  Oil & Gas pipelines from USGS
-  100-year flood zone
-  500-year flood zone

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 19722
 ADDRESS: 100 Industrial Drive
 Natchitoches LA 71457
 LAT/LONG: 31.7322 / 93.0798

CLIENT: Altec Env. Consultants
 CONTACT: Dana Beck
 INQUIRY #: 3851620.2s
 DATE: February 10, 2014 12:21 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site List</i>								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250	1	0	1	NR	NR	NR	2
<i>Federal institutional controls / engineering controls registries</i>								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent CERCLIS</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
DEBRIS	0.500		0	0	0	NR	NR	0
HIST DEBRIS	0.500		0	0	0	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
LUST	0.500		0	0	0	NR	NR	0
HIST LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	1	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
<u>ADDITIONAL ENVIRONMENTAL RECORDS</u>								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS	TP	1	NR	NR	NR	NR	NR	1
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP	1	NR	NR	NR	NR	NR	1
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP	1	NR	NR	NR	NR	NR	1
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
AIRS	TP	1	NR	NR	NR	NR	NR	1
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US AIRS	TP	1	NR	NR	NR	NR	NR	1
PRP	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
REM	0.500		0	0	0	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250		3	0	NR	NR	NR	3
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	1.000		0	0	0	0	NR	0
RGA LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

<u>Database</u>	<u>Search Distance (Miles)</u>	<u>Target Property</u>	<u>< 1/8</u>	<u>1/8 - 1/4</u>	<u>1/4 - 1/2</u>	<u>1/2 - 1</u>	<u>> 1</u>	<u>Total Plotted</u>
RGA LF	0.500		0	0	0	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A1 **ALLIANCE COMPRESSORS LLC**
Target **100 INDUSTRIAL DR**
Property **NATCHITOCHE, LA 71457**

US AIRS **1004511872**
 N/A

Site 1 of 4 in cluster A

Actual:
111 ft.

AIRS (AFS):

Airs Minor Details:

EPA plant ID: 110009925812
Plant name: ALLIANCE COMPRESSORS LLC
Plant address: 100 INDUSTRIAL DR
 NATCHITOCHE, LA 71457

County: NATCHITOCHE
Region code: 06
Dunn & Bradst #: Not reported
Air quality cntrl region: 022
Sic code: 3585
Sic code desc: REFRIGERATION AND HEATING EQUIPMENT
North Am. industrial classf: 312112
NAIC code description: Bottled Water Manufacturing
Default compliance status: IN COMPLIANCE - CERTIFICATION
Default classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Govt facility: ALL OTHER FACILITIES NOT OWNED OR OPERATED BY A FEDERAL, STATE, OR
 LOCAL GOVERNMENT

Current HPV: Not reported

Compliance and Enforcement Major Issues:

Air program: SIP SOURCE
National action type: Not reported
Date achieved: 00000
Penalty amount: Not reported

Air program: SIP SOURCE
National action type: Not reported
Date achieved: 00000
Penalty amount: Not reported

Air program: Not reported
National action type: Not reported
Date achieved: Not reported
Penalty amount: Not reported

Historical Compliance Minor Sources:

State compliance status: IN COMPLIANCE - CERTIFICATION
Hist compliance date: 1004
Air prog code hist file: NSPS

State compliance status: IN COMPLIANCE - CERTIFICATION
Hist compliance date: 1101
Air prog code hist file: SIP SOURCE

State compliance status: IN COMPLIANCE - CERTIFICATION
Hist compliance date: 1101
Air prog code hist file: MACT (SECTION 63 NESHAPS)

State compliance status: IN COMPLIANCE - CERTIFICATION

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS LLC (Continued)

1004511872

Hist compliance date:	1102
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1102
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1103
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1104
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1104
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1201
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1201
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1202
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1202
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1203
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1204
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1204
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1301
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1301
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1302

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS LLC (Continued)

1004511872

Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1302
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1303
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1303
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - INSPECTION
Hist compliance date:	1004
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1101
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1102
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1103
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1103
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1104
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1201
Air prog code hist file:	NSPS
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1202
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1203
Air prog code hist file:	SIP SOURCE
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1203
Air prog code hist file:	MACT (SECTION 63 NESHAPS)
State compliance status:	IN COMPLIANCE - CERTIFICATION
Hist compliance date:	1204
Air prog code hist file:	MACT (SECTION 63 NESHAPS)

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS LLC (Continued)

1004511872

State compliance status: IN COMPLIANCE - CERTIFICATION
Hist compliance date: 1301
Air prog code hist file: NSPS

State compliance status: IN COMPLIANCE - CERTIFICATION
Hist compliance date: 1302
Air prog code hist file: NSPS

State compliance status: IN COMPLIANCE - CERTIFICATION
Hist compliance date: 1303
Air prog code hist file: SIP SOURCE

Compliance & Violation Data by Minor Sources:

Air program code: SIP SOURCE
Plant air program pollutant: CARBON MONOXIDE
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non atnmnt: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: Not reported
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non atnmnt: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: TOTAL PARTICULATE MATTER
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non atnmnt: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: SULFUR DIOXIDE
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non atnmnt: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: VOLATILE ORGANIC COMPOUNDS
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non atnmnt: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: NSPS
Plant air program pollutant: Not reported
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS LLC (Continued)

1004511872

Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: NSPS
Plant air program pollutant: OTHER
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: NSPS
Plant air program pollutant: TOTAL PARTICULATE MATTER
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: NSPS
Plant air program pollutant: Not reported
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: MACT (SECTION 63 NESHAPS)
Plant air program pollutant: Not reported
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: Not reported
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: OTHER
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - INSPECTION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
Repeat violator date: Not reported
Turnover compliance: Not reported

Air program code: SIP SOURCE
Plant air program pollutant: Not reported
Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ALLIANCE COMPRESSORS LLC (Continued)

1004511872

Repeat violator date: Not reported
 Turnover compliance: Not reported

Air program code: NSPS
 Plant air program pollutant: CARBON MONOXIDE
 Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
 Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
 Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
 Repeat violator date: Not reported
 Turnover compliance: Not reported

Air program code: NSPS
 Plant air program pollutant: Not reported
 Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
 Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
 Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
 Repeat violator date: Not reported
 Turnover compliance: Not reported

Air program code: NSPS
 Plant air program pollutant: SULFUR DIOXIDE
 Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
 Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
 Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
 Repeat violator date: Not reported
 Turnover compliance: Not reported

Air program code: NSPS
 Plant air program pollutant: VOLATILE ORGANIC COMPOUNDS
 Default pollutant classification: POTENTIAL UNCONTROLLED EMISSIONS < 100 TONS/YEAR
 Def. poll. compliance status: IN COMPLIANCE - CERTIFICATION
 Def. attainment/non attainment: ATTAINMENT AREA FOR GIVEN POLLUTANT
 Repeat violator date: Not reported
 Turnover compliance: Not reported

A2
Target
Property

ALLIANCE COMPRESSORS
100 INDUSTRIAL DR
NATCHITOCHE, LA

SPILLS 1005450852
N/A

Site 2 of 4 in cluster A

Actual:
111 ft.

SPILLS:
 Region Code: Not reported
 Date Rec: 08/29/2002
 Date Initiated: Not reported
 Incident Id: 54675
 Incident Date: 08/28/2002
Incident Status: Closed
 Media Desc: Soil
 Location Description: US Filter 100 Industrial Dr.
 Incident Source Name: Natchitoches Parish
 Incident Desc: s02-3087 overfilled truck tank - spill went onto ground and concrete area - tj
 Incident Type Desc: Not reported
 Comments: Not reported
 Parameter: Not reported
 Quantity: Not reported
 Units: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS (Continued)

1005450852

Other Substance Desc: motor oil - 200 gallons

Region Code: Not reported
Date Rec: 08/06/2003
Date Initiated: Not reported
Incident Id: 63339
Incident Date: 08/06/2003
Incident Status: Closed
Media Desc: Soil
Location Description: 100 Industrial Dr. Natchitoches
Incident Source Name: Emerson Electric Co
Incident Desc: s03-2915 Material spilled on the apron of the property and loading dock. col
Incident Type Desc: Not reported
Comments: Not reported
Parameter: Sulfuric acid
Quantity: Not reported
Units: Not reported
Other Substance Desc: Not reported

Region Code: Not reported
Date Rec: 05/05/2004
Date Initiated: Not reported
Incident Id: 70358
Incident Date: 05/04/2004
Incident Status: Closed
Media Desc: Not reported
Location Description: Alliance Compressors 100 Industrial Dr.
Incident Source Name: Alliance Compressors
Incident Desc: s04-1884 a contractor mistakenly opened a valve on a secondary containment - material released to a concrete drain - tj
Incident Type Desc: Not reported
Comments: Not reported
Parameter: Not reported
Quantity: Not reported
Units: Not reported
Other Substance Desc: mixture of used oil & stormwater (100 gallons)

Region Code: Not reported
Date Rec: 03/01/2004
Date Initiated: Not reported
Incident Id: 68381
Incident Date: 02/29/2004
Incident Status: Closed
Media Desc: Water
Location Description: Alliance Compressors 100 Industrial Dr.
Incident Source Name: Alliance Compressors
Incident Desc: s04-0862 tank overflowed to process water drain and to secondary drain
Incident Type Desc: Not reported
Comments: Not reported
Parameter: Not reported
Quantity: Not reported
Units: Not reported
Other Substance Desc: Parco Lubrtie II - 350 gallons

Region Code: Not reported
Date Rec: 02/23/2001

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ALLIANCE COMPRESSORS (Continued)

1005450852

Date Initiated: Not reported
 Incident Id: 40289
 Incident Date: 02/23/2001
Incident Status: Closed
 Media Desc: Water
 Location Description: Alliance Compressor 100 Industrial Drive
 Incident Source Name: Alliance Compressors
 Incident Desc: s01-0809 Process water stream to sewer platn pump went out/ process water backed up adn headed toward ground--lt
 Incident Type Desc: Not reported
 Comments: Not reported
 Parameter: Not reported
 Quantity: Not reported
 Units: Not reported
 Other Substance Desc: Process Water

**A3
 Target
 Property**

**ALLIANCE COMPRESSORS
 100 INDUSTRIAL DR
 NATCHITOCHE, LA 71457**

**RCRA-CESQG
 TRIS
 FINDS**

**1001219741
 71457LLNCC100IN**

Site 3 of 4 in cluster A

**Actual:
 111 ft.**

RCRA-CESQG:
 Date form received by agency: 04/24/2013
 Facility name: ALLIANCE COMPRESSORS
 Facility address: 100 INDUSTRIAL DR
 NATCHITOCHE, LA 71457
 EPA ID: LAR000029165
 Mailing address: INDUSTRIAL DR
 NATCHITOCHE, LA 71457
 Contact: BILL G FAIR
 Contact address: W CAMPBELL RD
 SIDNEY, OH 45365
 Contact country: US
 Contact telephone: (318) 356-4539
 Contact email: Not reported
 EPA Region: 06
 Land type: Private
 Classification: Conditionally Exempt Small Quantity Generator
 Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:
 Owner/operator name: ALLIANCE COMPRESSORS
 Owner/operator address: 100 INDUSTRIAL DR

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS (Continued)

1001219741

NATCHITOCHEs, LA 71457
Owner/operator country: Not reported
Owner/operator telephone: (318) 356-4500
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/0001
Owner/Op end date: Not reported

Owner/operator name: COPELAND CORPORATION
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 10/13/2003
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:

Date form received by agency: 02/28/2007
Facility name: ALLIANCE COMPRESSORS
Classification: Small Quantity Generator

Date form received by agency: 05/03/2006
Facility name: ALLIANCE COMPRESSORS
Classification: Small Quantity Generator

Date form received by agency: 10/18/2003
Facility name: ALLIANCE COMPRESSORS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 01/12/2000
Facility name: ALLIANCE COMPRESSORS
Classification: Conditionally Exempt Small Quantity Generator

Hazardous Waste Summary:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKEY-MARTENS

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS (Continued)

1001219741

CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D005
Waste name: BARIUM

Waste code: D006
Waste name: CADMIUM

Waste code: D007
Waste name: CHROMIUM

Waste code: D008
Waste name: LEAD

Waste code: D035
Waste name: METHYL ETHYL KETONE

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 03/23/2000
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

TRIS:

[Click this hyperlink](#) while viewing on your computer to access 4 additional US_TRIS: record(s) in the EDR Site Report.

FINDS:

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

ALLIANCE COMPRESSORS (Continued)

1001219741

Registry ID: 110003361665

Environmental Interest/Information System

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

Louisiana Tools for Environmental Management and Protection Organizations (LA-TEMPO) is an Integrated Management System.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

US National Pollutant Discharge Elimination System (NPDES) module of the Compliance Information System (ICIS) tracks surface water permits issued under the Clean Water Act. Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

A4 **ALLIANCE COMPRESSORS LLC**
Target **100 INDUSTRIAL DR**
Property **NATCHITOCHE, LA 71457**

AIRS **S112270325**
N/A

Site 4 of 4 in cluster A

Actual:
111 ft.

AIRS:
 Permit Number: 1980-00029-03
 Permit Type Desc: State permit (unspecified)
 AI No#: 30011
 Activity No#: PER20000001
 Region Code: Northwest
 Latitude: 32
 Longitude: 93.086944
 Title Desc: REFRIGERANT COMPRESSOR MFG FACILITY
 Mailing Address: 100 Industrial Dr
 Mailing Address2: Not reported
 Mailing City/State/Zip: Natchitoches, LA 71457
 Issue Date: 01/21/2000
 Expiration Date: 03/09/2011
 Effective End Date: 03/09/2011
 Effective Flag: N
 Extended Flag: N
 EDR Link ID: 1980-00029-03

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

ALLIANCE COMPRESSORS LLC (Continued)

S112270325

Permit Number: 1980-00029-04
Permit Type Desc: Minor Source/Small Source Mod
AI No#: 30011
Activity No#: PER20110001
Region Code: Northwest
Latitude: 32
Longitude: 93.086944
Title Desc: Permit Mod-Entire Facility
Mailing Address: 100 Industrial Dr
Mailing Address2: Not reported
Mailing City/State/Zip: Natchitoches, LA 71457
Issue Date: 03/09/2011
Expiration Date: 03/09/2021
Effective End Date: 03/09/2021
Effective Flag: Y
Extended Flag: Y
EDR Link ID: 1980-00029-04

5
East
< 1/8
0.009 mi.
48 ft.

1330 SOUTH DR
NATCHITOCHE, LA 71457

EDR US Hist Auto Stat 1015209193
N/A

Relative:
Higher

EDR Historical Auto Stations:
Name: ARCHIES PAINT & BODY SHOP
Year: 2008
Address: 1330 SOUTH DR

Actual:
111 ft.

B6
ESE
< 1/8
0.031 mi.
163 ft.

1821 SOUTH DR
NATCHITOCHE, LA 71457

EDR US Hist Auto Stat 1015281737
N/A

Site 1 of 2 in cluster B

Relative:
Lower

EDR Historical Auto Stations:
Name: ARCHIES PAINT & BODY SHOP
Year: 2007
Address: 1821 SOUTH DR

Actual:
110 ft.

B7
ESE
< 1/8
0.073 mi.
385 ft.

1825 SOUTH DR
NATCHITOCHE, LA 71457

EDR US Hist Auto Stat 1015282247
N/A

Site 2 of 2 in cluster B

Relative:
Lower

EDR Historical Auto Stations:
Name: ARCHIES PAINT & BODY SHOP
Year: 2007
Address: 1825 SOUTH DR

Actual:
108 ft.

Name: ARCHIES PAINT & BODY SHOP
Year: 2009
Address: 1825 SOUTH DR

Map ID
 Direction
 Distance
 Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
 EPA ID Number

(Continued)

1015282247

Name: ARCHIES PAINT & BODY SHOP
 Year: 2011
 Address: 1825 SOUTH DR

Name: ARCHIES PAINT & BODY SHOP
 Year: 2012
 Address: 1825 SOUTH DR

8
NW
1/8-1/4
0.228 mi.
1206 ft.

NATIONAL FISH HATCHERY
615 HWY 1 S
NATCHITOCHE, LA 71457

UST U001895400
N/A

Relative:
Higher

UST:
 Facility ID: 35006735
 Master Agency Id: 72397
 Subject Category Code: Individual UST
 Subject Item ID: 1

Actual:
111 ft.

UST Tank Num: 18411
Tank Status: Closed
 Install Date: 5/1/1958
 Total Capacity: 500
 Number Of Compartments: 1
 Gasoline Flag: Not reported
 Diesel Flag: Not reported
 Gasohol Flag: Yes
 Kerosene Flag: Not reported
 Heating Oil Flag: Not reported
 New Used Oil Flag: Not reported
 MS Aviation Fuel JP: Not reported
 MS Additive: Not reported
 MS Antifreeze: Not reported
 MS Naptha: Not reported
 MS Varsol: Not reported
 Unknown: Not reported
 Other Sub: Not reported
 Steel Tank Covered With Asphalt: Not reported
 Cathodically Protected: Not reported
 Epoxy Coated Tank: Not reported
 A Composite Of Different Materials: Not reported
 Fiberglass Or Plastic: Not reported
 Interior Line With Some Material: Not reported
 Double Wall As Opposed To Single Wall: Not reported
 Outside Lined w/ Polyethylen Jacket: Not reported
 Made Of Concrete: Not reported
 Liner Covering Excavation Hole: Not reported
 Other Material: Not reported
 Pipe Method Description: Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

9
South
1/8-1/4
0.249 mi.
1315 ft.

NATCHITOCHE WOOD PRESERVING
8236 HWY 1
NATCHITOCHE, LA

RCRA-CESQG 1001228431
FINDS LAR000007625

Relative:
Lower

RCRA-CESQG:

Actual:
108 ft.

Date form received by agency: 05/26/2000
Facility name: NATCHITOCHE WOOD PRESERVING
Facility address: 8236 HWY 1
NATCHITOCHE, LA 71457
EPA ID: LAR000007625
Mailing address: HWY 1
NATCHITOCHE, LA 71457
Contact: BEN BERNARD
Contact address: 8236 HWY 1
NATCHITOCHE, LA 71457
Contact country: US
Contact telephone: (318) 357-0380
Contact email: Not reported
EPA Region: 06
Land type: Private
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste

Owner/Operator Summary:

Owner/operator name: BARRY BERNARD
Owner/operator address: 138 LATERAL LN
NATCHITOCHE, LA 71457
Owner/operator country: Not reported
Owner/operator telephone: (318) 357-0380
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:

U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NATCHITOCHE WOOD PRESERVING (Continued)

1001228431

Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Hazardous Waste Summary:

Waste code: D004
Waste name: ARSENIC

Waste code: D007
Waste name: CHROMIUM

Violation Status: No violations found

Evaluation Action Summary:

Evaluation date: 12/11/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/23/2004
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/06/2000
Evaluation: COMPLIANCE ASSISTANCE VISIT
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/09/2000
Evaluation: COMPLIANCE ASSISTANCE VISIT
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/25/1998
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

FINDS:

Registry ID: 110006028743

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

NATCHITOCHEs WOOD PRESERVING (Continued)

1001228431

program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
CYPRESS	U003172942	3 J'S FOURWAY	HWY 1 AT HWY 120	71457	UST
HAGEWOOD	U003925021	D&M GROCERY & SS	HWY 6 W	71457	UST
NATCHEZ	U001895090	ALCORKS GROCERY	HWY 1 S	71457	UST
NATCHITOCHES	U003995878	FULLER'S GROCERY	HWY 1 S RT 5 BOX 407	71457	UST
NATCHITOCHES	U003926598	BROOKSHIRE GROCERY #401	5696 HWY 1 BY-PASS	71457	UST
NATCHITOCHES	U003924548	SHOP A LOTT 5	HWY 1 N & BYPASS 3175	71457	UST
NATCHITOCHES	U003923479	PAK A BAG INC	128 HWY 1 SOUTH	71457	UST
NATCHITOCHES	U002222772	LISTACHE'S	HWY 1 BYPASS	71457	UST
NATCHITOCHES	U001897850	RAPIDES BANK FARM	HWY 1 R8W - (BYPASS)	71457	UST
NATCHITOCHES	U001897482	TRIPPLE F INC	HWY 1 S	71457	UST
NATCHITOCHES	U001896788	FRIEDMAN FARM	HWY 1 SOUTH	71457	UST
NATCHITOCHES	U000222901	CUSTOM BUILDERS	HWY 1 S	71457	UST
NATCHITOCHES	S112659145	KERR-MCGEE #9016	210 HWY 1 SOUTH		REM
NATCHITOCHES	1007448770	KELLY HARDEE AUTOMOTIVE	5632 HWY 1 BYPASS	71457	RCRA-CESQG
NATCHITOCHES	1006817087	PILGRIMS PRIDE CON AGRA POULTRY	7088 HWY 1 BYPASS SOUTH	71457	RCRA-SQG
NATCHITOCHES	U001899518	DUTILE'S GROCERY	HWY 119	71457	UST
NATCHITOCHES	U000213497	BY PASS EXPRESS	800 HWY 3110 BY PASS	71457	UST
NATCHITOCHES	U003922611	DONALD E COLLINS	1711 HWY 3175 BY-PASS	71457	UST
NATCHITOCHES	U000222412	CHARLES ROGUE GARAGE	HWY 484	71457	UST
NATCHITOCHES	U003922045	LOTT OIL CO INC - LOMAC OF NATCHIT	RT 5 HWY 1 S	71457	UST
NATCHITOCHES	U003926161	M H ANDERSON	HWY 504 RT 4 BOX 671	71457	UST
NATCHITOCHES	U003926643	SHOP-A-LOTT #21	5423 HWY 6 W	71457	UST
NATCHITOCHES	U003924899	EZ STOP #100442	6464 HWY 6	71457	UST
NATCHITOCHES	U003923270	K&M CONSTRUCTION	HWY 6 N	71457	UST
NATCHITOCHES	U001895098	SHOP-A-LOTT #10	HWY 6 & I49 NW OF	71457	UST
NATCHITOCHES	U001895092	FLOYD LUMBER CO	HWY 6 RT 2 BOX 46	71457	UST
NATCHITOCHES	U000876008	STONE'S GROCERY	HWY 6 EAST	71457	UST
NATCHITOCHES	U000222418	DEBLIEUX'S CORNER	HWY 6	71457	UST
NATCHITOCHES	S112659177	SPANISH TRAIL GROCERY	HWY 6 WEST		REM
NATCHITOCHES	U003996418	MONTGOMERY STORE	BELLWOOD & LA HWY 117	71457	UST
NATCHITOCHES	U001897648	BUDDY'S GROCERY	LA HWY 494 S	71457	UST
NATCHITOCHES	U001892989	ANTEE STORE	MARCO LA HWY 490	71457	UST
NATCHITOCHES	1012179580	BP PIPELINES NA, BLACK LAKE NGL	N OF RED RIVER OFF HWY 486	71457	RCRA-SQG
NATCHITOCHES	U000216271	OAK GROVE MINI-MART	OLD HWY 1 N	71457	UST
NATCHITOCHES	U003923026	SAVE TIME FOOD STORE	ROBELINE RD HWY 6 W	71457	UST
NATCHITOCHES COUNTY	S111334805	CLARENCE DEBRIS SITE	HWY 1226 (NORTH OF US 84)		DEBRIS
NATCHITOCHES COUNTY	S111334424	ST. MATHEWS SCHOOL	1 M NW OF MELROSE, HWY 119		DEBRIS
NATCHITOCHES COUNTY	S111334875	NATCHITOCHES C/D LANDFILL	E OF HWY 1, 3 MI N OF NATCHITO		DEBRIS
PROVENCAL	U001894780	RHODES CAFE	HWY 117	71457	UST

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
** - Indicates location may or may not be in requested radius. Site has not been assigned a latitude/longitude coordinate. Further review recommended.								
71457	952983450				**	NATCHITOCHE	LA	ERNS
71457	952812131				**	NATCHITOCHE	LA	ERNS
71457	952812130				**	NATCHITOCHE	LA	ERNS
71457	952983451				**	NATCHITOCHE	LA	ERNS
71457	1000145591	110006020527	BROADMOOR GULF	101 HWY 1 S	**	NATCHITOCHE	LA	RCRA-NonGen, FINDS, UST
71457	U003922704		D'S 4 WAY	11028 HWY 1 S	**	NATCHITOCHE	LA	NPDES, UST
71457	U003923479		PAK A BAG INC	128 HWY 1 SOUTH	**	NATCHITOCHE	LA	UST
71457	1015282203			1825 HIGHWAY 1		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015282979			1831 HIGHWAY 1		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015283467			1837 HIGHWAY 1		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015285297			1855 HIGHWAY 1		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U000876777	35-005478	KERR-MCGEE #9016	210 HWY 1 SOUTH		NATCHITOCHE	LA	HIST LUST, UST
71457	U004156204		SAVE TIME FOOD STORE	2531 HWY 1 BY-PASS	**	NATCHITOCHE	LA	UST
71457	1015041406			315 HIGHWAY 1 S		NATCHITOCHE	LA	EDR Historical Cleaners
71457	1015437224			341 HIGHWAY 1		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015437223			341 HIGHWAY 1 S		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1004710440	110006024863	HONDA VILLAGE	367 HWY 1 S	**	NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015554999			5632 HIGHWAY 1		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1007448770	LAR000055491	KELLY HARDEE AUTOMOTIVE	5632 HWY 1 BYPASS	**	NATCHITOCHE	LA	RCRA-CESQG
71457	U003926598		BROOKSHIRE GROCERY #401	5696 HWY 1 BY-PASS	**	NATCHITOCHE	LA	UST
71457	U003924096		SIBLEY LAKE MINI-MART	5906 HWY 1 BYPASS	**	NATCHITOCHE	LA	UST
71457	U001895400		NATIONAL FISH HATCHERY	615 HWY 1 S	8, NNW, 1/4 - 1/2	NATCHITOCHE	LA	UST
71457	1014390653	LAR000070805	NATCHITOCHE CENTRAL HIGH SCHOOL	6513 HWY 1 BYPASS	**	NATCHITOCHE	LA	RCRAInfo-LQG
71457	1015602425			6943 HIGHWAY 1 BYP		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1011616742		PILGRIM'S PRIDE - NATCHITOCHE	7088 HIGHWAY 1 SOUTH BYPASS	NATC	NATCHITOCHE	LA	ICIS
71457	2008886250			7088 HWY 1 BYPASS	**	NATCHITOCHE	LA	ERNS
71457	2009912197			7088 HWY 1 BYPASS	**	NATCHITOCHE	LA	ERNS
71457	U003922356	27951	PILGRIM'S PRIDE CORP - NATCHITOCHE	7088 HWY 1 BYPASS	**	NATCHITOCHE	LA	NPDES, SPILLS
71457	2008912197			7088 HWY 1 BYPASS	**	NATCHITOCHE	LA	ERNS
71457	1006817087	LAR000047951	PILGRIMS PRIDE CON AGRA POULTRY	7088 HWY 1 BYPASS SOUTH	**	NATCHITOCHE	LA	RCRAInfo-SQG
71457	1015617058			7246 HIGHWAY 1 BYP		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1010318496	LAR000063164	NATCHITOCHE FORD LINCOLN MERCUF	7501 HWY 1 BYPASS	**	NATCHITOCHE	LA	RCRAInfo-SQG
71457	S108336177	40531	ALLIANCE COMPRESSORS	7575 HWY 1 BYPASS	**	NATCHITOCHE	LA	NPDES
71457	S113479968		SMITH'S DETAILING & CAR WASH	7646 HWY 1 BY-PASS	**	NATCHITOCHE	LA	NPDES
71457	S112270329		CONAGRA POULTRY CO - HATCHERY	7889 HWY 1 BYPASS S	**	NATCHITOCHE	LA	
71457	1000146253	LAD086261591	CONAGRA POULTRY CO NATCHITOCHE	7889 HWY 1 BYPASS S		NATCHITOCHE	LA	RCRA-CESQG, UST
71457	S108336985	42142	LADOTD - NATCHITOCHE PARISH MAINT	7900 HWY 1 BY-PASS	**	NATCHITOCHE	LA	NPDES
71457	U003667030		HASTY STOP	900 HWY 1 SOUTH	**	NATCHITOCHE	LA	UST
71457	U003996422		RITE WAY GROCERY	9501 HWY 1	**	NATCHITOCHE	LA	UST
71457	1015686057			97 HIGHWAY 1 S	**	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U003923632		PEL STATE OIL CO #87	97 HWY 1 S	**	NATCHITOCHE	LA	UST
71457	1015689443			99 HIGHWAY 1 S	**	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000421019	110006023258	EASTSIDE EXXON SERVICE CENTER	99 HWY 1 S	**	NATCHITOCHE	LA	RCRA-NonGen, FINDS, UST
71457	U003172942		3 J'S FOURWAY	HWY 1 AT HWY 120	**	CYPRESS	LA	UST
71457	U002222772		LISTACHE'S	HWY 1 BYPASS	**	NATCHITOCHE	LA	UST
71457	U003924548		SHOP A LOTT 5	HWY 1 N & BYPASS 3175	**	NATCHITOCHE	LA	UST
71457	U001897850		RAPIDES BANK FARM	HWY 1 R8W - (BYPASS)	**	NATCHITOCHE	LA	UST
71457	U001897482		TRIPPLE F INC	HWY 1 S	**	NATCHITOCHE	LA	UST
71457	U001895090		ALCORKS GROCERY	HWY 1 S	**	NATCHEZ	LA	UST
71457	U000222901		CUSTOM BUILDERS	HWY 1 S	**	NATCHITOCHE	LA	UST
71457	U003995878		FULLER'S GROCERY	HWY 1 S RT 5 BOX 407	**	NATCHITOCHE	LA	UST
71457	U001896788		FRIEDMAN FARM	HWY 1 SOUTH	**	NATCHITOCHE	LA	UST
71457	1012126318		PILGRIM'S PRIDE - NATCHITOCHE	HWY 1 SOUTH BYPASS	**	NATCHITOCHE	LA	RMP
71457	94400465			HWY 1 SOUTH BYPASS	**	NATCHITOCHE	LA	ERNS
71457	1011820601		CON AGRA POULTRY COMPANY	HWY 1 SOUTH BYPASS	**	NATCHITOCHE	LA	RMP
71457	1011834562		PILGRIM'S PRIDE - NATCHITOCHE	HWY 1 SOUTH BYPASS	**	NATCHITOCHE	LA	RMP

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
71457	S108338526	83633	NORTHWESTERN RECREATIONAL COMPI	HWY 1- GOLF COURSE	**	NATCHITOCHE	LA	NPDES
71457	U004156253		SHOP-A-LOTT#4	HWY 1-S & MILL ST	**	NATCHITOCHE	LA	UST
71457	U001895548		ACKEL BROTHERS	N 100 JEFFERSON ST		NATCHITOCHE	LA	UST
71457	S108334391	18716	HAGWOOD APARTMENTS LTD	111 HWY 117		NATCHITOCHE	LA	NPDES
71457	U001894780		RHODES CAFE	HWY 117	**	PROVENCAL	LA	UST
71457	U001899518		DUTILE'S GROCERY	HWY 119	**	NATCHITOCHE	LA	UST
71457	U003924679		J F MAXEY INC	3653 HWY 1226		NATCHITOCHE	LA	UST
71457	1015258543			1633RD	**	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U003074240		1-49 STORE	RT 2		NATCHITOCHE	LA	UST
71457	U001893281		NATCHITOCHE TRUCK STOP	1511 HWY 3110		NATCHITOCHE	LA	UST
71457	U000213497		BY PASS EXPRESS	800 HWY 3110 BY PASS	**	NATCHITOCHE	LA	UST
71457	S109413052		OASIS CAR WASH - KICK ICE LLC	150 HWY 3175	**	NATCHITOCHE	LA	NPDES
71457	U003922611		DONALD E COLLINS	1711 HWY 3175 BY-PASS	**	NATCHITOCHE	LA	UST
71457	S108334106	14864	VARSITY DODGE CHRYSLER JEEP	1798 HWY 3175 N BY PASS		NATCHITOCHE	LA	NPDES
71457	S106033808	35-012742	PANTRY PRIDE #3	201 HIGHWAY 3175 BYP		NATCHITOCHE	LA	HIST LUST
71457	U003924619	73143	SHOP A LOTT #20	201 HWY 3175 BYPASS & HWY 84	**	NATCHITOCHE	LA	NPDES, UST
71457	S110508028		NATCHITOCHE CITY OF - OLD CITY LANI	LA 3175 BYPASS & BREAZEAL SPRING S	**	NATCHITOCHE	LA	SWF/LF
71457	U003073304		CONTINENTAL BAKING CO	437 RD 3191		NATCHITOCHE	LA	UST
71457	S108336788	41770	HIGHWAY 6 TRAILER PARK	4431 HWY 3278 (OLD HWY 6)	**	NATCHITOCHE	LA	NPDES
71457	1004708858	110006022053	LD OUTBOARD MOTOR SHOP	4578 HWY 3278		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	S108337920	43954	WHISPERING PINES TRAILER PARK	4890 HWY 3278		NATCHITOCHE	LA	NPDES, SPILLS
71457	U000213502	35-012675	CORLEY'S COVE	RR 4 BOX 757-A		NATCHITOCHE	LA	HIST LUST, UST
71457	U000220230		SAM MONDELLO	RT 4 BOX 498		NATCHITOCHE	LA	UST
71457	2011995235			4537 HWY 480	**	CAMP TI	LA	ERNS
71457	2004717683			4537 HWY 480	**	CAMP TI	LA	ERNS
71457	2011999370			4537 HWY 480	**	CAMP TI	LA	ERNS
71457	U000222412		CHARLES ROGUE GARAGE	HWY 484	**	NATCHITOCHE	LA	UST
71457	S109844068		FREEDOM LIFE CHURCH	HWY 494 N SIDE 1.62 MI E OF LA HWY 1	**	NATCHITOCHE	LA	NPDES
71457	U003987488		HOWARD RIGGS	RT 5 BOX 195	**	NATCHITOCHE	LA	UST
71457	U001897583		RED DIRT FARMS	RT 5 BOX 421 B		NATCHITOCHE	LA	UST
71457	U003922045		LOTT OIL CO INC - LOMAC OF NATCHITOC	RT 5 HWY 1 S	**	NATCHITOCHE	LA	UST
71457	U003986604		TENNESSEE GAS PIPELINE CO - STATION	195 HWY 504		NATCHITOCHE	LA	UST
71457	1015441273			349 HIGHWAY 504		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015508552			465 HIGHWAY 504		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015543882			534 HIGHWAY 504		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001965590		BUDDY'S GROCERY	985 HWY 504		NATCHITOCHE	LA	UST
71457	U003926161		M H ANDERSON	HWY 504 RT 4 BOX 671	**	NATCHITOCHE	LA	UST
71457	1015161794			1123 N 5TH ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015196324			1270 HIGHWAY 6		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015297381			1975 HIGHWAY 6		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000623569	110006026166	WHOLESALE UNLIMITED	2050 HWY 6		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015329623			2170 HIGHWAY 6		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015335684			2214 HIGHWAY 6		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015336052			2218 HIGHWAY 6		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001893131		MARIA'S KORNER GAS & GROCERY	2218 HWY 6		NATCHITOCHE	LA	UST
71457	U004040252		CIRCLE N	354 HWY 6	**	NATCHITOCHE	LA	UST
71457	U004010483		HICKORY RIDGE VILLAGE	4278 HWY 6		NATCHITOCHE	LA	UST
71457	1015531351			5105 HIGHWAY 6		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U003073276		FRENCH MARKET EXPRESS	5109 HWY 6 (UNIVERSITY PKWY)		NATCHITOCHE	LA	UST
71457	U003172804		SPEEDY STOP OF NATCHITOCHE	5123 HWY 6		NATCHITOCHE	LA	UST
71457	U003926643		SHOP-A-LOTT #21	5423 HWY 6 W	**	NATCHITOCHE	LA	UST
71457	U003924899		EZ STOP #100442	6464 HWY 6	**	NATCHITOCHE	LA	UST
71457	U000222418		DEBLIEUX'S CORNER	HWY 6	**	NATCHITOCHE	LA	UST
71457	U001895098		SHOP-A-LOTT #10	HWY 6 & 149 NW OF	**	NATCHITOCHE	LA	UST
71457	U004156495		LACAZE OIL CO	HWY 6 AT HWY 117S	**	NATCHITOCHE	LA	UST
71457	1000205883	110008386512	COLEMANS AUTOMOTIVE	HWY 6 E GRAND ECOPE RD	**	NATCHITOCHE	LA	RCRAInfo-SQG, FINDS
71457	U000876008		STONE'S GROCERY	HWY 6 EAST	**	NATCHITOCHE	LA	UST
71457	U004156586		MR Q SELF SERVICE # 9	HWY 6 FRANCIS ST	**	NATCHITOCHE	LA	UST
71457	U003923270		K&M CONSTRUCTION	HWY 6 N	**	NATCHITOCHE	LA	UST
71457	U001895092		FLOYD LUMBER CO	HWY 6 RT 2 BOX 46	**	NATCHITOCHE	LA	UST

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
71457	U003925021		D&M GROCERY & SS	HWY 6 W	**	HAGEWOOD	LA	UST
71457	U004156438		ISGITTS CORNER GROCERY	HWY 6 W & HWY 117	**	NATCHITOCHE	LA	UST
71457	U001894129	35-003452	E-Z STOP - 100442	HWY 6 WEST		NATCHITOCHE	LA	HIST LUST
71457	U003555777	74208	SPANISH TRAIL GROCERY	HWY 6 WEST		NATCHITOCHE	LA	UST
71457	1011612151		NATCHITOCHE PARISH WATERWORKS I	HC 66 BOX 1485	**	NATCHITOCHE	LA	ICIS
71457	U004179444		TONY'S STOP	5916 HWY 71		NATCHITOCHE	LA	UST
71457	U000876676		ARCHIE'S GROCERY STORE	8581 HWY 71		ST. MAURICE	LA	UST
71457	S112324332		0	4600 HWY 80	**	NATCHITOCHE	LA	
71457	U003923977		VALLEY AIR INC	AIRPORT RD		NATCHITOCHE	LA	UST
71457	U003923368		PRINCE AIR INC	AIRPORT RD		NATCHITOCHE	LA	UST
71457	1000410662	110008382730	NORTHWEST AIRMOTIVE	AIRPORT RD & MILL ST		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	U003996418		MONTGOMERY STORE	BELLWOOD & LA HWY 117	**	NATCHITOCHE	LA	UST
71457	1000622737	110003327631	P & S AUTO SVC	801 BERRY ST		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	S108331679	117210	HIDDEN HILLS MOBILE HOME PARK - PHA	BEVERLY RISE PLACE RD	**	NATCHITOCHE	LA	NPDES
71457	1004707483	110003263272	NATCHITOCHE DIAGNOSTIC LAB	415 BIENVILLE ST STE 4		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	S110987531		MAGNOLIA HILL RV PARK	BILLS RD	**	NATCHITOCHE	LA	NPDES
71457	U000879987		MCQUILLIN OIL CO INC	206 BLANCHARD RD		NATCHITOCHE	LA	UST
71457	U003925804		SOUTH CENTRAL BELL - K4452	305 BLANCHARD RD		NATCHITOCHE	LA	UST
71457	1000317622	110003266144	FLENNIKEN W T	312 BLANCHARD ROAD		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	1011554716		SOUTHWEST ENGINEERS OF LA	415 BLANCHARD RD		NATCHITOCHE	LA	ICIS
71457	1009523660		SOUTHWEST ENGINEERS OF LA	415 BLANCHARD ROAD		NATCHITOCHE	LA	FTTS
71457	S114020233		AHRENS BONAIRE PROPERTIES LLC - BO	BONAIRE SUBDIVISION	**	ALEXANDRIA	LA	NPDES
71457	1000319342	110003293454	TRANS LA GAS CO	525 BOSSIER ST		NATCHITOCHE	LA	RCRA-NonGen, FINDS, UST
71457	U000879233		UNIVERSITY EXPRESS	625 BOSSIER		NATCHITOCHE	LA	UST
71457	1011566623		BELLWOOD WORK CENTER WATER SYST	P.O. BOX 2128	**	NATCHITOCHE	LA	ICIS
71457	U003924885		COUNTRY PRIDE FOODS LTD	PO BOX 989	**	NATCHITOCHE	LA	UST
71457	1011571578		ORIS 1450 UNIT #10	BREDA AVE OFF TEXAS	**	NATCHITOCHE	LA	ICIS
71457	1015261233			166 BRICKYARD RD		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001899715		ACME BRICK CO	BRICKYARD RD	**	NATCHITOCHE	LA	UST
71457	1015018974			216 BROADMOOR SHOPPING CTR	**	NATCHITOCHE	LA	EDR Historical Cleaners
71457	U003924383		TOMMY'S GROCERY	CANE RIVER RD	**	NATCHITOCHE	LA	UST
71457	1015257856			163 CARMANE RD		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1014990337			137 CASPARI ST		NATCHITOCHE	LA	EDR Historical Cleaners
71457	U001896285		KEN HAM SERVICE STATION	127 CHURCH ST		NATCHITOCHE	LA	UST
71457	S108331073	104052	NATCHITOCHE CITY OF - MUNICIPAL SE	CITY WIDE STORM SEWER SYSTEM	**	NATCHITOCHE	LA	NPDES
71457	S111768563		CLECO POWER LLC - NATCHITOCHE - C	CLARENCE	**	NATCHITOCHE	LA	NPDES
71457	U001897794		CANNY MATT	CLOUTIERVILLE	**	NATCHITOCHE	LA	UST
71457	1015588251			642 COLLEGE AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U003926017		PEL STATE OIL CO #86	642 COLLEGE AVE		NATCHITOCHE	LA	UST
71457	1001228482	LAR000031682	LA SCHOOL FOR MATH SCI & ARTS	715 COLLEGE AVE		NATCHITOCHE	LA	RCRA-CESQG
71457	1000826762	110008381928	NORTHWESTERN STATE UNIVERSITY	727 COLLEGE AVE		NATCHITOCHE	LA	RCRAInfo-SQG, FINDS, UST
71457	U003923031		HV SIBLEY GROCERY	940 COLLEGE AVE		NATCHITOCHE	LA	UST
71457	1016141697	LAR000078535	WILLBROS CONSTRUCTION, NATCH YARI	108 DANIELS ST	**	NATCHITOCHE	LA	RCRA-CESQG
71457	U000874870		DERRY MERCANTILE CO	DERRY	**	NATCHITOCHE	LA	UST
71457	U004010577		SEYMORE SERVICE STATION	1124 DIXIE ST		NATCHITOCHE	LA	UST
71457	1015039279			307 DIXIE PLZ	**	NATCHITOCHE	LA	EDR Historical Cleaners
71457	1015209193			1330 SOUTH DR	5, East, 1/8 - 1/4	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015281737			1821 SOUTH DR	B, SE, 1/8 - 1/4	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015282247			1825 SOUTH DR	B, ESE, 1/4 - 1/2	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	S108336240	40668	SOUTH PARK MOBILE HOME COMMUNITY	1901 SOUTH DR	**	NATCHITOCHE	LA	NPDES
71457	1015438694			343 SOUTH DR		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1012179595	LAR000069393	TRACTOR SUPPLY #1366	345 SOUTH DR		NATCHITOCHE	LA	RCRA-CESQG
71457	1015686126			97 SOUTH DR		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U004107299		MIDWAY MARINA LLC	175 J E JONES RD	**	NATCHITOCHE	LA	UST
71457	S112270324		NATCHITOCHE CITY OF - HUMANE ANIM	450 FAIRGROUND RD		NATCHITOCHE	LA	
71457	U001622854		FORMERLY LINDSEY PLUMBING	412 FIFTH ST		NATCHITOCHE	LA	UST
71457	U003073521		JAMES R STACY	1948 FISH HATCHERY RD		NATCHITOCHE	LA	UST
71457	S109151650		BEAU RIVIERA SUBDV - BEAU RIVIERA LL	FISH HATCHERY RD	**	NATCHITOCHE	LA	NPDES
71457	U003924442		MR Q SELF SERVICE # 4	1501 FLORA WASHINGTON ST	**	NATCHITOCHE	LA	UST
71457	U003925534		BELLSOUTH TELECOMMUNICATIONS K44	500 FOURTH ST		NATCHITOCHE	LA	UST
71457	S108836935	152408	K&L ENTERPRISES - OAK POINT SUBD PF	FOX RUN DR		NATCHITOCHE	LA	NPDES

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
71457	1015428530			329 FRANKLIN LN		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1004710899	110003326892	NATCHITOCHE FORD LINCOLN-MERCUF	780 FRONT ST		NATCHITOCHE	LA	RCRA-NonGen, FINDS, UST
71457	U000876955		DIXIE FORD TRACTOR	GAND ECOPE RD	**	NATCHITOCHE	LA	UST
71457	U003132973		ISLAND PLANTATION - THOMAS FARM	253 GEORGE THOMAS RD		NATCHITOCHE	LA	UST
71457	S108339270	89427	USARMY COE VICKSBURG DISTRICT - J B	GRAND ECOPE BLUFF ON THE RED RIVE	**	GRAND ECOPE	LA	NPDES
71457	1000220102	110008388823	DEMERY'S SMALL ENGINE	GRANDECORE RD 2 M W OF CITY	**	NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	S113395532		UNIT #1 - GROZEN FIELD	GROZEN FIELD	**	NATCHITOCHE	LA	
71457	1011555154		BEN JOHNSON, LLC	214 HIGH STREET		NACHITOCHE	LA	ICIS
71457	1015592478			6555 71ST HWY	**	NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001897648		BUDDY'S GROCERY	LA HWY 494 S	**	NATCHITOCHE	LA	UST
71457	U004156268		JOHN MONDELLO	HWYS 1 & 174	**	LAKE INN	LA	UST
71457	1001219741	110003361665	ALLIANCE COMPRESSORS	100 INDUSTRIAL DR	A, West, 0 - 1/8	NATCHITOCHE	LA	RCRA-CESQG, FINDS, TRIS
71457	S112270325		ALLIANCE COMPRESSORS LLC	100 INDUSTRIAL DR	A, West, 0 - 1/8	NATCHITOCHE	LA	
71457	1004511872		ALLIANCE COMPRESSORS LLC	100 INDUSTRIAL DR	A, West, 0 - 1/8	NATCHITOCHE	LA	
71457	1015743178	LAR000072959	WILLBROS / EPCO WAREHOUSE	115 INDUSTRIAL DRIVE		NATCHITOCHE	LA	RCRA-NonGen
71457	S113395153		OS JOHNSON INC - HOT MIX ASPHALT PL	131 INDUSTRIAL AVE		NATCHITOCHE	LA	
71457	S113395197		OS JOHNSON INC - HOT MIX ASPHALT PL	131 INDUSTRIAL AVE		NATCHITOCHE	LA	
71457	U003922615		OS JOHNSON INC - HOT MIX ASPHALT PL	131 INDUSTRIAL AVE		NATCHITOCHE	LA	UST
71457	1000468516	110003267802	K & M CONSTRUCTION	150 INDUSTRIAL AVE		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	S108335891	3782	WEYERHAEUSER CO - NATCHITOCHE P	234 INDUSTRIAL AVE		NATCHITOCHE	LA	NPDES
71457	1001479827	71457TRSJS23	WEYERHAEUSER NR COMPANY, NATCHI	234 INDUSTRIAL AVE		NATCHITOCHE	LA	RCRA-CESQG, TRIS
71457	1014983565			123 JEFFERSON ST		NATCHITOCHE	LA	EDR Historical Cleaners
71457	1004708309	110003282260	UNIVERSITY CLEANERS	123 JEFFERSON		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	S109844049		DRS HAULERS LLC - LEACH DIRT PIT	2485 JOHNSON CHUTE RD		NATCHITOCHE	LA	NPDES
71457	1015154020			1102 KEYSER AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1004707638	110003264896	DARRENS AUTOMOTIVE	1102A KEYSER		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1004707600	110003264477	CLEANERS THE	1102B KEYSER AVE		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	S108332324	124852	ROLLING FRITO-LAY SALES LP - NATCHIT	1516 KEYSER AVE H		NATCHITOCHE	LA	NPDES
71457	S110987429		FREEDOM LIFE CHURCH	1530 KEYSER AVE		NATCHITOCHE	LA	NPDES
71457	U003666685		THE MAY CO #053-04-0030	218 KEYSER AVE		NATCHITOCHE	LA	UST
71457	1000380259	110003272654	KEYSER AVE TEXACO	247 KEYSER AVE		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	1015027770			250 KEYSER AVE		NATCHITOCHE	LA	EDR Historical Cleaners
71457	1015477220			409 KEYSER AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U003921611		FORMER GOODYEAR TIRE & SERVICE ST	409 KEYSER AVE		NATCHITOCHE	LA	UST
71457	U003667164		NATCHITOCHE REGIONAL MEDICAL CEN	501 KEYSER AVE		NATCHITOCHE	LA	NPDES, ASBESTOS, SPILLS, UST
71457	1000226270	110003295719	POSEYS	536 KEYSER AVE		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015623911			747 KEYSER AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001899716		LINDSEY PLUMBING	808 KEYSER AVE		NATCHITOCHE	LA	UST
71457	1015642512			809 KEYSER AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001895475		JIFFY LUBE STORE #2309	809 KEYSER AVE		NATCHITOCHE	LA	UST
71457	U003924382		TODD'S C STORE	824 KEYSER AVE		NATCHITOCHE	LA	UST
71457	U000879407		BLANCHARD ST DENIS FUNERAL HOME	848 KEYSER AVE		NATCHITOCHE	LA	UST
71457	U003172745		SHOP-A-LOTT #14	875 KEYSER AVE		NATCHITOCHE	LA	UST
71457	1015676847			925 KEYSER AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	S108334120	15769	WALMART SUPERCENTER #170	925 KEYSER AVE		NATCHITOCHE	LA	NPDES, SPILLS
71457	U003923033		B&F HOME CENTER	KEYSER AVE		NATCHITOCHE	LA	UST
71457	1004713548	110003354058	ARCHIES PAINT & BODY	1825 HWY L S	**	NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015099452			825 LAFAYETTE ST		NATCHITOCHE	LA	EDR Historical Cleaners
71457	1015018689			215 LAKESIDE DR		NATCHITOCHE	LA	EDR Historical Cleaners
71457	U001892989		ANTEE STORE	MARCO LA HWY 490	**	NATCHITOCHE	LA	UST
71457	U001899722		JACK MATT	MARCO RD	**	NATCHITOCHE	LA	UST
71457	S108517479	149905	BAYOU BEND II SUBD	MARIA LN		NATCHITOCHE	LA	NPDES
71457	S108337922	43965	TOTAL ENVIRONMENTAL SOLUTIONS INC	MARIE ST		NATCHITOCHE	LA	NPDES
71457	U001894128		SEYMORE'S GULF	749 MARTIN LUTHER KING DR		NATCHITOCHE	LA	UST
71457	S112324621		ATMOS ENERGY - INCIDENT SITE	936 MARTIN LUTHER KING DRNATCHITOC	**	NATCHITOCHE	LA	
71457	U001894127		FRIENDLY STOP	528 ST MAURICE		NATCHITOCHE	LA	UST
71457	S109567872		PUBLIC WORKS DEPT - CITY OF NATCHIT	110 MILL ST		NATCHITOCHE	LA	NPDES
71457	1011819799		CITY OF NATCHITOCHE WATER TREATM	115 MILL ST		NATCHITOCHE	LA	RMP
71457	1011819800		CITY OF NATCHITOCHE WATER TREATM	115 MILL STREET		NATCHITOCHE	LA	RMP
71457	1011515965		NATCHITOCHE CITY OF WATER TREATM	115 MILL STREET		NATCHITOCHE	LA	ICIS
71457	1000408893	110003273136	ARCHER DANIELS MIDLAND CO	322 MILL ST	**	NATCHITOCHE	LA	RCRAInfo-SQG, FINDS, UST

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
71457	U001898242		BIG HEAD JERRY'S INC	400 MILL ST		NATCHITOCHE	LA	UST
71457	1000216907	110003295817	INTERNATIONAL PAPER CO	MILL ST NATCHITOCHE ARPT LT 4		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	1004712092	110003339272	ECONOMY AUTO	123 MILLER DR		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015212197			135 MILLER DR		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000240235	110008381731	FOSHEE DUSTING COMPANY INC	MUNICIPAL AIRPORT	**	NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	U000214650		HOLIDAY INN TEXACO	NATCHITOCHE BY-PASS	**	NATCHITOCHE	LA	UST
71457	U001895550		NATCHITOCHE MOTOR CO	NATCHITOCHE FRONT ST	**	NATCHITOCHE	LA	UST
71457	S112270330		MADDEN CONTRACTING CO INC - ASTEC	NATCHITOCHE PARISH PORT RD	**	NATCHITOCHE	LA	
71457	S112270334		DIVERSIFIED INDUSTRIAL MINERALS LLC	NEAR PORT OF NATCHITOCHE	**	NATCHITOCHE	LA	
71457	1015121533			1002 NETTIE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1009523661		SOUTHWEST ENGINEERS OF LA	P O BOX 2357	**	NATCHITOCHE	LA	FTTS
71457	U000223016		THE MARKET	OAK GROVE RD	**	NATCHITOCHE	LA	UST
71457	1012179580	LAR000069161	BP PIPELINES NA, BLACK LAKE NGL	N OF RED RIVER OFF HWY 486	**	NATCHITOCHE	LA	RCRAInfo-SQG
71457	S108837105	150780	SOUTHWOOD ESTATES UNIT NO 7 - RESI	SE OF	**	NATCHITOCHE	LA	NPDES
71457	S109152399		SHADY ACRES TRAILER PARK	OFF HWY 6	**	NATCHITOCHE	LA	NPDES
71457	S108336268	40736	BAYOU PIERRE ALLIGATOR FARM	380 OLD BAYOU PIERRE RD		NATCHITOCHE	LA	NPDES
71457	U000216271		OAK GROVE MINI-MART	OLD HWY 1 N	**	NATCHITOCHE	LA	UST
71457	1000313991	LAD081648966	TENNESSEE GAS PIPELINE-NATCHITOC	E ON HWY 6 TO HAGEWOOD		NATCHITOCHE	LA	PADS, CERCLIS, RCRAInfo-SQG, PRP
71457	S108334558	19049	OAK GROVE APARTMENTS	100 ORIE DR		NATCHITOCHE	LA	NPDES
71457	U000881358		POINT PLACE MARINA	PARISH RD 250	**	NATCHITOCHE	LA	UST
71457	1012179474	LAR000067876	BP PIPELINES (NORTH AMERICA) INC. BL	PARK RD. 429/PARK RD. 429A	**	NATCHITOCHE	LA	RCRAInfo-SQG
71457	1000142104	110008388743	COCA COLA OF NATCHITOCHE	300 PARKWAY		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	U004156815		COCA COLA BOTTLING CO	300 PARKWAY DR		NATCHITOCHE	LA	UST
71457	1015343872			230 PAVIE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015432435			333 PAVIE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015118407			100 PAYNE DR		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1004707234	110003260738	D & J TIRE INC	100 PAYNE DR		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015241547			1516 PAYNE AVE		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	S108337923	43966	TOTAL ENVIRONMENTAL SOLUTIONS INC	PAYNE DR	**	NATCHITOCHE	LA	NPDES
71457	1012208440	7145WPLGRM8P	PILGRIM'S NATCHITOCHE FEED MILL	800 PILGRIM'S DR	**	NATCHITOCHE	LA	TRIS
71457	S110135703		LDAF NATCHITOCHE - PETRON LLC	1500 PILGRIMS DR	**	NATCHITOCHE	LA	NPDES
71457	1010230649	110029512846	NATCHITOCHE CITY OF - POWER PLANT	1100 POWER PLANT DR	**	NATCHITOCHE	LA	FINDS
71457	1014628378		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014625821		REAR OF STEAM PLANT - BETWEEN #8 AI	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014625870		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014628379		REAR OF STEAM PLANT - BETWEEN #8 AI	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014625826		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014625823		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014628377		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014625898		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014630259		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1014628376		2D FL STEAM PLANT #10 TURBINE	1100 POWER PLANT DRIVE	**	NATCHITOCHE	LA	PCB TRANSFORMER
71457	1011527131		NATCHITOCHE, CITY OF (POWER PLANT	1100 POWER PLANT DRIVE	**	NATCHITOC	LA	ICIS
71457	1015317261			209 RALPH ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000827429	110003343267	CONANTS AUTO RPR INC	209 RALPH ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	U002038891		SOUTHERN COMPRESS CO	130 RAPIDES ST		NATCHITOCHE	LA	UST
71457	1015301467			200 RAPIDES DR		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U000881091		HELENA CHEMICALS	208 RAPIDES DR		NATCHITOCHE	LA	UST
71457	1015323437			212 RAPIDES DR		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U001892988		VALLEY FARMERS CO-OP	250 RAPIDES DR		NATCHITOCHE	LA	UST
71457	1004514448	110003289049	ACME CEMENT CO	324 RAPIDES DR		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	U003923271		L H JOHNSON WHOLESAL	RAPIDES DR		NATCHITOCHE	LA	UST
71457	U003923026		SAVE TIME FOOD STORE	ROBELINE RD HWY 6 W	**	NATCHITOCHE	LA	UST
71457	1015496193			439 ROCKFORD CHURCH RD		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	S108338061	5181	CLOUTIERVILLE HIGH SCHOOL	310 ROYAL ST		NATCHITOCHE	LA	NPDES
71457	1015219837			1400 SABINE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000170912	110003299332	NATCHITOCHE CITY	1400 SABINE ST		NATCHITOCHE	LA	PADS, RCRA-NonGen, FINDS, UST
71457	1011515009		NATCHITOCHE CITY	1400 SABINE ST		NATCHITOCHE LA 71	LA	ICIS

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
71457	1015227960			1435 SABINE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015199087			1290 SAINT MAURICE LN		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015614977			720 SAINT MAURICE LN		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	S110538828		CLOUTIERVILLE HIGH SCHOOL	155 SCHOOLHOUSE RD		NATCHITOCHE	LA	NPDES
71457	U003922080		ALL IN MOTION	368 SECOND ST		NATCHITOCHE	LA	UST
71457	S112658733		OLD NATCHITOCHE COURTHOUSE	600 SECOND ST		NATCHITOCHE	LA	
71457	1015927759	110054627560	OLD NATCHITOCHE COURTHOUSE	600 SECOND STREET		NATCHITOCHE	LA	US BROWNFIELDS, FINDS
71457	1012214497		CITY OF NATCHITOCHE	700 SECOND STREET NATCHITOCHE		NATCHITOCHE	LA	ICIS
71457	U003923449		CANE RIVER LEVEE BOARD	727 SECOND ST		NATCHITOCHE	LA	UST
71457	92289281			SECTION 6.R-6 WEST, T-7 NORTH	**	NATCHITOCHE	LA	ERNS
71457	2010954984			SOUTHWEST SHIPYARD	**	CHANNELVIEW	TX	ERNS
71457	U001895095		NATCHITOCHE BEVERAGE	424 SIXTH ST		NATCHITOCHE	LA	UST
71457	U001898257		NATCHITOCHE BUDWEISER	720 SIXTH ST		NATCHITOCHE	LA	UST
71457	1004712639	110003344872	SMITHS GARAGE	114 SMITH GARAGE RD		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015452203			368 2ND ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1004711260	110003330681	BILL KENNEDY TIRE & AUTO	368 2ND ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015621801			740 3RD ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U004155936		SARPY'S TEXACO	740 3RD ST		NATCHITOCHE	LA	UST
71457	1000826893	110003339361	MARVIN JAMES BELOW	740 3RD ST		NATCHITOCHE	LA	RCRA-NonGen, FINDS
71457	2009910441			114 STARLIGHT DRIVE		NATCHITOCHE	LA	ERNS
71457	2008910441			114 STARLIGHT DRIVE		NATCHITOCHE	LA	ERNS
71457	1011604850		TENNESSEE GAS PIPELINE	195 STATE HIGHWAY 504 NATCHITOCHI	**	NATCHITOCHE	LA	ICIS
71457	S108332570	126461	NORTHWESTERN STATE UNIVERSITY STI	TARLTON AVE	**	NATCHITOCHE	LA	NPDES
71457	U004179445		TALCO AVIATION	TASCO ST	**	NATCHITOCHE	LA	UST
71457	S110297159		MORGAN LANDING RV PARK - MORGAN L	1041 TAUZIN ISLAND RD		NATCHITOCHE	LA	NPDES
71457	1000469165	110003321502	WHOLESALE AUTO PARTS DBA CAR QUE	1219 TEXAS ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015226628			1427 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015227857			1434 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1004713736	110003355903	P & S AUTO CLINIC	1434 TEXAS ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	U003922424		ALFRED THOMAS - ABANDONED UST SITI	1445 TEXAS ST		NATCHITOCHE	LA	UST
71457	U003923032		T&S SERVICE STATION	1451 TEXAS ST		NATCHITOCHE	LA	UST
71457	1000256265	110003301409	GOLDMAN EQUIPMENT LLC	1608 TEXAS ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS, UST
71457	S106034002	35-006670	MR. Q., INC.	1706 TEXAS ST		NATCHITOCHE	LA	HIST LUST
71457	1015269442			1720 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000283095	LAD002856102	SOUTHWESTERN ELECTRIC POWER CO	1725 TEXAS ST		NATCHITOCHE	LA	RCRA-CESQG
71457	1011609585		NATCHITOCHE CITY OF - POWER PLANT	1725 TEXAS STREET NATCHITOCHE S L		NATCHITOCHE	LA	ICIS
71457	1001214237	110009583254	TOMMY STEWART CHEVY	214 TEXAS ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	1015334912			221 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	S110987730		PAYNE & SON TRUCKING LLC	221 TEXAS ST		NATCHITOCHE	LA	NPDES
71457	1015470715			401 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015472139			402 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015486848			421 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U003921686		CANE RIVER TIRE & LUBE LLC	421 TEXAS ST		NATCHITOCHE	LA	UST
71457	1001487893	110003346923	A & I TRANS CLINIC	421.5 TEXAS ST		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	U000880288		FRIENDLY STOP	501 TEXAS ST		NATCHITOCHE	LA	UST
71457	1015614390			719 TEXAS ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	U000220570	35-013143	TEXAS STREET GROCERY	719 TEXAS ST		NATCHITOCHE	LA	HIST LUST, UST
71457	S108995104		MCCLETER'S AUTO SALON	801 TEXAS ST		NATCHITOCHE	LA	NPDES
71457	U000218171		WHITEHEAD CHILDREN'S TRUST	725 THIRD ST		NATCHITOCHE	LA	UST
71457	U002304308		OLD GAS STATION	848 THIRD ST		NATCHITOCHE	LA	UST
71457	1015485683			420 TOULINE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1015487609			422 TOULINE ST		NATCHITOCHE	LA	EDR Historical Auto Stations
71457	1000864428	110003344809	NATCHITOCHE PARISH POLICE JURY	700 TRUDEAU		NATCHITOCHE	LA	RCRA-CESQG, FINDS
71457	S108333766	141250	PRICE CONTRACTING INC - FROG POND	3800 UNIVERSITY PKWY	**	NATCHITOCHE	LA	NPDES
71457	S108331889	119746	FROG POND APARTMENTS	3800 UNIVERSITY PKWY	**	NATCHITOCHE	LA	NPDES
71457	S111768230		B&S FAMILY RV PARK LLC - B&S RV PARK	4509 UNIVERSITY PKWY	**	NATCHITOCHE	LA	NPDES

EDR ZIP Code Scan Report

ZIP	EDR-ID	Facility ID	Name	Address	Map/Dir/Dist	City	State	Databases
71457	1015531375			5105 UNIVERSITY PKWY	**	NATCHITOCHES	LA	EDR Historical Auto Stations
71457	1015588300			642 UNIVERSITY PKWY	**	NATCHITOCHES	LA	EDR Historical Auto Stations
71457	1015088785			701 UNIVERSITY PKWY	**	NATCHITOCHES	LA	EDR Historical Cleaners
71457	2011992603			715 UNIVERSITY PKWY	**	NATCHITOCHES	LA	ERNS
71457	U000881372		ARMSTRONG : RATTEREEE	UNKNOWN	**	NATCHITOCHES	LA	UST
71457	U000222916		NED HENRY JR	UNKNOWN	**	NATCHITOCHES	LA	UST
71457	U001899723		ROQUE BROTHERS	UNKNOWN	**	NATCHITOCHES	LA	UST
71457	U001899725		GARY JONES	UNKNOWN	**	NATCHITOCHES	LA	UST
71457	U001899724		L E JONES	UNKNOWN	**	NATCHEZ	LA	UST
71457	U001899726		DOWDEN RANCH	UNKNOWN	**	NATCHITOCHES	LA	UST
71457	U000222914		ESTATE OF NOLAN JONES	UNKNOWN	**	NATCHITOCHES	LA	UST
71457	S108339382	91030	PECAN GROVE ESTATES MOBILE HOME I	298 VIENNA RD	**	NATCHITOCHES	LA	NPDES
71457	S108335950	38241	TOTAL ENVIRONMENTAL SOLUTIONS INC	VIENNA RD	**	NATCHITOCHES	LA	NPDES
71457	U001898386	76968	NATCHITOCHES REGIONAL AIRPORT	450 WALLENGERB	**	NATCHITOCHES	LA	NPDES, UST
71457	U003133099		VACANT LOT	117 WASHINGTON ST		NATCHITOCHES	LA	UST
71457	U004156562		SAVE TIME FOOD STORE	1200 WASHINGTON ST		NATCHITOCHES	LA	UST
71457	1015181479			1205 WASHINGTON ST		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	U004156255		GRENARD E WAMBER - PREMIER CARWA	1235 WASHINGTON ST		NATCHITOCHES	LA	UST
71457	S109151955		GRENARD E WAMBER - PREMIER CARWA	1235 WASHINGTON ST		NATCHITOCHES	LA	NPDES
71457	1015191993			1246 WASHINGTON ST		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	1004715031	110012186543	T & H PAINT & BODY SHOP	1246 WASHINGTON ST		NATCHITOCHES	LA	RCRA-CESQG, FINDS, UST
71457	1000848655	110003345504	FRANKS WELDING & MACHINE SHOP	1259 WASHINGTON ST		NATCHITOCHES	LA	RCRA-NonGen, FINDS
71457	1015201348			1300 WASHINGTON ST		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	1015203701			1307 WASHINGTON ST		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	2013008501		1358 WASHINGTON ST	1358 WASHINGTON ST		NATCHITOCHES	LA	HMIRS
71457	1004514469	110003293640	UNITED PARCEL SVC	1358 WASHINGTON ST		NATCHITOCHES	LA	RCRA-CESQG, FINDS
71457	1015221431			1404 WASHINGTON ST		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	1000210396	110003291955	POWER EQUIP SALE SVC	1806 WASHINGTON ST		NATCHITOCHES	LA	RCRA-NonGen, FINDS
71457	U000213300		LAKEVIEW EXXON	805 WASHINGTON ST		NATCHITOCHES	LA	UST
71457	1011536090		KENCO L.L.C.	814 WASHINGTON STREET, SUITE 101	**	NATCHITOCHES	LA	ICIS
71457	U000877403		TODD'S # 1	WASHINGTON ST	**	NATCHITOCHES	LA	UST
71457	1015641091			805 WHITFIELD DR		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	1015358118			244 WILKERSON RD		NATCHITOCHES	LA	EDR Historical Auto Stations
71457	S109094806		S&S CAR WASH - TOMMY STEELE III	120 A WILLIAMS AVE	**	NATCHITOCHES	LA	NPDES
71457	U002222826		VACANT LOT	1500 WILLIAMS AVE		NATCHITOCHES	LA	UST
71457	S108994971		SPECIALTY CONTRACTORS - LE PLAISAN	WILLIAMS AVE		NATCHITOCHES	LA	NPDES
71457	1015012498			200 WILLOW BEND DR		NATCHITOCHES	LA	EDR Historical Cleaners
71457	1015259170			164 YVONNE ST		NATCHITOCHES	LA	EDR Historical Auto Stations

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: N/A
Date Made Active in Reports: 01/28/2014	Last EDR Contact: 01/21/2014
Number of Days to Update: 78	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: N/A
Date Made Active in Reports: 01/28/2014	Last EDR Contact: 01/09/2014
Number of Days to Update: 78	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991	Source: EPA
Date Data Arrived at EDR: 02/02/1994	Telephone: 202-564-4267
Date Made Active in Reports: 03/30/1994	Last EDR Contact: 08/15/2011
Number of Days to Update: 56	Next Scheduled EDR Contact: 11/28/2011
	Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 10/25/2013	Source: EPA
Date Data Arrived at EDR: 11/11/2013	Telephone: N/A
Date Made Active in Reports: 01/28/2014	Last EDR Contact: 01/09/2014
Number of Days to Update: 78	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 11/11/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 03/10/2014
	Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/31/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/08/2013	Telephone: 703-603-8704
Date Made Active in Reports: 12/06/2013	Last EDR Contact: 01/10/2014
Number of Days to Update: 151	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 05/29/2013	Telephone: 703-412-9810
Date Made Active in Reports: 08/09/2013	Last EDR Contact: 11/11/2013
Number of Days to Update: 72	Next Scheduled EDR Contact: 03/10/2014
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/10/2013
Date Data Arrived at EDR: 10/02/2013
Date Made Active in Reports: 12/16/2013
Number of Days to Update: 75

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 01/02/2014
Next Scheduled EDR Contact: 04/14/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 12/17/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/14/2014	Telephone: 703-603-0695
Date Made Active in Reports: 01/28/2014	Last EDR Contact: 12/09/2013
Number of Days to Update: 14	Next Scheduled EDR Contact: 03/24/2014
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 12/17/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 01/14/2014	Telephone: 703-603-0695
Date Made Active in Reports: 01/28/2014	Last EDR Contact: 12/09/2013
Number of Days to Update: 14	Next Scheduled EDR Contact: 03/24/2014
	Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 08/20/2013	Source: Department of the Navy
Date Data Arrived at EDR: 08/23/2013	Telephone: 843-820-7326
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 11/18/2013
Number of Days to Update: 70	Next Scheduled EDR Contact: 03/03/2014
	Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/30/2013	Source: National Response Center, United States Coast Guard
Date Data Arrived at EDR: 10/01/2013	Telephone: 202-267-2180
Date Made Active in Reports: 12/06/2013	Last EDR Contact: 02/07/2014
Number of Days to Update: 66	Next Scheduled EDR Contact: 04/14/2014
	Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Potential and Confirmed Sites List

Confirmed status denotes that assessments have been performed and a determination made that (1) hazardous waste(s) or substance(s) are present at the site and (2) these sites are under the jurisdiction of the LDEQ/RSD. Potential status is an indicator that sites are either waiting to be assessed or the assessment is in progress.

Date of Government Version: 10/07/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 10/23/2013	Telephone: 225-219-3181
Date Made Active in Reports: 12/12/2013	Last EDR Contact: 01/20/2014
Number of Days to Update: 50	Next Scheduled EDR Contact: 05/05/2014
	Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SWF/LF: Landfill List

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 12/13/2013
Date Data Arrived at EDR: 12/17/2013
Date Made Active in Reports: 01/22/2014
Number of Days to Update: 36

Source: Department of Environmental Quality
Telephone: 225-219-3181
Last EDR Contact: 12/13/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Annually

DEBRIS: LDEQ Approved Debris Sites

A listing of LDEQ Approved Debris Sites where hurricane debris is dumped.

Date of Government Version: 12/18/2013
Date Data Arrived at EDR: 12/19/2013
Date Made Active in Reports: 01/22/2014
Number of Days to Update: 34

Source: Department of Environmental Quality
Telephone: 225-219-3953
Last EDR Contact: 12/19/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Varies

HIST DEBRIS: LDEQ Approved Debris Sites

A listing of LDEQ Approved Debris Sites where hurricane debris is dumped.

Date of Government Version: 02/07/2007
Date Data Arrived at EDR: 11/14/2008
Date Made Active in Reports: 11/21/2008
Number of Days to Update: 7

Source: Department of Environmental Quality
Telephone: 225-219-3070
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tanks

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 10/07/2013
Date Data Arrived at EDR: 10/23/2013
Date Made Active in Reports: 12/12/2013
Number of Days to Update: 50

Source: Department of Environmental Quality
Telephone: 225-219-3181
Last EDR Contact: 01/20/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Varies

HIST LUST: Underground Storage Tank Case History Incidents

This listing includes detailed information for Leaking Underground Storage Tanks reported through November 1999. It is no longer updated. Current LUST incidents, without detail, can be found in the Leaking Underground Storage Tank Database

Date of Government Version: 11/01/1999
Date Data Arrived at EDR: 02/16/2000
Date Made Active in Reports: 05/01/2000
Number of Days to Update: 75

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 12/04/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 08/20/2013
Date Data Arrived at EDR: 08/23/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 70

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/06/2013	Source: EPA Region 10
Date Data Arrived at EDR: 11/07/2013	Telephone: 206-553-2857
Date Made Active in Reports: 12/06/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 29	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 03/01/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/01/2013	Telephone: 415-972-3372
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 42	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Quarterly

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 08/27/2012	Source: EPA Region 8
Date Data Arrived at EDR: 08/28/2012	Telephone: 303-312-6271
Date Made Active in Reports: 10/16/2012	Last EDR Contact: 01/27/2014
Number of Days to Update: 49	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 08/27/2013	Source: EPA Region 7
Date Data Arrived at EDR: 08/27/2013	Telephone: 913-551-7003
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 66	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 09/12/2011	Source: EPA Region 6
Date Data Arrived at EDR: 09/13/2011	Telephone: 214-665-6597
Date Made Active in Reports: 11/11/2011	Last EDR Contact: 01/27/2014
Number of Days to Update: 59	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013	Source: EPA Region 1
Date Data Arrived at EDR: 05/01/2013	Telephone: 617-918-1313
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/30/2014
Number of Days to Update: 184	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 08/01/2013	Source: EPA Region 4
Date Data Arrived at EDR: 08/02/2013	Telephone: 404-562-8677
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 91	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal registered storage tank lists

UST: Louisiana Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 10/21/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 10/23/2013	Telephone: 225-219-3181
Date Made Active in Reports: 12/13/2013	Last EDR Contact: 01/20/2014
Number of Days to Update: 51	Next Scheduled EDR Contact: 05/05/2014
	Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 08/01/2013	Source: EPA Region 4
Date Data Arrived at EDR: 08/02/2013	Telephone: 404-562-9424
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 91	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 08/20/2013	Source: EPA Region 5
Date Data Arrived at EDR: 08/23/2013	Telephone: 312-886-6136
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 70	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/10/2011	Source: EPA Region 6
Date Data Arrived at EDR: 05/11/2011	Telephone: 214-665-7591
Date Made Active in Reports: 06/14/2011	Last EDR Contact: 01/27/2014
Number of Days to Update: 34	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 12/31/2012	Source: EPA Region 7
Date Data Arrived at EDR: 02/28/2013	Telephone: 913-551-7003
Date Made Active in Reports: 04/12/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 43	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/28/2014
Number of Days to Update: 272

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 01/30/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 07/30/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 129

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/05/2013
Date Data Arrived at EDR: 02/06/2013
Date Made Active in Reports: 04/12/2013
Number of Days to Update: 65

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 07/29/2013
Date Data Arrived at EDR: 08/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 92

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 01/13/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Listing of Institutional and/or Engineering Controls

A notice of contamination (nature and levels of contaminants) and restriction of property to non-residential use are placed in the conveyance records for the property.

Date of Government Version: 10/18/2010
Date Data Arrived at EDR: 11/04/2010
Date Made Active in Reports: 11/12/2010
Number of Days to Update: 8

Source: Department of Environmental Quality
Telephone: 225-219-3168
Last EDR Contact: 01/10/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

VCP: Voluntary Remediation Program Sites

Sites that have entered the Department of Environmental Quality's Voluntary Remediation Program

Date of Government Version: 10/22/2013

Date Data Arrived at EDR: 10/23/2013

Date Made Active in Reports: 12/13/2013

Number of Days to Update: 51

Source: Department of Environmental Quality

Telephone: 225-219-3181

Last EDR Contact: 01/20/2014

Next Scheduled EDR Contact: 05/05/2014

Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008

Date Data Arrived at EDR: 04/22/2008

Date Made Active in Reports: 05/19/2008

Number of Days to Update: 27

Source: EPA, Region 7

Telephone: 913-551-7365

Last EDR Contact: 04/20/2009

Next Scheduled EDR Contact: 07/20/2009

Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/17/2013

Date Data Arrived at EDR: 10/01/2013

Date Made Active in Reports: 12/06/2013

Number of Days to Update: 66

Source: EPA, Region 1

Telephone: 617-918-1102

Last EDR Contact: 01/03/2014

Next Scheduled EDR Contact: 04/14/2014

Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Inventory

Brownfields are abandoned, idled, or underused industrial or commercial real property, the expansion, redevelopment or reuse of which may be complicated by the presence of or potential presence of a hazardous substance, pollutant, or contaminant.

Date of Government Version: 01/21/2013

Date Data Arrived at EDR: 01/22/2013

Date Made Active in Reports: 03/08/2013

Number of Days to Update: 45

Source: New Orleans Office of Environmental Affairs

Telephone: 504-658-4070

Last EDR Contact: 01/20/2014

Next Scheduled EDR Contact: 05/05/2014

Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/24/2013

Date Data Arrived at EDR: 09/24/2013

Date Made Active in Reports: 12/06/2013

Number of Days to Update: 73

Source: Environmental Protection Agency

Telephone: 202-566-2777

Last EDR Contact: 12/24/2013

Next Scheduled EDR Contact: 04/07/2014

Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Directory

A listing of recycling facilities.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 09/21/2010
Date Made Active in Reports: 10/12/2010
Number of Days to Update: 21

Source: Department of Environmental Quality
Telephone: 225-219-3181
Last EDR Contact: 12/13/2013
Next Scheduled EDR Contact: 03/31/2014
Data Release Frequency: Semi-Annually

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/04/2013
Next Scheduled EDR Contact: 02/17/2014
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 08/06/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 22

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 12/05/2013
Next Scheduled EDR Contact: 03/17/2014
Data Release Frequency: Quarterly

DEL SHWS: Deleted Potential & Confirmed Sites

A listing of sites removed from the Potential and Confirmed Listing.

Date of Government Version: 11/18/2013
Date Data Arrived at EDR: 11/19/2013
Date Made Active in Reports: 12/18/2013
Number of Days to Update: 29

Source: Department of Environmental Quality
Telephone: 225-219-3168
Last EDR Contact: 01/20/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CDL: Clandestine Drug Lab

A list of residential real properties that have been reported as potentially contaminated.

Date of Government Version: 09/16/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/04/2013	Telephone: 225-219-5337
Date Made Active in Reports: 12/17/2013	Last EDR Contact: 12/04/2013
Number of Days to Update: 13	Next Scheduled EDR Contact: 03/17/2014
	Data Release Frequency: Semi-Annually

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007	Source: Drug Enforcement Administration
Date Data Arrived at EDR: 11/19/2008	Telephone: 202-307-1000
Date Made Active in Reports: 03/30/2009	Last EDR Contact: 03/23/2009
Number of Days to Update: 131	Next Scheduled EDR Contact: 06/22/2009
	Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/06/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/25/2013	Telephone: 202-564-6023
Date Made Active in Reports: 05/10/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 15	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

LIENS: Environmental Liens

An Environmental Lien is a charge, security, or encumbrance upon title to a property to secure the payment of a cost, damage, debt, obligation, or duty arising out of response actions, cleanup, or other remediation of hazardous substances or petroleum products upon a property, including (but not limited to) liens imposed pursuant to CERCLA 42 USC ? 9607(1) and similar state or local laws. In other words: a lien placed upon a property's title due to an environmental condition.

Date of Government Version: 07/24/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 10/23/2013	Telephone: N/A
Date Made Active in Reports: 12/12/2013	Last EDR Contact: 01/20/2014
Number of Days to Update: 50	Next Scheduled EDR Contact: 05/05/2014
	Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/30/2013	Source: U.S. Department of Transportation
Date Data Arrived at EDR: 10/01/2013	Telephone: 202-366-4555
Date Made Active in Reports: 12/16/2013	Last EDR Contact: 01/03/2014
Number of Days to Update: 76	Next Scheduled EDR Contact: 01/13/2014
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS: Emergency Response Section Incidents

Spills and/or releases, to land, reported to the Emergency Response Section.

Date of Government Version: 12/11/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/11/2013	Telephone: 225-219-3620
Date Made Active in Reports: 01/22/2014	Last EDR Contact: 11/18/2013
Number of Days to Update: 42	Next Scheduled EDR Contact: 03/03/2014
	Data Release Frequency: Varies

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/30/2012	Source: FirstSearch
Date Data Arrived at EDR: 01/03/2013	Telephone: N/A
Date Made Active in Reports: 03/07/2013	Last EDR Contact: 01/03/2013
Number of Days to Update: 63	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/10/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/02/2013	Telephone: 214-665-6444
Date Made Active in Reports: 12/16/2013	Last EDR Contact: 01/02/2014
Number of Days to Update: 75	Next Scheduled EDR Contact: 04/14/2014
	Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012	Source: Department of Transportation, Office of Pipeline Safety
Date Data Arrived at EDR: 08/07/2012	Telephone: 202-366-4595
Date Made Active in Reports: 09/18/2012	Last EDR Contact: 02/06/2014
Number of Days to Update: 42	Next Scheduled EDR Contact: 05/19/2014
	Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 11/10/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/15/2014
Number of Days to Update: 62	Next Scheduled EDR Contact: 04/28/2014
	Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2011	Source: U.S. Army Corps of Engineers
Date Data Arrived at EDR: 02/26/2013	Telephone: 202-528-4285
Date Made Active in Reports: 03/13/2013	Last EDR Contact: 12/13/2013
Number of Days to Update: 15	Next Scheduled EDR Contact: 03/24/2014
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2013	Source: Department of Justice, Consent Decree Library
Date Data Arrived at EDR: 08/07/2013	Telephone: Varies
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 12/26/2013
Number of Days to Update: 57	Next Scheduled EDR Contact: 04/14/2014
	Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/26/2013	Source: EPA
Date Data Arrived at EDR: 06/11/2013	Telephone: 703-416-0223
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 12/12/2013
Number of Days to Update: 143	Next Scheduled EDR Contact: 03/24/2014
	Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010	Source: Department of Energy
Date Data Arrived at EDR: 10/07/2011	Telephone: 505-845-0011
Date Made Active in Reports: 03/01/2012	Last EDR Contact: 11/26/2013
Number of Days to Update: 146	Next Scheduled EDR Contact: 03/10/2014
	Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/01/2013	Source: Department of Labor, Mine Safety and Health Administration
Date Data Arrived at EDR: 09/05/2013	Telephone: 303-231-5959
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 12/06/2013
Number of Days to Update: 28	Next Scheduled EDR Contact: 03/17/2014
	Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011	Source: EPA
Date Data Arrived at EDR: 07/31/2013	Telephone: 202-566-0250
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 11/27/2013
Number of Days to Update: 44	Next Scheduled EDR Contact: 03/10/2014
	Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2006	Source: EPA
Date Data Arrived at EDR: 09/29/2010	Telephone: 202-260-5521
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/26/2013
Number of Days to Update: 64	Next Scheduled EDR Contact: 04/07/2014
	Data Release Frequency: Every 4 Years

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 11/21/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 11/21/2014
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/28/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 07/20/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/10/2011	Telephone: 202-564-5088
Date Made Active in Reports: 01/10/2012	Last EDR Contact: 10/09/2014
Number of Days to Update: 61	Next Scheduled EDR Contact: 04/28/2014
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2013	Source: EPA
Date Data Arrived at EDR: 07/17/2013	Telephone: 202-566-0500
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/28/2014
Number of Days to Update: 107	Next Scheduled EDR Contact: 04/28/2014
	Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 07/22/2013	Source: Nuclear Regulatory Commission
Date Data Arrived at EDR: 08/02/2013	Telephone: 301-415-7169
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 12/09/2013
Number of Days to Update: 91	Next Scheduled EDR Contact: 03/24/2014
	Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 09/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 10/09/2013	Telephone: 202-343-9775
Date Made Active in Reports: 11/01/2013	Last EDR Contact: 01/10/2014
Number of Days to Update: 23	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 03/08/2013	Source: EPA
Date Data Arrived at EDR: 03/21/2013	Telephone: (214) 665-2200
Date Made Active in Reports: 07/10/2013	Last EDR Contact: 12/10/2013
Number of Days to Update: 111	Next Scheduled EDR Contact: 03/24/2014
	Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/08/2012
Date Data Arrived at EDR: 05/25/2012
Date Made Active in Reports: 07/10/2012
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/25/2013
Next Scheduled EDR Contact: 03/10/2014
Data Release Frequency: Biennially

UIC: Underground Injection Wells Listing

A listing of underground injection well locations.

Date of Government Version: 04/15/2013
Date Data Arrived at EDR: 04/16/2013
Date Made Active in Reports: 04/30/2013
Number of Days to Update: 14

Source: Department of fNatural Resources
Telephone: 225-342-5515
Last EDR Contact: 01/15/2014
Next Scheduled EDR Contact: 01/13/2014
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Facility Listing

A listing of drycleaner facilities.

Date of Government Version: 10/21/2013
Date Data Arrived at EDR: 10/23/2013
Date Made Active in Reports: 12/12/2013
Number of Days to Update: 50

Source: Department of Environmental Quality
Telephone: 225-219-3168
Last EDR Contact: 01/20/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Varies

NPDES: LPDES Permits Database

A listing of sites with a Louisiana Pollutant Discharge Elimination System (LPDES) program issued permit.

Date of Government Version: 10/28/2013
Date Data Arrived at EDR: 10/31/2013
Date Made Active in Reports: 12/12/2013
Number of Days to Update: 42

Source: Department of Environmental Quality
Telephone: 225-219-3181
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

AIRS: Air Permit List

A listing of facilities with air permits issued by the Air Permits Division

Date of Government Version: 11/22/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 12/26/2013	Telephone: 225-219-3417
Date Made Active in Reports: 01/22/2014	Last EDR Contact: 11/21/2013
Number of Days to Update: 27	Next Scheduled EDR Contact: 03/10/2014
	Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005	Source: USGS
Date Data Arrived at EDR: 12/08/2006	Telephone: 202-208-3710
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/15/2014
Number of Days to Update: 34	Next Scheduled EDR Contact: 04/28/2014
	Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/09/2011	Telephone: 615-532-8599
Date Made Active in Reports: 05/02/2011	Last EDR Contact: 01/20/2014
Number of Days to Update: 54	Next Scheduled EDR Contact: 05/05/2014
	Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 06/30/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 08/13/2013	Telephone: 617-520-3000
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 11/15/2013
Number of Days to Update: 31	Next Scheduled EDR Contact: 02/24/2014
	Data Release Frequency: Quarterly

Financial Assurance 2: Financial Assurance Information Listing

Information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 11/07/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 11/25/2013	Telephone: 225-219-3168
Date Made Active in Reports: 12/17/2013	Last EDR Contact: 01/27/2014
Number of Days to Update: 22	Next Scheduled EDR Contact: 05/12/2014
	Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 01/13/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information

Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 11/07/2013
Date Data Arrived at EDR: 11/25/2013
Date Made Active in Reports: 12/17/2013
Number of Days to Update: 22

Source: Department of Environmental Quality
Telephone: 225-219-3168
Last EDR Contact: 01/27/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 10/28/2013
Date Data Arrived at EDR: 10/29/2013
Date Made Active in Reports: 12/06/2013
Number of Days to Update: 38

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 11/18/2013
Next Scheduled EDR Contact: 03/03/2014
Data Release Frequency: Quarterly

COAL ASH: Coal Ash Disposal Sites

A listing of coal ash impoundments.

Date of Government Version: 10/14/2013
Date Data Arrived at EDR: 11/06/2013
Date Made Active in Reports: 12/13/2013
Number of Days to Update: 37

Source: Department of Environmental Quality
Telephone: 225-219-3168
Last EDR Contact: 01/10/2014
Next Scheduled EDR Contact: 04/28/2014
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 08/17/2010
Date Data Arrived at EDR: 01/03/2011
Date Made Active in Reports: 03/21/2011
Number of Days to Update: 77

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/13/2013
Next Scheduled EDR Contact: 03/24/2014
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 01/30/2014
Next Scheduled EDR Contact: 05/12/2014
Data Release Frequency: Varies

ASBESTOS: Asbestos Projects List

Asbestos demolition and renovation notification projects locations in the state.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 04/25/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 63

Source: Department of Environmental Quality
Telephone: 225-219-3181
Last EDR Contact: 01/24/2014
Next Scheduled EDR Contact: 05/05/2014
Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/15/2013	Source: EPA
Date Data Arrived at EDR: 07/03/2013	Telephone: 202-564-6023
Date Made Active in Reports: 09/13/2013	Last EDR Contact: 01/02/2014
Number of Days to Update: 72	Next Scheduled EDR Contact: 04/14/2014
	Data Release Frequency: Quarterly

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001	Source: American Journal of Public Health
Date Data Arrived at EDR: 10/27/2010	Telephone: 703-305-6451
Date Made Active in Reports: 12/02/2010	Last EDR Contact: 12/02/2009
Number of Days to Update: 36	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

REM: Division of Remediation Services Database

Facilities or sites come to the Underground Storage Tank and Remediation Division either through self notification or referral. These sites are designated for remediation via the following regulatory paths: Solid Waste (SW), Hazardous Waste (Haz Waste), Groundwater (Grwater), Inactive & Abandoned Sites (Confirmed or Potential), or Underground Storage Tanks (UST).

Date of Government Version: 10/22/2013	Source: Department of Environmental Quality
Date Data Arrived at EDR: 10/23/2013	Telephone: 225-219-3168
Date Made Active in Reports: 12/17/2013	Last EDR Contact: 01/20/2014
Number of Days to Update: 55	Next Scheduled EDR Contact: 05/05/2014
	Data Release Frequency: Quarterly

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/29/2013	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/14/2013	Telephone: 703-603-8787
Date Made Active in Reports: 02/27/2013	Last EDR Contact: 01/03/2014
Number of Days to Update: 13	Next Scheduled EDR Contact: 04/21/2014
	Data Release Frequency: Varies

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/23/2013	Source: EPA
Date Data Arrived at EDR: 11/06/2013	Telephone: 202-564-5962
Date Made Active in Reports: 12/06/2013	Last EDR Contact: 12/26/2013
Number of Days to Update: 30	Next Scheduled EDR Contact: 04/14/2014
	Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/23/2013	Source: EPA
Date Data Arrived at EDR: 11/06/2013	Telephone: 202-564-5962
Date Made Active in Reports: 12/06/2013	Last EDR Contact: 12/26/2013
Number of Days to Update: 30	Next Scheduled EDR Contact: 04/14/2014
	Data Release Frequency: Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 11/11/2011	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/18/2012	Telephone: 703-308-4044
Date Made Active in Reports: 05/25/2012	Last EDR Contact: 11/15/2013
Number of Days to Update: 7	Next Scheduled EDR Contact: 02/24/2014
	Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005	Source: U.S. Geological Survey
Date Data Arrived at EDR: 02/06/2006	Telephone: 888-275-8747
Date Made Active in Reports: 01/11/2007	Last EDR Contact: 01/15/2014
Number of Days to Update: 339	Next Scheduled EDR Contact: 04/28/2014
	Data Release Frequency: N/A

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A	Source: EDR, Inc.
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Proprietary Historic Dry Cleaners - Cole

Date of Government Version: N/A	Source: N/A
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR US Hist Auto Stat: EDR Proprietary Historic Gas Stations - Cole

Date of Government Version: N/A	Source: N/A
Date Data Arrived at EDR: N/A	Telephone: N/A
Date Made Active in Reports: N/A	Last EDR Contact: N/A
Number of Days to Update: N/A	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A	Source: EDR
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/03/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 186	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A	Source: EDR
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/15/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 198	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists.

Date of Government Version: N/A	Source: EDR
Date Data Arrived at EDR: 07/01/2013	Telephone: N/A
Date Made Active in Reports: 01/03/2014	Last EDR Contact: 06/01/2012
Number of Days to Update: 186	Next Scheduled EDR Contact: N/A
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013	Source: Department of Energy & Environmental Protection
Date Data Arrived at EDR: 08/19/2013	Telephone: 860-424-3375
Date Made Active in Reports: 10/03/2013	Last EDR Contact: 11/22/2013
Number of Days to Update: 45	Next Scheduled EDR Contact: 03/03/2014
	Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 11/01/2013	Source: Department of Environmental Conservation
Date Data Arrived at EDR: 11/07/2013	Telephone: 518-402-8651
Date Made Active in Reports: 11/18/2013	Last EDR Contact: 02/07/2014
Number of Days to Update: 11	Next Scheduled EDR Contact: 05/19/2014
	Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012	Source: Department of Environmental Protection
Date Data Arrived at EDR: 07/24/2013	Telephone: 717-783-8990
Date Made Active in Reports: 08/19/2013	Last EDR Contact: 01/20/2014
Number of Days to Update: 26	Next Scheduled EDR Contact: 05/05/2014
	Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2012	Source: Department of Natural Resources
Date Data Arrived at EDR: 08/09/2013	Telephone: N/A
Date Made Active in Reports: 09/27/2013	Last EDR Contact: 12/11/2013
Number of Days to Update: 49	Next Scheduled EDR Contact: 03/31/2014
	Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data

Source: Rextag Strategies Corp.
Telephone: (281) 769-2247

U.S. Electric Transmission and Power Plants Systems Digital GIS Data

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

19722
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LA 71457

TARGET PROPERTY COORDINATES

Latitude (North):	31.7322 - 31° 43' 55.92"
Longitude (West):	93.0798 - 93° 4' 47.28"
Universal Tranverse Mercator:	Zone 15
UTM X (Meters):	492440.5
UTM Y (Meters):	3510568.8
Elevation:	111 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	31093-F1 NATCHITOCHEs SOUTH, LA
Most Recent Revision:	1992

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

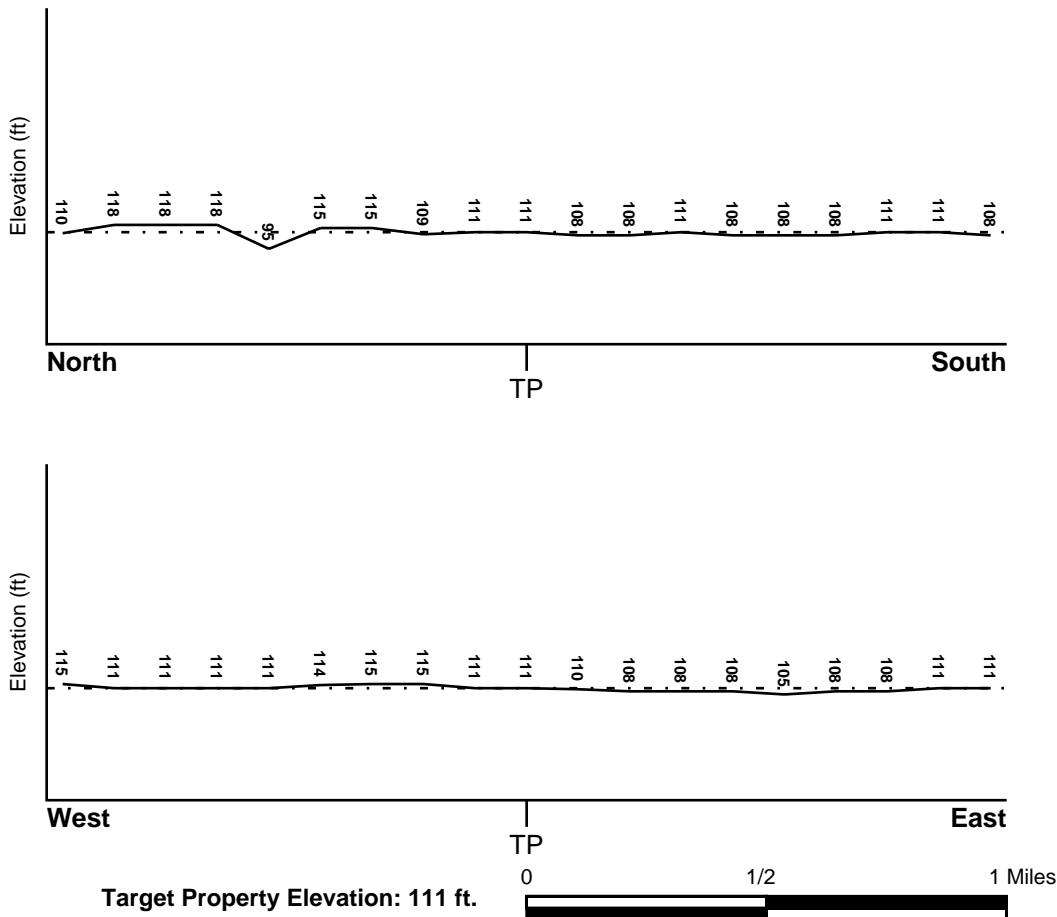
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Target Property County</u> NATCHITOCHE, LA	<u>FEMA Flood Electronic Data</u> YES - refer to the Overview Map and Detail Map
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Flood Plain Panel at Target Property: 2201310003C - FEMA Q3 Flood data

Additional Panels in search area: 2201290255B - FEMA Q3 Flood data
2201290235B - FEMA Q3 Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u> NOT AVAILABLE	<u>NWI Electronic Data Coverage</u> YES - refer to the Overview Map and Detail Map
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HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: Cenozoic
System: Quaternary
Series: Holocene
Code: Qh *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: NORWOOD

Soil Surface Texture: silt loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Permeability Rate (in/hr)	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	13 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 2.00 Min: 0.60	Max: 8.40 Min: 7.40
2	13 inches	37 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Clayey Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 2.00 Min: 0.60	Max: 8.40 Min: 7.90
3	37 inches	80 inches	silt loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	FINE-GRAINED SOILS, Silts and Clays (liquid limit less than 50%), Lean Clay Soils.	Max: 2.00 Min: 0.60	Max: 8.40 Min: 7.90

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: silty clay loam
very fine sandy loam
clay

Surficial Soil Types: silty clay loam
very fine sandy loam
clay

Shallow Soil Types: No Other Soil Types

Deeper Soil Types: sandy clay loam
stratified
clay

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A2	USGS40000408381	1/4 - 1/2 Mile NNW
B6	USGS40000408389	1/4 - 1/2 Mile NNW
C7	USGS40000408397	1/4 - 1/2 Mile North
C8	USGS40000408398	1/4 - 1/2 Mile North
B11	USGS40000408390	1/2 - 1 Mile NNW
B12	USGS40000408391	1/2 - 1 Mile NNW
D13	USGS40000408339	1/2 - 1 Mile SE
D14	USGS40000408338	1/2 - 1 Mile SE
D15	USGS40000408340	1/2 - 1 Mile SE
D16	USGS40000408342	1/2 - 1 Mile SE
D17	USGS40000408341	1/2 - 1 Mile SE
E24	USGS40000408406	1/2 - 1 Mile NW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

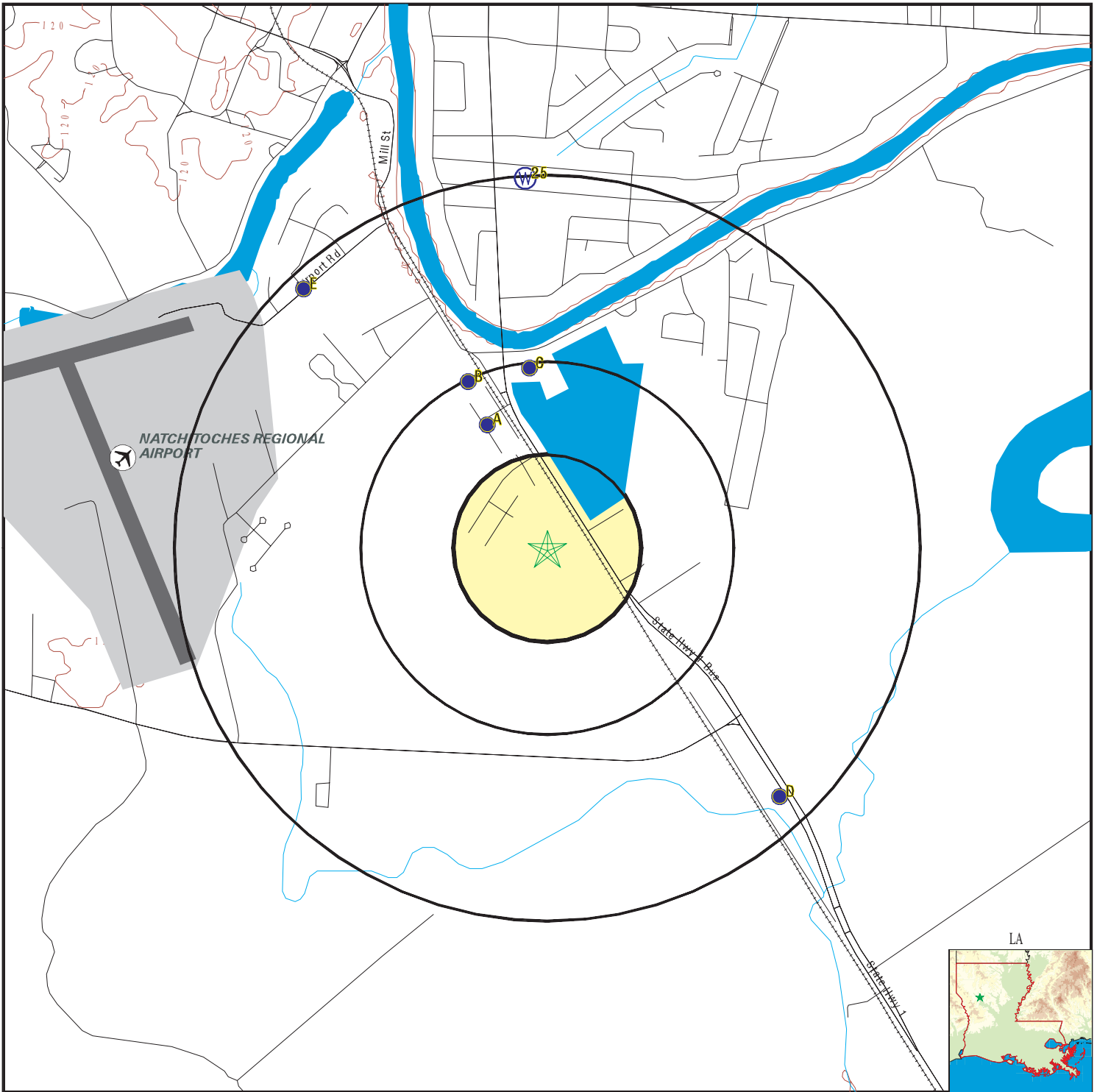
<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
A1	LADT30000118805	1/4 - 1/2 Mile NNW
B3	LADT30000118823	1/4 - 1/2 Mile NNW
C4	LADT30000118835	1/4 - 1/2 Mile North
C5	LADT30000118836	1/4 - 1/2 Mile North
B9	LADT30000118822	1/4 - 1/2 Mile NNW
B10	LADT30000118821	1/4 - 1/2 Mile NNW
D18	LADT30000118658	1/2 - 1 Mile SE
D19	LADT30000118657	1/2 - 1 Mile SE
D20	LADT30000118659	1/2 - 1 Mile SE
D21	LADT30000118661	1/2 - 1 Mile SE
D22	LADT30000118660	1/2 - 1 Mile SE
E23	LADT30000118859	1/2 - 1 Mile NW
25	LADT30000118895	1/2 - 1 Mile North

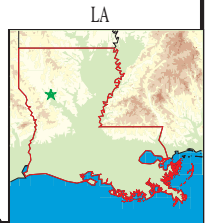
PHYSICAL SETTING SOURCE MAP - 3851620.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons



- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil, gas or related wells



SITE NAME: 19722
 ADDRESS: 100 Industrial Drive
 Natchitoches LA 71457
 LAT/LONG: 31.7322 / 93.0798

CLIENT: Altec Env. Consultants
 CONTACT: Dana Beck
 INQUIRY #: 3851620.2s
 DATE: February 10, 2014 12:21 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

A1
NNW
1/4 - 1/2 Mile
Higher

LA WELLS LADT30000118805

Oid :	0	Available :	drillers log; mechanical analysis
Longitude:	-93.0824	Casing dia:	Not Reported
Latitude:	31.7369	Chem analy:	Not Reported
Avail info:	Not Reported	Date measu:	Not Reported
Bio analy:	Not Reported	Date plugg:	Not Reported
Casing mat:	Not Reported	Drawdown:	Not Reported
Date compl:	04/57	Drillers n:	U.S.G.S.
Date of ad:	10-DEC-99	Elec log:	Not Reported
Date regis:	Not Reported	Geologic u:	11200NWM
Drill log:	D	Identifica:	314413093045701
Drillers 1:	002	Mechanic a:	M
Elevation:	115	Owners num:	Not Reported
Hole depth:	77	Plugged by:	Not Reported
Local well:	- 314	Pump test:	Not Reported
Owners nam:	U S GEOL SURVEY	Range:	07W
Parish num:	69	Screen int:	Not Reported
Plugged 1:	Not Reported	Serial num:	Not Reported
Quad num:	085	State code:	22
Screen dia:	Not Reported		
Section:	116	Well subuse:	Plugged
Source of :	Not Reported	Yield:	Not Reported
Township:	09N		
Water leve:	0		
Well depth:	77		
Well use:	Test Hole		
Site id:	LADT30000118805		

A2
NNW
1/4 - 1/2 Mile
Higher

FED USGS USGS40000408381

Org. Identifier:	USGS-LA	Drainagearea value:	Not Reported
Formal name:	USGS Louisiana Water Science Center	Contrib drainagearea:	Not Reported
Monloc Identifier:	USGS-314413093045701	Latitude:	31.7371089
Monloc name:	Na- 314	Sourcemap scale:	62500
Monloc type:	Well	Horiz Acc measure units:	seconds
Monloc desc:	Not Reported	Vert measure val:	115.00
Huc code:	11140207	Vertacc measure val:	10
Drainagearea Units:	Not Reported	Countrycode:	US
Contrib drainagearea units:	Not Reported		
Longitude:	-93.0826638		
Horiz Acc measure:	5		
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83		
Vert measure units:	feet		
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29		
Aquifername:	Not Reported		
Formation type:	Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	Not Reported
Construction date:	19570411	Wellholeddepth:	77
Welldepth units:	Not Reported		
Wellholeddepth units:	ft		

Ground-water levels, Number of Measurements: 0

**B3
NNW
1/4 - 1/2 Mile
Higher**

LA WELLS LADT30000118823

Oid :	0		
Longitude:	-93.0827		
Latitude:	31.7386		
Avail info:	Not Reported	Available :	chemical analysis
Bio analys:	Not Reported	Casing dia:	2.50
Casing mat:	Not Reported	Chem analy:	Q
Date compl:	1941	Date measu:	Not Reported
Date of ad:	12-AUG-94	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	Not Reported
Drill log:	Not Reported	Drillers n:	UNKNOWN
Drillers 1:	000	Elec log:	Not Reported
Elevation:	Not Reported	Geologic u:	124WLCX
Hole depth:	0	Identifica:	314419093045801
Local well:	- 79	Mechanic a:	Not Reported
Owners nam:	CREW, O R	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	Not Reported	Range:	07W
Screen dia:	Not Reported	Screen int:	Not Reported
Section:	074	Serial num:	Not Reported
Source of :	Not Reported	State code:	22
Township:	09N		
Water leve:	0		
Well depth:	250	Well subuse:	--
Well use:	Domestic	Yield:	Not Reported
Site id:	LADT30000118823		

**C4
North
1/4 - 1/2 Mile
Higher**

LA WELLS LADT30000118835

Oid :	0		
Longitude:	-93.0805		
Latitude:	31.7391		
Avail info:	W	Available :	water analysis
Bio analys:	Not Reported	Casing dia:	6
Casing mat:	Not Reported	Chem analy:	Not Reported
Date compl:	07/66	Date measu:	07/27/66
Date of ad:	14-JAN-97	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	48

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Drill log:	Not Reported	Drillers n:	LAYNE (LA)
Drillers 1:	010	Elec log:	Not Reported
Elevation:	110	Geologic u:	112RRVA
Hole depth:	194	Identifica:	314421093045002
Local well:	- 351	Mechanic a:	Not Reported
Owners nam:	U S DEPT INTER	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	085	Range:	07W
Screen dia:	6	Screen int:	78-88
Section:	073	Serial num:	Not Reported
Source of :	D	State code:	22
Township:	09N		
Water leve:	18	Well subuse:	Aquaculture
Well depth:	88	Yield:	42
Well use:	Irrigation		
Site id:	LADT30000118835		

**C5
North
1/4 - 1/2 Mile
Higher**

LA WELLS LADT30000118836

Oid :	0		
Longitude:	-93.0805		
Latitude:	31.7391		
Avail info:	Not Reported	Available :	drillers log; chemical analysis
Bio analys:	Not Reported	Casing dia:	6
Casing mat:	STEEL	Chem analy:	Q
Date compl:	07/66	Date measu:	Not Reported
Date of ad:	15-NOV-93	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	48
Drill log:	D	Drillers n:	LAYNE (LA)
Drillers 1:	010	Elec log:	Not Reported
Elevation:	100	Geologic u:	112RRVA
Hole depth:	194	Identifica:	314421093045001
Local well:	- 450	Mechanic a:	Not Reported
Owners nam:	FISH HATCHERY	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	085	Range:	07W
Screen dia:	6	Screen int:	77-87
Section:	073	Serial num:	Not Reported
Source of :	Not Reported	State code:	22
Township:	09N		
Water leve:	0	Well subuse:	Abandoned
Well depth:	87	Yield:	42
Well use:	Public Supply		
Site id:	LADT30000118836		

**B6
NNW
1/4 - 1/2 Mile
Higher**

FED USGS USGS40000408389

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314419093045801		
Monloc name:	Na- 79		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7387756
Longitude:	-93.0829415	Sourcemap scale:	62500
Horiz Acc measure:	10	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	100.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Mississippi embayment aquifer system		
Formation type:	Wilcox Aquifer		
Aquifer type:	Not Reported		
Construction date:	19410101	Welldepth:	250
Welldepth units:	ft	Wellholedepth:	Not Reported
Wellholedepth units:	Not Reported		

Ground-water levels, Number of Measurements: 0

C7
North
1/4 - 1/2 Mile
Higher

FED USGS USGS40000408397

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314421093045001		
Monloc name:	Na- 450		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7393311
Longitude:	-93.0807192	Sourcemap scale:	62500
Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	100.00
Vert measure units:	feet	Vertacc measure val:	5
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Alluvial aquifers		
Formation type:	Red River Alluvial Aquifer		
Aquifer type:	Not Reported		
Construction date:	19660728	Welldepth:	87
Welldepth units:	ft	Wellholedepth:	194
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

C8
North
1/4 - 1/2 Mile
Higher

FED USGS USGS40000408398

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314421093045002		
Monloc name:	Na- 351		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7393311
Longitude:	-93.0807192	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	110.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Alluvial aquifers		
Formation type:	Red River Alluvial Aquifer		
Aquifer type:	Not Reported		
Construction date:	19660727	Welldepth:	88
Welldepth units:	ft	Wellholedepth:	194
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1966-07-27	18.00	

B9
NNW
1/4 - 1/2 Mile
Higher

LA WELLS LADT30000118822

Oid :	0		
Longitude:	-93.0836		
Latitude:	31.7386		
Avail info:	W	Available :	drillers log; chemical analysis; water analysis
Bio analys:	Not Reported	Casing dia:	4
Casing mat:	Not Reported	Chem analy:	Q
Date compl:	06/41	Date measu:	05/01/41
Date of ad:	20-MAR-96	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	Not Reported
Drill log:	D	Drillers n:	BLEVINS L P
Drillers 1:	000	Elec log:	Not Reported
Elevation:	110	Geologic u:	124WLCX
Hole depth:	509	Identifica:	314419093050101
Local well:	- 50B	Mechanic a:	Not Reported
Owners nam:	NATCHITOCHESE,LA	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	Not Reported	Range:	07W
Screen dia:	Not Reported	Screen int:	272-282

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Section:	074	Serial num:	Not Reported
Source of :	Z	State code:	22
Township:	09N		
Water leve:	6		
Well depth:	282	Well subuse:	Plugged
Well use:	Test Hole	Yield:	Not Reported
Site id:	LADT30000118822		

**B10
NNW
1/4 - 1/2 Mile
Higher**

LA WELLS LADT30000118821

Oid :	0		
Longitude:	-93.0836		
Latitude:	31.7386		
Avail info:	W	Available :	drillers log; chemical analysis; water analysis
Bio analys:	Not Reported	Casing dia:	4
Casing mat:	Not Reported	Chem analy:	Q
Date compl:	05/41	Date measu:	00/00/41
Date of ad:	20-MAR-96	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	Not Reported
Drill log:	D	Drillers n:	BLEVINS L P
Drillers 1:	000	Elec log:	Not Reported
Elevation:	110	Geologic u:	112RRVA
Hole depth:	509	Identifica:	314419093050102
Local well:	- 50A	Mechanic a:	Not Reported
Owners nam:	NATCHITOCHE,LA	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	Not Reported	Range:	07W
Screen dia:	Not Reported	Screen int:	75-85
Section:	074	Serial num:	Not Reported
Source of :	Z	State code:	22
Township:	09N		
Water leve:	10		
Well depth:	85	Well subuse:	Plugged
Well use:	Test Hole	Yield:	Not Reported
Site id:	LADT30000118821		

**B11
NNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000408390

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314419093050101		
Monloc name:	Na- 50B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7387756
Longitude:	-93.0837749	Sourcemap scale:	62500

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	110.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Mississippi embayment aquifer system		
Formation type:	Wilcox Aquifer		
Aquifer type:	Not Reported		
Construction date:	19410501	Welldepth:	282
Welldepth units:	ft	Wellholedepth:	509
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1941-05-01	6.00	

**B12
NNW
1/2 - 1 Mile
Higher**

FED USGS USGS40000408391

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314419093050102		
Monloc name:	Na- 50A		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7387756
Longitude:	-93.0837749	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	110.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Alluvial aquifers		
Formation type:	Red River Alluvial Aquifer		
Aquifer type:	Not Reported		
Construction date:	1941	Welldepth:	85
Welldepth units:	ft	Wellholedepth:	509
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
-----			-----		
1941-01-01	10.00		1941	10.00	

**D13
SE
1/2 - 1 Mile
Higher**

FED USGS USGS40000408339

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314321093040902		
Monloc name:	Na- 54B		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7226649
Longitude:	-93.06933	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	109.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Mississippi embayment aquifer system		
Formation type:	Sparta Sand		
Aquifer type:	Confined single aquifer		
Construction date:	19431003	Welldepth:	160
Welldepth units:	ft	Wellholedepth:	435
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1943-10-03	7.60	

**D14
SE
1/2 - 1 Mile
Higher**

FED USGS USGS40000408338

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314321093040901		
Monloc name:	Na- 54A		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7226649
Longitude:	-93.06933	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	109.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Alluvial aquifers		
Formation type:	Red River Alluvial Aquifer		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Aquifer type:	Not Reported	Welldepth:	105
Construction date:	19431004	Wellholedepth:	435
Welldepth units:	ft		
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1943-10-04	12.30	

D15
SE
1/2 - 1 Mile
Higher

FED USGS USGS40000408340

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314321093040903		
Monloc name:	Na- 54C		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7226649
Longitude:	-93.06933	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	109.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Mississippi embayment aquifer system		
Formation type:	Wilcox Aquifer		
Aquifer type:	Not Reported		
Construction date:	19431001	Welldepth:	380
Welldepth units:	ft	Wellholedepth:	435
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1943-10-01	18.20	

D16
SE
1/2 - 1 Mile
Higher

FED USGS USGS40000408342

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314321093040905		
Monloc name:	Na- 54E		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7226649
Longitude:	-93.06933	Sourcemap scale:	62500

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	109.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Mississippi embayment aquifer system		
Formation type:	Wilcox Aquifer		
Aquifer type:	Not Reported		
Construction date:	19430101	Welldepth:	430
Welldepth units:	ft	Wellholedepth:	434
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 72

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1955-06-03	-8.10		1955-05-06	-8.10	
1955-03-25	-6.60		1955-01-28	-9.10	
1954-12-17	-8.80		1954-11-19	-9.25	
1954-09-08	-9.05		1954-08-05	-9.35	
1954-06-18	-10.00		1954-05-21	-9.55	
1954-04-16	-9.45		1954-03-12	-10.75	
1953-12-18	-9.35		1953-11-19	-9.10	
1953-10-16	-8.90		1953-08-28	-9.85	
1953-07-31	-9.15		1953-06-05	-9.73	
1953-04-23	-9.23		1953-03-06	-9.25	
1952-12-05	-8.85		1952-10-09	-9.01	
1952-09-03	-9.03		1952-04-05	-8.23	
1952-02-24	-8.32		1952-02-08	-8.12	
1952-01-11	-7.90		1951-12-07	-7.97	
1951-10-26	-7.92		1951-09-28	-8.20	
1951-08-30	-8.58		1951-07-23	-10.55	
1951-06-25	-8.15		1951-05-29	-10.02	
1951-05-03	-9.57		1951-04-05	-9.22	
1951-03-03	-9.62		1951-02-08	-10.45	
1951-01-06	-9.30		1950-12-01	-9.51	
1950-11-01	-9.72		1950-09-24	-9.88	
1950-08-25	-9.82		1950-08-02	-11.40	
1950-07-06	-9.95		1950-06-08	-11.60	
1950-05-01	-11.00		1950-04-04	-10.90	
1950-03-02	-10.80		1950-01-25	-11.32	
1949-12-29	-10.55		1949-11-22	-11.35	
1949-10-27	-11.05		1949-10-08	-11.50	
1949-08-29	-10.95		1949-08-04	-9.55	
1949-05-26	-10.55		1949-05-05	-11.05	
1949-03-31	-11.05		1949-03-03	-10.55	
1949-02-01	-10.85		1948-10-02	-10.35	
1948-09-02	-10.05		1948-07-28	-10.55	
1948-07-01	-11.40		1948-06-07	-11.35	
1948-05-04	-11.30		1948-04-01	-11.70	
1948-02-26	-11.70		1948-02-04	-11.60	
1948-01-10	-11.30		1946-12-26	-12.90	

D17
SE
1/2 - 1 Mile
Higher

FED USGS USGS40000408341

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314321093040904		
Monloc name:	Na- 54D		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7226649
Longitude:	-93.06933	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	109.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Mississippi embayment aquifer system		
Formation type:	Wilcox Aquifer		
Aquifer type:	Not Reported		
Construction date:	19430929	Welldepth:	427
Welldepth units:	ft	Wellholedepth:	435
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel

1943-09-29	21.70	

**D18
SE
1/2 - 1 Mile
Lower**

LA WELLS LADT30000118658

Oid :	0	Available :	electrical log; drillers log; mechanical analysis; chemical ana
Longitude:	-93.0691	Casing dia:	2
Latitude:	31.7224	Chem analy:	Q
Avail info:	W	Date measu:	10/03/43
Bio analys:	Not Reported	Date plugg:	Not Reported
Casing mat:	Not Reported	Drawdown:	Not Reported
Date compl:	10/43	Drillers n:	UNKNOWN
Date of ad:	12-AUG-94	Elec log:	E
Date regis:	Not Reported	Geologic u:	124SPRT
Drill log:	D	Identifica:	314321093040902
Drillers 1:	000	Mechanic a:	M
Elevation:	109	Owners num:	Not Reported
Hole depth:	435	Plugged by:	Not Reported
Local well:	- 54B	Pump test:	Not Reported
Owners nam:	NATCHITOCHESE,LA	Range:	07W
Parish num:	69	Screen int:	150-160
Plugged 1:	Not Reported		
Quad num:	085		
Screen dia:	2		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Section:	105	Serial num:	Not Reported
Source of :	A	State code:	22
Township:	09N		
Water leve:	7.6		
Well depth:	160	Well subuse:	Plugged
Well use:	Test Hole	Yield:	5
Site id:	LADT30000118658		

**D19
SE
1/2 - 1 Mile
Lower**

LA WELLS LADT30000118657

Oid :	0		
Longitude:	-93.0691		
Latitude:	31.7224		
Avail info:	W	Available :	electrical log; drillers log; mechanical analysis; chemical ana
Bio analys:	Not Reported	Casing dia:	2
Casing mat:	Not Reported	Chem analy:	Q
Date compl:	10/43	Date measu:	10/04/43
Date of ad:	06-JUL-95	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	Not Reported
Drill log:	D	Drillers n:	UNKNOWN
Drillers 1:	000	Elec log:	E
Elevation:	109	Geologic u:	112RRVA
Hole depth:	435	Identifica:	314321093040901
Local well:	- 54A	Mechanic a:	M
Owners nam:	NATCHITOCHE,LA	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	085	Range:	07W
Screen dia:	2	Screen int:	95-105
Section:	105	Serial num:	Not Reported
Source of :	A	State code:	22
Township:	09N		
Water leve:	12.3		
Well depth:	105	Well subuse:	Plugged
Well use:	Test Hole	Yield:	8
Site id:	LADT30000118657		

**D20
SE
1/2 - 1 Mile
Lower**

LA WELLS LADT30000118659

Oid :	0		
Longitude:	-93.0691		
Latitude:	31.7224		
Avail info:	W	Available :	electrical log; drillers log; mechanical analysis; chemical ana
Bio analys:	Not Reported	Casing dia:	2
Casing mat:	Not Reported	Chem analy:	Q
Date compl:	10/43	Date measu:	10/01/43
Date of ad:	12-AUG-94	Date plugg:	Not Reported
Date regis:	Not Reported	Drawdown:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Drill log:	D	Drillers n:	UNKNOWN
Drillers 1:	000	Elec log:	E
Elevation:	109	Geologic u:	124WLCX
Hole depth:	435	Identifica:	314321093040903
Local well:	- 54C	Mechanic a:	M
Owners nam:	NATCHITOCHE,LA	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	085	Range:	07W
Screen dia:	2	Screen int:	370-380
Section:	105	Serial num:	Not Reported
Source of :	A	State code:	22
Township:	09N		
Water leve:	18.2	Well subuse:	Plugged
Well depth:	380	Yield:	10
Well use:	Test Hole		
Site id:	LADT30000118659		

**D21
SE
1/2 - 1 Mile
Lower**

LA WELLS LADT30000118661

Oid :	0	Available :	electrical log; drillers log; water analysis
Longitude:	-93.0691	Casing dia:	2
Latitude:	31.7224	Chem analy:	Not Reported
Avail info:	W	Date measu:	12/26/46
Bio analys:	Not Reported	Date plugg:	Not Reported
Casing mat:	Not Reported	Drawdown:	Not Reported
Date compl:	01/43	Drillers n:	BLEVINS L P
Date of ad:	02-MAR-98	Elec log:	E
Date regis:	Not Reported	Geologic u:	124WLCX
Drill log:	D	Identifica:	314321093040905
Drillers 1:	000	Mechanic a:	Not Reported
Elevation:	109	Owners num:	Not Reported
Hole depth:	0	Plugged by:	Not Reported
Local well:	- 54E	Pump test:	Not Reported
Owners nam:	RHODES, S	Range:	07W
Parish num:	69	Screen int:	421-430
Plugged 1:	Not Reported	Serial num:	Not Reported
Quad num:	Not Reported	State code:	22
Screen dia:	2		
Section:	105	Well subuse:	--
Source of :	A	Yield:	Not Reported
Township:	09N		
Water leve:	12.9		
Well depth:	430		
Well use:	Domestic		
Site id:	LADT30000118661		

**D22
SE
1/2 - 1 Mile
Lower**

LA WELLS LADT30000118660

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Oid :	0	Available :	electrical log; drillers log; mechanical analysis; chemical ana
Longitude:	-93.0691	Casing dia:	2
Latitude:	31.7224	Chem analy:	Q
Avail info:	W	Date measu:	09/29/43
Bio analys:	Not Reported	Date plugg:	Not Reported
Casing mat:	Not Reported	Drawdown:	Not Reported
Date compl:	09/43	Drillers n:	UNKNOWN
Date of ad:	12-AUG-94	Elec log:	E
Date regis:	Not Reported	Geologic u:	124WLCX
Drill log:	D	Identifica:	314321093040904
Drillers 1:	000	Mechanic a:	M
Elevation:	109	Owners num:	Not Reported
Hole depth:	435	Plugged by:	Not Reported
Local well:	- 54D	Pump test:	Not Reported
Owners nam:	NATCHITOCHE,LA	Range:	07W
Parish num:	69	Screen int:	417-427
Plugged 1:	Not Reported	Serial num:	Not Reported
Quad num:	085	State code:	22
Screen dia:	2		
Section:	105	Well subuse:	Plugged
Source of :	A	Yield:	15
Township:	09N		
Water leve:	21.7		
Well depth:	427		
Well use:	Test Hole		
Site id:	LADT30000118660		

**E23
NW
1/2 - 1 Mile
Higher**

LA WELLS LADT30000118859

Oid :	0	Available :	drillers log
Longitude:	-93.0908	Casing dia:	Not Reported
Latitude:	31.7422	Chem analy:	Not Reported
Avail info:	Not Reported	Date measu:	Not Reported
Bio analys:	Not Reported	Date plugg:	Not Reported
Casing mat:	Not Reported	Drawdown:	Not Reported
Date compl:	04/57	Drillers n:	U.S.G.S.
Date of ad:	10-DEC-99	Elec log:	Not Reported
Date regis:	Not Reported	Geologic u:	11200NWM
Drill log:	D	Identifica:	314432093052701
Drillers 1:	002	Mechanic a:	Not Reported
Elevation:	115	Owners num:	Not Reported
Hole depth:	98	Plugged by:	Not Reported
Local well:	- 313	Pump test:	Not Reported
Owners nam:	U S GEOL SURVEY	Range:	07W
Parish num:	69	Screen int:	Not Reported
Plugged 1:	Not Reported	Serial num:	Not Reported
Quad num:	085	State code:	22
Screen dia:	Not Reported		
Section:	076	Well subuse:	Plugged
Source of :	Not Reported	Yield:	Not Reported
Township:	09N		
Water leve:	0		
Well depth:	98		
Well use:	Test Hole		
Site id:	LADT30000118859		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Database EDR ID Number

E24
NW
1/2 - 1 Mile
Higher

FED USGS USGS40000408406

Org. Identifier:	USGS-LA		
Formal name:	USGS Louisiana Water Science Center		
Monloc Identifier:	USGS-314432093052701		
Monloc name:	Na- 313		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	11140207	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	31.7423866
Longitude:	-93.0909974	Sourcemap scale:	62500
Horiz Acc measure:	5	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	115.00
Vert measure units:	feet	Vertacc measure val:	10
Vert accmeasure units:	feet		
Vertcollection method:	Interpolated from topographic map		
Vert coord refsys:	NGVD29	Countrycode:	US
Aquifername:	Not Reported		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	19570411	Welldepth:	Not Reported
Welldepth units:	Not Reported	Wellholedepth:	98
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

25
North
1/2 - 1 Mile
Higher

LA WELLS LADT30000118895

Oid :	0		
Longitude:	-93.0808		
Latitude:	31.7466		
Avail info:	W	Available :	drillers log; water analysis
Bio analys:	Not Reported	Casing dia:	4
Casing mat:	PLASTIC	Chem analy:	Not Reported
Comments:	210 HWY 1 S, NATCHITOCHE		
Date compl:	03/95	Date measu:	04/03/95
Date of ad:	24-JAN-97	Date plugg:	Not Reported
Date regis:	08/96	Drawdown:	Not Reported
Drill log:	D	Drillers n:	PERRY AND SONS
Drillers 1:	463	Elec log:	Not Reported
Elevation:	117	Geologic u:	112RRVAC
Hole depth:	20	Identifica:	314448093045101
Local well:	-5604Z	Mechanic a:	Not Reported
Owners nam:	KERR MCGEE	Owners num:	Not Reported
Parish num:	69	Plugged by:	Not Reported
Plugged 1:	Not Reported	Pump test:	Not Reported
Quad num:	077D	Range:	07W
Screen dia:	4	Screen int:	5-20

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Section:	022	Serial num:	Not Reported
Source of :	D	State code:	22
Township:	09N		
Water level:	10.43		
Well depth:	20	Well subuse:	--
Well use:	Monitor	Yield:	Not Reported
Site id:	LADT30000118895		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: LA Radon

Radon Test Results

Parish	Avg pCi/L	Total Sites
NATCHITOCHE	0.54074	27

Federal EPA Radon Zone for NATCHITOCHE County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
- : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
- : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 71457

Number of sites tested: 17

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.524 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	1.200 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)

Source: United States Geologic Survey

A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Louisiana Public Water Supply Wells

Source: Office of Public Health

Telephone: 504-568-5101

Water Well Registration Data File

Source: Department of Transportation and Development

Telephone: 225-274-4172

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database

Source: Department of Natural Resources

Telephone: 225-342-1977

Oil and gas well locations in Louisiana.

RADON

State Database: LA Radon

Source: Department of Environmental Quality

Telephone: 225-925-1752

Radon Levels

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

STREET AND ADDRESS INFORMATION

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USDA WEB SOIL SURVEY MAP



TITLE

USDA WEB SOIL SURVEY

LOCATION

PHASE I
 CITY OF NATCHITOCHEs
 58-ACRE VACANT PARCEL
 100 INDUSTRIAL DRIVE
 NATCHITOCHEs, LOUISIANA

LEGEND

SYMBOL	MAP UNIT NAME
Ga	GALLION SILT LOAM 0 TO 1 PERCENT SLOPES
La	LATANIER CLAY 0 TO 1 PERCENT SLOPES RARELY FLOODED
Md	MORELAND SILT LOAM
mN	MORELAND CLAY
Ro	ROXANA VERY FINE SANDY LOAM
W	WATER



PROJECT NO. SCALE

19722 1" = 1200'

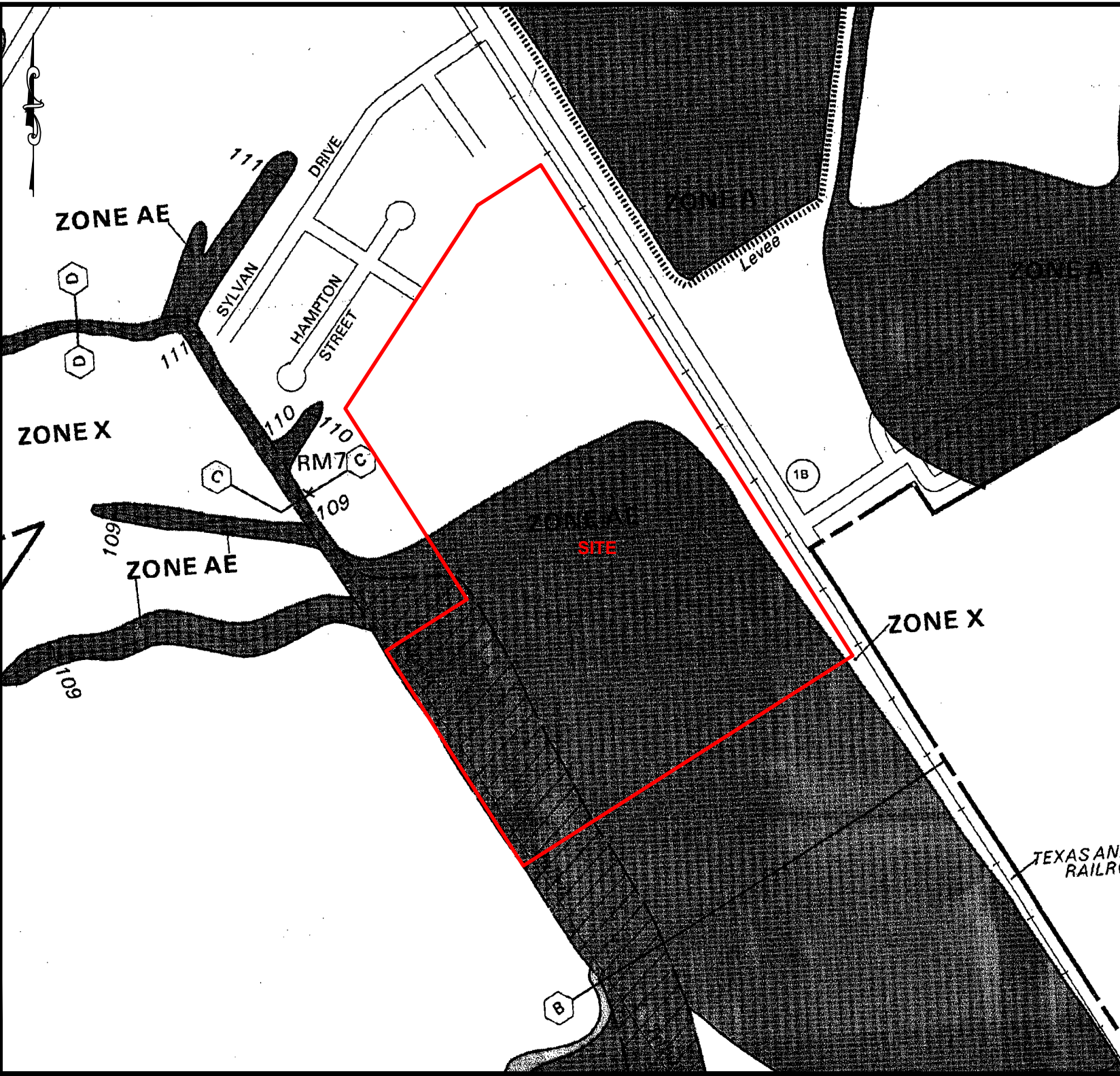
PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

FLOOD INSURANCE RATE MAP



TITLE

FLOOD INSURANCE RATE MAP
 COMMUNITY PANEL NO. 2201310003C
 MAP EFFECTIVE: SEPTEMBER 18, 1987

LOCATION

PHASE I
 CITY OF NATCHITOCHEs
 58-ACRE VACANT PARCEL
 100 INDUSTRIAL DRIVE
 NATCHITOCHEs, LOUISIANA

LEGEND

ZONE DESCRIPTIONS

- A - AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT GENERALLY DETERMINED USING APPROXIMATE METHODOLOGIES
- AE - AREAS SUBJECT TO INUNDATION BY THE 1-PERCENT-ANNUAL-CHANCE FLOOD EVENT DETERMINED BY DETAILED METHODS
- X - AREAS OF MINIMAL FLOOD HAZARD (AREAS OUTSIDE THE SFHA & HIGHER THAN THE ELEVATION OF THE 0.2-PERCENT-ANNUAL-CHANCE FLOOD)



PROJECT NO. SCALE

19722 1" = 500'

PAGE DRAWN BY

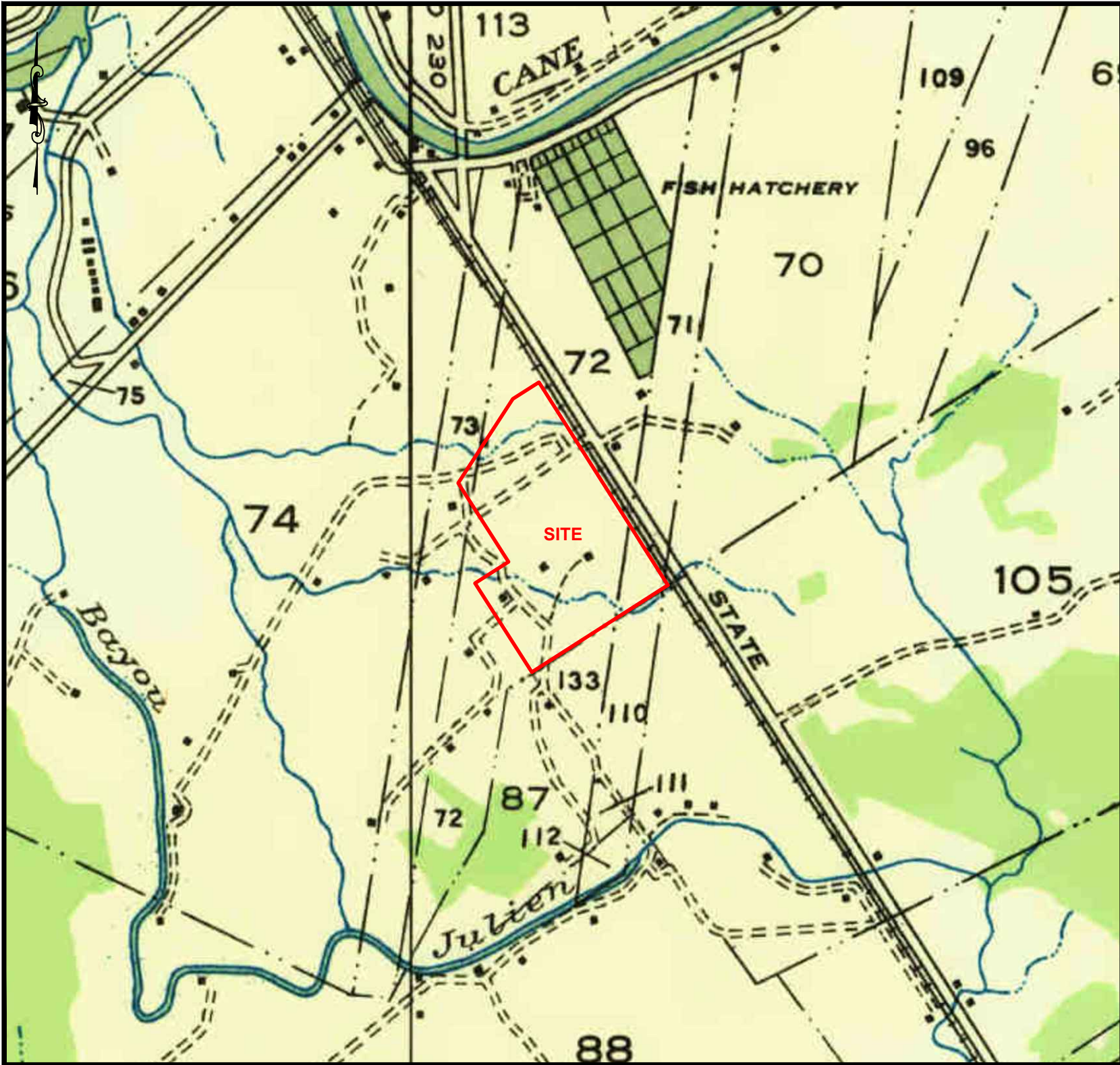
1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

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HISTORICAL TOPOGRAPHIC MAPS



TITLE

TOPOGRAPHIC MAP
DATE: 1937

LOCATION

PHASE I
CITY OF NATCHITOCHE
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHE, LOUISIANA

LEGEND



PROJECT NO. SCALE

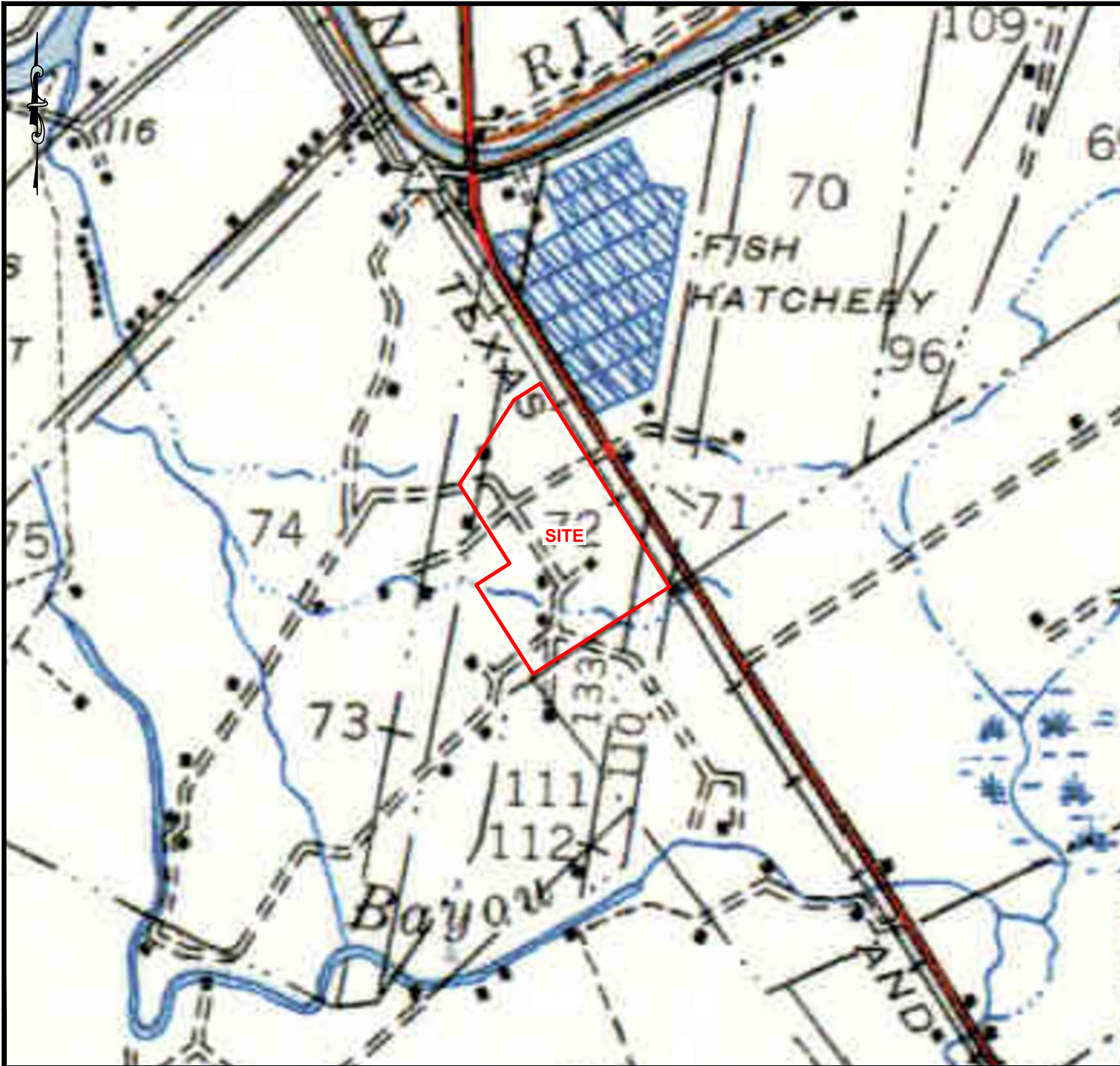
19722 1" = 1200'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

TOPOGRAPHIC MAP
DATE: 1945

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

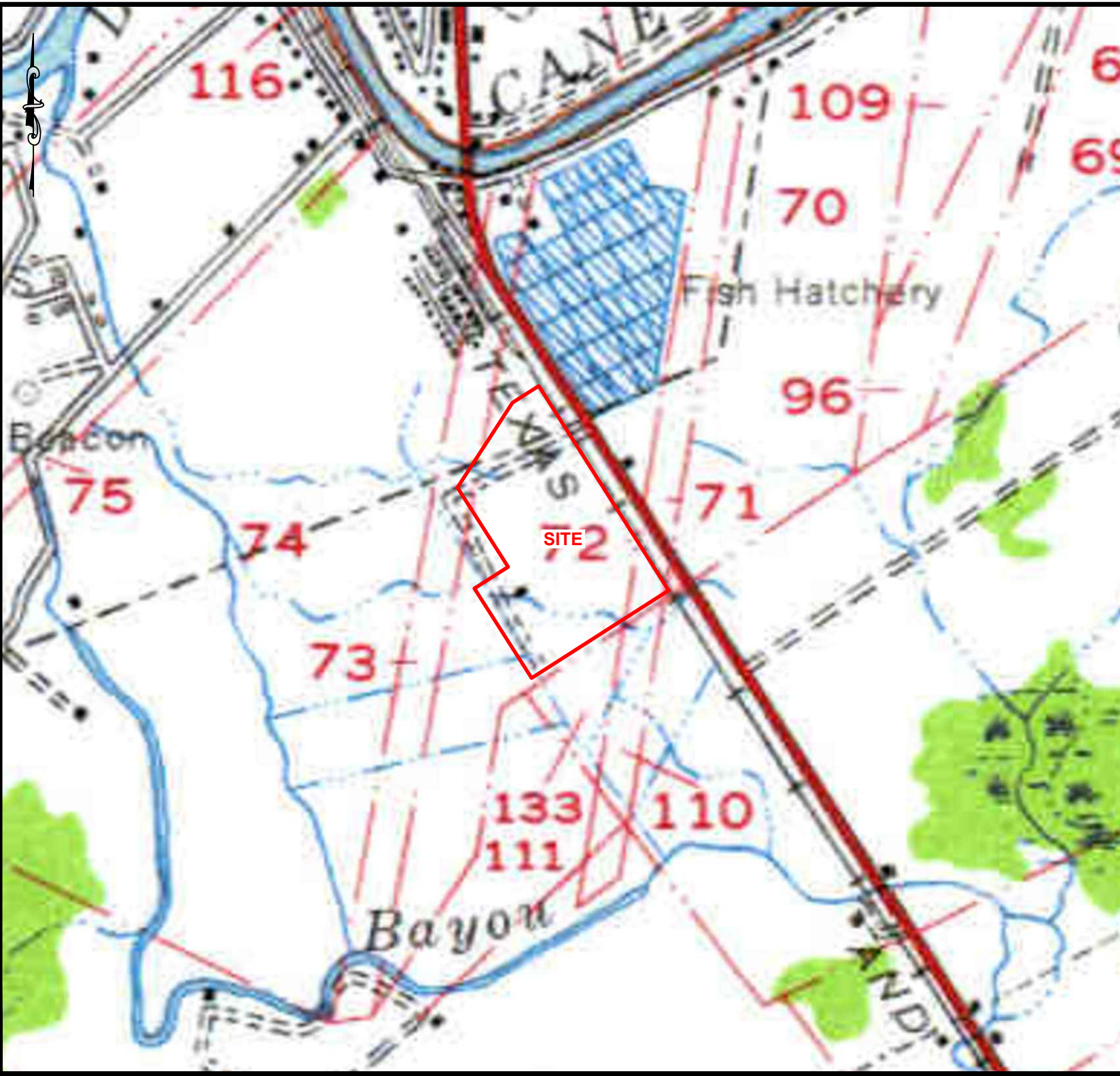
19722 1" = 1200'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

TOPOGRAPHIC MAP
DATE: 1957

LOCATION

PHASE I
CITY OF NATCHITOCHES
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHES, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 1200'

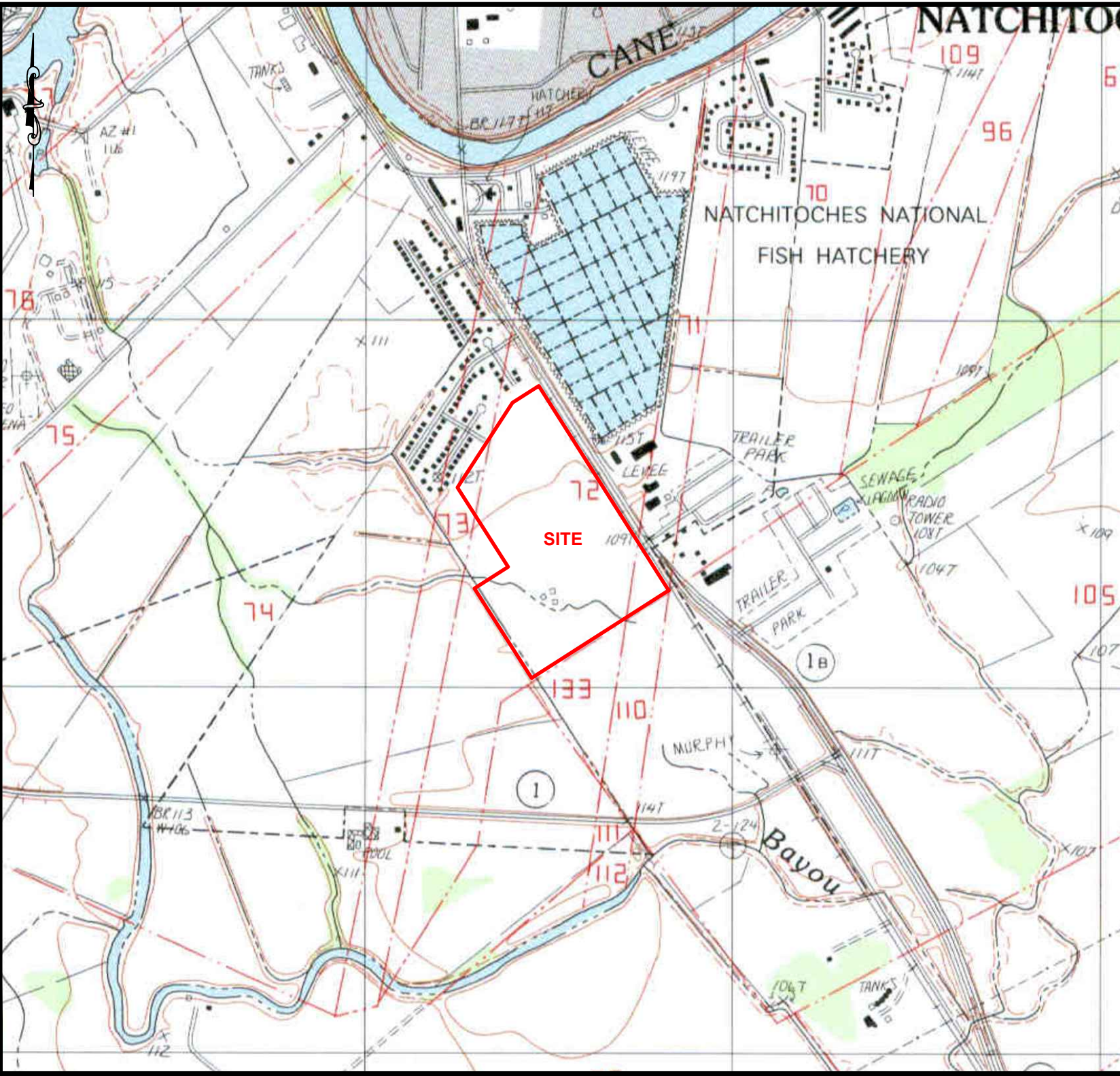
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1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

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TITLE

TOPOGRAPHIC MAP
DATE: 1983

LOCATION

PHASE I
CITY OF NATCHITOCHE'S
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHE'S, LOUISIANA

LEGEND



PROJECT NO. SCALE

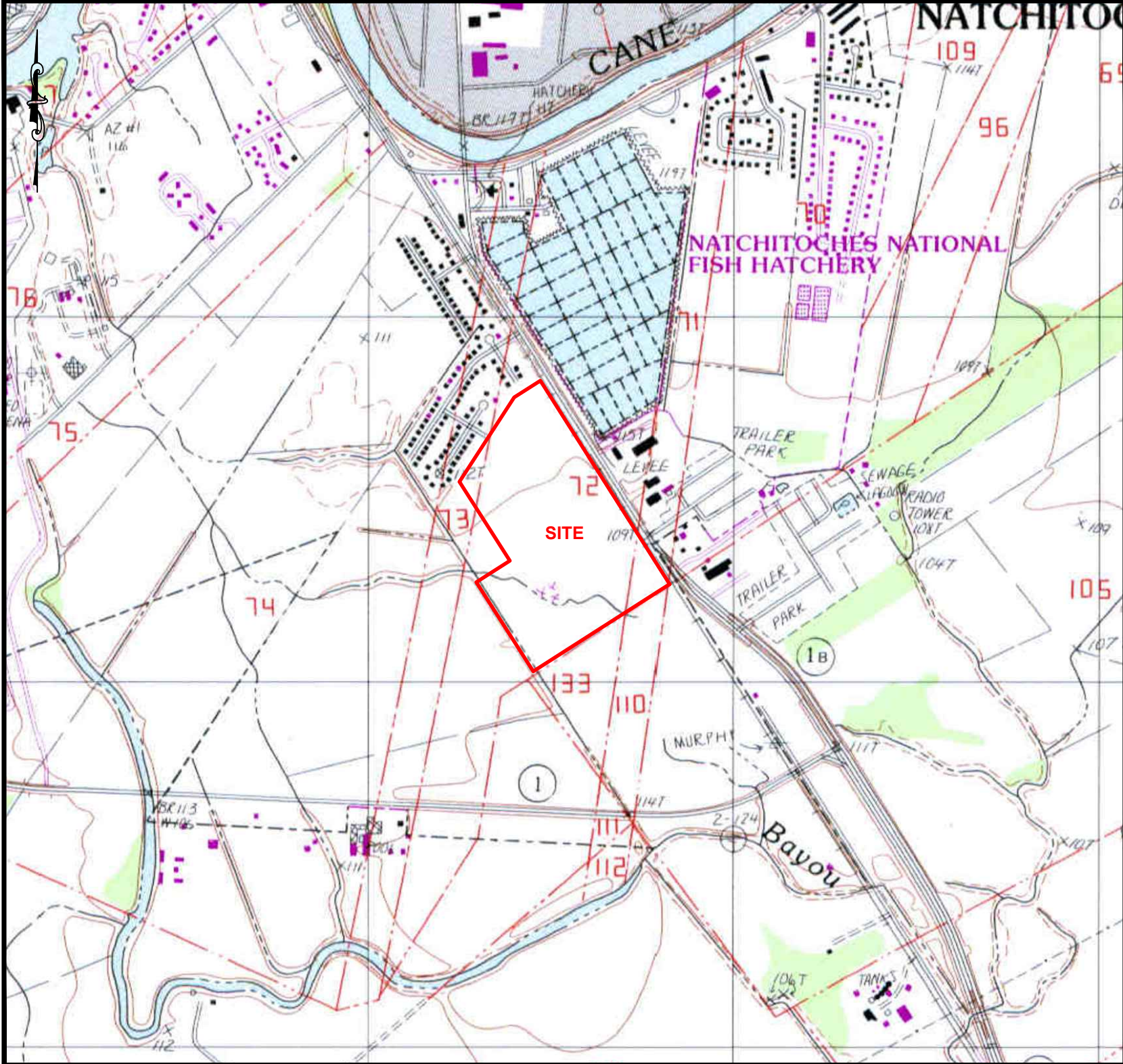
19722 1" = 1200'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

TOPOGRAPHIC MAP
DATE: 1992

LOCATION

PHASE I
CITY OF NATCHITOCHE'S
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHE'S, LOUISIANA

LEGEND

LEGEND



PROJECT NO. SCALE

19722 1" = 1200'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

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HISTORICAL AERIAL PHOTOGRAPHS



TITLE

AERIAL PHOTOGRAPH
DATE: 1950

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

AERIAL PHOTOGRAPH
DATE: 1966

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

AERIAL PHOTOGRAPH
DATE: 1976

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

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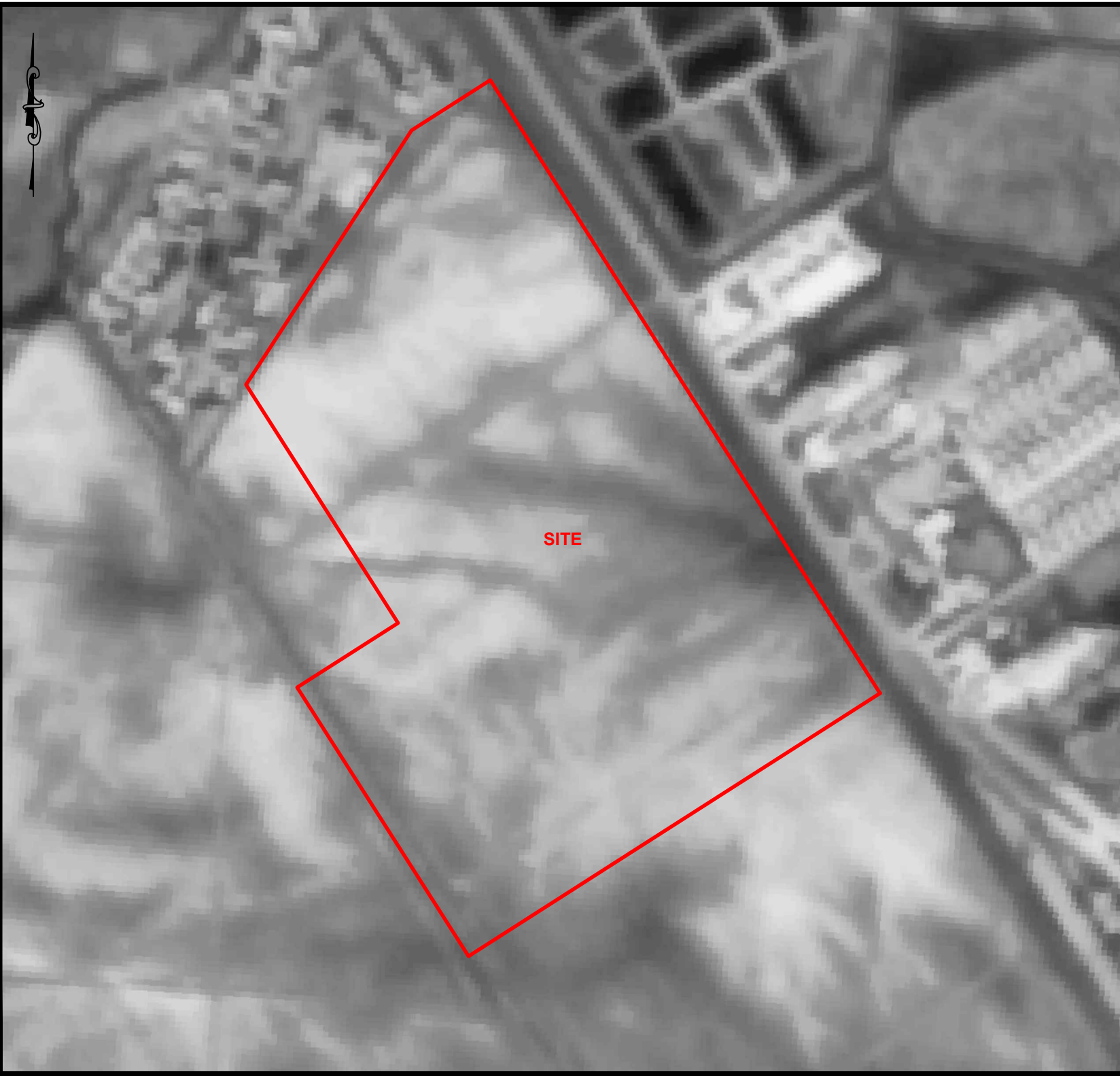
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1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

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TITLE

AERIAL PHOTOGRAPH
DATE: 1981

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

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TITLE

AERIAL PHOTOGRAPH
DATE: 1990

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

AERIAL PHOTOGRAPH
DATE: 1998

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

F:\Drawings\2013\19722 Cothren, Graff, Smoak Eng Inc. - Phase I\19722 Phase I.dwg



TITLE

AERIAL PHOTOGRAPH
DATE: 2004

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

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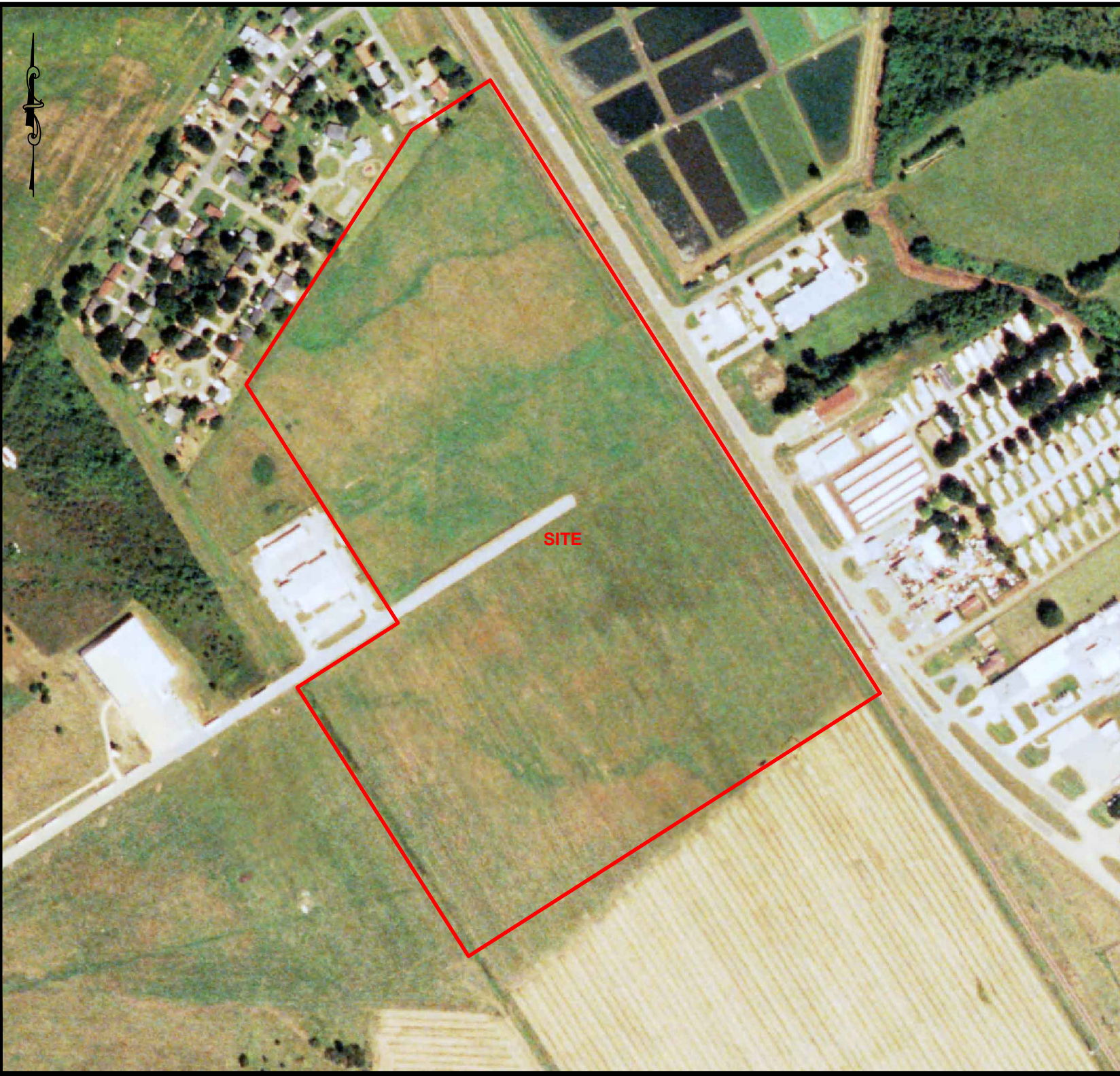
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1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

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TITLE

AERIAL PHOTOGRAPH
DATE: 2007

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

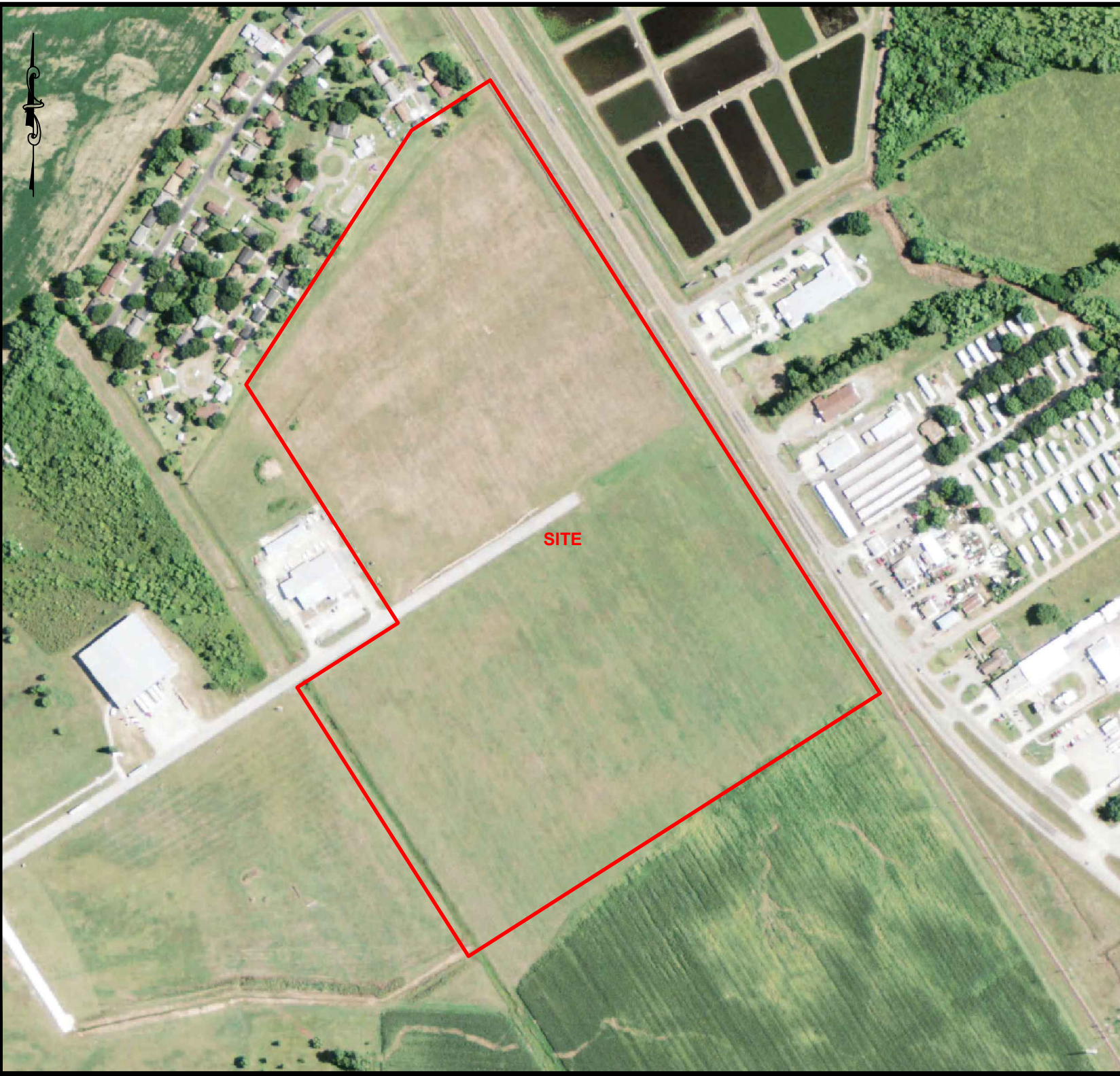
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SHEET DATE

A - 8.5 X 11 03/06/14

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TITLE

AERIAL PHOTOGRAPH
DATE: 2009

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

AERIAL PHOTOGRAPH
DATE: 2010

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14



TITLE

AERIAL PHOTOGRAPH
DATE: 2011

LOCATION

PHASE I
CITY OF NATCHITOCHEs
58-ACRE VACANT PARCEL
100 INDUSTRIAL DRIVE
NATCHITOCHEs, LOUISIANA

LEGEND



PROJECT NO. SCALE

19722 1" = 400'

PAGE DRAWN BY

1 LNJ

SHEET DATE

A - 8.5 X 11 03/06/14

F:\Drawings\2013\19722 Cothren, Graff, Smoak Eng Inc. - Phase I\19722 Phase I.dwg

CITY DIRECTORY ABSTRACT

19722

100 Industrial Drive
Natchitoches, LA 71457

Inquiry Number: 3851620.5
February 11, 2014

The EDR-City Directory Image Report

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

<u>Year</u>	<u>Target Street</u>	<u>Cross Street</u>	<u>Source</u>
2013	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
2008	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
2003	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
1999	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Cole Information Services
1995	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1990	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1984	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1979	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1975	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1969	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory
1964	<input type="checkbox"/>	<input type="checkbox"/>	Polk's City Directory

RECORD SOURCES

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FINDINGS

TARGET PROPERTY STREET

100 Industrial Drive
Natchitoches, LA 71457

Year

CD Image

Source

INDUSTRIAL DR

2013	pg A1	Cole Information Services	
2008	pg A2	Cole Information Services	
2003	pg A3	Cole Information Services	
1999	pg A4	Cole Information Services	
1995	-	Polk's City Directory	Street not listed in Source
1990	-	Polk's City Directory	Street not listed in Source
1984	-	Polk's City Directory	Street not listed in Source
1979	-	Polk's City Directory	Street not listed in Source
1975	-	Polk's City Directory	Street not listed in Source
1969	-	Polk's City Directory	Street not listed in Source
1964	-	Polk's City Directory	Street not listed in Source

FINDINGS

CROSS STREETS

No Cross Streets Identified

City Directory Images

INDUSTRIAL DR 2013

100 ALLIANCE COMPRESSORS
WILMORE SNACK SALES INC

INDUSTRIAL DR 2008

100	ALLEN & ALLEN ALLIANCE ALLIANCE COMPRESSORS
115	TOYS RAINBOW LEARNING CENTER
300	ATMOS ENERGY CORP

INDUSTRIAL DR 2003

100	LOUISIANA FOOD & VENDING CO MANZOOR HOSSAIN
115	TOYS RAINBOW LEARNING CTR
300	CHRISTOPHER WARREN

INDUSTRIAL DR 1999

100 ALLIANCE COMPRESSORS

PHOTOGRAPHS

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHEs, LOUISIANA
FEBRUARY 14, 2014**



Property Panoramic – W Aspect



Property Panoramic – NW Aspect



Property Panoramic – NNW Aspect



Property Panoramic – N Aspect

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHEs, LOUISIANA
FEBRUARY 14, 2014**



Property Panoramic – NNE Aspect



Property Panoramic – NE Aspect



Property Panoramic – E Aspect



Property Panoramic – SE Aspect

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHEs, LOUISIANA
FEBRUARY 14, 2014**



Gas Pipeline Marker



Used Square Concrete Culvert



Used Square Concrete Culvert



Railroad Tracks, Highway 1-Business, Restaurant

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHES, LOUISIANA
FEBRUARY 14, 2014**



Property Panoramic – E Aspect



Property Panoramic – SE Aspect



Property Panoramic – S Aspect



Property Panoramic – SW Aspect

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHES, LOUISIANA
FEBRUARY 14, 2014**



Property Panoramic – WSW Aspect



Property Panoramic – SW Aspect



Property Panoramic –W Aspect



Drainage Culvert Under KCS Railroad Tracks

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHE, LOUISIANA
FEBRUARY 14, 2014**



Drainage Ditch at NW Corner of Property



NW Corner of Property, facing South



Drainage Ditch and Railroad Tracks, facing East



Park and Residential Neighborhood, facing West from West Edge of Property

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHEs, LOUISIANA
FEBRUARY 14, 2014**



View from West Edge of Property, facing North



Gas Pipeline Marker on West Edge of Property



Brush Pile at South Side of Property



Brush Pile at South Side of Property

**PHASE I ENVIRONMENTAL SITE ASSESSMENT
100 INDUSTRIAL DRIVE, NATCHITOCHES, LOUISIANA
FEBRUARY 14, 2014**



Brush Pile at South Side of Property



Industrial Drive, facing South



Storm Drainage on Industrial Drive

REFERENCES

REFERENCES

Aerial Photographs dated 1950, 1966, 1976, 1981, 1990, 1998, 2004, 2007, 2009, 2010, and 2011, Banks Information, Solutions, Inc., 1601 Rio Grande St., Suite 500, Austin, TX 78701.

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City Directory Abstract, 100 Industrial Drive, Natchitoches, LA, February 11, 2014; Inquiry Number: 3851620.5; EDR Environmental Data Resources, Inc., Milford, Connecticut.

Historical Topographic Map Report, 100 Industrial Drive, Natchitoches, LA, February 10, 2014; Inquiry Number: 3851620.4; EDR Environmental Data Resources, Inc., Milford, Connecticut.

Louisiana Department of Natural Resources, Office of Conservation, SONRIS electronic database of Oil and Gas Wells. <http://sonris-www.dnr.stata.la.us>

Louisiana Department of Natural Resources, Office of Conservation, SONRIS electronic database of Groundwater Information. <http://sonris-www.dnr.stata.la.us>

Flood Insurance Rate Map, Natchitoches Parish Louisiana and Incorporated Areas, Map Number 2201310003C, Effective Date September 18, 1987. Federal Emergency Management Agency, Washington, D.C.

The EDR Radius Map Report, *100 Industrial Drive, Natchitoches, LA*, February 10, 2014; 3851620.2s; EDR Environmental Data Resources, Inc., Milford, Connecticut.

United States Department of Agriculture Natural Resource Conservation Services Web Soil Survey. www.soils.usda.gov

DEFINITIONS

DEFINITIONS

activity and use limitations – legal or physical restrictions or limitations on the use of, or access to, a site or facility: (1) to reduce or eliminate potential exposure to *hazardous substances* or *petroleum products* in the soil or groundwater on the *property*, or (2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. These legal or physical restrictions, which may include *institutional* and/or *engineering controls*, are intended to prevent adverse impacts to individuals or populations that may be exposed to *hazardous substances* and *petroleum products* in the soil or ground water on the *property*¹.

actual knowledge – the knowledge actually possessed by an individual who is a real person, rather than an entity. *Actual knowledge* is to be distinguished from constructive knowledge that is knowledge imputed to an individual or entity.

adjoining properties – any real *property* or properties the border of which is contiguous or partially contiguous with that of the *property*, or that would be contiguous or partially contiguous with that of the *property* but for a street, road or other public thoroughfare separating them.

aerial photographs – photographs taken from an aerial platform with sufficient resolution to allow identification of development and activities of areas encompassing the *property*. *Aerial photographs* are often available from government agencies or private collections unique to a local area. See 8.3.4.1 of this practice.

all appropriate inquiry – that inquiry constituting “*all appropriate inquiry* into the previous ownership and uses of the *property* consistent with good commercial or customary practice” as defined in CERCLA, 42 U.S.C §9601(35)(B), that will qualify a party to a *commercial real estate transaction* for one of threshold criteria for satisfying the *LLPs* to CERCLA liability (42 U.S.C §9601(35)(A) & (B), §9607(b)(3), §9607(q); and §9607(r)), assuming compliance with other elements of the defense. See Appendix X1.

commercial real estate – any real *property* except a *dwelling* or *property* with no more than four *dwelling* units exclusively for residential use (except that a *dwelling* or *property* with no more than four *dwelling* units exclusively for residential use is included in this term when it has a commercial function, as in the building of such *dwellings* for profit). This term includes but is not limited to undeveloped real *property* and real *property* used for industrial, retail, office, agricultural, other commercial, medical, or educational purposes; *property* used for residential purposes that has more than four residential *dwelling* units; and *property* with no more than four *dwelling* units for residential use when it has a commercial function, as in the building of such *dwellings* for profit.

commercial real estate transaction – a transfer of title to or possession of real *property* or receipt of a security interest in real *property*, except that it does not include transfer of

title to or possession of real *property* or the receipt of a security interest in real *property* with respect to an individual *dwelling* or building containing fewer than five *dwelling* units, nor does it include the purchase of a lot or lots to construct a *dwelling* for occupancy by a purchaser, but a *commercial real estate transaction* does include real *property* purchased or leased by persons or entities in the business of building or developing *dwelling* units.

construction debris – concrete, brick, asphalt, and other such building materials discarded in the construction of a building or other improvement to *property*.

de minimus – a condition that does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

demolition debris – concrete, brick, asphalt, and other such building materials discarded in the demolition of a building or other improvement to *property*.

dwelling – structure or portion thereof used for residential habitation.

engineering controls (EC) – physical modifications to a site or facility (for example, capping, slurry walls, or point of use water treatment) to reduce or eliminated the potential for exposure to *hazardous substances* or *petroleum products* in the soil or ground water on the *property*. *Engineering controls* are a type of activity and use limitation (AUL).

environmental compliance audit – the investigative process to determine if the operations of an existing facility are in compliance with applicable environmental laws and regulations. This term should not be used to describe this practice, although an *environmental compliance audit* may include an *environmental site assessment* or, if prior audits are available, may be part of an *environmental site assessment*.

environmental professional – a person meeting the education, training, and experience requirements as set forth in 40 CFR §312.10(b). See Appendix X2. The person may be an independent contractor or an employee of the *user*.

environmental site assessment (ESA) – the process by which a person or entity seeks to determine if a particular parcel of real *property* (including improvements) is subject to *recognized environmental conditions*. At the option of the *user*, an *environmental site assessment* may include more inquiry than that constituting *all appropriate inquiry* or, if the *user* is not concerned about qualifying for the LLP's, less inquiry than that constituting *all appropriate inquiry*. An *environmental site assessment* is both different from and less rigorous than an *environmental compliance audit*.

hazardous substance – a substance defined as a *hazardous substance* pursuant to CERCLA 42 U.S.C. §9601(14), as interpreted by EPA regulations and the courts: “(A) any substance designated pursuant to section 1321(b)(2)(A) of Title 33, (B) any element,

compound, mixture, solution, or substance designated pursuant to section 9602 of this title, (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, (42 U.S.C. §6921) (but not including any waste the regulation of which under RCRA (42 U.S.C. §§6901 et seq.) has been suspended by Act of Congress), (D) any toxic pollutant listed under section 1317(a) of Title 33, (E) any hazardous air pollutant listed under section 112 of the Clean Air Act (42 U.S.C. §7412), and (F) any imminently hazardous chemical substance or mixture with respect to which the Administrator (of EPA) has taken action pursuant to section 2606 of Title 15. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).” (See Appendix X1.)

hazardous waste – any *hazardous waste* having the characteristics identified under or listed pursuant to section 3001 or FCRA, as amended, (42 U.S.C. §6921) (but not including any waste the regulation of which under RCRA (42 U.S.C. §§6901-6992k) has been suspended by Act of Congress). RCRA is sometimes also identified as the Solid Waste Disposal Act. RCRA defines a *hazardous waste*, at 42 U.S.C. §6903, as: “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may – (A) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.”

institutional controls (IC) – a legal or administrative restriction (for example, “deed restrictions,” restrictive covenants, easements or zoning) on the use of, or access to, a site or facility to (1) reduce or eliminate potential exposure to *hazardous substances* or *petroleum products* in the soil or ground water on the *property*, or (2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment. An institutional control is a type of Activity and Use Limitation (AUL).

material threat – a physically observable or *obvious* threat which is reasonably likely to lead to a release that, in the opinion of the *environmental professional* is threatening and might result in impact to public health or the environment. An example might include an aboveground storage tank system that contains a *hazardous substance* and which shows evidence of damage. The damage would represent a *material threat* if it is deemed serious enough that it may cause or contribute to tank integrity failure with a release of contents to the environment.

obvious – that which is plain or evident; a condition or fact that could not be ignored or overlooked by a reasonable observer while visually or physically observing the *property*.

owner – generally the fee *owner* of record of the *property*.

petroleum exclusion – the exclusion from CERCLA liability provided in 42 U.S.C. §9601(14), as interpreted by the courts and EPA: “The term (*hazardous substance*) does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquefied natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).”

petroleum products – those substances included within the meaning of the *petroleum exclusion* to CERCLA, 42 U.S.C. §9601(14), as interpreted by the courts and EPA, that is: petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a *hazardous substance* under Subparagraphs (A) through (F) of 42 U.S.C. §9601(14), natural gas, natural gas liquids, liquefied natural gas, and synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas). (The word fraction refers to certain distillates of crude oil, including gasoline, kerosene, diesel oil, jet fuels, and fuel oil, pursuant to Standard Definitions of Petroleum Statistics.²)

property – the real *property* that is the subject of the *environmental site assessment* described in this practice. Real *property* includes buildings and other fixtures and improvements located on the *property* and affixed to the land.

recognized environmental conditions – the presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, a past release, or a *material threat* of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, ground water, or surface water of the *property*. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*.

site reconnaissance – that part that is contained in Section 9 of this practice and addresses what should be done in connection with the *site visit*. The *site reconnaissance* includes, but is not limited to, the *site visit* done in connection with a *Phase I Environmental Site Assessment*.

site visit – the visit to the *property* during which observations are made constituting the *site reconnaissance* section of this practice.

user – the party seeking to use Practice E 1527 to complete an *environmental site assessment* of the *property*. A *user* may include, without limitation, a potential purchaser of *property*, a potential tenant of *property*, an *owner* of *property*, a lender, or a *property*

manager. The *user* has specific obligations for completing a successful application of this practice as outlined in Section 6.

¹The term *AUL* is taken from the ASTM Standard Guide E 2091 to include both legal (that is, institutional) and physical (that is, engineering) controls within its scope. Other agencies, organizations, and jurisdictions may define or utilize these terms differently (for example, EPA and California do not include physical controls within their definitions of “*institutional controls*.” Department of Defense and International County/City Management Association use “Land Use Controls.” The term “land use restrictions” is used but not defined in the *Brownfields Amendments*).

²*Standard Definitions of Petroleum Statistics*, American Petroleum Institute, Fourth Edition, 1988.

ENVIRONMENTAL PROFESSIONAL QUALIFICATIONS



EDUCATION

Bachelor of Science (Geology), 1982; Louisiana State University

EMPLOYMENT HISTORY

Present	ALTEC Environmental Consulting, LLC
2009 - 2011	U.S. Risk Management, LLC
2006 - 2009	Shaw Environmental & Infrastructure, Inc.
2005 - 2006	EE&G Environmental Services, LLC (Hurricane Katrina recovery operations)
2002 - 2005	ERM-Southwest, Inc.
2001 - 2002	Cobb Environmental and Technical Services, Inc.
1990 - 2001	IT Corporation (formerly Fluor Daniel GTI and Groundwater Technology, Inc.)

CERTIFICATIONS AND SPECIALIZED TRAINING

ASTM Phase I Environmental Site Assessments
Hazardous Waste Operations and Emergency Response (HAZWOPER)
National Safety Council – CPR and First Aid

SPECIALIZATION

Groundwater/Soil Investigation and Remediation
Risk Evaluation / Corrective Action Program (RECAP)
Risk Based Corrective Action (RBCA) Evaluations
Groundwater Monitored Natural Attenuation (MNA)
Quality Assurance/Quality Control
UST Site Assessments and Closures
Phase I and II Environmental Site Assessments

SUMMARY OF EXPERIENCE

Mr. Johnson has been involved with the Geological/Environmental field since 1990. As an environmental geologist/professional, he has been responsible for the performance of RECAP investigations/evaluations, Voluntary Remediation Program applications, investigations, and reports, underground storage tank closures, Phase I and II Environmental Site Assessments, and preparation of Quality Assurance Project Plans.

DETAILED EXPERIENCE

Managed all aspects of assessment and remediation of Brownfields redevelopment sites and Voluntary Remediation Program sites in south Louisiana and Mississippi.

Performed and managed environmental operations related to Hurricane Katrina recovery in New Orleans, Louisiana. Responsibilities included baseline assessments of debris disposal/staging sites and management of Ineligible Waste program for debris removal.

Directed QA/QC program for subsurface assessment activities at refinery expansion site in Fujian Province, China. Selected by major petroleum client to instruct and assist Chinese partners in modern site investigation techniques, including low-flow groundwater purging and sampling.



Managed RCRA and state regulatory programs at two large refinery sites for a major petroleum client in Louisiana. Aspects of the programs included a RCRA Facility Investigation (RFI) and reporting, RCRA ground water monitoring and reporting, SWMU closure, assessment activities, operations and maintenance of remediation systems, and regulatory negotiations.

Managed complex, multi-million dollar environmental assessment and remediation project for a major petroleum pipeline company in rural Alabama. Coordinated all aspects of the project, and performed/supervised field activities throughout the site investigation and remedial action planning process. The site was under a high degree of regulatory scrutiny, and expedience and quality assurance were essential. The expedited completion of assessment activities and negotiated cleanup levels with state regulatory authorities was instrumental in leading to a settlement with impacted property owners, thereby avoiding costly litigation.

Managed multi-site UST program for a major petroleum retail client in Florida. The program involved an aggressive schedule for site assessment, corrective action plan development and remediation of over 55 sites under Florida's Petroleum UST Trust Fund. The success of this program was based on expediency, successful negotiations and interaction with regulatory authorities, effective risk management and communication, and budget controls. The accelerated site characterization and remediation program resulted in significant reduction of cost and liability for the client during the divestiture of properties in Florida.

Performed RBCA evaluations for 15 project sites in Alabama. Lowered corrective action levels resulted in No Further Action status for several sites, natural attenuation monitoring at several others, and focused, cost-effective remedial action at the remaining sites.

Managed and performed key field supervisory activities for a railroad RCRA project in Tennessee. The site involved lead and PCB contamination in soil and was highly sensitive because of perceived risk to adjacent residents. Client and regulatory communications were of primary importance throughout the project, and effective work scopes were proposed and executed that provided reduced risk and exposure to the client, while ensuring the safety of the residential community.

Managed assessment and remediation activities at a petroleum bulk storage facility in Mississippi. Successfully negotiated with the Mississippi Department of Environmental Quality to address site concerns on a prioritized risk basis. Initial remediation activities consisted of vapor abatement at neighboring businesses and residences.

Managed and performed fieldwork involving tank closures, site investigations, corrective action plans and remedial implementation at numerous UST sites in various states. Remedial technologies included soil excavation, dual-phase extraction, air sparging, soil vapor extraction, ground water pump-and-treat, injection of oxidants, and remediation by natural attenuation (RNA).

Managed and performed numerous Phase I and Phase II Environmental Site Assessments in various states.



MR. DANA H. BECK
Environmental Scientist

EDUCATION

Bachelor of Science (Environmental Science), 1999; Stephen F. Austin State University
Bachelor of Science (Forestry), 1999; Stephen F. Austin State University

EMPLOYMENT HISTORY

Present	ALTEC Environmental Consulting, LLC
2010 - 2012	PEC Environmental Inc.
2001 - 2010	Weston Solutions, Inc.
2000 - 2001	Ecology and Environment, Inc.

CERTIFICATIONS AND SPECIALIZED TRAINING

NORM Surveyor
ArcGIS
Respirator Fit Test
H²S Awareness
ASTM Phase I/II Environmental Site Assessments
Hazardous Waste Operations and Emergency Response (HAZWOPER)
National Safety Council – CPR and First Aid

SPECIALIZATION

Groundwater/Soil Investigation and Remediation
Risk Evaluation / Corrective Action Program (RECAP)
Wetland Determination and Delineation
Saltwater Disposal Well Permitting
Groundwater, Wastewater, and Soil Sampling and Analysis
UST Site Assessments and Closures
Phase I and II Environmental Site Assessments
OPA Related Oilfield Assessment, Removals and Sampling
Reserve Pit Sampling and Reporting (29B)

SUMMARY OF EXPERIENCE

Mr. Beck has been associated with the oil/gas and environmental fields for more than 15 years. Mr. Beck's responsibilities for ALTEC include performing Phase I and Phase II Site Assessments, soil and groundwater investigations, underground storage tank assessments, groundwater monitor well installations and monitoring, saltwater disposal well permitting, and ground/surface water sampling. Mr. Beck has worked for ten years as a senior project scientist (START Team) for the Environmental Protection Agency. During that time he evaluated and assessed a multitude of oil/gas facilities as well as the oversight of facility removal and well plugging/abandonment. In addition to the standard oil and gas work for the EPA, Mr. Beck assisted in various national projects and emergency responses (Hurricanes Katrina/Rita, Columbia Recovery, New Orleans demolition/asbestos air monitoring and local emergency response).

EXHIBIT # 13

SHPO RESPONSE



JAY DARDENNE
LIEUTENANT GOVERNOR

State of Louisiana
OFFICE OF THE LIEUTENANT GOVERNOR
DEPARTMENT OF CULTURE, RECREATION & TOURISM
OFFICE OF CULTURAL DEVELOPMENT

CHARLES R. DAVIS
DEPUTY SECRETARY

PAM BREAU
ASSISTANT SECRETARY

26 August 2014

K. Randal Smoak, P.E.
Cothren, Graff, Smoak Engineering, Inc.
6305 Westport Avenue
Shreveport, LA 71129-2499

Re: Draft Report
La Division of Archaeology Report No. 22-4736
A Cultural Resource Survey and Limited Deep Testing of 48.2 acres for Industrial Site Certification in Natchitoches Parish, Louisiana

Dear Mr. Smoak:

We acknowledge receipt of your letter dated 8 August 2014 and one copy of the above-referenced report. We have completed our review of this report and offer the following comments.

The report title refers to limited deep testing during the project, however no such activity is described in the report. If appropriate please revise the title to reflect the actual activities.

It would be very helpful for the reader if a table of the recovered artifacts from each site could be included with their discussion in Chapter 6. Table 6.1 does provide useful information, but to determine what artifacts are actually present at this site, the reader is forced to search through the extent of Chapter 5. Even the summary discussion in Chapter 5 does not provide an inventory of the complete assemblage from each site.

We concur that sites 16NA768, 16NA770, 16NA771, 16NA772, and the portion of site 16NA69 within the project area are not eligible for nomination to the National Register of Historic Places. We further concur that no historic properties will be impacted by this project. Our office has no further concerns for this project.

We look forward to receiving two bound copies of the final report along with a pdf of the report. If you have any questions, please contact Chip McGimsey in the Division of Archaeology by email at cmcgimsey@crt.la.gov or by phone at 225-219-4598.

Sincerely,

Pam Breau
State Historic Preservation Officer

PB:crm

EXHIBIT # 14

PHASE I CULTURAL RESOURCES ASSESSMENT

A CULTURAL RESOURCE SURVEY OF 48.2 ACRES FOR INDUSTRIAL SITE CERTIFICATION IN NATCHITOCHE PARISH, LOUISIANA



by
*Jay W. Gray and
Jason Kennedy*

Prepared for

The City of Natchitoches



Prepared by



Kentucky | West Virginia | Ohio
Wyoming | Illinois | Indiana | Louisiana | Tennessee
Utah | Virginia | Colorado

A CULTURAL RESOURCE SURVEY OF 48.2 ACRES FOR INDUSRIAL SITE CERTIFICATION IN NATCHITOCHE PARISH, LOUISIANA

By
Jay W. Gray and Jason Kennedy

Prepared for

The City of Natchitoches

Requested by

Randy LaCaze
Director of Community Affairs
City of Natchitoches
P.O. Box 37
Natchitoches, Louisiana 71457
Email: rlacaze@natchitochesla.gov

Prepared by

Cultural Resource Analysts, Inc.
7330 Fern Avenue, Suite 1104
Shreveport, Louisiana 71105
Phone: (318) 213-1385
CRA Project No.: L14C001



Jay W. Gray, MA, RPA
Principal Investigator

August 4, 2014

ABSTRACT

Cultural Resource Analysts, Inc., conducted a phase I cultural resource inventory of 19.5 ha (48.2 acres) for the City of Natchitoches in pursuit of industrial site certification in Natchitoches Parish, Louisiana. This work was conducted at the request of Randy LaCaze, Director of Community Affairs for the City of Natchitoches. An area of approximately 11 acres to the north of the project area was also investigated, but this area was subsequently removed from the project area.

The records review consisted of a search of online files maintained by the Louisiana Office of Cultural Development, Division of Archaeology, to identify any cultural resources or cultural resource investigations documented in the area. The records review indicated that four previous cultural resource surveys and three previously recorded archaeological sites have been documented within a 1.6 km (1.0 mi) radius of the project area. Among the previously recorded sites, all three date to the late prehistoric period and two (16NA9 and 16NA70) have been recommended for additional work, while the third (16NA101) was presumed to have been destroyed and no recommendations were made for its treatment. The mapped locations of these previously recorded sites are all well outside the Natchitoches industrial site certification tract. Among the previous cultural resources surveys, one included extensive deep testing within the current project area with negative findings.

Field investigation consisted of an intensive pedestrian survey and the excavation of systematic, screened shovel tests. The entire project area was considered to have a high probability for containing cultural resources based on proximity to water courses. In total, 265 transect shovel tests were positioned at a 30 m (98 ft) interval along transects, and 301 shovel tests were excavated to delineate cultural resource boundaries. The survey resulted in the identification of five sites (16NA768, 16NA769, 16NA770, 16NA771, and 16NA772) and six isolated finds. Newly recorded Site 16NA769, one isolated find, and a portion of Site 16NA768 are located outside of the revised project area boundary. All five sites date to the historic period, and one yielded an isolated prehistoric artifact. The portions of the sites and isolated finds within the project area boundary are recommended not eligible for listing in National Register of Historic Places.

TABLE OF CONTENTS

ABSTRACT.....	i
LIST OF FIGURES	iii
LIST OF TABLES.....	iv
CHAPTER 1. INTRODUCTION	1
CHAPTER 2. ENVIRONMENTAL SETTING	7
CHAPTER 3. PREVIOUS RESEARCH AND CULTURAL OVERVIEW.....	11
CHAPTER 4. METHODS.....	33
CHAPTER 5. MATERIALS RECOVERED.....	35
CHAPTER 6. RESULTS	57
CHAPTER 7. CONCLUSIONS AND RECOMMENDATIONS.....	81
REFERENCES CITED.....	83
APPENDIX A. LITHIC DEBITAGE	A-1
APPENDIX B. HISTORIC MATERIALS INVENTORY	B-1

LIST OF FIGURES

Figure 1.1. Map showing the location of Natchitoches Parish in the state of Louisiana.....	1
Figure 1.2. Topographic map showing the location of the project area.....	4
Figure 1.3. Project location with transect locations depicted on an aerial map.....	5
Figure 2.1. Photograph showing conditions at the time of the survey, with crewmember excavating a shovel test in background (view approximately southwest).....	8
Figure 3.1. Map showing the locations of previously documented archaeological sites within 1.6 km of the project area and cultural resources surveys within the project area.	13
Figure 5.1. Selected Artifacts.....	37
Figure 6.1. Location of sites recorded in project area.....	58
Figure 6.2. Schematic plan map of 16NA768 within the project area.....	59
Figure 6.3. Photograph of 16NA768, facing approximately north.....	60
Figure 6.4. Schematic plan map of 16NA769 within the project area.....	63
Figure 6.5. Photograph of 16NA769, facing approximately north.....	64
Figure 6.6. Schematic plan map of 16NA770 within the project area.....	67
Figure 6.7. Photograph of 16NA770, site overview facing approximately north.....	71
Figure 6.8. Schematic plan map of 16NA771 within the project area.....	73
Figure 6.9. Photograph of 16NA771, site overview facing approximately north.....	74
Figure 6.10. Schematic plan map of 16NA772 within the project area.....	76
Figure 6.11. Photograph of 16NA772, site overview facing approximately north.....	77

LIST OF TABLES

Table 5.1. Historic Artifacts Recovered According to Functional Group.....	36
Table 5.2. Summary of Architectural Group Artifacts Recovered from the Project Area.....	38
Table 5.3. Summary of Domestic Group Artifacts Recovered from the Project Area.....	41
Table 5.4. Summary of Maintenance and Subsistence Group Artifacts Recovered from the Project Area.....	52
Table 6.1. Historic Artifacts Recovered According to Functional Group from 16NA768.	61
Table 6.2. Historic Artifacts Recovered According to Functional Group from 16NA769.	65
Table 6.3. Historic Artifacts Recovered According to Functional Group from 16NA770.	68
Table 6.4. Historic Artifacts Recovered According to Functional Group from 16NA771.	74
Table 6.5. Historic Artifacts Recovered According to Functional Group from 16NA772.	77
Table A-1. Lithic Debitage Recovered.	A-3
Table B-1. Historic Materials Recovered.....	B-3

Chapter 1. Introduction

Cultural Resource Analysts, Inc. (CRA), personnel completed a file search on January 24 and performed a cultural resource survey between February 5 and February 21, 2014, for a tract of land the City of Natchitoches sought to receive industrial site certification for Natchitoches Parish, Louisiana (Figure 1.1). This file search and cultural resource survey were conducted at the request of Randy LaCaze, Director of Community Affairs for the City of Natchitoches. The total area surveyed for this project was approximately 19.5 ha (48.2 acres). An area of approximately 11 acres to the north of the project area was also surveyed, but this area was determined to hold the potential for deeply buried archaeological deposits and was subsequently removed from the project area.

The file search of data maintained by the Louisiana Office of Cultural Development, Division of Archaeology (SHPO), indicated that four documented cultural resource surveys and three previously recorded archaeological sites were within 1.6 km (1.0 mi) of the current project area. The previously recorded sites all are outside the boundaries of the Natchitoches industrial site certification tract.

Field investigation consisted of an intensive pedestrian survey, systematic screened shovel tests excavated at a 30 m (98 ft) interval. The survey resulted in the identification of five archaeological sites (16NA768, 16NA769, 16NA770, 16NA771, and 16NA772) and six isolated finds. Most of newly recorded Site 16NA769, one isolated find, and a portion of Site 16NA768 are located outside of the revised project area boundary. All five sites date to the historic period, and one yielded an isolated prehistoric artifact. The portions of the sites and isolated finds within the project area boundary are recommended not eligible for listing in National Register of Historic Places (NRHP), and no further archaeological work is recommended.

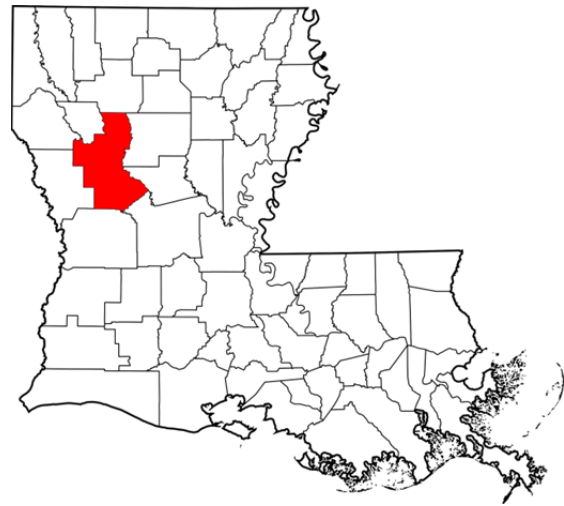


Figure 1.1. Map showing the location of Natchitoches Parish in the state of Louisiana.

Project Personnel

Jay W. Gray served as principal investigator and conducted the archaeological file search, utilizing online files maintained by the Louisiana Office of Cultural Development, Division of Archaeology and State Historic Preservation Office. Fieldwork was conducted by Jason Kennedy, Marie Richards, Elizabeth Williams, and Gina Cupstid. Artifact analysis was conducted by Sarah Bourget, and the report was authored by Jay Gray and Jason Kennedy. The final report production was completed by the CRA CAD and publications departments.

Purpose of Study

The purpose of this assessment was to locate, describe, evaluate, and to make appropriate recommendations for the future treatment of any historic or prehistoric archaeological properties that may be affected by proposed construction activities. All associated field notes, records, and site photographs will be curated with the Louisiana Division of Archaeology.

All work associated with this investigation was conducted pursuant to standards set forth by the State Historic Preservation Office (SHPO) to comply with the National Historic Preservation Act (NHPA) of 1966, as amended (36 CFR 800) for properties listed in the NRHP. Louisiana's *Comprehensive Archaeological Plan* (LCAP) was referred to for guidance throughout this investigation (Smith et al. 1983). All fieldwork and reporting activities were completed with reference to federal (NHPA) guidelines.

Project Description

The proposed project is for industrial site certification of a 19.5 ha tract located in the southern part of the City of Natchitoches near the intersection of Highway 1 South and the Highway 1 Bypass. The property is bounded on the east side by a railroad line that parallels Highway 1 South, along its southwest edge by a channelized drainage that flows southward to Bayou Julien; to the northwest by developed property along Industrial Drive; to the north by an arbitrary boundary, and to the south the property boundary is defined by a section line. Industrial Drive bisects a portion of the project area from southwest to northeast, terminating near its center. The project area is split between the irregular Sections 72, 73, 110 within Township 9N and Range 7W and is depicted on the Natchitoches South, Louisiana, 7.5-minute United States Geological Survey (USGS) topographic quadrangle (USGS 1992) in Figure 1.2.

Summary of Findings

The file search of data maintained by the Louisiana Office of Cultural Development, Division of Archaeology, indicated that four documented cultural resource surveys and three previously recorded archaeological sites were within 1.6 km (1.0 mi) of the current project area. The previously recorded sites include 16NA9, 16NA70, and 16NA101, all of which date to the late prehistoric period. Two of these sites (16NA9 and 16NA70) have been recommended for additional work, while one has been presumed to be destroyed and no recommendations have been made regarding

its treatment. All of the previously recorded sites were well outside the Natchitoches industrial site certification area. Among the previous cultural resources surveys, one included extensive deep testing with negative results within the current project area; this project is described in greater detail in Chapter 3 of this report.

Field investigation consisted of an intensive pedestrian survey along with the placement of 265 shovel test positions at a 30 m (98 ft) interval along transects, of which 248 were excavated and 17 were not excavated due to the flooded condition at the time of the survey. In total, 301 shovel tests were excavated at a closer interval to delimit the boundaries of the newly recorded sites and isolated finds (Figure 1.3). The entire project area was treated as having a high probability for containing cultural resources due to its proximity to existing waterways. The investigation resulted in five newly recorded archaeological sites (16NA768, 16NA769, 16NA770, 16NA771 and 16NA772), all dating to the historic period, and six newly recorded isolated finds.

The five newly recorded archaeological sites and six isolated finds are recommended not eligible for listing in the NRHP and do not require any additional archaeological work.

The records review and cultural resource survey indicate that no archaeological sites or historic properties listed in, or recommended eligible for listing in, the NRHP will be affected by the proposed construction activities.

Report Organization

This report is organized into seven numbered chapters and two appendices. Chapter 1 provides an overview of the project and summarizes the results of the cultural resource investigation. Chapter 2 is an overview of the environmental setting of the project area. The results of the records review for the project area and a culture history of the area are presented in Chapter 3. Chapter 4 presents the methodological approach of this cultural resource investigation. Chapter 5 summarizes the analysis of the materials recovered at each site and isolated find. Chapter 6 details the results of the field investigation. Report summary and recommendations for the project area are presented in Chapter 7, and a References Cited section follows. Appendix A presents data on the prehistoric artifacts analysis. Appendix B presents data on historic artifact analysis.

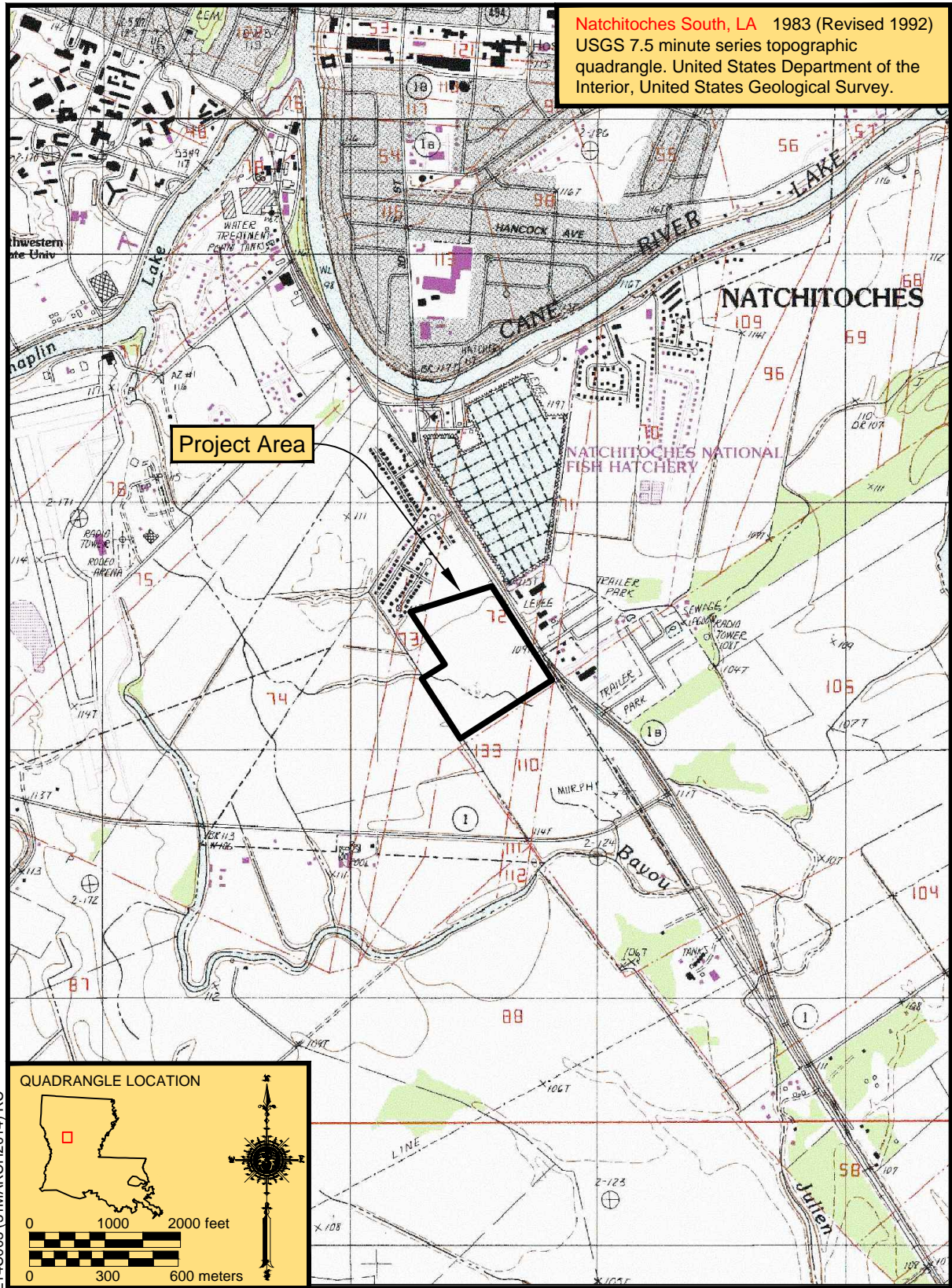


Figure 1.2. Topographic map showing the location of the project area.

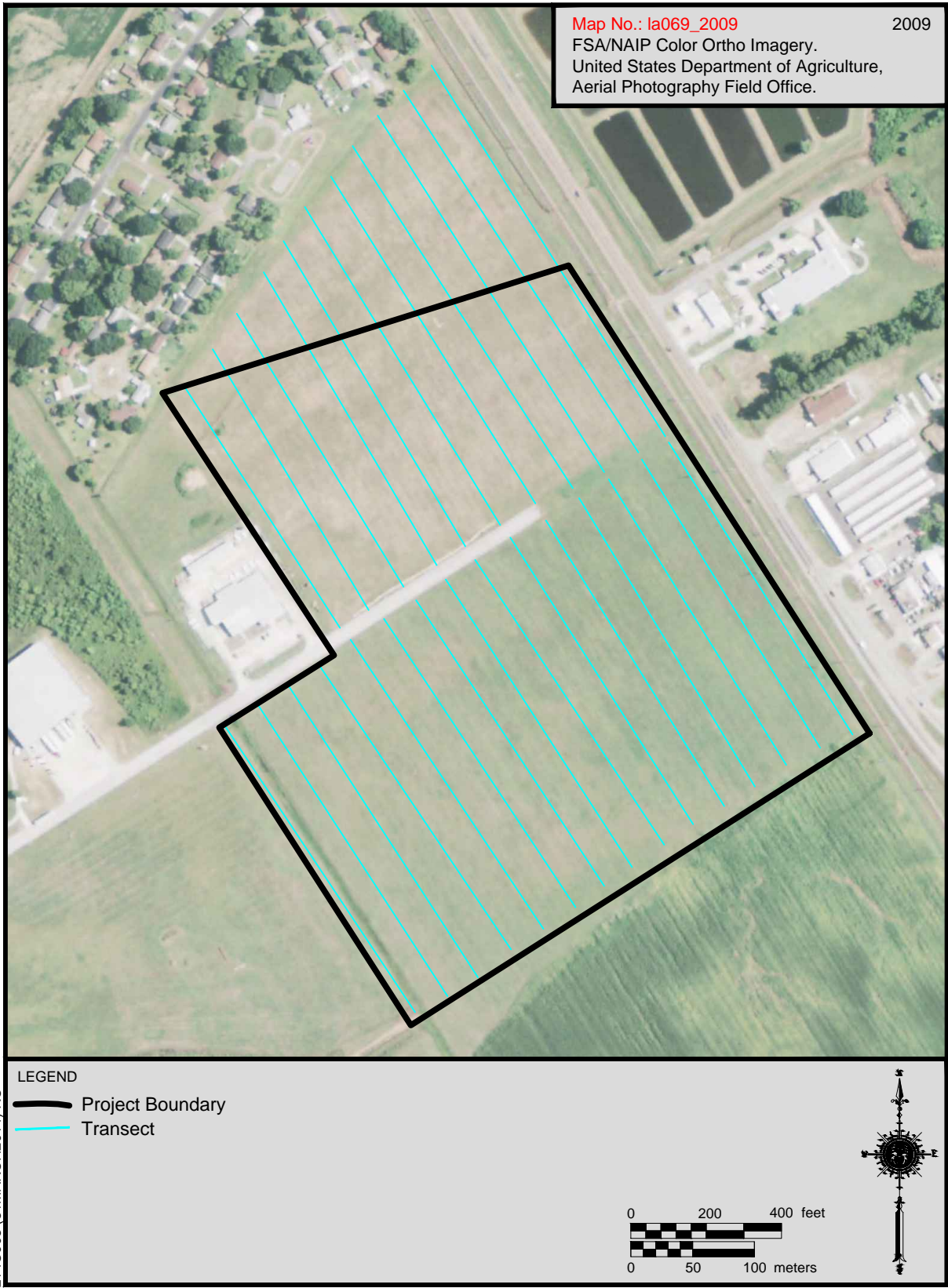


Figure 1.3. Project location with transect locations depicted on an aerial map.

Chapter 2. Environmental Setting

This section of the report provides a description of the modern environment and considers those aspects of the physical environment that may have influenced the location and methods for finding archaeological sites. The discussion of the modern environment specifically provides information regarding the physiography, soils, vegetation, and climate.

Physiography

The project area is located in Natchitoches Parish, Louisiana, which is part of the Lower Mississippi Riverine Forest Ecosystem Province (Bailey et al. 1994). The Mississippi Riverine Forest Province is composed of flat to gently sloping broad floodplains and low terraces that formed from alluvium and loess. Sharp terrace scarps and natural levees form the only significant slopes, and oxbow lakes and cutoff meanders are common (Bailey et al. 1994).

More specifically, northwest Louisiana falls within the South Central Plains Ecoregion, which is comprised of rolling plains that are broken by nearly flat fluvial terraces, bottomlands, sandy low hills, and low cuestas. Uplands are underlain mainly by poorly-consolidated Tertiary coastal plain deposits, and soils are mostly acidic sandy loams, silt loams, sands, and sandy clay loams. Bottomlands and terraces are veneered with Quaternary alluvium, terrace deposits, or loess (Griffith et al. 2008).

The Red River Bottomlands within the South Central Plains Ecoregion contain the floodplains and low terraces of the Red River. The bottomlands consist of meander scars, oxbow lakes, ridges, and back swamps that have formed by the meandering channel of the river. The sediment in the bottomlands is Holocene in age and has developed into clayey and loamy vertisols and entisols (Griffith et al. 2008). The current project is located entirely within the Red River Bottomland. Elevation of the project area ranges from approximately

33.5 m (110.0 ft) to 36.6 m (120.0 ft) above sea level (Figure 1.2).

Soils

Soils within the project area were classified utilizing the United States Department of Agriculture (USDA) Soil Conservation Service (SCS) soil survey of Natchitoches Parish, and the Web Soil Survey online database maintained by the Natural Resource Conservation Service (NRCS).

According to the Soil Survey of Natchitoches Parish, Louisiana, and confirmed by the Web Soil Survey Custom Soil Resource Report prepared for the project area, the proposed Natchitoches industrial site certification tract is comprised of Gallion silt loam and Latanier clay. The Gallion soils are generally formed on natural levees of the Red River (Martin et al. 1990; USDA 2014). Soils from the Latanier series are one of the minor extents found on floodplain soils, which are clayey and somewhat poorly drained (Martin et al. 1990).

The soils of the project area have slopes ranging from 0 to 1 percent, and while the Gallion soils are well drained, the Latanier soil series is slow to moderate permeability. In a typical profile of the Gallion Series, the A or Ap horizon is a silt loam with a brown (7.5YR 4/2) hue that extends 0–20 cm (0–8 in) below ground surface (bgs), underlain by yellowish red (10YR 4/6 to 10YR 5/6) Bt1, Bt2, and BC subsoil to a depth of approximately 135 cm (53 in).

In a typical Latanier series soil profile, the A horizon extends to 15 cm (6 in) bgs of dark brown (7.5YR 3/2) clay, followed by dark reddish brown (5YR 3/3) clays to 43 cm (17 in) bgs and then reddish brown (5YR 4/4) clay from 43 to 66 cm (17 to 26 in) bgs. Below that a yellowish red (5YR 5/6) silt loam from 66 to 142 cm (26 to 56 in) bgs overlays a yellowish red (5YR 5/8) silt loam from 142 to 152 cm (56 to 60 in) bgs. Soils in the project area

range from slightly acidic to moderately alkaline (Martin et al. 1990).

Vegetation

The Red River Bottomlands were historically dominated by bottomland hardwood forests. The native tree species that occupied these forests included oak, sweetgum, willow oak, overcup oak, Nuttall oak, honey locust, water locust, river birch, red maple, green ash, and American elm. Most of the Red River Bottomland forests have been removed and replaced with pastureland, or cropland in which a number of crops, including cotton, soybeans, corn, wheat, and rice, are presently being grown. Some poorly drained areas of the bottomlands that are not suitable for agriculture retain remnants of the bottomland hardwood forests (Daigle et al. 2006).

At the time of the investigation, the project area was covered in coarse pasture grass. Due to precipitation portions of the project area contained standing water (see Figure 2.1).

Modern Climate

The modern climate of Natchitoches Parish can be described as humid, with hot summers and mild short winters. The average daily temperature in summer is 82 degrees F, with an average maximum daily temperature of 94 degrees F. The average daily temperature in winter is 51 degrees F, with an average minimum daily temperature of 31 degrees F. Annual rainfall throughout the parish totals approximately 50 inches, with the greatest rainfall occurring in spring (Martin et al. 1990).



Figure 2.1. Photograph showing conditions at the time of the survey, with crewmember excavating a shovel test in background (view approximately southwest).

Description of the Project Area

The project area is comprised of a single, contiguous tract that includes 19.5 ha (48.2 acres). The property is bounded on the east side by a railroad line that parallels Highway 1 South, along its southwest edge by a channelized drainage that flows southward to Bayou Julien, to the northwest by developed property along Industrial Drive, to the north by an arbitrary boundary, and to the south the property boundary is defined by a section line. Industrial Drive bisects a portion of the project area from southwest to northeast, terminating near its center. The project area is split between the irregular Sections 72, 73, and 110 within Township 9N and Range 7W on the Natchitoches South, Louisiana, 7.5-minute United States Geological Survey (USGS) topographic quadrangle map.

At the time of the investigations the project area was laying fallow in coarse pasture grass. Visibility was generally poor due to vegetative cover. Due to locally heavy precipitation and wintery weather there were small, isolated areas of standing water, particularly in the central areas of the project area. The project area generally traversed level ground that was suitable for shovel testing. No large areas of disturbance were noted within the project area, although it has all likely been disturbed, at least superficially, by agricultural practices. The major impediment to shovel testing at the time of the survey was areas containing standing water.

Sediments observed in the project area were generally consistent with the NRCS and NCSS description of the soils mapped in the area. At the time of the survey, soils were generally saturated because the water table was very high. In general, shovel tests revealed.

Chapter 3. Previous Research and Cultural Overview

On January 24, 2014, a search of records maintained by the Louisiana Division of Archaeology and SHPO was conducted to: 1) determine if the project area had been previously surveyed for archaeological resources; 2) identify any previously recorded archaeological sites that were situated within the project area; 3) provide information concerning what archaeological resources could be expected within the project area; and 4) provide a temporal and cultural context for the interpretation of any archaeological materials recovered within the project area.

The examination of SHPO data consisted of a review of professional survey reports and records of archaeological sites for an area encompassing a 1.6 km (1.0 mi) radius around the project. The review of professional survey reports and archaeological site data in the area provided basic information on the types of archaeological resources that were likely to occur within the project area and the landforms that were most likely to contain these resources. In addition, the SHPO data maps and historic maps of the area were reviewed to help identify historic structures in the area. The results of the SHPO and map review are discussed below and presented in Figure 3.1.

Documented Cultural Resource Surveys

The records review indicated that four cultural resource surveys and three previously recorded archaeological sites have been documented within 1.6 km (1.0 mi) of the current project area. The cultural resource surveys are summarized below in order by SHPO report number.

An Archaeological Survey of the Natchitoches Municipal Airport (Report 22-0039)

In October of 1975 a cultural resource survey was conducted by Northwestern State

University (NSU) for the proposed addition of a new runway, taxiway, aircraft parking, and access road at the Natchitoches Municipal Airport by Aillett, Fenner, Jolly, and McClelland, Inc. Background archaeological research conducted as a part of the project indicated that several sites dating to the prehistoric and historic periods were located within the vicinity of the airport. This project was conducted prior to the adoption of the current guidelines of the Louisiana Division of Archaeology for archaeological survey. While no requirement for conducting subsoil investigation prior to the development was recommended, on-site monitoring during various phases of construction was recommended (Gregory 1975).

Natchitoches Route LA 1 Bypass Survey (Report 22-0562)

A cultural resources survey of 13 miles for the proposed expansion of the Highway LA 1 Bypass was conducted by the Louisiana Department of Transportation and Development in September 1979. The background archaeological research conducted as part of this project, primarily consisting of an interview with Dr. Hiram F. Gregory of NSU, indicated that two previously recorded sites were within the highway expansion corridor. These included the historic Roquier site (16NA299), a trading post dating from 1790 to 1840, and a cluster of lithic artifacts (16NA55), both of which were determined to have been heavily disturbed or destroyed by construction of the bypass and other development projects. The archaeological survey resulted in the recovery of a single projectile point independent of the previously recorded sites, and the recovery of artifacts at the Roquier site. Based on the findings of the survey, it was determined that the Highway LA 1 expansion would not have a negative effect on any important cultural resources (Rivet 1979).

Cultural Resources Survey of Proposed Sewage Facilities (Report 22-0636)

In August of 1980, New World Research, Inc., conducted a cultural resources survey of an approximately 3-acre portion of the City of Natchitoches proposed sewage facility and 5 miles of proposed sewerage pipeline for Beard Engineering, Inc. Background research indicated that two previously recorded archaeological sites, the Fish Hatchery site (16NA9) and the Fish Hatchery 2 site (16NA70), were within the vicinity of the project area. Both of these sites are associated with contact period Caddoan-speaking Native American groups and were buried under 1–2 m of sediment. The entire project area was subjected to pedestrian survey and shovel testing at a 30 m interval. In addition to shovel testing, the portion of the project area in the vicinity of the Fish Hatchery underwent deep testing by the addition of auger probes in the base of each shovel test due to the sensitive nature of the sites in that vicinity. The survey resulted in the documentation of two sites, one of which was on file at NSU, the other being newly recorded. These included two scatters of historic artifacts, one of which was thought to date to the 1920s based on artifacts recovered and was confirmed by a landowner to have consisted of a house, barn, and cistern. This site was recommended for additional archaeological testing or avoidance, while the other was recommended for no further archaeological work (Campbell and Montagne 1980). No site form is on file at the Louisiana Division of Archaeology for either of these sites.

An addendum to this project was prepared by New World Research in 1981. The addendum included the results of additional deep testing since the auger testing in the area of the Fish Hatchery only extended to a depth of approximately 90 cm bgs. Because the sewerage line would reach a maximum depth of 7–8 ft below the ground surface, the auger testing was considered inadequate. The additional work consisted of a series of 24 backhoe trenches excavated along the

proposed line, from which a sample of soil was screened for artifacts. The exposed profiles exhibited a slightly darker layer of clay at approximately 1 m bgs that often contained bits of charcoal, but no cultural materials were found in relationship with the soil. Most or all of this deep testing would have been performed within the boundaries of the current project area. It was determined that the proposed construction would not affect any significant cultural resources (Swanson 1981).

Archaeological Survey of the Fish Hatchery Shop and Storage Buildings Site (Report 22-1806)

In October of 1993, Prentice Thomas and Associates, Inc., conducted a cultural resources survey of approximately 4 acres for the proposed addition of a shop and storage buildings at the Natchitoches National Fish Hatchery for the U.S. Fish and Wildlife Services. The property was the known location of the Fish Hatchery site (16NA9) and the Fish Hatchery 2 site (16NA70). The proposed development was within one of the few areas of the Fish Hatchery that had not been heavily impacted by the addition of ponds or additional buildings. The fieldwork consisted of surface collection, systematic shovel testing, metal detector survey, and mechanical stripping. Cultural materials associated with 16NA9 and dating from the late prehistoric period to the early twentieth century were found throughout the survey parcel, prompting a recommendation that the area of construction be moved to avoid impacting significant deposits and that some portions of the parcel be avoided during development. Monitoring during development of the parcel was also recommended (Mathews et al. 1994).

Previously Documented Archaeological Sites

The records review indicated that three previously recorded archaeological sites have been documented within 1.6 km (1.0 mi) of the current project area. Each of the sites is discussed below in order of trinomial.

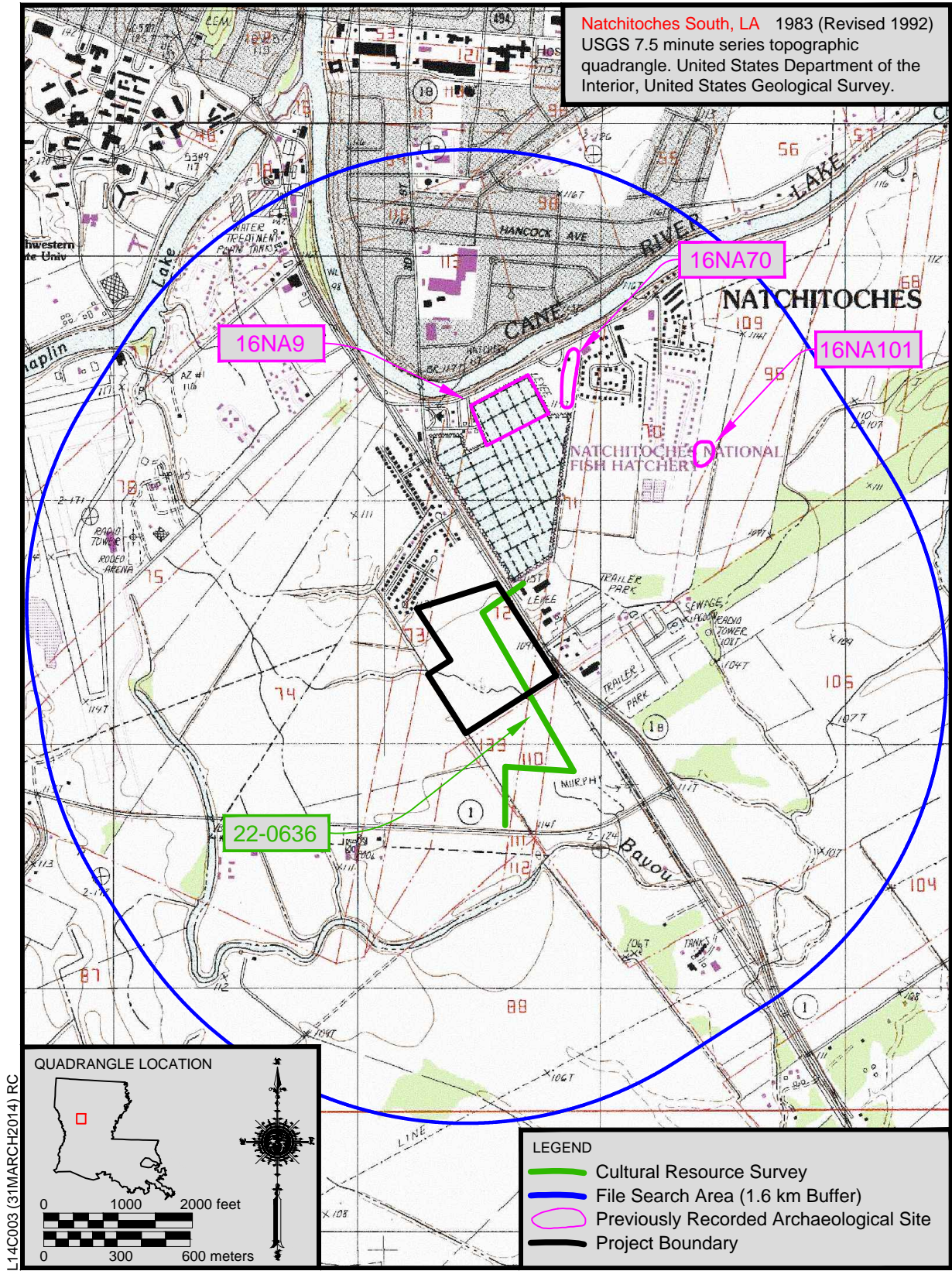


Figure 3.1. Map showing the locations of previously documented archaeological sites within 1.6 km of the project area and cultural resources surveys within the project area.

16NA9 – The Fish Hatchery Site

The earliest recorded site within the vicinity of the project area is the Fish Hatchery site, which was visited in 1931 by Winslow Walker of the Smithsonian Institute after the development of the Natchitoches National Fish Hatchery exposed several burials with sumptuary goods, including metal ornaments, glass, and shell, as well as earthenware pottery vessels. Walker (1935) reported that the site had been known as early as 1916, when a skeleton became exposed along Cane River Lake. During development of the Fish Hatchery, approximately 100 Native American skeletons were encountered in extended supine position with burial goods, as well as two horse skeletons that were also buried with pottery vessels. Only one human burial was excavated by Walker, and the skeletal remains were examined by Ales Hrdlicka, who concluded that the skull had undergone frontal-occipital flattening. This type of skull deformation through cradleboarding was known to have been practiced by Caddoan groups during the prehistoric and historic periods (Mathews et al. 1994; Walker 1935; Webb 1959; Swanton 1946).

The Fish Hatchery site was later visited by Prentice Thomas and Associates, Inc., during their survey for the proposed addition of a shop and storage buildings at the Fish Hatchery. Their investigations, although limited to a relatively small area of the site, yielded artifacts dating from the late prehistoric period to the twentieth century. Late Woodland period clay-tempered sherds were found in deeply buried, intact depositional layers of soil and within midden soils. Shell-tempered sherds that should date to the early to mid-eighteenth century were found in association with worked glass artifacts, as were a French green glazed redware sherd, a possible gun spall, and wrought nails. Late-eighteenth- to early-nineteenth-century artifacts included creamware and pearlware sherds, while early- to mid-nineteenth-century artifacts included decorated whitewares. Ironstones, amethyst glass, and wire nails, were common and denoted the late-nineteenth- to twentieth-

century component. Artifacts dating to the early eighteenth century and earlier were all buried within intact E horizons and midden soils, while those dating to the early to mid-eighteenth century extended into the A horizon, and late eighteenth to early nineteenth century and later artifacts were found in shallow or surface contexts (Mathews et al. 1994).

16NA70 – The Fish Hatchery 2 Site

Site 16NA70 was first investigated in 1965 by Hiram F. Gregory of NSU. A midden layer had become exposed during the excavation of sewer lines for newly constructed houses in the area. The sewer lines were 100 ft long trenches that were examined, and test excavations were performed through two test pits measuring approximately 10-x-5 ft and six auger holes. During these investigations a deeply buried midden was exposed and various ash beds and features, including post molds, were encountered and documented. Gregory's examination of the materials suggested that the site dated to the Alto-Bossier Caddo focus and had Coles Creek influences (site form on file with Louisiana Division of Archaeology), although an ambiguous late prehistoric temporal position has been suggested by Girard (2004) for these materials.

The site was revisited in 2004 by Jeffrey S. Girard of Louisiana's Regional Archaeology Program due to an interest in the site's potential to elucidate details of the prehistory and history of the area. During Girard's initial visit, 16 auger tests were excavated. Due to the small sample size of the 4-inch bucket auger, cultural materials were only recovered from four of the auger units, and the materials consisted of animal bone, mussel shell, and ceramic sherds. A buried A horizon was documented in the auger tests between approximately 90 cm and 1.3 m bgs. Like Gregory's earlier work, Girard's work indicated that the midden soil was patchy across the site (Girard 2004).

Girard's 2003 work was conducted in advance of excavations to be conducted by a field school being taught by NSU's

Anthropology Department. In 2004, Girard and a group of students opened block unit excavations near an auger test that had yielded sherds and faunal remains. A total of 12 contiguous 1-x-1 m units were opened in one block unit, along with two 1-x-2 m test units for the purpose of assisting with site boundary definition. The excavations resulted in the documentation of a number of prehistoric features, including a human burial. While the investigations provided additional information that the site dated to the late prehistoric period and predated the nearby Fish Hatchery site, it did not fit in neatly with the sequence of the region and the material culture showed influence from the Mississippi River Valley. The investigations at the Fish Hatchery 2 site provided valuable information on the local expression of the Caddo period, which had not been sequenced previously, as well as subsistence and other cultural data, and the site was shown to have a very high level of research potential. The site is considered eligible for listing in the NRHP and is currently well protected (Girard 2004).

16NA101 – Kerry Place Apts. Site

The Kerry Place Apts. Site was documented by Gregory in 1972 behind the Kerry Place Apartments when midden soil became exposed in a drainage ditch approximately 1 m bgs (Girard 2004). The Louisiana State Site Form lists the site as a possible cemetery and village site and goes on to indicate that there were apparently burials at one time that were destroyed by leveling and drainage ditch. Since there are few published details about the site and no additional investigations besides Gregory's visit, the reference to a cemetery and village are likely to the materials associated with the Fish Hatchery site. The materials that Gregory examined from the site led him to assign it to the Alto-Bossier focus.

Map Data

In addition to the file search, a review of available maps was conducted to help identify any historic structures that may be located

within the project area. The following maps were reviewed:

1825 Government Land Office T9N R7W Original Survey (GLO 1825);

1841 Government Land Office T9N R7W Private Claim (GLO 1841);

1847 Government Land Office T9N R7W Dependent Resurvey (GLO 1847);

1937 Bermuda, Louisiana, 7.5-minute series topographic quadrangle (USGS 1937);

1983 Natchitoches South, Louisiana, 7.5-minute series topographic quadrangle (USGS 1983); and

1992 (Photorevised) Natchitoches South, Louisiana, 7.5-minute series topographic quadrangle (USGS 1992).

The earliest map that was available for review that included the project area was the 1825 plat map, which depicts few details of the environment. In the vicinity of the project area, Bayou Julien is shown along a large tract labeled Section 74 that was owned by Marin Grillet. The survey area is split between Section 73, which is a small tract that was indicated as belonging to Antoine Grillet on this map, and Section 72, which was owned by Francois Monginot. A Private Claim map that was produced in 1841 clarifies that Section 73 on the 1825 map had been mislabeled as belonging to Antione Grillet, when in fact he had owned Section 75 to the northwest of Marin Grillet's land as early as 1795.

A dependent resurvey was prepared in 1847, based on the earlier 1825 plat map. This map shows the two intermittent tributary streams that bisect the project area (one of which was subsequently channelized along the western project area boundary). The land ownership of Section 72 is still with Francois Monginot, while the smaller Section 73 was labeled as vacant land on this map. No structure or vegetative details are depicted on these early maps.

The earliest historic quadrangle map depicting the project area that was examined shows that in 1937 the tributary that has been channelized along the western edge of the project area flowed across the northern boundary of the property from near Glass

Street on the opposite side of Highway LA 1. The drainage that is depicted on later quadrangle maps in the southern area of the project area was depicted along the same course on this map. There are several unimproved roadways or drives and structures depicted within the project area on this map. These include two roads crossing the property to connect to what is now Glass Street to the east, and another extended southeastward in the southwestern edge of the property. One structure is depicted near the northwestern boundary of the project area to the north of the tributary in this area. Three additional structures are depicted in the southern one-third of the project area near the tributary in this area. All of the structures that are depicted are closed squares, suggesting they were inhabited as residences.

By 1983, the creek along the northern portion of the project area had undergone channelization. None of the structures that were depicted in the project area in 1937 were mapped in 1983. Three structures that were uninhabited are on the map, and the location of these suggests that they may have been outhouses associated with one of the earlier residential structures, or they may simply have been constructed later. These three structures are all depicted in close proximity to one another on the north bank of the small tributary that crosses the southern part of the survey area.

The photorevised 1992 map shows few changes from the earlier map. The three outbuildings that were depicted on the 1983 map are shown as ruins on this map.

Archival Data

Archival data that was presented in previous cultural resources reports provides an additional source of information on the historic period development of the project area. Archival research conducted by Prentice Thomas and Associates, Inc., (Mathews et al. 1994) indicates that Francois Monginot married Françoise Buard in 1788 and contracted with Louis Lambre and Louis Gascon to construct a house on Section 72. In

that same year, Monginot also contracted with Charles Duret to produce tobacco, suggesting the use of the property for agricultural production. In 1793, Monginot hired an overseer for his plantation. During this year he also had a legal dispute with Marin Grillet over encroachments on his property, which the Natchitoches Post Commandant judged to be a valid accusation. The encroachments in question included land in use for indigo cultivation, a horse corral, and the construction of attachments to his residence.

The Section 72 property remained within the Monginot family after Francois's death until at least as late as 1815, initially being transferred to his widow and apparently to his son (Mathews et al. 1994). The exact details of the transfer of the land from the Monginot family could not be determined by Mathews et al. (1994), but the archival data indicate that it likely was purchased by Louis Gentry in 1832. This is somewhat in contradiction to the GLO maps dating to this period, which show the tract in the possession of a Monginot in 1847, although the names may have been erroneously carried from the earlier 1825 map since it is a dependent resurvey (GLO 1825, 1847).

Archival data suggests that the property remained in the possession of the Gentry family until the Gentry Plantation was sold to Alexander DeBlieux in 1867, after having purchased the Grillet plantation only four years earlier. The property was in turn sold to Ambrose LeCompte in 1875, and then to Alphonse Prudhomme in 1883. The property remained in the possession of the Prudhomme family until a portion was purchased by the federal government for the development of the Fish Hatchery in 1931 (Mathews et al. 1994).

Survey Predictions

Predictive models for prehistoric settlement that were developed for Louisiana place the project area within a high probability zone for containing cultural resources (Anderson and Smith 2003; Anderson et al. 1988, 1999; Campbell and Weed 1986; Hillman 1980; Johnson 1984a, 1984b;

Johnson et al. 1986; Phillips and Willingham 1990; Servello 1983; Thomas et al. 1982; and Willingham and Phillips 1987). These studies suggest a correlation between the probability of finding prehistoric sites and the distance from water or wet environments. Ridges or landforms within 200 m (656 ft) of a water source are considered to have a high probability for containing prehistoric archaeological sites. Bayou Julien is a tributary of the Red River (now Cane River Lake), and two tributaries of Bayou Julien historically bisected the project area. Based on these data, the entire project area is projected to have a high probability for containing prehistoric sites.

The results of the records review indicate that late prehistoric and early historic Caddo habitation sites were frequent in the vicinity of the project area. Natural levees might have provided an attractive locale for prehistoric occupations since they would have been at a higher elevation than the surrounding lands and in proximity to back swamp resources, and the locations of previously documented sites in the area suggest that this may have been an important landform situation for habitations in the Natchitoches area. The three previously documented sites in the area each appear to contain an abundance evidence of long-term habitation, including midden soils, features, and burials.

The map research and archival data indicate that the project area is within an area that was being used for residential and agricultural purposes at least as early as the late eighteenth century, and given the presence of metal and glass artifacts in the Caddo burials at the Fish Hatchery site it is possible that Native American and European interactions may have taken place in the site vicinity even earlier. Architectural and domestic artifacts possibly dating to the late seventeenth or eighteenth century were documented at the nearby Fish Hatchery site by Mathews et al. (1994). While no eighteenth- or nineteenth-century maps depicting structures in the project area were available, the project area contained at least four structures that appeared to be residential

in function by 1937. Subsequently, in the late twentieth century three additional structures that were unoccupied were situated in the project area.

Based on these data, it is clear that the project area was within an area that saw substantial use throughout the late prehistoric and historic periods, and has a high probability of containing cultural resources dating to these periods. Soils data suggest that the most likely area to contain deeply buried cultural resources is the Roxanna fine sandy loam unit that exists to the north of the project area, which is the soil type on which all three of the previously recorded sites in the project area vicinity are situated and seems to represent the maximum elevation along natural levees in the area. The importance of these landforms in site selection among the prehistoric and early historic inhabitants of the region seems evident from the background data presented above. The previously recorded sites in this soil unit contained cultural materials that were deeply deposited. Data from Mathews et al. (1994) suggest that materials dating to the eighteenth century and earlier may be deeply buried, while those dating to the nineteenth to twentieth centuries are likely to be shallowly deposited or in surface contexts. Late prehistoric cultural deposits have been routinely documented in contexts buried beneath 1 to 2 m of alluvium. Within the project area, the likelihood of deeply buried deposits seems much lower. The northern boundary of the project area was within a channelized stream as recently as 1937, and it is likely that the soils in this area have been reworked by alluvial erosion. The investigations showed that the Gallion and Latanier soils within the project area undergo saturation following periods of precipitation, and may have been within a back swamp prior to channelization of the local tributaries.

Cultural Overview

This section provides a cultural and historical overview of the project area. This information is drawn from a number of local and regional studies that are believed to be

applicable to the cultural history of the uplands of northwest Louisiana.

Paleoindian (11,500–8000 B.C.)

The Paleoindian period represents the earliest manifestation of humans in the New World and is separated into a tripartite set of temporal sequences based on technological innovations presumed to correspond with cultural change. The Early Paleoindian period is presently described as the period from 11,500 to 9500 B.C., the Middle Paleoindian period is thought to have lasted from 9500 to 8800 B.C., and the Late Paleoindian period is believed to have lasted from 8800 to 8000 B.C.

Early Paleoindian

The Early Paleoindian period is based on a relatively few, recently discovered sites that are thought to predate the well-known Clovis culture, which is a hallmark of the Paleoindian period. The most notable of these sites in North America are Meadowcroft Rockshelter in Pennsylvania, Cactus Hill in Virginia, and the Topper site in South Carolina (Goodyear 2006; Meltzer 2009). The existence of a pre-Clovis Early Paleoindian culture is still somewhat controversial but is gaining acceptance in the archaeological community (see Meltzer 2009). Pre-Clovis components have also been reported from a number of sites that have not seen peer review and have not been widely accepted by the archaeological community, and some of these boast dates that are significantly earlier than most researchers accept as valid (Meltzer 2009). The earliest date that is broadly accepted for this period is approximately 11,500 B.C., though some researchers refute the evidence for a pre-Clovis occupation altogether, favoring the Clovis-first hypothesis for colonization of the New World. By definition, the pre-Clovis Early Paleoindian period ended with the introduction of the Clovis projectile point at approximately 9500 B.C.

To date, no pre-Clovis sites have been identified in Louisiana (Anderson and Smith 2003:350). Given the scant evidence of later Paleoindian subperiods and the generally

meager evidence of Paleoindian habitation in the state in general, Early Paleoindian components would likely be difficult to find (Rees 2010a). As a result of the relatively recent acceptance of a pre-Clovis Early Paleoindian colonization of North America and the low number of sites dating to this period, little is presently known about the social organization, diet, and other cultural characteristics of these populations.

Middle Paleoindian

The Middle Paleoindian period is represented by distinctive lanceolate fluted points, including the well-known Clovis type. Paleoindian sites dating to this period in Louisiana are rare, amounting to just a few across the entire state. As a result of the poor representation of this period, little is known of the dates for Clovis in Louisiana, and much of the information regarding chronology and culture comes from other parts of the Southeast. The accepted date range for Clovis in the Southeast generally falls into the range from 9500 to 8800 B.C. (Rees 2010a).

The Middle Paleoindian period has been traditionally characterized as consisting of small, extremely mobile groups that utilized a specialized lithic tool kit designed primarily for hunting, butchering, and hide-working activities (Maggard and Stackelbeck 2008). What is known of the settlement, mobility, and diet of these groups suggests that they subsisted largely through hunting big-game species, supplemented by the acquisition and consumption of seasonally available plant resources (Anderson and Sassaman 1996). The emphasis on big game hunting has recently been criticized by Kornfeld (2007), who notes that during the development of Paleoindian subsistence models, Pleistocene megafauna “kill sites” were commonly used to identify Clovis components; therefore, other site types were underrepresented during model-building, and the importance of other dietary resources may have been underestimated. Whether these Paleoindian groups were big game specialists or had a more generalized diet has become a topic of debate among researchers in recent years. Very little subsistence data has been

secured from Middle Paleoindian sites in Louisiana to contribute to subsistence modeling.

The distribution of identified Middle Paleoindian occupations in North America has shown that major river valleys like the Mississippi, Ohio, Tennessee, and Cumberland, as well as parts of the Atlantic Coastal Plain into Florida, appear to have been favorable locations for Clovis populations (Anderson and Smith 2003). In Louisiana, Paleoindian occupations along the major river valleys are likely inaccessible due to massive accumulations of sediment, and many may have been destroyed through erosive alluvial processes. For example, along the Atchafalaya River, as much as 40 m (131 ft) of sediment may overlie components dating only back to 3500 B.C. (Smith et al. 1986, cited in Rees 2010a:41).

Among the most impressive Middle Paleoindian sites known in Louisiana is the John Pearce site (16CD56) along the Tertiary Uplands of northwest Louisiana in Caddo Parish. Webb et al. (1971) reported three Clovis points along with several other lanceolate points from excavations at the site. It was unclear to the researchers whether the Clovis points were contemporaneously deposited with Pelican, Meserve (or possibly Dalton or San Patrice), and other lanceolate points usually associated with the Late Paleoindian period (Webb et al. 1971, cited in Rees 2010a). The co-occurrence of Clovis with Late Paleoindian lanceolate points has also been reported at other sites in Louisiana (see Rees 2010a:49). Presently, too few sites offering temporal controls for the Paleoindian point sequence have been identified or investigated to evaluate whether these forms may have been in use contemporaneously.

Peason Ridge is a lithic quarry located in west-central Louisiana at Fort Polk and has produced lanceolate points from an apparently undisturbed Middle Paleoindian occupation that has been intensely studied. Among other information that this site has provided, it has shown that well-preserved Clovis sites exist in upland locations in Louisiana (Rees 2010a).

Since this site is a quarry locale, we would expect that it would be more easily identified archaeologically than more ephemeral site types with fewer artifacts, but we should fully expect that other, well-preserved Middle Paleoindian sites exist in northwest and central Louisiana that have escaped detection thus far.

Other, less intensely studied Middle Paleoindian sites have been identified throughout the state. According to research by Gagliano and Gregory, (1965) the distribution of Clovis points shows the greatest representation along the Tertiary Uplands of northwest Louisiana. Like most areas of the Southeast, Clovis and other large lanceolate points in Louisiana have primarily been found in surface contexts. The distributions of these points may provide coarse-grained information on the distributions of Clovis culture (Rees 2010a), although greater surface visibility along eroded uplands may favor their detection in these areas, as has been suggested elsewhere (Perkinson 1971).

Late Paleoindian

The Late Paleoindian period is thought to represent a period of decreased residential mobility and population increase, based on an increasing regional diversity in projectile point types, decreased use of exotic lithic materials, and an increased number of identified sites. This subperiod coincides temporally with the Younger Dryas, a climatic event that consisted of dramatically colder temperatures and increased aridity. Projectile point types that represent the Late Paleoindian period in Louisiana include the Pelican type and several varieties of the San Patrice type, which are thought to temporally precede the Angostura, Folsom, Meserve midland, Plainview, Quad, and Scottsbluff types later in this subperiod (Rees 2010a). These types display varied stylistic qualities and in some cases occur in fairly restricted spatial distributions, suggesting increased regionalization or isolation of cultural groups as population levels increased and group mobility decreased (Anderson and Smith 2003: 353).

Research into the Late Paleoindian period in Louisiana has included Peason Ridge,

which contains a number of Paleoindian and Early Archaic components. Among the factors that may have made this location attractive for Middle and Late Paleoindian habitation is the availability of high quality lithic material, such as Eagle Hill chert. Eagle Hill is also one of the highest points in the immediate region, possibly making it a valued lookout point. It is also at a convenient location between the Sabine, Calcasieu, and Red Rivers, providing an adequate rendezvous point for peoples from each drainage area. Based on the extensive use of Eagle Hill during the Paleoindian and Early Archaic periods, Anderson and Smith (2003:363–364) have suggested that this area may represent an aggregation locus utilized by bands occupying the nearby drainages for critical social and biological functions (*sensu* Anderson and Hanson 1988).

The transition from lanceolate points during the early part of the Late Paleoindian period to side-notched forms by the end of this subperiod may relate to technological shifts such as the introduction of the atlatl (Jennings 2008). The shift in hafting technology, from basally-thinned to side-notched, along with inferred changes in patterns of settlement and mobility, have suggested to some researchers a greater cultural continuity with the Early Archaic period than with the preceding Paleoindian subperiods (Anderson and Smith 2003).

Archaic (8000–1250 B.C.)

The Archaic period represents an era of human adaptation to the warmer conditions brought on at the onset of the Holocene epoch in North America. This period is subdivided into the Early Archaic (8000–6000 B.C.), Middle Archaic (6000–2000 B.C.), and Late Archaic (2000–1200 B.C.). These subperiods are defined by changes in hafted bifaces and other non-perishable technology, which are believed to relate to changes in resource exploitation, ultimately corresponding with transitions in settlement and mobility strategies and social organization.

Early Archaic

The Early Archaic period spans from the end of the Younger Dryas to the beginning of the Hypsithermal episode, which was a warming climatic trend in the Middle Holocene. Projectile point styles associated with this period in the greater Southeast follow a sequence from side-notched to corner-notched and finally bifurcated forms during the end of the Early Archaic period. In northwest Louisiana, San Patrice, vars. Keithville, Dixon, and Leaf River and Big Sandy points represent the side-notched tradition. Corner-notched varieties include the Palmer and Kirk types, which are found throughout the Southeast, as well as Angostura and Scottsbluff points found on the Great Plains. Bifurcated points, which are found during the terminal Early Archaic period in the South Appalachian area, have not been reported from sites in Louisiana. These forms show a decreasing frequency gradient away from the mountains of North Carolina, where they were first identified (Claggett and Cable 1982:434), and seem to have a much narrower distribution than the preceding side- and corner-notched types. Sinner points may have originated during the terminal Early Archaic period in Louisiana (Anderson and Smith 2003).

The Early Archaic period also heralded new innovations in stone tool technology, as ground and pecked implements first make their appearance on sites dating to this period. Grinding stones that were presumably used for processing vegetal food items include mortars and pestles, and these may indicate increasing use of flora for subsistence during this period.

Middle Archaic

The Middle Archaic period is believed to represent human adaptation to the Hypsithermal climatic episode. During this episode, a warmer and dryer climate resulted in decreased water levels and is believed to have led to increased habitation near permanent bodies of water. This period marks the beginnings of earthen architecture in northeast Louisiana, which is the earliest

known monumental architecture in North America. Research conducted at Watson Brake and other Middle Archaic mound complexes in northeast Louisiana has provided a baseline for identifying and understanding Middle Archaic components elsewhere, although these patterns have not been well established in northwest Louisiana. Mound construction during this period may generally be regarded as signaling greater population densities and increased sedentism, and there appears to have been increased interaction among Middle Archaic groups compared with earlier periods. Increased competition and warfare among groups was likely a response to more restricted access to resources as a result of population increase (Anderson and Smith 2003).

Hafted bifaces used during the Middle Archaic in Louisiana include Evans, Sinner, Bulverde, and Yarbrough types. Evans type hafted bifaces are the primary diagnostic of this period and date from around 2500 B.C. into the Late Archaic period. Evans points are corner-notched forms that are distinguished by a set of notches along the blade (Webb 2000; Anderson and Smith 2003). While they are often associated with the Middle Archaic mounds of northeast Louisiana, Evans point distribution stretches from the west side of the Mississippi River as far south as the Catahoula Lake area in central Louisiana and into southern Arkansas and northeast Texas (Anderson and Smith 2003; Saunders 2010), and similar notched blade Tangipahoa points are found to the east in Mississippi (McGahey 2000). Sinner points are generally similar in form to Evans, but Webb (2000) describes them as typically having two or more notches on the edges of the body and being smaller and more poorly made than Evans points (Webb 2000). Sinner points are common in northwest Louisiana along Red Chute Bayou and Lake Bistineau, as well as on Caddo and Cross Lakes (Webb 2000). The point is diagnostic of a poorly-defined Kisatchie phase, which has been proposed for the terminal Early Archaic and early Middle Archaic periods (approximately 7500–6600 B.C.) at Fort Polk in western Louisiana

(Thomas et al. 1997). Bulverde points date to the late Middle Archaic to early Late Archaic periods in Texas, from approximately 3800 to 3150 B.C. (Turner and Hester 1993), and typically have a more western distribution than the Evans point type. Evans and Bulverde points have been found in context with one another where their range overlaps in southern Arkansas and northern Louisiana (Anderson and Smith 2003). Bulverde points have a square stem with squared to deeply barbed shoulders and excurvate blade margins (Suhm and Krieger 1954). Yarbrough points are similar in form to Bulverde points but have a narrower blade and shoulders that are not barbed and appear inversely tapered in some instances (Suhm and Krieger 1954). In eastern Texas, Yarbrough points are common and denote a Middle or Late Archaic temporal component (Turner and Hester 1993).

Other point styles for which formal type designations have not been assigned were also in use during the Middle Archaic period in northwest Louisiana, as has been demonstrated during excavations at the Conly site, from which radiocarbon dates of 6050 to 5550 B.C. were secured (Girard 2000). This site also yielded Johnson points, which are diagnostic of the Tom's Brook phase in southwest Arkansas (Schambach 1998).

Late Archaic

The Late Archaic is believed to mark a period of increased regional population densities as environmental conditions began to display more modern characteristics. Based on the increased occurrence of plant-processing artifacts on sites dating to this period, such as sandstone manos and metates, it is inferred that there was an increase in plant processing, although it was still probably not extensive (Anderson and Smith 2003). As noted above, Bulverde, Evans, and Yarbrough point styles persisted into the Late Archaic, and they have been found in context with Williams points in northwest Louisiana (Kelley et al. 1988). Williams points are large, leaf-shaped dart points with pronounced barbed shoulders and expanded bases (Webb 2000).

In northeast Louisiana, large-scale mound construction, long distance trade, and warfare increased during this period. The well-known Poverty Point site in northeast Louisiana represents a pinnacle of earthwork construction during the Late Archaic period, between 1730 and 1250 B.C. (Gibson 2010). From sites in the Poverty Point complex, archaeologists have recovered zoomorphic and otherwise intricate stone beads and pendants, carved steatite vessels, and a myriad of shapes and styles of baked clay objects that were presumably used as boiling stones in a stone-poor region. A number of microlithic tools found on these sites are suggestive of the beginnings of a lapidary industry, although Gibson (2010:92–93) doubts there existed any craft specialization based on the variation seen in stone owl beads manufactured during this period. Exotic materials constitute a significant portion of the material culture at Poverty Point sites, with materials originating as far away as the Upper Mississippi region, the Great Lakes, the southern Appalachian mountains, and the Rocky mountains (Gibson 2010:81). Increased social complexity in the Poverty Point complex and surrounding region during this period has prompted some researchers to consider the Late Archaic period to have ended earlier in the Lower Mississippi Valley than elsewhere (Earth Tech, Inc. 2002), although we have elected to include it in the Late Archaic period in our discussion for simplification.

On sites in the Great Bend region, including northwest Louisiana, trade items thought to represent sumptuary goods associated with the Poverty Point culture have been found, although more utilitarian items such as baked clay objects seem to be absent (Earth Tech, Inc. 2002). Projectile point types that are associated with Poverty Point culture in northwest Louisiana include the Motley, Hale, Delhi, Epps, Macon, and Pontchartrain types (Webb 2000), although the Gary type predominates at the Poverty Point site (Gibson 2010). These are all large, stemmed dart points with long blades that exhibit parallel or slightly divergent blade margins. Gary points are not unique to the Late Archaic period but

have a broad temporal range, and they are distinguished by their contracting stem and pointed or rounded base (Webb 2000). Delhi, Pontchartrain, and Macon types all exhibit square stems, but they differ in dimensions and quality of manufacture; Delhi points usually have barbed shoulders, whereas Macon points are unbarbed, and Pontchartrain points are usually serrated (Webb 2000). Like Gary points, Pontchartrain appear to have a long temporal span. Motley and Epps types are characterized by expanded bases, but Motley points tend to have barbed shoulders whereas Epps points have squared shoulders (Webb 2000). Hale points are the largest of the Late Archaic dart points in the region, suggesting they may have been used more as knives than projectiles, and they typically have squared or slightly barbed shoulders (Webb 2000).

In northwest Louisiana, no Late Archaic phases have been identified to date. The Birds Creek and Leander phases have been identified at Fort Polk in western Louisiana. The Leander phase is identified by the presence of Motley, Epps, Delhi, and Calcasieu point types and is strongly associated with the Poverty Point Culture. The Birds Creek phase is identified by the presence of Epps and Ensor point types, both of which are common at Fort Polk (Anderson and Smith 2003). Additionally, baked clay objects have been found on both Birds Creek and Leander phase sites and are indistinguishable from baked clay objects found at the Poverty Point site (Anderson and Smith 2003). Fiber-tempered pottery also made its appearance during this time period and has been found on sites throughout Louisiana.

Woodland (1250 B.C.–A.D. 900)

Like the preceding periods, the Woodland period is divided into Early (1250 B.C.–A.D. 1), Middle (A.D. 1–400), and Late (A.D. 400–900) subperiods in the Southeast. The beginning of the Woodland period is arbitrarily set at the widespread adoption of ceramic vessels. In addition to changes to projectile point morphology, the shifts in material culture that archaeologists use to

denote Woodland subperiods include stylistic changes to pottery. Other innovations that are thought to have affected subsistence practices during the Woodland period include broad implementation of the bow and arrow and the adoption of horticulture (Anderson and Smith 2003).

Early Woodland/Tchefuncte

The Early Woodland period, referred to in the lower Mississippi Alluvial Valley as the Tchula period, began at approximately 1250 B.C. The best known Early Woodland culture in Louisiana is Tchefuncte, which is believed to have existed between 800 B.C. and A.D. 1 (Hays and Weinstein 2010). During the first several centuries of the Early Woodland period, fluctuating climatic conditions resulted in cooler temperatures, and two short-term cold events are likely to have had a pronounced effect on native populations in the region. The widespread adoption of pottery manufacture signals the onset of the Early Woodland period, and the end of Poverty Point culture in Louisiana also corresponds to this subperiod.

Although information pertaining to Early Woodland settlement is limited, based on the presence of well-defined structures, large subterranean storage pits, and dense occupational middens at some sites, Early Woodland groups are believed to have experienced increased sedentism, with some groups inhabiting specific settlement locations year-round. Though this may be true at some locations, Anderson and Mainfort (2002) indicate that sites in the Central Mississippi Valley are typically small, having a few structures and probably no more than 50–60 people. With group mobility still a prominent characteristic of many indigenous groups, social organization appears to have been based on unranked or minimally ranked lineages and clans (Anderson and Mainfort 2002:45).

The Early Woodland period in the Southeast saw the cultivation of native plant species like goosefoot, sumpweed, sunflower, knotweed, squash/gourd, and maygrass, though the level of dependence upon such crops is unknown. The use of cultigens during

this period likely varied regionally (Anderson and Mainfort 2002).

Tchefuncte culture appears to have been centered on eastern Louisiana and along the Gulf Coast, where small groups occupied sedentary and autonomous hamlets along slow-moving streams (Hays and Weinstein 2010). In the northwestern and central portions of Louisiana, Tchefuncte period sites are rare. The most prominent assemblages in this area include a collection of eight sherds from a site along Peason Ridge at Fort Polk in west-central Louisiana, illustrating the scarcity of this cultural material in the region (Anderson and Smith 2003). A few possible Tchefuncte sites have been reported from Lake Rodemacher also in central Louisiana (House 1972) and in a cluster around southern Natchitoches Parish and northern Rapides Parish (Gregory and Curry 1978). These latter sites have been assigned to a Lena phase and have produced Lake Borgne Incised and Orleans Punctate pottery, with Pontchartrain hafted bifaces and tubular clay pipes (Gregory and Curry 1978).

Middle Woodland/ Marksville and Troyville

Throughout much of the Eastern Woodlands during the Middle Woodland period, Hopewell Culture thrived and culminated in the construction of massive earthen ceremonial centers and the implementation of an extensive trade network throughout much of the South Atlantic Slope and the Southeast. The Middle Woodland period in Louisiana is associated with the Marksville culture, which existed from circa A.D. 1 to 400 (McGimsey 2010), and the Troyville culture, which existed from circa A.D. 300 to 900 (Lee 2010).

Marksville culture has traditionally been viewed as a regional variation of the Hopewell culture due to the presence of large earthen mounds, an elaborate mortuary complex, and intricately designed ceramics with similar iconographic themes to Hopewell ceramics at the earliest Marksville sites discovered and studied. Although contemporaneous with

Hopewell, many of the defining traits of this culture are not universally present at Marksville sites in Louisiana, and most sites are relatively small. For example, the evidence of widespread, long-distance trade is not found on Marksville sites, or is at least not as extensive as on Hopewell sites. Only relatively few examples of non-local materials, such as galena or copper have been found in burial contexts at Marksville sites, although abundant extra-local chert seems to have been acquired through trade. The archaeological patterns found among Marksville sites and cemeteries also do not indicate that a hierarchical social organization was imbedded in the culture but rather that it was largely egalitarian (McGimsey 2010).

Troyville culture is usually associated with the Baytown period (A.D.400–700) (Lee 2010). Although it has been described as a period of cultural decline between the earlier Marksville and later Coles Creek cultures, the Baytown period is presently thought to represent a time that increased regional differentiation set the stage for the later, more complex societies (Lee 2010). Cultural continuities with earlier cultures include some evidence of long-distance trade and mound construction for public ceremonies and interment, while innovations during this period likely include the introduction of the bow and arrow sometime around A.D. 600–700. Like the preceding Marksville culture, there does not appear to be a great deal of status differentiation among individuals at Troyville sites (Lee 2010).

Subsistence patterns compiled using data from Middle Woodland sites in Louisiana indicate that there is little change from the patterns of the preceding Tchefuncte culture. An emphasis on gathering and hunting of locally available flora and fauna is inferred from the dietary remains at these sites, and there is little indication that Marksville or Troyville populations participated in the cultivation of domesticated seed plants used by Hopewell populations during this period (Lee 2010; McGimsey 2010).

Marksville sites are identified by the presence of incised and zoned rocker-stamped Marksville ceramics (McGimsey 2010), while the later Baytown/Troyville ceramics are recognized by Baytown Plain and newly-introduced bi-chrome and polychrome painted ceramics (Lee 2010). Hafted bifaces are not generally considered diagnostic for the Middle Woodland period due to the long temporal range of points found in contexts dating to this period.

Marksville sites at Fort Polk in west-central Louisiana have been assigned to the Whiskey Chitto phase (Campbell et al. 1987). These sites are typically identified by the presence of Marksville stamped and Marksville incised pottery types, which exhibit rim forms and motifs like those of the Marksville in the Lower Mississippi Valley. Grog temper appears to be predominant in these specimens, though there are hints of bone and/or sandy paste in some. Dooley Branch, Ellis, Gary, Kent, the Williams cluster, and similar points occur at Whiskey Chitto sites, though as mentioned before they are not diagnostic of this specific time period due to their temporal range (Anderson and Smith 2003). There are no complex ceremonial centers dating to this period known to exist in the vicinity of the project area, although several Marksville sites have been recorded to the east and southeast of Alexandria (Wessel et al. 1993). Marksville ceramics were also present at the Coral Snake Mound along the Sabine River to the west, Bellevue Mound in northwest Louisiana, and the Fredericks site near Natchitoches (Anderson and Smith 2003). Other cultures that potentially influenced developments in northwest Louisiana during the Middle Woodland include the Mossy Grove culture from eastern Texas and the Fourche Maline in northwest Louisiana and beyond.

No phases for Troyville culture have been identified in northwestern or central Louisiana, and these components seem to be rare in general. The rarity of Mulberry Creek Cord Marked, which is the primary defining type for this period in the region, has been noted throughout western Louisiana

(Anderson and Smith 2003). Several sites dating to the Baytown period have been recorded to the east of Alexandria near Catahoula Lake and in the Black River and Little River watersheds (Wessel et al. 1993).

Late Woodland/Coles Creek

The Late Woodland subperiod (circa A.D. 400–900) experienced a slight fluctuation in climate, with temperatures mildly dropping circa A.D. 400–800 but warming again to a point beneficial for agriculture in the East (Anderson and Smith 2003). At this time, a continuation of the Troyville culture is believed to have occurred along the Red River, with the emergence of the Coles Creek culture at approximately A.D. 700 (Roe and Schilling 2010). In southwest Arkansas and southeast Oklahoma, a similar cultural expression that developed coterminous with Coles Creek is known as Fourche Maline, while in east Texas it has been termed pre-Caddoan.

The Coles Creek period is believed to represent an important shift toward hierarchical social organization from the egalitarian order of earlier periods. This is reflected in the changing role of earthen architecture from primarily serving a mortuary function to providing a platform for structures and ceremonies for community functions or possibly related to a chiefly elite. Although formalization of a mound and plaza ceremonial center appears to have occurred at Coles Creek sites, the differentiation of hierarchical groups is difficult to see through mortuary and other archaeological remains (Roe and Schilling 2010).

Like the preceding Marksville and Troyville cultures, Coles Creek and Fourche Maline populations seem to have relied primarily upon local wild plants and animals for subsistence, although domesticated versions of native grasses including maygrass, chenopod, and knotweed were identified at some Coles Creek sites. Since other sites from which subsistence data have been obtained lack evidence of domesticated cultigens, the use of cultigens is not believed to have been widespread. At the end of the Coles Creek

period, the use of starchy seeds seems to have increased, with maize playing a minor role (Roe and Schilling 2010).

A variety of Late Woodland ceramics comprise Coles Creek assemblages and consist primarily of grog-tempered or grog-and-sand-tempered Chevalier Stamped, Coles Creek Incised, Evansville Punctated, French Fork Incised, Mazique Incised, and Pontchartrain Check Stamped ceramics. Williams Plain is a generic ceramic type similar to Baytown Plain that is frequently recovered from Fourche Maline and Coles Creek sites in the Great Bend region of the Red River (Schambach 1982, cited in Earth Tech, Inc. 2002). Use of the bow and arrow flourished during the Late Woodland, reflected in the abundance of small arrow point types dating to this period. Alba, Catahoula, Hayes, Friley, Scallorn, and possibly Colbert points are associated with the Coles Creek and Caddo cultures (Anderson and Smith 2003).

In northwest Louisiana, a local expression of Coles Creek culture known as Bellevue has been defined based on Bellevue and other mounds in Bossier Parish. Bellevue is a conical, flat-topped mound that is among the earliest known examples of earthen architecture in northwest Louisiana. This mound contained multiple burials and yielded ceramics similar to those of Marksville sites but with characteristic bone tempering associated with the later Caddo culture (Neuman 1984:217). The Bellevue and contemporary sites in northwest Louisiana are seen as showing more affinities with the Fourche Maline culture as represented in southwest Arkansas (Webb and Gregory 1978). Bellevue and other mound and non-mound sites in northwestern Louisiana have primarily yielded plain ceramics and a few Marksville-Issaquena-Troyville types along with Gary and Ellis points (Webb 1982).

Late Prehistoric (A.D. 900–1700)

The end of the Late Woodland period between A.D. 900 and 1100 marked the emergence of Caddo and Mississippian

cultures across much of Louisiana (Anderson and Smith 2003). During the early part of this period, from A.D. 800 to 1300, a favorable climate for agriculture is thought to have prevailed, with temperatures approaching near those of the present. At circa A.D. 1300 the Little Ice Age is thought to have reversed these favorable conditions (Anderson and Smith 2003).

Caddo

Although its origins are unsettled, Caddo culture is thought to have developed along the Red River and its tributaries in areas extending into northwest Louisiana at approximately A.D. 900 (Girard 2010). Along the lower Mississippi, Arkansas, and Red River Valleys, the Coles Creek and affiliated peoples had previously been the primary cultural systems. Webb saw the Caddo culture as a direct descendant of Coles Creek culture, first emerging in the Great Bend region of the Red River (Webb and McKinney 1975; Webb and Gregory 1978). Similarly, Anderson and Smith (2003: 392) believe that Caddo cultures emerged directly from the preceding Coles Creek culture along the middle course of the Red River and within areas situated between the Red, Sabine, and Trinity Rivers. In contrast, Schambach (1982) has suggested that Caddo culture emerged in the Great Bend region from the Fourche Maline culture of southwest Arkansas.

In Louisiana, the Caddo culture is generally confined to the northwestern portion of the state, extending only as far south as Natchitoches. A refined ceramic tradition developed during the Caddo period, and ceramic styles have been used to divide this period into two major aspects (Gibson and Fulton) that are further divided into several foci (Alto/Alto-Gahagan, Haley, Bossier, and Belcher).

Early Caddoan ceremonial centers have been found along the Red River, namely those at Mounds Plantation, Crenshaw, and Gahagan, though monumental construction at these sites is believed to have occurred after A.D. 1000 (Anderson and Smith 2003). Alto, or Alto-Gahagan, is the earliest Caddo focus

and shows a strong Coles Creek influence. A number of innovations in material culture characterize the Alto phase, including the use of carinated bowls and bottle forms with engraved and pigment-filled designs. The ceramic assemblage used to recognize this phase includes Crockett Curvilinear Incised, Pennington Punctated-Incised, Holly Fine Engraved, Spiro Engraved, Wilkinson Punctated, Holyknowe Ridge-Pinched, Williams Plain, and LeFlore Plain (Kelley et al. 1988).

During these initial expressions of Caddo culture, there was more extensive use of floodplains along the Red River than during preceding cultures, and large earthen mound complexes were constructed and apparently supported significant populations during ceremonial events. In addition to the mound complexes, these initial Caddoan settlements are assumed to have been similar to later ones, with small villages on tributary streams or along lakes or possibly scattered villages situated in floodplains (Anderson and Smith 2003).

A shift in mortuary customs is represented during the Alto focus by the addition of shaft burials into mounds as opposed to the pre-mound burials that characterized Coles Creek sites, and burials were more elaborately furnished (Schambach and Early 1982). Mounds Plantation (16CD12) is among the most notable Alto focus mound sites investigated in northwest Louisiana and is the basis for its definition. This site contained seven mounds around a central plaza with additional mounds on the peripheries. Burial data suggest that the early Caddo culture was hierarchical, with finely constructed and decorated ceramics in the graves of apparent community leaders (Girard 2010), and mound centers in northwest Louisiana contained residential areas for these leaders who would have held political control over outlying settlements. At one early Caddo mound site in northwest Louisiana, the Gahagan site (16RR1), burial items were manufactured from stone that originated in southwestern Illinois, showing that these early Caddo cultures may have had contact with such far

away Mississippian polities as Cahokia near present-day St. Louis, Missouri (Girard 2010).

The Haley focus represents the earlier part of the Middle Caddo period in northwest Louisiana and is followed by the Bossier focus. The Haley focus is better represented in Arkansas, although northwestern Louisiana is within the peripheries of the cultural area. This focus is represented by Haley Engraved, Handy Engraved, Hickory Engraved, Haley Complicated-Incised, Pease Brushed-Incised, and Sinner Linear Punctated ceramics. Burial customs became more elaborate than the preceding Alto focus, and temple mounds may have first appeared in the Great Bend region during this focus (Schambach and Early 1982). The Bossier focus is recognized by the presence of Pease Brushed-Incised, Belcher Ridged, Dunkin Incised, Sinner Linear Punctated, and Maddox Engraved ceramics. The Bossier focus may have seen a decline in mound construction, although artifacts recovered from mound sites indicate extensive trade and continued elaborate ceremonialism (Earth Tech, Inc. 2002).

At the onset of the Middle Caddo period, sometime after approximately A.D. 1200, Caddo communities largely abandoned their ceremonial centers along the Red River and instead occupied upland areas and the banks of smaller tributary streams. Dispersed floodplain villages along these tributaries became the norm, replacing what were likely more compact villages along the Red River during the earlier Caddo period. Girard (2010, 2012) has documented a Middle Caddo dispersed floodplain village site in northwest Louisiana. The Willow Chute Bayou locality consists of a series of sites stretching along a 12 km (7 mi) length of the bayou, most of which are small in size and light in density and seem to represent hamlets, although at least three mounds are also present (Girard 2010, 2012).

The late Caddo period began around A.D. 1500 and is represented by the Belcher focus, which is primarily modeled from Webb's (1959) work at the Belcher site in northwest Louisiana. This culture appears to have centered on the Great Bend region in Arkansas

but is well represented in northwest Louisiana. The ceramics that represent this focus include Belcher Engraved, Hodges Engraved, Glassell Engraved, Foster Trailed-Incised, Belcher Ridged, and Karnack Brushed-Incised. A high degree of ceremonialism during the Belcher focus is interpreted from mass burials in shafts within mounds that are believed to represent retainer sacrifice and the inclusion of a wide variety of grave goods within the burials of some children thought to signify ascribed social ranking (Webb and Gregory 1978). Dispersed villages of hamlets and farmsteads continued to occupy the banks of upland tributary streams. There are some indications that trade interaction shifted during this focus from being predominately associated with groups in the Lower Mississippi Valley to groups in the Southern Plains (Earth Tech, Inc. 2002). The Belcher focus represents the final prehistoric manifestation of Caddo culture, and the dispersed villages in northwest Louisiana would be the same settlement type depicted on a map produced during the 1691–1692 Domingo Teran de los Rios expedition (Girard 2010).

Mississippian and Plaquemine

The Mississippian period comprises the last 500 years of Southeastern prehistory, prior to European contact. The period is generally regarded to have begun in the southern Lower Mississippi Valley at A.D. 1200 and to have lasted until the establishment of European settlements around A.D. 1700, whereas in the broader Southeast the Mississippian period is generally regarded as the period from A.D. 1000 to 1500 (Rees 2010b). Plaquemine culture is a regionalized expression of Mississippian culture, with sites occurring in southern and eastern areas of Louisiana that are differentiated from Mississippian sites by distinctive ceramic types (Rees 2010b).

Mississippian subsistence patterns were of two varieties: riverine—the use of crop rotation in which plants, especially maize, were cultivated and supplemented by the collection of wild foods; and coastal—farming played a smaller role, while hunting, gathering, and fishing were emphasized

(Bense 1994). This dichotomy in subsistence also seems to have characterized Plaquemine groups, with inland communities relying on the use of cultivars and decreased dependence upon aquatic resources in contrast to coastal communities, which were more reliant upon a subsistence economy based on marsh, back swamp, and estuarine resources (Rees 2010b).

The political organization of groups into chiefdoms stands as a defining characteristic of Mississippian culture, along with widespread trade, shared regional iconographic symbols, and the expansion of platform mound centers (Bense 1994). These traits also characterized Plaquemine culture, although many of the regional mound centers found in Louisiana are generally smaller than the immense centers that characterize the Mississippian sphere at sites such as Cahokia and Moundville (Rees 2010b). Such large Mississippian regional centers also seem to be absent in Louisiana, and in general, Mississippian sites seem less well-represented than in neighboring states, suggesting that they may in fact be invasive cultural elements (Rees 2010b).

Mississippian chiefdoms were either simple or complex in organization. Simple chiefdoms were typically comprised of several communities under the control of a single ruler. Complex chiefdoms consisted of several simple chiefdoms controlled by the ruling elite of a paramount center, having a paramount chief. The main themes in Mississippian society were ancestor worship, war, and fertility. Status differentiation was expressed through the acquisition of ritual items and the ritual use of space (i.e. mound construction), and these served as the major mechanisms for political control (Bense 1994).

Mississippian culture in the greater Southeast seems to have flourished at approximately A.D. 1200, and this was accompanied by increased warfare. The end of this period saw political turmoil and population relocations. Instability and violence encountered in some areas is thought to have resulted from environmental problems, possibly related to the changing climatic

conditions known as the Little Ice Age, as well as political problems. Though mound building began to wane in some areas during this interval, it continued in others (Bense 1994).

No Mississippian or Plaquemine sites are known in the vicinity of the project area, and these are generally not found in northwest Louisiana.

Historic Native Americans

Beginning with the exploration of the Mississippi and Red River valleys by Europeans in the late seventeenth century, a dynamic interval ensued for Native Americans in Louisiana. Northwest Louisiana was inhabited by a number of historic Caddoan speaking groups that are presumed to have descended from the Caddo period inhabitants of the region. These included the Yatasi, the Petit Caddo, the Isadohadocho, the Natchitoches, and the Adai. To the north, in southern Arkansas, were the Kadohodacho and Ouachita Caddo groups (Swanton 1946). The Yatasi were reportedly 40 mi north of Natchitoches in 1690 (Swanton 1946; Fields et al. 1989) but split in the late seventeenth century due to pressure from Chickasaw groups. Some of the Yatasi joined the Kadohodacho confederacy, which was located in the Great Bend region of the Red River to the north, while the remainder moved south to join the Natchitoches (Swanton 1946). The Kadohodacho were forced southward during the late seventeenth century as a result of attacks from the Osage, and they settled on Caddo Lake with the Petit Caddo northwest of Shreveport (Williams 1974), where the Freeman and Custis expedition up the Red River in 1806 documented them (Flores 1984, cited in Earth Tech, Inc. 2002). The Natchitoches Caddo were on the Red River near the present-day city of Natchitoches in 1690 and had by this time been joined by a group of Ouachita Caddo (Lange, cited in Earth Tech, Inc. 2002). The Adai were found to the west of the Natchitoches near present-day Robeline along Bayou Pierre. By the early nineteenth century, both the Natchitoches and Adai were greatly reduced in number (Lange 1974 and Swanton 1946, cited in Earth Tech,

Inc. 2002). A treaty with the Caddo by the United States government would eventually lead to the relocation of the remaining groups into Texas in 1835 (Swanton 1946).

In addition to the Caddo, a number of immigrant groups relocated into northwest Louisiana during the historic period. A group of Koasati settled north of Shreveport on the Red River, where they were visited by Freeman and Custis in 1806. A Choctaw group moved into the area by 1763 and had formed several villages by 1820. Like the Caddo, these groups were all forced out of the United States in 1835 (Swanton 1946 and Flores 1984, cited in Earth Tech, Inc. 2002).

French Colonial (A.D. 1682–1763)

The beginning of the French Colonial Period in Louisiana is heralded by a journey by René Robert Cavelier, sieur de La Salle, to the mouth of the Mississippi River and the Gulf of Mexico in 1682. A decade earlier in 1672 Joliet and Marquette had explored the headwaters of the Mississippi River from French Canada, documenting its course to the south toward the Gulf of Mexico (Wall 2002:19). La Salle, his lieutenant Henri de Tonti, and a party of French men and Native Americans followed the Mississippi River during a two month journey to chart the new route to the Gulf of Mexico. At the mouth of the Mississippi, La Salle and his men erected a large cross, proclaiming possession of the country by France. After returning to France to report his claim, La Salle organized a second expedition to the Mississippi River with the intention of colonization but instead overshot the mouth of the river and landed in what is now south Texas. The expedition ended in peril as La Salle's party became mutinous, murdering their leader, and eventually succumbed to starvation, exposure, and hostility, first by native groups and ultimately by the Spanish (Wall 2002).

It would not be until a second voyage to the Basse Louisiane, or South Louisiana territory, in 1699 that French presence would be sufficient to result in archaeologically

identifiable manifestations of material culture (Mann 2011). The expedition was led by Pierre Le Moyne d'Iberville, who was accompanied by his younger brother and lieutenant, Jean Baptiste Le Moyne, sieur de Bienville, along with 200 prospective colonists and 2 companies of royal marines. Iberville and Bienville sailed from La Rochelle, France, first to St. Domingue and then to Mobile Bay, where they erected a temporary encampment near present-day Biloxi. Upon exploring the region, Iberville was informed by native groups of a great river to the west, convincing him that they were near the Mississippi River. A small party was assembled to scout the coast to the west and successfully located the mouth of the Mississippi on Mardi Gras day in 1699. The party navigated upriver as far as the present location of Pointe Coupee and spent several days at a large Houma village before returning to the temporary encampment near Mobile Bay (Wall 2002).

Before returning to France that same year, Iberville established the permanent settlement of Fort Maurepas to defend the mouth of the river, near present-day Biloxi Bay, and left it under the command of Ensign de Sauvole. Shortly thereafter, while on a return journey into the Mississippi River, Bienville and a small contingency encountered a British ship south of present-day New Orleans that was reconnoitering a site for settlement. Bienville informed the English ship's captain that they were in French territory and bluffed them, successfully convincing them that French reinforcements were available to combat the ship if it did not retreat. The site of this encounter is known as English Turn to this day, and this event is significant in that the British never returned to make a claim on Louisiana (Wall 2002).

The encounter with the English convinced Bienville of the need for a fort on the Mississippi River to properly defend the new French territory. Upon Iberville's return from France in 1700, Forte de Mississippi, later known as Fort de la Boulaye, was constructed about 50 mi upriver from the head of passes, in what is now Plaquemines Parish. The site of

the fort proved to flood frequently, and it ultimately served primarily as a stopover and staging ground for the French during expeditions against native groups. In 1707 Iberville ordered the abandonment of Fort de Mississippi (Mann 2011).

The French settlement of Fort Louis de Louisiane, or La Mobile as it came to be known, was established on the Mobile River in 1702 and would serve as the headquarters for French activities in the area until 1711. The French also consolidated their claims on interior areas of their territory by establishing Fort Rosalie near present-day Natchez, Mississippi, and Fort St. Jean Baptiste in Natchitoches in 1714 (Mann 2011; Wall 2002). Fort St. Jean Baptiste was established by Louis Juchereau de St. Denis at the site of the Natchitoches Caddo Indians to facilitate trade with the Caddo tribes of northwest Louisiana. Given the interior location of the newly established fort, St. Denis saw great potential for trade with the Spaniards of Mexico and appealed to the viceroy of Spain, despite Spanish and French laws forbidding trade with foreign nations. Upon realizing the position of the French fort, the Spanish soon after established four forts of their own to form the boundary between their territories. Ironically, St. Denis had managed to marry the daughter of a Spanish commandant, Don Diego Ramón, and was assigned as a co-commander to establish these forts along with Ramón in 1716. This heralded a period of clandestine trade between the French at Natchitoches and the Spanish, which proved profitable for St. Denis (Wall 2002).

New Orleans was founded in 1718 and was named the capital of Louisiana in 1721. The early years of occupation in New Orleans proved difficult for the colonists because of frequent flooding and a hurricane that destroyed two-thirds of the buildings in 1722 (Wall 2002).

Areas upriver and downriver from New Orleans began receiving small farms by the 1730s. Along the Red River there existed two major obstructions to navigation. In central Louisiana, due to a set of large siltstone shoals

along the Red River, Frenchmen travelling toward Natchitoches from New Orleans had to portage the rapids. This area, which came to be known as Rapide by the French and eventually contributed to the name of Rapides Parish, remained a wilderness to Europeans during the French Colonial period. Along the Red River near present-day Shreveport, a logjam known as the Great Raft rendered navigation along the river's channel impossible and forced navigation through adjacent tributary streams. The Great Raft also slowed the flow of water in this area of the river and caused widespread flooding, generally preventing habitation of the area by Europeans.

Spanish Rule (A.D. 1763–1800)

In 1763 France ceded all of the land of Louisiana west of the Mississippi River to Spanish rule as a result of the Peace of Paris accord, drafted at the close of the Seven Years' War. While news of the transfer caused an immediate reaction among the residents of Louisiana, it would have little effect on the lives of the inhabitants until the arrival of Governor Antonio de Ulloa to Balize at the mouth of the Mississippi River in 1767. As a result of the resentment over Spanish rule and tempered by Spain's poorly funded and understaffed attempt at governance, the residents of New Orleans formed an insurrection in October of 1768 and demanded that Ulloa depart Louisiana. Less than one year later, General Alejandro O'Reilly returned to New Orleans with a large contingency of soldiers to investigate the insurrection, and he named 13 individuals as leaders of the insurrection and charged them with treason. Six of these individuals were convicted and were put to death by a firing squad (Wall 2002).

Lands to the east of the Mississippi River had been ceded to England as a provision of the Treaty of Paris, and the British rapidly began to occupy their new territory. During Spanish rule the population in Louisiana increased more rapidly than it had under French rule, receiving immigrants from French Canada, the Caribbean, and Africa, in addition to Europe. The colonization of the

southeastern United States by Europeans and others during the seventeenth and eighteenth centuries had a lasting effect on native tribes. Many groups occupying areas that would become Mississippi, Alabama, and Tennessee moved into unoccupied areas of Louisiana to escape British and French intrusion. The Apalachee came from Florida to the banks of the Red River north of present-day Alexandria in 1763. Other groups, including the Alabama, Pascagoula, Biloxi, Chacato, and some Choctaws, moved into north and central Louisiana. The Koasati also moved into central and north Louisiana along the Red River in the late eighteenth century, which was welcomed by the Spanish, who hoped that the native group would form a buffer with the British to the east (Wall 2002).

Due to the persistence of the logjam that occupied the Red River near Shreveport, broad-scale Anglo occupation of the area would not begin to flourish until the nineteenth century. Exploration of the area likely began as early as the seventeenth century, but the area would remain unmapped until the nineteenth century.

Antebellum and Late Nineteenth Century (A.D. 1800–1899)

The Louisiana territory was retroceded to France by Spain in 1800 and then to the United States in 1803. In 1812, the first map of the area near present-day Shreveport showed a number of Native-American trails connecting a Koasati, or Coushatta village, with Lake Bistineau and to the hot springs near the Ouachita River in Arkansas (Southern Publishing Company 1890, cited in Cliff et al. 1990).

The number of plantations in the South increased during the 1820s as a result of innovations in cotton production and transport. The introduction of the steam engine on boats and cotton gins made the separation of seeds from the cotton fiber more efficient and allowed relatively cheap transport of the ginned cotton.

Although navigation along the tributaries to the east of the Red River were sufficient for transporting commodities such as cotton from the plantations established in the 1820s, the removal of the Great Raft by Captain Henry Miller Shreve between 1833 and 1838 would open the area for inhabitation by Euro-Americans and would result in a population boom (Wall 2002). The area was also opened by the U.S. Government for homesteading, and prior to the Civil War, a number of plantations up to 1,000 acres in size and smaller farms ranging in size from 40 to 160 acres occupied the area.

The introduction of slave labor into the area increased cotton production and sales between 1840 and 1860. As the number of slaves on plantations in Louisiana increased in the nineteenth century, so did fear of the threat of a slave revolt, especially since a large number of slaves were brought from the island of St. Domingue, where a successful revolt was carried out and formed the nation of Haiti. In 1811 a slave revolt did take place and a group of as many as 500 poorly armed individuals stormed New Orleans only to be defeated by residents and a detachment of U.S. troops. The fear of insurrection continued to plague slaveholders throughout Louisiana, although none as large as the 1811 uprising would occur (Wall 2002).

In 1861 Louisiana seceded from the Union and joined the Confederate States of America. After the siege of New Orleans in 1862, the only Confederate strongholds remaining along the Mississippi River were at Vicksburg and Port Hudson. In an attempt to divide the Confederacy, Federal forces put their sights on the capture of Shreveport to stop the flow of supplies from Texas. In May 1863, a coordinated attack by a fleet of gunboats and army forces successfully forced the retreat of Confederate troops from Fort De Russy south of Alexandria but was not however successful at capturing Shreveport, so a second attempt was launched in spring of 1864. Confederate troops were able to remove most of their supplies from Fort De Russy prior to the earlier attack and fought with greater resistance upon the return of Union forces

(Wessel et al. 1993). The successful capture of Alexandria, along with Vermillionville and Opelousas to the south, put all of southwestern Louisiana under Federal control (Wall 2002).

Union forces proceeded toward Shreveport after ascending the river from Alexandria but fell short of capturing the city due to a heated battle with troops from Mansfield that routed the Union's army positions and resulted in a shortage of support for the Union gunboats. On their retreat downriver, the Union boats were stranded at the shoals near Alexandria due to a low water level in the Red River. A Union engineer put the forces to work constructing a set of dams downriver from the falls that allowed the gunboats to safely pass over the shoals, but during their retreat through Alexandria the city was burned. Although Confederate troops quickly reoccupied the area after Union forces left, the end of the war soon followed (Wessel et al. 1993).

The Civil War would lead to a restructuring of the agricultural production in Louisiana, as farms struggled to meet higher labor costs after the emancipation of slaves. The plantations along the Red River were particularly impoverished as the infrastructure for processing sugar and cotton had been largely demolished during the war. After Reconstruction, tenant farming and sharecropping became the primary forms of agricultural production in the state (Wessel et al. 1993).

Twentieth Century (A.D. 1900–1999)

With the development of the railroad system in northwest Louisiana in the late nineteenth century, new avenues for commerce were established by the early twentieth century. Like most of Louisiana, however, the area would never regain the wealth of the antebellum years. Small towns would become centers for commerce, and the establishment of sawmills would bring some industry. The virgin stands of forests in the area were quickly depleted, and combined

with farming this led to a crisis in soil depletion (Earth Tech, Inc. 2002).

Another industry that impacted the region in the twentieth century was oil and gas exploration. This ultimately contributed to rural population decline in some areas, although areas lacking mineral wealth remained relatively unaffected (Earth Tech, Inc. 2002).

Chapter 4. Methods

The entire project area was subjected to an intensive pedestrian survey and systematic shovel testing. Shovel testing was conducted at a high probability interval of 30 m (98 ft) throughout the survey area, with the exception of areas containing standing water in which shovel testing was not possible.

All shovel tests were 30-x-30 cm (12-x-12 in) in size and extended to a minimum depth of 50 cm (20 in) bgs unless poorly oxidized soils indicative of back swamps or a high water table were encountered. All fill removed from the tests was screened through .64 cm (.25 in) mesh hardware cloth or trowel sorted, and the sidewalls and bottoms were examined for cultural material and features. Shovel tests were recorded using standardized shovel test recording forms. In total, 265 transect shovel test positions were located in the project area, of which 248 were excavated and the other 17 were not excavated.

Site boundary recordation began by the assignment of a positive shovel test as the site datum and arbitrarily assigning it a grid coordinate of N1000 E1000. All other shovel tests excavated for site boundary delineation were also assigned coordinates in relationship to the site datum. Surrounding each positive shovel test, delineation shovel tests were placed at cardinal directions until two negative shovel tests were excavated in each direction. The interval of site boundary delineation depended on the size of the resource being delineated. As per the *Field and Report Standards of the Louisiana Division of Archaeology*, sites were delineated using shovel tests spaced at 10 m until the site could be demonstrated to be larger than three consecutive positive shovel tests. Once a site was determined to be three 10 m interval positive shovel tests across (thus measuring greater than 40 m across), the remainder of the site was delineated with shovel tests spaced at 15 or 20 m. In total, 301 delineation shovel tests were excavated. Artifacts encountered on

the ground surface were delineated as positive shovel tests.

The locations of both ends of each transect and the locations of all delineation shovel tests were mapped using Universal Transverse Mercator (UTM) coordinates recorded with a GeoXT 3000 global positioning system (GPS) unit manufactured by Trimble. The UTM positions recorded by the GPS unit during the project were taken under various conditions ranging from sunny to snowing, but a sufficient number of satellites were being tracked at all times to ensure sufficient recording. The GeoXT unit is capable of sub-meter accuracy.

Chapter 5. Materials Recovered

Both prehistoric and historic artifacts were recovered from the five sites and six isolated finds investigated during the survey. In total, 646 artifacts were recovered. These included 645 historic artifacts and 1 prehistoric artifact. The analytical methods used to document the recovered materials are briefly explained below followed by a presentation of the results of the analysis. Prehistoric and historic artifacts are discussed in separate sections below. The assemblage from individual sites is discussed in relation to intrasite provenience in the *Results* in Chapter 7, and a full inventory of the materials is presented in Appendix A and Appendix B.

Methods

All artifacts collected during the fieldwork were washed by CRA laboratory personnel and placed into racks to air-dry prior to further processing and analysis. Artifacts were classified according to regional typologies and were then documented and cataloged following LA SHPO guidelines. The methods of analysis varied between historic and prehistoric artifacts, and these are outlined in each of the following subsections before the results of the analyses.

Prehistoric Artifacts

A single lithic flake was recovered during the investigations. It was located during delineations at 16NA769. The piece of debitage was characterized by raw material and size class, was weighed, and was categorized in regard to the degree of completeness and the cortex. For lithic debitage analysis, definitions of complete flakes include those flakes that retain a platform and all margins, while platform remnant-bearing (PRB) flakes are those that contain a platform but are missing portions of the margins, and flake fragments are those examples that are missing part or all of their platforms but contain definite dorsal and ventral surfaces. Blocky shatter includes the

fragments of debitage that lack identifiable dorsal and ventral faces.

The piece of debitage is made from a red chert with a low to medium luster that contains lighter colored fossiliferous shapes. It contains an entirely cortical dorsal surface. The cortical surfaces are thin and red, and it appears to have originated from water-worn gravel or a cobble. This material appears to represent thermally altered Citronelle Gravel. The piece of debitage was grouped into the size 3 category (3.175–12.700 mm [.250–.500 in]) and is categorized as a complete flake of early stage reduction. There is a pot lid fracture along the ventral face where the bulb of percussion would be, rendering it difficult to identify the platform surface with certainty. While it is possible that this may represent a thermally fractured piece of gravel within the historic context of Site 16NA769, we have opted to discuss it as a piece of prehistoric debitage since it was deeply buried and no related gravels or cobbles were found.

Historic Materials

Analysis Methods

The historic assemblage includes artifacts classified and grouped according to a scheme originally developed by Stanley South (1977). South believed that his classification scheme would present patterns in historic site artifact assemblages that would provide cultural insights. Questions of historic site function, the cultural background of a site's occupants, and regional behavior patterns were topics to be addressed using this system.

South's system was widely accepted and adopted by historical archaeologists. However, some have criticized South's model on theoretical and organizational grounds (Orser 1988; Wesler 1984). One criticism is that the organization of artifacts is too simplistic. Swann (2002) observed that South's groups have the potential to be insufficiently detailed. She suggested the use of subgroups to

distinguish between, for example, candleholders used for religious purposes and those used for general lighting. Others, such as Sprague (1981), have criticized South's classification scheme for its limited usefulness on late-nineteenth- and early-twentieth-century sites, sites which include an array of material culture—such as automobile parts—not considered by South and of increasing importance and occurrence in the archaeological record. Despite its shortcomings, most archaeologists recognize the usefulness of South's classification system to present data.

Stewart-Abernathy (1986), Orser (1988), and Wagner and McCorvie (1992) are examples of people who have subsequently revised this classification scheme to suit their individual needs. Although based on South's model (1977), the classification scheme utilized at CRA has been adapted to also include late-nineteenth- and twentieth-century material culture, as well as to refine other regionally common categories. In this report, artifacts were grouped into the following categories: domestic, architecture, arms, furnishings, clothing, personal, communication and education, maintenance and subsistence, floral and faunal, and unidentified (see Appendix A). A total of 645 historic materials were recovered from these groups during this project. Not all of these groups were populated. The artifacts recovered during this project are summarized in Table 5.1 and selected items are illustrated in Figure 5.1. Many of these were also included in specialized analyses, which are discussed below.

Grouping artifacts into these specific categories makes it more efficient to associate artifact assemblages with historic activities or site types. One primary change associated with the refinement of these categories is reassigning artifacts associated under South's (1977) original system with the "Miscellaneous and Activities" category. Considering the potential variety of historic dwellings and outbuildings within the project area, a refinement of the artifact groupings was considered important to perhaps observe whether the distribution of specific artifact groups would produce interpretable patterns related to activity areas or structure types. Each one of these groups and associated artifacts is discussed in turn.

Information on the age of artifacts as described in the artifact tables is derived from a variety of sources, which are cited in the discussion of the materials recovered. The beginning and ending dates cited need some clarification. Usually, an artifact has specific attributes that represent a technological change, an invention in the manufacturing process, or simple stylistic changes in decoration. These attribute changes usually have associated dates derived from historical and archaeological research. For example, bottles may have seams that indicate a specific manufacturing process patented in a certain year. The bottle then can be assigned a beginning, or minimum, date for the same year of the patent. New technology may eliminate the need for the same patent, and the bottle would no longer be produced. The ending, or maximum, date will be the approximate time when the new technology took hold and the older manufacturing processes were no longer in use.

Table 5.1. Historic Artifacts Recovered According to Functional Group.

Site Prov	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
16NA768	18	27	2	4			51
16NA769	58	69	7	29	3	1	167
16NA770	134	98	3	87	9	1	332
16NA771	3	8	3	5	4		23
16NA772	40	6		5	3	1	55
L14C001-2				1			1
L14C001-4	1	1					2
L14C001-5				1			1
L14C001-6		1					1
L14C001-10	3	1					4
L14C001-11		7	1				8
Total	257	218	16	132	19	3	645



Figure 5.1. Selected Artifacts: a. plain whiteware with footring (16NA770); b. porcelain with decal (16NA770); c. patinaed "black glass" bottle with kickup (16NA772); d. BIM bottle lip with neck (16NA770); e. BIM pattern molded container glass base; f. Vulcanized rubber button (16NA770); g. porcelain electric insulator (16NA769); h. 9d cut nail (16NA770); i. 12d wire nail (16NA770); j. indeterminate bottle neck with bead finish-like ring (16NA770).

The dates presented here should not be considered absolute but are the best estimates of an artifact's age available at this time. A blank space indicates that the artifact could not be dated or, alternately, that the period of manufacture was so prolonged that the artifact was being manufactured before America was colonized. An open-ended ending date was assigned for artifacts that may be acquired today. The rationale for presenting dates for the artifacts recovered is to allow a more precise estimate of the time span during which the site was occupied, rather than the mean occupation date of a site.

Architecture Group

The architecture group is comprised of artifacts directly related to buildings, as well as those artifacts used to enhance the interior or exterior of buildings. In total, 218 artifacts assigned to this group were recovered. These artifacts consisted of brick, mortar, window glass and nails (Table 5.2).

Construction Materials

Construction materials included 157 artifacts recovered during the investigations. Construction materials refer to all elements of building construction. For this project, the building materials collected included brick and mortar. The bricks collected were separated into hand-made, machine-made, and indeterminate brick fragments. Hand-made or early machine-made bricks often have a glaze, resulting from the sand in the clay turning to glass in the kiln. The paste is usually more porous, and the shape of the early bricks is more irregular. The later machine-made bricks

have a harder, more consistent paste and are uniform in shape. Machine-made bricks will often have marks in the clay related to the machine manufacturing process (Greene 1992; Gurcke 1987). Fire bricks usually consist of refractory ceramic material that resists high temperatures. This brick type was used most frequently to line furnaces, fireplaces, and chimneys (Harris 2000:371).

In the recovered assemblage, 6 hand-made, non-vitrified, brick fragments were identified, along with 51 machine-made bricks that were not vitrified, 78 indeterminate non-vitrified and 1 indeterminate vitrified brick fragments. All mortar was fragmentary and did not relay any temporal data.

Flat Glass

Cylinder glass was developed in the late eighteenth century to enable the inexpensive production of window glass. With this method, glass was blown into a cylinder and then cut flat (Roenke 1978:7). This method of producing window glass replaced that of crown glass production, which dates back to the Medieval period and was capable of fabricating only very small, usually diamond-shaped panes (Roenke 1978:5). Cylinder glass was the primary method of window glass production from the late eighteenth century through the early twentieth century, at which time cylinder glass windows were slowly replaced by plate glass windows. Plate glass window production became mechanized after 1900 but did not become a commercial success in the United States until around 1917 (Roenke 1978:11).

Table 5.2. Summary of Architectural Group Artifacts Recovered from the Project Area.

Site Prov	Construction Materials	Flat Glass	Nails	Total
16NA768	25	1	1	27
16NA769	52	3	14	69
L14C001-4	1			1
L14C001-6	1			1
16NA770	63	13	22	98
16NA771	7	1		8
16NA772	1	2	3	6
L14C001-10			1	1
L14C001-11	7			7
Total	157	20	41	218

Cylinder window glass has been shown to gradually increase in thickness through time and can be a useful tool for dating historic sites. Several dating schemes and formulas have been devised that use average glass thickness to calculate building construction or modification dates. These formulas include those of Ball (1984), Roenke (1978), and Chance and Chance (1976), to name a few. Like previously derived formulas, Moir (1987) developed a window glass dating formula to estimate the initial construction dates for structures built primarily during the nineteenth century. Although Moir (1987:80) warns that analysis on structures built prior to 1810 or later than 1915 have shown poor results, most research in this area shows the regression line extending back beyond 1810 (Moir 1977; Roenke 1978). Hence, dates calculated back to 1785 were considered plausible. Sample size is also a consideration when using the Moir window glass regression formula. According to Moir (1987:78), sample sizes also need to be “reasonable and not collected from a point or two” in order to accurately date the construction of a building. For the purposes of this investigation, a “reasonable” sample size is considered 25 window glass sherds.

Each fragment of flat glass was measured for thickness and recorded to the nearest hundredth of a millimeter using digital calipers. The differences between cylinder window glass, mirror glass, and plate glass were in part determined by the thickness and wear of each flat glass fragment. Although Moir (1987:80) states that dating window glass after 1915 is not as reliable for dating sites, for the purposes of this study, window glass that measured 2.41 mm is assumed to date to 1916 and was included in the calculations, because according to Roenke (1978:11), plate glass does not become widely or successfully produced in the United States until 1917. There were only 20 window glass sherds collected from various sites across the entire project area, so accurate dating using this method was not possible.

Nails

Forty-one nails were identified in the recovered assemblage. There are three stages recognized in the technological chronology of nails. The first stage is represented by the wrought nail, the primary type of construction fastener in the eighteenth and early nineteenth centuries. This nail type was followed by the cut nail and the wire-drawn nail. The use of wrought nails ended around 1810 with the proliferation of square cut or machine-cut nail use (Genheimer 1987:91; Nelson 1968:8).

Jacob Perkins developed his first nail-cutting machine sometime between 1790 and 1792; however, it was much later when these machines were utilized in the nail industry (Phillips 1996). The cut nail, introduced in approximately 1800, originally had a machine-cut body with a hand-made head. Around 1815, crude machine-made heads replaced hand-made heads on cut nails, and overall, cut nails replaced wrought nails in the construction industry. Early fully machine-cut nails exhibit a “rounded shank under the head,” and therefore, often appear pinched below the head of the nail (Nelson 1968:8). By the late 1830s, these “early” fully machine-cut nails were replaced with “late” fully, or modern, machine-cut nails.

The first wire-drawn nails were introduced into the United States from Europe by the mid-nineteenth century. These early wire nails were primarily used for box construction and were not well adapted for the building industry until the 1870s. Wire nails required the use of Bessemer steel, and until 1879, when an American firm began fabricating this steel type, the steel was imported from Norway. By 1886, the wire nail industry was able to produce a wide variety of pennyweights to compete with the cut nail companies (Davidson 2006:116). Although the cut nail can still be purchased today, the wire nail nearly universally replaced it by the turn of the twentieth century (Nelson 1968:8). Wire nails suitable for the construction of buildings were not present in North America until circa 1880. By the end of the nineteenth century, the production of wire nails in the United States

greatly exceeded that of cut nails (Priess 1973). By the 1890s, the cut nail had been virtually replaced by the wire nail in the building construction industry (Davidson 2006:118).

The recovered assemblage included 4 cut nails, among which corrosion generally obscured the type of shank, although one could be identified as having a common head and shank. In total, 12 of the nails could be identified as wire nails, among which 1 had a clinched shank, and 2 had a common head and shanks. The remaining 25 nails were indeterminate.

Clothing Group

The clothing group includes buttons, clothing fasteners, footwear, and other clothing-related items, such as belts and fabric. Only buttons were recovered during this project.

Buttons

Three buttons were recovered, representing two different button types. The main categories used for buttons included sew-through buttons, added-shank buttons, self-shank buttons, button backs, riveted/overall buttons, and unidentified buttons. Only sew-through buttons were recovered, so the material type of which the buttons are made was used as an identifying characteristic. The two different material types identified in the button assemblage recovered during the current excavations were porcelain and rubber. Specific dates were assigned to many of these material types.

Two buttons identified in the button assemblage were porcelain buttons. These were further identified as Prosser buttons. Prosser buttons are identified as high-fired ceramic buttons that exhibit a glass-like appearance. These buttons are often misidentified as glass; however, Sprague (2002) urges the archaeological community to identify these buttons as ceramic. One identifying characteristic of Prosser buttons is a pebbly or orange-peel surface on their back. The terminus post quem of Prosser buttons is

1840, based on the first patent for this button process (Sprague 2002:111). Although the majority of Prosser buttons were white panted, colored buttons appeared by 1848. Pink, ochre, gray, blue, and black buttons were produced after this date. Prosser buttons were available in a multitude of decorative types, including calico, bullseye, birdcage, piecrust, whistle, gingham, igloo, stenciled, marbled, and spattered (IMACS 2001; Sprague 2002). Prosser buttons were assigned an end date of 1910, when the porcelain button industry slowed (Albert and Kent 1949:35).

The remaining button type was rubber. Rubber buttons dated from 1851 to 1900 if they were determined to be vulcanized (IMACS 2001; Luscomb 1992:170) as is the case with the recovered example. The button from this category was marked with I.R.C.CO. (India Rubber Comb Co.) & Goodyear 1851 (patent).

Domestic Group

Artifacts included in the domestic group consisted of ceramics, container glass, and glass tableware and totaled 257 in the recovered assemblage. The ceramic inventory consisted of a variety of refined and utilitarian wares dating from the late eighteenth century through the twentieth century. A full description of ceramic types recovered from the project area is listed below, followed by descriptions of other domestic group artifacts (Table 5.3).

Ceramics

The ceramics totaled 49 and were grouped into 4 major ware types: whiteware, ironstone, porcelain, and stoneware. Ceramics within each of these ware groups were separated into decorative types that have temporal significance. Each of these ware groups is reviewed below, followed by discussions of associated decorative types.

Whiteware

A total of 38 whiteware sherds were recovered. As a ware type, whiteware includes all refined earthenware that possesses a relatively nonvitreous, white to grayish white

Table 5.3. Summary of Domestic Group Artifacts Recovered from the Project Area.

Site Prov	Plain Whiteware	Molded Whiteware	Ironstone	Porcelain Decal	Stoneware	Blown in Mold	Automatic Bottle Machine	Undiagnostic Container Glass	Glass Tableware	Total
16NA768	2	1	1					13	1	18
16NA769	4				1		4	47	2	58
L14C001-4							1			1
16NA770	13		3	1	2	2	2	107	4	134
16NA771	1							2		3
16NA772	14	3			3			19	1	40
L14C001-10								3		3
Total	34	4	4	1	6	2	7	191	8	257

clay body. Undecorated areas on dishes exhibit a nearly pure white finish under clear glaze. This glaze is usually a variant combination of feldspar, borax, sand, nitre, soda, and china clay (Wetherbee 1980:32). Small amounts of cobalt were added to some glazes, particularly during the period of transition from pearlware to whiteware and during early ironstone manufacture. Some areas of thick glaze on whiteware may, therefore, exhibit bluish or greenish blue tinting. Weathered paste surfaces are often buff or off-white and vary considerably in color from freshly exposed paste (Majewski and O'Brien 1987).

Most whiteware produced before 1840 had some type of colored decoration. These decorations are often used to designate ware groups (i.e., edgeware, polychrome, and colored transfer print). Most of the decorative types are not, however, confined to whiteware. Therefore, decoration alone is not a particularly accurate temporal indicator or actual ware group designator (Price 1981).

The most frequently used name for undecorated whiteware is the generic "ironstone," which derives from "Ironstone China" patented by Charles Mason in 1813 (Mankowitz and Hagggar 1957). For purposes of clarification, ironstone will not be used when referring to whiteware. Ironstone is theoretically harder and denser than whiteware produced prior to circa 1840. Manufacturer variability is, however, considerable and precludes using paste as a definite ironstone identifier or as a temporal indicator. Consequently, without independent temporal control, whiteware that is not ironstone is

difficult to identify, as is early vs. later ironstone. For this analysis, the primary determining factor in classification of a sherd as whiteware was the hardness and porosity of the ceramic paste. Decorative types observed on the whiteware sherds in this assemblage are summarized and defined in the following discussions.

PLAIN

This type includes 34 examples, consisting of vessels with no decoration. While some researchers, such as Lofstrom et al. (1982:10) and Wetherbee (1980), include molded designs with "plain" whiteware, here Majewski and O'Brien's (1987:153) recommendations are followed, meaning that molded vessels should be grouped on their own. Plain whiteware vessels became very popular following the Civil War and continued in popularity throughout the late nineteenth and early twentieth centuries (Faulkner 2000). Bacteriological research emerged after the Civil War, and it was not long before it became widely known that there is a link between bacteria and disease (Duffy 1978:395). Since bacteria could not be seen with the naked eye, it was commonly thought that plain, undecorated wares were best suited for maintaining and serving clean, bacteria-free food. Hence, bacteriological research helped spur the rise in popularity of undecorated vessels, which resulted in increasing competition between whiteware and ironstone manufacturers.

Purity crusades also indirectly helped increase the popularity of plain white vessels in the late nineteenth and early twentieth

centuries, as social reformers—many of whom were white and middle class—focused on cleaning up city streets, improving sanitation, and ridding cities of disease epidemics. Part of this crusade was the public promotion of purity at the dinner table. Unfortunately, many of these white public health reformers were also motivated by Social Darwinist ideas, and sanitation problems and disease epidemics were often blamed on African Americans and East-European immigrants who were stereotyped as being the harbingers of disease and social decay (Friedman 1970:123).

Plain sherds date from 1830 to the present (Majewski and O'Brien 1987:119). While many of these sherds may have come from plain vessels, it should be noted that many of these sherds may also be undecorated parts of decorated vessels.

EMBOSSSED/MOLDED DESIGN

As transfer printing became popular on pearlware, molded designs were simplified. Molded designs were revived with the introduction of whiteware in the late 1830s, but they did not attain the elaborateness of previous forms. Specialized moldings for whiteware were common in the 1840s, when the ware had a more limited and generally more affluent market (Wetherbee 1980).

During the 1860s, embossing tended to become softer in relief than the angular and sculpted forms of the 1840s and 1850s (Wetherbee 1980). During the 1870s and 1880s, molded decorations occupied smaller areas on dishes, and elaboration was confined to handles and lids. British stylistic trends dominated the embossed and molded whiteware industry throughout most of the nineteenth century (Wetherbee 1980). Since a distinction between mold types was not made, the date for embossed/molded design wares recovered during the current excavations was 1860 to the present. There were four examples of molded whiteware recovered during the investigations.

Ironstone

Only four sherds were identified as ironstone. Ironstone is a white or gray-bodied,

refined stoneware with a clear glaze. It is often indistinguishable from whiteware. Ironstone differs from whiteware in that the body is more vitreous and dense. In addition, a bluish tinge or a pale blue-gray cast often covers the body. In some cases, a fine crackle can be seen in the glaze; however, this condition is not as common as it is in whiteware (Denker and Denker 1982:138).

Confusion in the classification of white-bodied wares is further compounded by the use of the term as a ware type or trade name in advertising of the nineteenth century. Both ironstones and whitewares were marketed with names such as "Patent Stone China," "Pearl Stone China," "White English Stone," "Royal Ironstone," "Imperial Ironstone," "Genuine Ironstone," "White Granite," and "Granite Ware" (Cameron 1986:170; Gates and Ormerod 1982:8). These names do not imply that true ironstone was being manufactured. Some investigators avoid the distinctions entirely by including ironstones as a variety of whiteware. Others, however, such as Wetherbee (1980), refer to all nineteenth-century white-bodied wares as ironstone. For this analysis, the primary determining factor in classification of a sherd as ironstone was the hardness and porosity of the ceramic paste. Sherds with a hard vitreous paste were classified as ironstone.

Charles James Mason is usually credited with the introduction of ironstone (referred to as Mason's Ironstone China) in 1813 (Dodd 1964:176). Others, including the Turners and Josiah Spode, produced similar wares as early as 1800 (Godden 1964). As a competitive response to the highly popular oriental porcelain, British potters initiated this early phase of ironstone production. The ironstone of this early phase bears a faint blue-gray tint and oriental motifs, much like Chinese porcelain. The early ironstone, available commercially in the United States circa 1830, had a finer, denser paste (Majewski and O'Brien 1987:120). A second phase of ironstone began after 1850 in response to the popularity of hard paste porcelains produced in France. This variety of ironstone had a heavier, harder paste and reflected the gray-

white color of French porcelains. It was also less expensive (Majewski and O'Brien 1987:120).

While some ironstones continued to use oriental design motifs after 1850, the general trend was toward undecorated or molded ironstones (Collard 1967:125–130; Lofstrom et al. 1982:10). Ironstone continued to be produced in England, and after 1870, it was also manufactured by numerous American companies. For many years, classic ironstone—the heavy, often undecorated ware—had been frequently advertised as being affordable and suitable for “country trade” (Majewski and O'Brien 1987:121). By the late 1800s, these thick, heavy ironstones began losing popularity and were often equated with lower socioeconomic status (Collard 1967:13). At the same time, ironstone manufacturers began shifting to thinner, lighter weight ironstones. As a result, this type of ironstone became popular tableware in American homes during most of the twentieth century (Majewski and O'Brien 1987:124–125). In spite of the shift towards thinner and lighter ironstones, heavy ironstone remained on the market and continues to be popular in hotel/restaurant service (hence, this heavy, twentieth-century ironstone is sometimes called “hotelware”). Its production for home use all but ceased by the second decade of the twentieth century (Lehner 1980:11).

Porcelain

Only a single porcelain sherd was identified in the recovered assemblage. Porcelain is the name given to high-temperature fired, translucent ware. This ware type was first developed by the Chinese. Chinese, or hard paste, porcelain was introduced to Europe by Portuguese sailors that had traveled to China during the sixteenth century. The formula for true, or feldspathic, porcelain was not discovered in Europe until 1708 and not marketed until 1713 (Boger 1971:266). The production of true porcelain was limited to three factories in England, all other products were softer porcelains made with glass, bone ash, or soapstone. Porcelain made with bone ash, often called “bone

china,” became the preferred product after 1800, since the paste was harder and the ware was cheaper to produce with bone than with glass or soapstone (Mankowitz and Haggard 1957:179). Among the more affluent households in Europe and North America, porcelain was a common tableware used during the eighteenth and nineteenth centuries (Fay 1986:69). Porcelain production in America was not successful until 1826, and the number of porcelain factories in the United States remained small throughout the nineteenth century.

In the laboratory, bone china can be differentiated from hard paste porcelain by placing it under ultraviolet light. Bone china fluoresces blue-white, whereas hard paste porcelain fluoresces magenta (Majewski and O'Brien 1987:128). Like pearlware, few undecorated porcelain vessels were manufactured from the eighteenth through the nineteenth century, or in the previous centuries. However, plain porcelain was manufactured in quantity in the twentieth century. The only porcelain sherd recovered was identified as a decal sherd.

DECAL

The single porcelain sherd contained a decal decoration. Decal decoration was rare before 1900 on ceramics other than imported porcelains (Majewski and O'Brien 1987:147). The process of decalomania consists of applying decals—designs printed on a film or paper—to ceramic vessels. This decorative technique is often confused with transfer printing; however, decals can be distinguished from transfer prints by the sharpness of the design, the presence of shading, the use of bright colors, and the slight relief often felt when touching the edge of a decal design (Majewski and O'Brien 1987:146). Decals are applied to vessels prior to the final firing and are usually put through the decorating kiln in order to harden the decal for permanency. The decals include stipple and line-engraved motifs created using a lithographic process in an assortment of colors (Majewski and O'Brien 1984:36). It should also be noted that decals were often found in gold and are

sometimes confused with gilded ceramics. Gilt decals, or gold decals, exhibit the slight relief of regular decals, and their sharp design sets them apart from gilded wares.

In contrast to the polychrome sprig and broadline floral style popular in the mid-nineteenth century, floral decals are characterized by their use as a border or vessel accent. Frequently, these appeared as small sprays of flowers applied off-center and often in conjunction with thin-line border stripes, raised-border motifs, hand painting, and gilding (Majewski and O'Brien 1984:36). By the 1880s, monochrome decals were being filled in with hand-painted accents (Blaszczyk 2000:155; Majewski and O'Brien 1987:147). Majewski and O'Brien (1987) suggest that this motif began in the late 1800s as an inexpensive alternative to multicolored hand-painted techniques. Decals remained a popular method of decoration until the introduction of new decorating methods, including chromatic glazes and silk screening in the mid-twentieth century (Blaszczyk 2000:155). Decal decorations can occur on whiteware, ironstone, and porcelain. Decal-decorated whiteware was commonly found between 1880 and 1940.

Stoneware

Six stoneware sherds were recovered. Stoneware served as the “daily use” pottery of America, particularly rural America, after its introduction during the last decade of the eighteenth century. By 1850, this ware had generally replaced coarse redware as the primary utilitarian ware used in American households. Stoneware is a semivitreous ware manufactured of a naturally fine, but dense, clay. The pottery was fired longer and to a higher temperature than earthenwares; a kiln temperature of at least 1,200 to 1,250 degrees celsius had to be obtained (Cameron 1986:319; Dodd 1964:274–275). As a result, stoneware generally exhibits a hard body and a very homogeneous texture (Ketchum 1971:11). The paste may vary from gray to brown, depending on the clay source and length and intensity of the firing.

Because this ware is fired at such high temperatures, its body is nonporous and well suited to liquid storage. Stoneware, as mentioned, was not typically manufactured as a refined ware (such as its cousin, ironstone, or eighteenth-century refined white salt-glazed stoneware); hence, it was, for the most part, utilized for utilitarian activities associated with jars, churns, crocks, tubs, jugs, mugs, pans, and pots. These vessels were typically glazed, with salt glazing and slip glazing most common.

Although refined salt glazing was practiced in England during the eighteenth century, by 1780, the production of English salt-glazed tableware had been virtually supplanted by the manufacture of cream colored earthenwares (Lewis 1950:29). The salt-glazing technique continued to be utilized for utilitarian vessels, however, and was eventually introduced to the United States in the early nineteenth century. Salt glazing was accomplished by introducing sodium chloride into the kiln during the firing process, at which point the salt quickly volatilized. The vapor reacted with the clay to form a sodium aluminum silicate glaze (see Billington 1962:210; Dodd 1964:239). The surface of the glaze is typically pitted, having what is commonly known as an “orange peel” effect.

Stoneware may also be coated with a clay slip. The Albany slip—named after the rich brown clay found near Albany, New York—first appeared in the 1820s. Initially, it was mainly used for the interior of stoneware vessels, since for the most part salt could not reach this portion of the vessels. However, by the 1830s, it was also used as an exterior glaze. Albany-slipped vessels may exhibit a lustrous tint, depending on the firing temperature (Ketchum 1971:51). Bristol slip, an opaque white glaze, was introduced late in the nineteenth century. When used in combination with Albany slip, Bristol-glazed stoneware vessels have a general date range of 1880–1925 (Ketchum 1983:19; Raycraft and Raycraft 1990:5). Bristol slip was commonly used throughout the Midwest and often served as the base for sponge decoration (Ketchum 1991:11).

A third glaze often used on stoneware is the alkaline glaze. Like the Albany slip, it was developed in the 1820s. The basic alkaline glaze is made up of wood ash, clay, and sand. Other additions may be slaked lime, ground glass, iron foundry cinders, or salt. These additions affected the color and texture of the glaze. Colors vary from olive to brown to a gray-green or yellowish hue, depending on adjustments in proportion of ingredients (Ketchum 1991:9). The alkaline glaze is one of the most distinguishing characteristics of Southern stoneware and is not commonly found in other regions of the United States (Ketchum 1991:11). Although not as prevalent, alkaline glazing has been used in combination with salt glazing. This causes the stoneware vessel to exhibit the colors of alkaline glazing with the pitted texture of a salt glaze.

Container Glass

A variety of container glass was recovered during the current investigations, with a total of 200 examples. Research by Baugher-Perlin (1982), Jones and Sullivan (1985), and Toulouse (1971) was used to date glass containers. Glass color was the only attribute that could be used for dating those fragments that were not identifiable as to type of manufacture.

The approximate date of manufacture for bottles and bottle fragments recovered from the project area was established by determining the manufacturing process associated with the bottle (i.e., creation of the base and lip of the container) and using any patent or company manufacturing dates embossed on the bottle.

The lip on a bottle can be informative. A lipping tool, patented in the United States in 1856, smoothes and shapes the glass rim into a more uniform edge than a hand-smoothed lip or “laid-on ring.” Certain types or styles of lips were associated with specific contents; for example, medicines were often contained in bottles with prescription lips (Jones and Sullivan 1985). A “sheared,” or unfinished, bottle lip typically dates before 1880.

Lipping tools were used throughout the middle to the end of the nineteenth century, until the advent of the fully automatic bottle machine (ABM) in 1903. It should be noted, however, that as automated bottle manufacture became available after the turn of the twentieth century (see below), tooled finishes continued to be produced—albeit in steadily decreasing numbers. That is, there is a lag time between tooled finishes and ABM finishes, and although ABM glass is given a beginning date of manufacture of 1903, most tooled-glass vessel sherds will be given an ending date around the 1920s due to this lag time, unless other diagnostic characteristics are observed, enabling one to give it an earlier terminal date.

The manufacturing process can be roughly divided into three basic groups, including free blown, blown in mold (BIM), and machine manufactured (ABM) vessels (Baugher-Perlin 1982:262–265). Only BIM and ABM glass were recovered from the current project. An unidentified category was used for those that could not be determined. Each process will be discussed separately.

Blown in Mold (BIM)

MANUFACTURE TYPE

Most molded bottles are constructed in pieces and have distinctive seams. The earliest bottles recovered exhibited pontil scars. Pontil scars, the result of using pontil rods, date as early as Roman times; however, the pontil scars identified in the glass assemblage recovered during the current excavations are typically found on American made utilitarian bottles that were most popular until or before the mid-1860s. Pontil scars became increasingly unusual by the 1870s, as various new tools were developed, including the snap case (Lindsey 2008). Glass pontil scars were formed when the iron pontil rod was tipped with molten glass, which left rough glass fragments protruding from the bottle base. This type of pontil can be found on bottles dating until 1870 (Lindsey 2008). Although glass pontil scars are often referred to as open pontil scars, this terminology is not accurate. An open pontil scar is created by a hollow

pontil rod and leaves a ring shaped glass protrusion on the bottle base. This type of pontil scar is also found on bottles dating before 1870 (Lindsey 2008). Sand pontil scars are less common than glass or open pontil scars in the United States. This scar was created when the hot glass on the base of a flared iron pontil rod was dipped in sand or small glass fragments prior to application to the bottle base. The sand or glass chips on the pontil rod were intended to facilitate easier removal of the rod from the bottle base. This pontil scar has a coarse surface and often exhibits an “orange peel” type texture. The sand pontil scar is most commonly found on the following types of American made bottles: medicine bottles, black glass beer/ale bottles, figured flasks, early mineral waters, and various liquor bottles. Sand pontil scars are often found on bottles dating before 1880 (Jones and Sullivan 1985:45; Lindsey 2008). Finally, iron pontil scars were formed when a bare iron pontil rod was used. No glass was added to the rod during this application, and due to the heating of the iron rod, iron deposits or fragments were often left on the bottle base when the rod was removed. This type of pontil scar was generally found on bottles dating from 1845 to 1865 (Jones and Sullivan 1985:45; Lindsey 2008). The iron pontil scar is also commonly referred to as a bare iron pontil scar.

The dip mold was used from the late eighteenth through the mid-nineteenth century (Baugher-Perlin 1982:262). It leaves no seams, unless glass adhered to the edges of the bottle mold as it was attached to the free blown shoulder and bottle neck. Dip molded bottles also tend to be slightly tapered from top to bottom, allowing the bottle to be removed from the mold after inflation (Lindsey 2008). The key mold, on the other hand, was a type of two-piece mold that was used from circa 1750 to 1880 (Jones and Sullivan 1985:27). Key mold seams cross the base and are concealed in the corners of a flat-sided body.

The turn paste mold was used from circa 1870 to the early twentieth century and does not contain seams, because the glass is blown

into a container that is spun. The glass conforms to the mold from the centrifugal force produced. Vessels formed from this process usually have faint horizontal lines from the spinning process (Jones and Sullivan 1985:31; Lindsey 2008). Hinge molds, or two-part molds, are probably the oldest type of molds dating back to the first century A.D.; however, these molds were not popular in the United States until 1810, when they were used on medicine bottles and figured flasks. Hinge molds could be made with either a hinge at the shoulder or a hinge at the bottom of the vessel. Either hinging style produced bottles with a separate base seam. This mold type was commonly used until circa 1870 (Baugher-Perlin 1982:262–263; Lindsey 2008). The three-part mold has seams running around the shoulder of the vessel and partially up its neck. Three-piece mold bottles have a horizontal mold seam circling the bottle at the shoulder. Two additional mold seams on opposite sides of the bottle run vertically from the shoulder seam to the neck of the bottle. This style of mold began to be used around 1820 and had gained popularity in the United States by 1830 (Lindsey 2008).

Post mold and cup mold bases were the most common bottle mold types during the last part of the nineteenth century. The post mold is a three part mold variation where the middle portion of the base is formed by a small separate plate, while the neck, shoulder, body, and the outside edges of the base are formed by two side mold plates (Jones and Sullivan 1985; Lindsey 2008). A number of post mold bottles exhibit a mold seam at the upper edge of the heel that appears identical to the seam created by the cup base mold. The cup mold was a three-part mold where the third part was a base plate that molded the entire bottle base and lower heel of the bottle. The remaining portions of the bottle were formed by two other plates (Toulouse 1969). Both post molds and cup molds were utilized beginning circa 1850 (Lindsey 2008).

Embossing on container glass vessels was made possible by engraving the mold the glass was blown into. Embossing generally consists of lettering, numbers, and/or designs that were

intended to either attract the consumer or to establish ownership of the bottle, since bottles were often reused. This was first conducted in the mid-eighteenth century and continued into the twentieth century (Fike 1987:5; Lindsey 2008). Slug-plate embossing was popularized in the 1820s and allowed the bottle maker to change the embossing quickly by simply changing an embossing plate in the mold. This process can be identified through the distinctive seams, since they follow the rectangular shape of the nameplate (Lindsey 2008; Miller and Sullivan 1984). Recessed panel bottles exhibit square or rectangular insets on one or more sides. These panels are typically found on rectangular bottles and may also contain embossing or figures revealing content information or manufacturer information. Bottles with recessed panels are not typically assigned dates based on this characteristic alone; however, bottles exhibiting embossing within the recessed panels typically date after 1850 (Lindsey 2008; Miller and Sullivan 1984).

Pattern molding, a variation of the dip mold, was another form of body decoration on mold blown containers. Pattern molding consists of an inscribed pattern inside the surface of the mold being transferred to the glass surface while the bottle is being blown.

These molds often had diamonds or spiral rib patterns engraved on the surface. Pattern molding was used to produce bottles during the first half of the nineteenth century (Lindsey 2008). It was also possible for bottles to exhibit overglaze hand-painting similar to enameled machine-made bottles. This decorative type is rare and is usually not assigned a specific date.

The finish is the top part of the neck of a bottle or jar made to fit the cork or other closure used to seal the vessel. The finish is often simply referred to as either the lip or rim. Glass factories in the late nineteenth and early twentieth centuries produced a wide variety of finishes for their containers (Jones and Sullivan 1985:78). Finishes were formed by manipulating the glass at the end of the bottle neck, by shaping glass added to the end

of the neck, by the lipping tool, or by being blown into a mold (Jones and Sullivan 1985:79). The term “finish” originated with the mouth-blown bottle manufacturing process, where the last step in the completion of a finished bottle was to “finish the lip.”

Mouth-blown bottles were removed from the blowpipe by two primary methods: either through the cracking-off process or by shearing the neck off of the blowpipe. Once this was completed, the bottle was reheated in a furnace to smooth out the sharp edges where the blowpipe was detached (Lindsey 2008). This method, referred to as fire polishing, was completed even if no specific finish was to be formed. Once this method was complete, a finish could be either added or formed on the top of the bottle neck. These finish types included a laid-on ring, a rolled finish, a flared or flanged finish, an applied finish, and a tooled finish. The most commonly found finish types are the applied finish and the tooled finish. An applied finish, also referred to as early applied, was created when applied hot glass is added at the point where the blowpipe was removed. This applied hot glass was manipulated with various tools in order to form a wide variety of finish styles (Lindsey 2008). A tooled finish, also referred to as late applied, was created by reheating the severed end of the bottle near the neck. Once reheating or refiring the end of the neck was accomplished, a lipping tool was inserted into the neck of the bottle and rotated while squeezing the jaws to form the finish desired. Semi-automatic rims exhibited a ground or external thread ground finish. The body and base of these vessels were created via machine, and the rims were finished by hand. This finish type dates from the late nineteenth century into the early twentieth century (Miller and Sullivan 1984).

The two examples of BIM glass identified in the assemblage included a tooled packer lip with neck fragment containing multiple straw marks and small bubbles in the glass, and an embossed lip pattern mold from a base fragment containing a “Ball” maker’s mark.

COLOR

Several different glass colors were identified in the container glass assemblage collected during the project. These included amber, amethyst, aqua, leaded or clear flint, green, light green, olive green, opaque white, clear, selenium, cobalt, blue-green, cornflower blue, and yellow/green glass. Jones and Sullivan (1985) observed that chemicals color glass, either as natural inclusions or additions by the manufacturer. Although glass color is a relatively obvious descriptive attribute of a historic bottle, it is of limited utility in dating or type casting a bottle.

Amber glass was created from the natural impurities in glass as well as from popular color additives, such as nickel, sulfur, and carbon. Amber glass, because of the many amber variations, dates throughout the nineteenth century; however, amber glass was not widely used until the mid-nineteenth century (Fike 1987:13; Lindsey 2008). According to Lockhart (2006), amethyst glass began to be manufactured around 1870, when manganese was being added to the glass recipe. Although initially colorless, the glass will turn a distinctive purplish color when exposed to sunlight over time. It was previously thought that amethyst glass production ceased by 1914 due to a shortage of manganese from Germany during World War I; however, the change was actually a result of technological advancements in the glass industry, mainly the conversion to automatic bottle machines (Lockhart 2006:53).

Although manganese was more difficult to obtain after World War I, and selenium was often less expensive, the improvement in technology was the major reason for the change. Selenium proved to be an inexpensive decolorant in glass production and ultimately displaced manganese as a decolorizer by 1920 (Lockhart 2006:53). Selenium glass exhibits a straw or amber tint in the thickest portions of the glass. This glass color was used in BIM bottles, but typically those dating to the 1910s (Faulkner 2000; Lindsey 2008).

Aqua colored glass had many different variations. Aqua glass is a result of the iron

impurities found in natural sand. Although sand was available in the eastern United States, some western-American glass factories were importing sand from Belgium. Because aqua glass is one of the most common glass colors in American made bottles, this glass color is not assigned a specific date of manufacture (Lindsey 2008). Light blue and cornflower blue are often grouped into the aqua glass category. These glass colors are not typically assigned specific dates; however, cornflower blue glass was available as early as 1820 (Jones 2000:147).

Clear or colorless glass was difficult to produce because it required the use of nearly perfect materials. With the public's growing desire to see the contents of the bottles, clear glass came into demand and was popular beginning in the 1860s (Baugher-Perlin 1982:261). However, it should be noted that clear glass was available to a limited degree before this time. Clear-flint, or leaded, glass was made with lead oxide. This glass color was available to the bottle industry as early as the early nineteenth century and was utilized until the end of the nineteenth century (Lindsey 2008; Pullin 1986:354–355).

Cobalt glass is produced with the addition of the coloring agent cobalt oxide to the glass batch (Lindsey 2008). The introduction of what Lindsey (2008) calls "true blue" glass began in 1840 with the production of soda, mineral water, and ink bottles. Opaque white glass, also referred to as milk glass, was produced with the addition of tin or zinc oxide and phosphates to the glass recipe. Opaque white glass was used for a variety of different bottle types, including most commonly cosmetic and toiletry bottles dating from 1870 to 1920. This glass type was noted as early as 1830 and continued to be used until circa 1960 (Husfloen 1992:163; Lindsey 2008).

Green glass is found in more shades than any other glass color. These colors include, but are not limited to, light green, olive green, blue-green, and yellow-green. Green glass was produced by using the coloring agents iron, chromium, and copper. Many shades of green glass do not have diagnostic dates, since they

have been used for many centuries in glass production and continue in popularity today. Emerald green or bright glass was introduced in the mid-nineteenth century (Fike 1987:13; Lindsey 2008).

TPOLOGY

Bottle typology is an important factor in bottle classification. Although bottle typology is not a precise science, the general shape of a bottle gives an indication of what the bottle's original contents were. It is also important to note that although a bottle may be placed in a specific category, bottles were often reused and recycled for unrelated products. For this project, bottles were grouped into specific categories: liquor/wine/beer bottles, commercial bottles, canning jars, miscellaneous bottles, and miscellaneous jars.

Liquor/wine/beer bottles came in a wide variety of shapes and sizes holding from a few ounces to a gallon. Liquor bottles were one of the most diverse groups of bottles manufactured. These bottles ranged from small flasks to large jugs. Wine bottles were one of the least diverse groups of bottles, generally only found as round, heavy glass bottles. Beer bottles were typically found as round, heavy glass bottles also, but this group of bottles was generally smaller than the wine bottles previously mentioned. Soda and mineral water bottles also had to be made of relatively thick glass. This allowed for strength during shipping and handling as well as during the reuse of these bottles.

Commercial bottles were also a diverse group with many different shapes and sizes. The commercial bottle category contained sauce bottles, condiment bottles, pickle and preserved food bottles, vegetable oil bottles, and milk bottles. When possible, these bottles were assigned specific dates, and a specific bottle type within this category was noted.

The most distinctive attribute of canning jars was their closure type. These are discussed in the closures category and will not be discussed in the BIM section. Canning jars were assigned specific dates when maker's marks or other distinguishing characteristics

were noted. The miscellaneous bottles and miscellaneous jars categories were utilized when glass containers did not contain distinguishing characteristics as to shape.

All bottles and jars within each of these groups were also inspected for maker's marks and other indicators of specific dates. Specific companies also used maker's marks to separate their bottles from the rest of the marketplace. These marks were noted, and if possible, the bottles were assigned dates based on these temporal indicators.

Automatic Bottle Machine (ABM)

Seven examples of automatic bottle machine glass were identified in the assemblage. The Owens automatic bottle-making machine was patented in 1903 and creates suction scars and distinctive seams that run up the length of the bottle neck and onto the lip. This ABM mold provides a firm manufacturing date at the beginning of the twentieth century. Another automatic bottle machine called the Individual Section was also used in the commercial production of bottles. This machine was widely used starting in 1925 and by 1940 became the most widely used bottle manufacturing device (Jones and Sullivan 1985:39). This bottle machine was more cost effective than the Owens machine, which was no longer used after 1955. Valve marks are indicative of machine-made bottles formed by a press-and-blow type of machine. This mark was formed when the ejection valve rod pushed the partially expanded parison out of the blank mold. When the parison was placed in the second blow mold, the ejection mark was left behind. These marks are typically found on wide mouth ABM bottles, such as food bottles and jars, milk bottles, and canning jars. These marks are usually found on bottles and jars dating from the 1910s to circa 1950 but are most common on wide mouth bottles produced in the 1930s and 1940s (Lindsey 2008; Rock 1980:7). Cup and post molds continued to be used in the ABM industry. These were still formed similarly to the BIM method and were not assigned mold-specific manufacturing dates.

Body types in the ABM assemblage were similar to those found in the BIM assemblage. Embossed sherds, embossed recessed panels, and recessed panels were all identified. Enameled labels, also referred to as “applied color labels” or ACL, represented a permanent label that eventually replaced embossing. Initially, pigments were pressed through printing screens onto the bottle’s surface. One color was applied at a time, and the bottles were then fired to create a permanent adhesion. Some of these early enameled label bottles also exhibit embossing. In the 1950s, an automatic printing machine was invented that would increase printing capacity. These machines used a thermoplastic wax that eliminated the need for drying time in between colors. This process also heated the medium as it was being added to the glass surface. Enameled labeling was popularized circa 1935 (Lindsey 2008). Paper labels were introduced to the bottle industry well before the creation of the automatic bottle machine; therefore, a specific date was not applied to those bottles or glass sherds exhibiting this label type.

Finishes were formed differently on ABM bottles and jars than on BIM vessels. Unlike BIM vessels, where the finish is formed last, the finish on ABM bottles and jars is formed first. The automatic machines typically held the neck ring and finish before the bottle or jar was expanded to the desired size. The most obvious distinguishing characteristic on an ABM finish vs. a BIM finish is that ABM finishes exhibit machine mold seams that travel up the entire finish of the vessel. ABM vessels also exhibit a horizontal mold seam that circles the vessel neck just below the finish. Thirdly, ABM finishes contain another mold seam at the top of the finish, which encircles the vessel opening (Jones and Sullivan 1985; Lindsey 2008; Toulouse 1969).

Although a full discussion of color types was discussed in the BIM section of this chapter, it should be noted that a few of the glass colors identified were only manufactured for a short time in the ABM industry. Amethyst glass, for instance, was only utilized in the ABM industry until 1920, when it was superseded by selenium glass (Lockhart

2006). Selenium glass was only popular until around 1930, when the glass recipe was perfected and selenium was no longer added (Faulkner 2000). Opaque white and cobalt colored glass, although still found contemporarily, decreased in popularity circa 1960 (Jones and Sullivan 1985; Lindsey 2008).

Bottles and jars categorized as ABM were placed in the same vessel form groups as the BIM bottles and jars. All bottles and jars within each of these groups were also inspected for maker’s marks and other indicators of specific dates. For instance, a large number of bottles and jars in the ABM assemblage exhibited maker’s marks utilized by the Owens Illinois Glass Company (Toulouse 1971). These marks were described and assigned specific dates when available. Many of the ABM vessels also contained embossing that allowed for specified dating. For instance, a large number of liquor bottles in the ABM assemblage exhibited Prohibition specific embossing. National Prohibition was repealed in America in 1933, which led to the passage of federal laws that would prohibit the reuse or sale of liquor bottles. Therefore, bottles exhibiting the embossed phrase “Federal Law Forbids Sale or Re-use of this Bottle” were assigned dates of 1933–1964. In 1964, the law requiring this embossed statement was repealed (Lindsey 2008).

Undiagnostic Container Glass

A total of 191 undiagnostic container glass fragments were identified. When no other diagnostic features were present, the color of the glass was noted, although there is some subjectivity inherent in color classification. Jones and Sullivan (1985) observed that chemicals color glass, either as natural inclusions or additions by the manufacturer. The concern for the current study was primarily to note the presence of datable glass. A full discussion of glass colors can be found in the BIM section of this chapter.

Glass Tableware

Press molding was first used (although on a very small scale) in England in the late

seventeenth century to make small solid glass objects, such as watch faces and imitation precious stones (Buckley 1934). By the end of the eighteenth century, decanter stoppers and glass feet for objects were also being produced (Jones and Sullivan 1985). The production of complete hollowware glass objects did not become possible until there were innovations in press-molded techniques in the United States during the late 1820s (Watkins 1930). Mass production of press-molded glassware was well established by the 1830s (Watkins 1930).

Earlier press-molded glass objects were predominantly made of colorless lead glass (Jones and Sullivan 1985). William Leighton of the Hobbs-Brockunier Glass Works in Wheeling, West Virginia, invented lime glass. This type of glass looked like lead glass, had superior pressing attributes, and was much more inexpensive than lead glass (Revi 1964). Advancements in mold technology in the 1860s and 1870s led to the application of steam-powered mold operation. This in turn led to increased production and reduced costs (Revi 1964). Modern press molding is conducted entirely by machine (Jones and Sullivan 1985).

Press-molded table glass was made by dropping hot pieces of glass into a mold. A plunger was then forced into the mold, pressing the hot glass against it. The outer surface of the glass took on the form of the mold, while the inner surface of the glass was shaped by the plunger. The plunger was withdrawn, and the glass object was removed from the mold. The surface of the glass was often fire polished to restore the brilliance of the glass surface that was disturbed by its contact with the mold (Jones and Sullivan 1985).

Press-molded glass may be recognized by several characteristics. Usually, the glass object must be open-topped in order for the plunger to be withdrawn from the mold. Narrow mouthed vessels were produced, but additional manipulation of the glass was necessary after the plunger was removed from the mold. Evidence of this manipulation

should be present on the vessel (Jones and Sullivan 1985). There is no relationship between the exterior shape and design of a press-molded vessel to the interior shape and design because the plunger shapes the interior of the object, most often leaving behind a smooth surface. This differs from earlier glass vessel production techniques like blown glassware, where interior shape was related to the exterior shape and design (Jones and Sullivan 1985).

Another characteristic of press-molded containers was that mold seams were generally present. The seams were sharp and distinct, unless steps had been taken to deliberately remove them. The texture of the glass surface of press-molded glass was disturbed and often disguised by an all-over stipple design. The edges of the designs on press-molded glass had a predisposition toward rounded edges. The bases of press-molded objects were usually polished. The quality of the designs on press-molded glassware was precise, and the design motifs were numerous (Jones and Sullivan 1985).

In contrast to press-molded glass, cut glass generally had a polished, smooth, and glossy surface texture. The design edges were sharp and distinct. Cut glass designs consisted mostly of panels, flutes, and miters. The designs were often slightly uneven and asymmetrical. Mold seams were usually absent, being polished off prior to cutting (Jones and Sullivan 1985). Contact-molded glass also differs from press-molded glass in that the exterior and interior of the vessel will portray parallel patterns. The interior of the vessel is also generally much more diffuse towards the base. Pattern molding was also occasionally found on glass tableware vessels. This mold type was performed in the same way that it was performed on BIM glass. Free-blown glass tableware was the first type of glass tableware to be created and, therefore, cannot be assigned a specific period of manufacture.

From the late 1870s onward, the principal type of mold used appears to have been optic molding, although some contact molding was

still used in glass tableware production (Jones 2000:157). Optic molding is a technique in which the glass is blown into a patterned mold before being transferred to a full-size undecorated mold and blown. This causes the pattern, usually consisting of panels, ribs, or circular protrusions, to be transferred to the interior of the object (Jones 2000:160). The major use of this technique in glass tableware dates from the 1880s into the twentieth century, when it was used primarily for drinking glasses and mugs.

Among the eight pieces of glass tableware in the recovered assemblage, three were identified as pattern mold, four made from an unidentified type of mold, and one was an undiagnostic fragment.

Faunal/Floral Group

Faunal and floral remains were assigned to this group. These remains were categorized into general classes before they were counted and weighed. In total, 13 bone fragments and 6 wood charcoal fragments were recovered. These items could not be assigned specific dates.

Maintenance and Subsistence Group

The maintenance and subsistence group includes 16 items in the recovered assemblage, and contains artifacts related to general maintenance activities. These artifacts were grouped into classes containing nonfood cans, nonfood containers, electrical, farming and gardening, stable and barn activities, general hardware, general tools, transportation, and

fuel-related items, such as coal. Several of these classes were represented in the historic assemblage recovered during the current excavation (Table 5.4).

General Hardware

This class of artifacts includes seven artifacts that represent a wide variety of hardware fasteners and items used for a variety of purposes. Objects within this category were identified as smooth wires, an unidentified bolt, a fence staple, a square nut, and barbed wire. Barbed wire was popular invention of the nineteenth century. This wire type was invented as a livestock deterrent in 1874. This wire consists of wire barbs twisted along smooth wire (IMACS 2001; Turner 1971). Bolts were identified as threaded metal pins or rods designed to be inserted through holes and secured on the opposite end by a mating nut. A square nut was also recovered. The square nut was identified as a metal block with a threaded center used to secure a bolt or screw (Ching 1995). A fence staple was also recovered. Staples were identified as U-shaped pieces of metal with pointed ends driven into a surface to secure some type of material to another.

The remaining items are common items still made today and will not be discussed further. Items not assigned a specific date could have been manufactured from the late eighteenth century through the mid-twentieth century. Some of these items are still commonly used and found today. Items made of modern plastic were dated according to material type.

Table 5.4. Summary of Maintenance and Subsistence Group Artifacts Recovered from the Project Area.

Site Prov	General Hardware	Containers	Electrical	Fuels	Total
16NA768				2	2
16NA769	2	1	1	3	7
16NA770	1			2	3
16NA771	3				3
L14C001-11	1				1
Total	7	1	1	7	16

Electrical

The single item in this class of artifacts is a ceramic insulator, although the class may include things such as insulators, electrical wire, batteries, electrical tape, and any other item associated with electricity.

Insulators were made of both glass and ceramic. The first insulators were made in 1844, when the first telegraph message was sent from Washington, D.C., to Baltimore. Ezra Cornell was issued the first glass insulator patent in this same year. Ceramic insulators were first patented in 1892. Both glass and ceramic insulators are found in many different shapes and sizes (Berge 1980:153–156; National Insulator Association 2008).

Containers

Containers for storage and hauling, such as buckets and barrels, were included in this class. One item was recovered in the container assemblage. It was an oil container cap, and it could not be assigned a specific date of manufacture.

Fuels

This group of artifacts includes charcoal, coal, cinder, slag, and containers indicative of fuel. Charcoal, coal, cinder, and slag were recovered during the current excavations. The overwhelming majority of these materials were counted and weighed in the field, documented on level/zone forms, and generally not collected for curation because of their limited research potential. The seven artifacts in this grouping were not assigned specific dates.

Unidentified

This category contains the 132 artifacts that could not be identified beyond the material from which the artifact was made. There were eight material classes included within this group. These material classes included biological, ceramic, glass, metal, multiple materials, plastic, stone, and unidentified material. The majority of these items were counted and weighed in the field, documented on level/zone forms, and

generally not collected for curation because of their limited research potential.

All glass fragments placed into this category were amorphous, burned glass fragments, or were fragments that could not be further identified other than their material. The unidentified metal consisted of iron/steel, aluminum, tin, and unidentified metal. The multiple materials category contained those unidentified items that were made of more than one material. One multiple material item of iron/steel and an unknown material was recovered. The unidentified material was classified as any item whose use and material was unknown.

The plastic class consisted of modern plastic, cellophane, Bakelite, and foam. Bakelite was created from phenol formaldehyde and was often colored. Leo Baekeland can be credited with bringing the first “heat and pressure” process of phenolic, also known as Bakelite, to the United States in 1907. This synthetic material was particularly popular during the 1930s. Colors are limited to dark shades of brown, blue, red, or green, usually exhibiting a mottled appearance. Bakelite began to lose popularity with the advent of modern plastic, and its use was discontinued circa 1950 (Katz 1994:24–25). Cellophane, as it is known today, was invented in 1927 by William Hale Charch of the DuPont Company. Although cellophane was introduced originally at the beginning of the twentieth century, the 1927 enhancement made the cellophane moisture proof, so that it could be used for food packaging (Bellis 2008). Modern plastic was introduced in the 1930s. Modern plastic was more cost effective and allowed for even greater applications than celluloid and Bakelite (Meikle 1992).

Discussion

There were 645 historic artifacts and 1 prehistoric artifact recovered from five sites and six isolated finds during the current investigation. The material collected is discussed in detail above, and a brief discussion is provided below by locus. A complete inventory of the historic artifacts can

be found in Appendix B, and a full discussion of each location is provided in the *Results* chapter.

16NA768

The 16NA768 assemblage recovered during the survey consists of 51 artifacts. The majority of these artifacts (53 percent) fall within the architectural group, while 25 percent fall within the domestic group. The other historic groups that are represented (maintenance/subsistence and unidentified) constituted the remaining 22 percent of the assemblage.

Terminus post quem (TPQ), or earliest dates, could be determined for four ceramic sherds and single wire nail. Three of the ceramic artifacts are plain, undecorated whiteware and one is molded whiteware, all of which were in use as early as 1830 but continue to be used to the present. Likewise, the wire nail suggests a date between 1880 and the present. These artifacts do not provide a good indication of when the site was in use so the site was considered to have an unknown historic component. The scarcity of domestic group artifacts when compared with the other sites may indicate that it served some separate, non-domestic function or that it may have been occupied for a shorter duration.

16NA769

The 16NA769 assemblage recovered during the survey consists of 167 artifacts. The majority of these artifacts (73 percent) fall within the domestic group, while 11 percent are classified within the architectural group. The other historic groups that are represented (clothing, faunal, and unidentified) constituted the remaining 16 percent of the assemblage. A single piece of debitage was also recovered.

The TPQ, or earliest dates associated with assemblage from 16NA769 suggest that most of the artifact types were in use by the nineteenth century, although one was in use earlier. Terminus ante quem (TAQ), or latest dates associated with the assemblage include a late-nineteenth- and an early-twentieth-century date, although most artifact types continue to

be used into the present. Taken into consideration together, these artifacts suggest that the site may have come into use in the late nineteenth century but it was likely in use during the early twentieth century. The assemblage is consistent with a domestic function. The presence of architectural group artifact further suggests the likely presence of a domestic structure.

16NA770

The 16NA770 assemblage recovered during the survey consists of 332 artifacts. The domestic group is the largest represented, constituting 40 percent of the assemblage, while 30 percent fall within the architectural group. The other historic groups that are represented (clothing, faunal, maintenance/subsistence and unidentified) constitute the remaining 30 percent of the assemblage.

The TPQ, or earliest dates associated with the assemblage from 16NA770 suggest that some of the artifact types were in use during the early nineteenth century, while few were earlier. The TAQ, or latest dates associated with the assemblage indicate that most of the artifacts fell out of use by the late nineteenth to early twentieth century, although most types continue to be used to the present. Since many of the artifact types were in use for a broad length of time or in the case of some architectural group artifacts could have been reused, an estimated temporal range of mid-nineteenth to mid-twentieth century is suggested. The historic artifact assemblage from the site suggests that it may have served for a domestic function, although the relatively lower quantity of domestic group artifacts when compared with other sites may indicate that it was occupied for a shorter duration. The recovery of several architectural group artifacts suggests a structure was present on the site.

16NA771

The 16NA771 assemblage recovered during the survey consists of 23 artifacts. The architectural group constitutes the largest group in the recovered assemblage (35

percent), while 22 percent fall within the unidentified group. The other historic groups that are represented (domestic, faunal, and maintenance/subsistence) constituted the remaining 43 percent of the assemblage.

Only a single TPQ, or earliest date, could be determined for the assemblage. This was for a plain whiteware sherd, which suggested a date from 1830 to the present. Due to the broad temporal range and small sample size this is a poor indication of when the site was in use, and the site was considered to have an unknown historic component. The scarcity of domestic group artifacts compared with other sites may suggest a different function for this site, or possibly that it was in use for a shorter duration. The architectural group artifacts indicate that it likely contained a structure, though the function is unknown.

16NA772

The 16NA772 assemblage recovered during the survey consists of 55 artifacts. The majority of these artifacts (73 percent) fall within the domestic group, while 11 percent are classified within the architectural group. The other historic groups that are represented (clothing, faunal, and unidentified) constituted the remaining 16 percent of the assemblage.

The TPQ, or earliest dates, and TAQ, or latest dates associated with the 16NA772 assemblage suggest that most artifact types were in use during the early nineteenth century, although a few were in use earlier. However, these items were used for a broad length of time and in the case of some, such as architectural group artifacts including the cut nail, there may have been recycling. An estimated temporal range of early nineteenth to early twentieth century is inferred for this site based on the TPQ and TAQ determinations. The historic artifact assemblage is consistent with a domestic function, and the recovery of several architectural group artifacts suggests a structure was present on the site.

Isolated Finds

In total, 17 historic artifacts were recovered from isolated finds in the project area. These consist of various quantities of architecture, domestic, maintenance/subsistence, and unidentified artifacts. Only two of these artifacts provided any more specific temporal data, both of which indicated a twentieth-century age. These artifacts are likely related to the historic activities that are evidenced in the project area by the large number of historic sites. They are discussed in greater detail in Chapter 6 below.

Chapter 6. Results

The fieldwork portion of this project consisted of a combination of pedestrian survey and shovel testing. The entire project area was vegetated in coarse pasture grass at the time of the investigation. Ground surface visibility was poor due to the grass cover. This chapter presents data on the cultural resources that were recorded as a result of the project.

Cultural Resources

A total of 248 screened shovel tests were excavated at a 30 m (98 ft) interval along transects, of which 31 were positive and 217 were negative for cultural material. A total of 301 shovel tests were excavated at a closer interval to delineate site and isolated find boundaries, of which 79 were positive and 222 were negative for cultural material.

The investigation resulted in five newly recorded archaeological sites (16NA768, 16NA769, 16NA770, 16NA771 and 16NA772), all dating to the historic period, and one (16NA769) also containing a prehistoric isolate. The investigation also resulted in the identification of six isolated finds. The results of the investigation at each of the sites and isolated finds are presented in this chapter, including the justification for our NRHP recommendations.

16NA768

UTM Coordinates:

Site Datum (STP 17-5): 15S, N3510734 E492514 (NAD 83)

Elevation: 34 m (111 ft) AMSL

Components: historic

Specific Components: historic unknown.

Site Type: historic scatter.

Size: 5,812 sq m (69,660 sq ft)

Distance/direction to nearest water: Bayou Julien, 300 m (984 ft) to the southeast

Type and extent of previous disturbance: likely agricultural disturbance throughout site

Topography: alluvial plain

Vegetation: low grasses

Ground surface visibility: 0 to 25 percent

Slope Direction (Aspect): level

Recommended NRHP status: not eligible; no further work

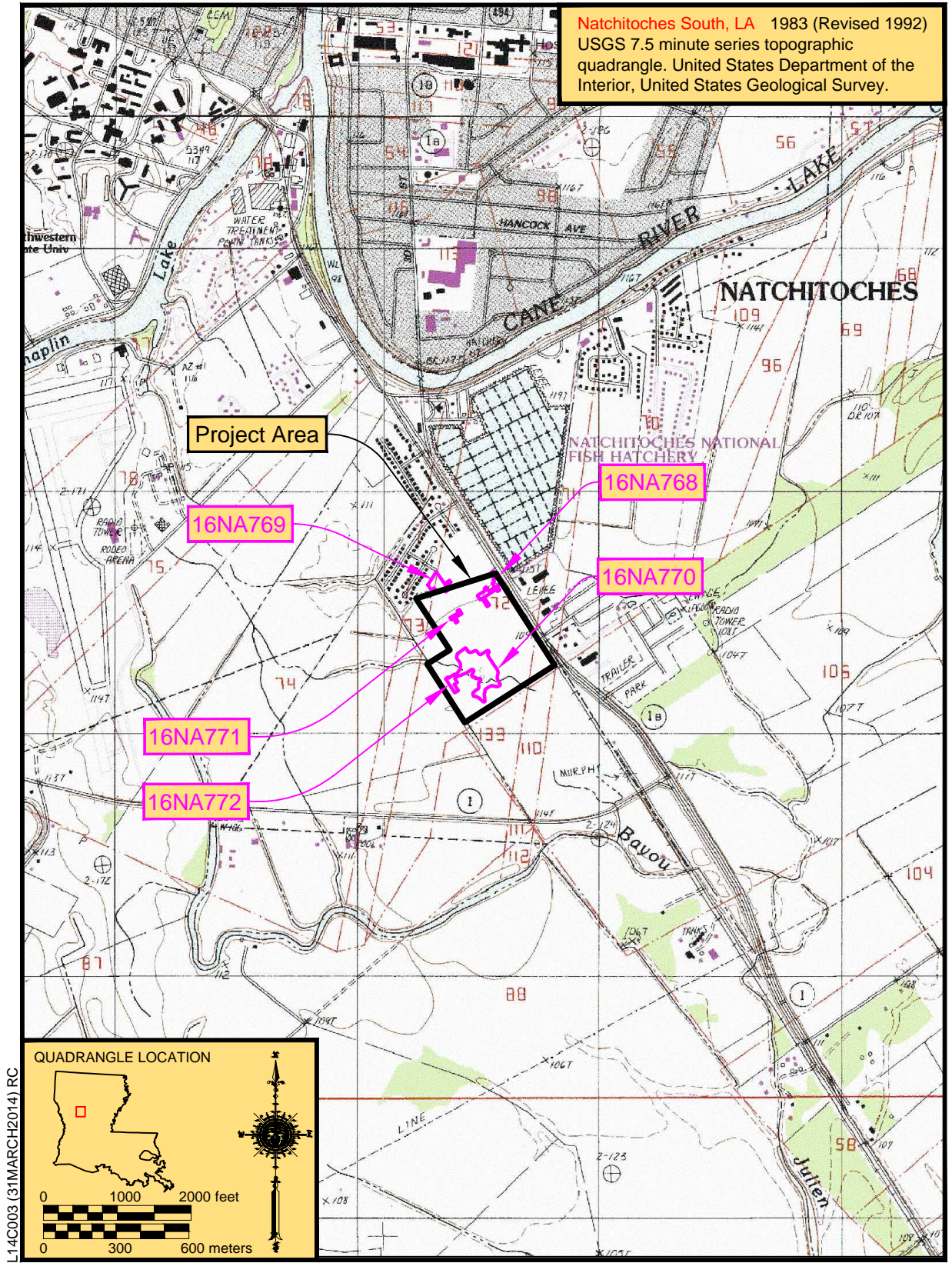
Site Description and Investigation Methods

16NA768 is a newly recorded archaeological site as a result of this project, and was assigned the temporary field site number L14C003-1. The site extends beyond the revised northern boundary of the project area. It is comprised of a low-density sub-surface scatter of historic artifacts in a manicured field located north of Industrial Drive (Figure 6.1). Surface visibility was poor, estimated at less than 25 percent.

The site was first detected through shovel testing on Transect 16 STP 5, and delineation shovel tests were excavated at 10 m (33 ft) intervals only within the project area. No historic ruins or features were observed at the 16NA768 location (Figures 6.2 and 6.3).

Depositional Context

Profiles observed at 16NA768 during the cultural survey were generally consistent with a typical pedon of soil mapped as Gallion silt loam and described by Martin et al. (1990). A shovel test profile exposed near the site center (N1050 E1000) consisted of 20 cm (8 in) of reddish brown (5YR 4/3) silty clay, overlying strong brown (7.5YR 4/6) silt to a depth of 50 cm (16 in) bgs. This soil description was relatively consistent across the site, with artifacts generally occurring in the top stratum.



L14C003 (31MARCH2014) RC

Figure 6.1. Location of sites recorded in project area.

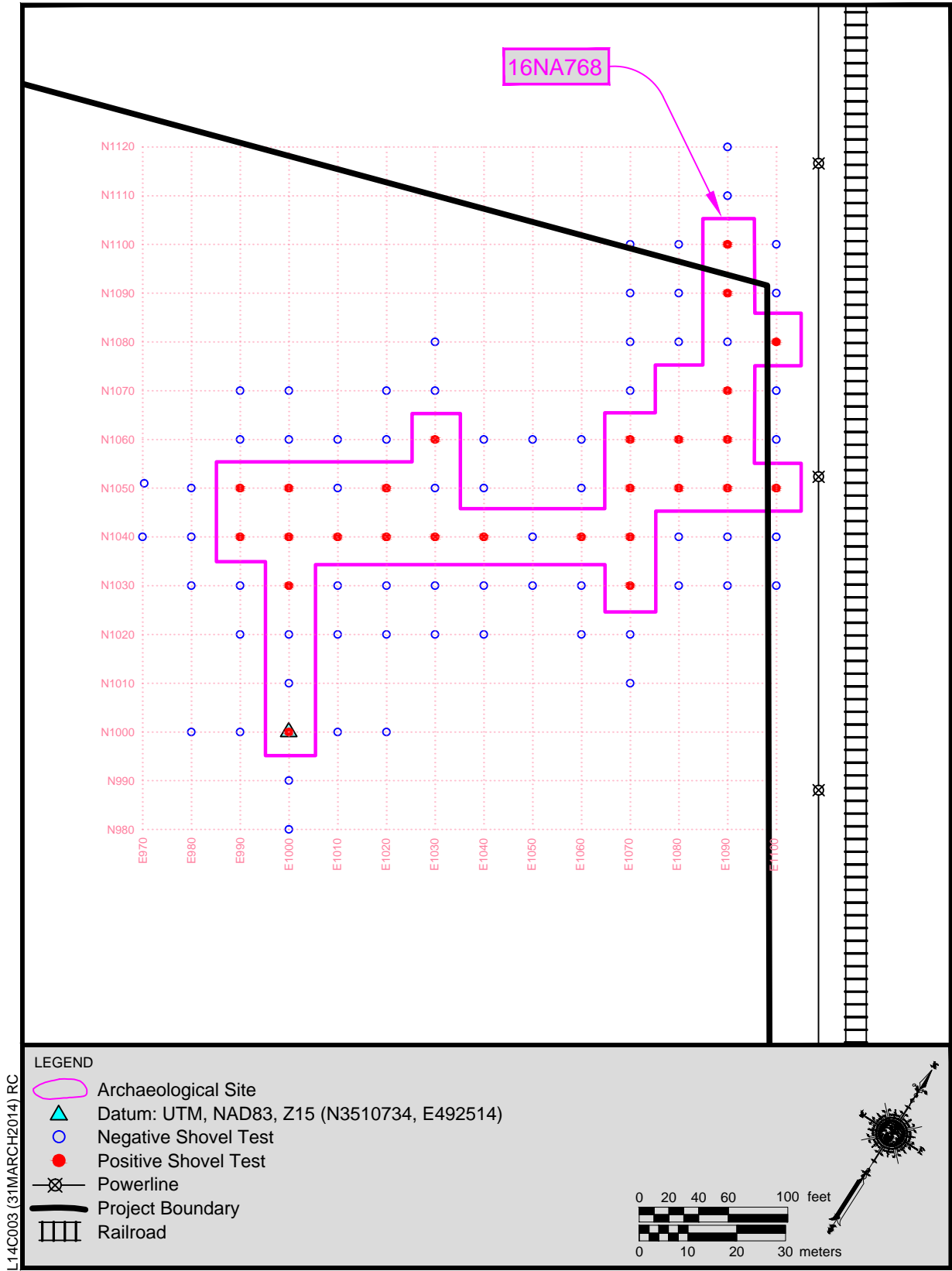


Figure 6.2. Schematic plan map of 16NA768 within the project area.



Figure 6.3. Photograph of 16NA768, facing approximately north.

Artifacts

The assemblage recovered from 16NA768 during the survey consists of 51 artifacts. The majority of these artifacts (53 percent) fall within the architectural group, while 25 percent fall within the domestic group. The other historic groups that are represented (maintenance/substance and unidentified) constituted the remaining 22 percent of the assemblage. These artifacts do not provide a good indication of when the site was in use so the site was considered to have an unknown historic component. The scarcity of domestic group artifacts when compared with the other sites may indicate that it served some separate, non-domestic function or that it may have been occupied for a shorter duration. Artifacts recovered from the field investigation are tabulated by provenience in Table 6.1.

Features

The profiles of all excavated shovel tests were examined for cultural features and other

in situ historic deposits, but no such intact deposits were found. This absence is possibly the result of disturbance to the site caused by plowing or other agricultural activities.

Summary and National Register Evaluation

16NA768 is a newly recorded archaeological site as a result of this survey. The site consists of a low-density subsurface scatter of historic artifacts in a grass-covered field approximately 111 m north of Industrial Drive. Investigations at 16NA768 did not provide any evidence that this site contains any intact historic features and artifact density was light. This site does not appear to have any significant research potential, and therefore the portion within the project area boundary is recommended not eligible for listing in the NRHP.

Table 6.1. Historic Artifacts Recovered According to Functional Group from 16NA768.

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
N1040 E990	Construction/Brick		4					4
N1040 E1000	Construction/Brick		1					1
N1040 E1000	Construction/Mortar		3					3
N1040 E1010	Construction/Brick		2					2
N1040 E1010	Container Glass/Undiagnostic	1						1
N1040 E1018	Construction/Brick		1					1
N1040 E1030	Ceramics/Whiteware	1						1
N1040 E1040	Construction/Mortar		1					1
N1040 E1060	Glass Tableware/Unidentified mold	1						1
N1040 E1070	Construction/Brick		3					3
N1040 E1070	Fuels/Cinder or slag			2				2
N1050 E1000	Construction/Brick		5					5
N1050 E1000	Container Glass/Undiagnostic	1						1
N1050 E1020	Container Glass/Undiagnostic	1						1
N1050 E1070	Container Glass/Undiagnostic	1						1
N1050 E1080	Construction/Brick		1					1
N1050 E1090	Container Glass/Undiagnostic	1						1
N1050 E1100	Metal/Iron or Steel				2			2
N1060 E1030	Construction/Brick		1					1
N1060 E1080	Ceramics/Whiteware	1						1
N1060 E1080	Container Glass/Undiagnostic	1						1
N1060 E1090	Construction/Brick		1					1
N1070 E1080	Container Glass/Undiagnostic	3						3
N1070 E1090	Ceramics/Whiteware	1						1
N1070 E1090	Construction/Brick		1					1
N1090 E1090	Container Glass/Undiagnostic	1						1
N1100 E1090	Container Glass/Undiagnostic	1						1
TR16, STP#5	Container Glass/Undiagnostic	1						1
TR16, STP#5	Glass/Flat				1			1
TR16, STP#5	Nails/Wire Nail		1					1
TR17, STP#4	Glass/Indeterminate				1			1
TR17, STP#5	Ceramics/Ironstone	1						1
TR17, STP#5	Flat Glass/Window Glass		1					1
TR19, STP#2	Container Glass/Undiagnostic	1						1
TR19, STP#3	Construction/Brick		1					1
Total		18	27	2	4	0	0	51

16NA769

UTM Coordinates:

Site Datum (STP 23-9): 15S, N3510819 E492326 (NAD 83)

Elevation: 34 m (111 ft) AMSL

Components: historic, prehistoric unknown

Specific Components: late nineteenth to mid-twentieth century, prehistoric

Site Type: historic residential/domestic home site.

Size: 2,400 sq m (25,833 sq ft) within project area

Distance/direction to nearest water: Bayou Julien, 276 m (905 ft) to the west

Type and extent of previous disturbance: construction of an Atmos Energy pipeline along the west side and agricultural disturbance throughout site

Topography: natural levee

Vegetation: low grasses

Ground surface visibility: 0 to 25 percent

Slope Direction (Aspect): level

Recommended NRHP status: not eligible; no further work

Site Description and Investigation Methods

16NA769 is a newly recorded archaeological site as a result of this project, and was assigned the temporary field site number L14C003-3. The majority of this site is to the north of the revised northern boundary of the project area. It is comprised of a low-density, sub-surface scatter of historic artifacts and an isolated prehistoric artifact in a manicured field and adjacent to a pipeline corridor located north of Industrial Drive

(Figure 6.1). A historic structure was depicted at, or near, the site location on the 1937 Bermuda topographic quadrangle examined during the records review (see Chapter 3). The piece of debitage was recovered from 40 to 50 cm bgs. Surface visibility was estimated at less than 25 percent.

The site was first detected through surface collecting adjacent to Transect 23 STP 8, and delineation shovel tests were excavated at 15 m (49 ft) intervals due to the extent of the positive transect shovel tests. The site was delineated well beyond the project boundary, but the northwestern extent of the site was not completely determined. Possible disturbances were evident due to pipeline markers for the Atmos Energy pipeline. No historic ruins or features were observed at the 16NA769 location (Figures 6.4 and 6.5).

Depositional Context

Profiles observed at 16NA769 during the cultural survey were generally consistent with a typical pedon of soil mapped as Roxana very fine sandy loam, which is mapped on a portion of the site (Martin et al. 1990). A shovel test profile exposed near the site center (STP N1000 E940) consisted of 27 cm (11 in) of yellowish red (5YR 4/6) silt, overlying yellowish red (5YR 5/6) fine sand to a depth of 50 cm (16 in) bgs. This soil description was relatively consistent across the site, with artifacts coming from both strata.

Artifacts

The 16NA769 assemblage recovered during the survey consists of 167 artifacts. The majority of these artifacts (73 percent) fall within the domestic group, while 11 percent fall within the architectural group. The other historic groups that are represented (clothing, faunal, and unidentified) constituted the remaining 16 percent of the assemblage. Taken into consideration together, these artifacts suggest that the site may have come into use in the late nineteenth century, but it was likely in use during the early twentieth century. The assemblage is consistent with a domestic function. The presence of architectural group artifacts further suggests the likely presence of a domestic structure. Artifacts recovered from the field investigation are tabulated by

provenience in Table 6.2. As mentioned earlier a single piece of debitage was also recovered from a shovel test at grid coordinate N1000 E970 between 40 and 50 cm bgs.

Features

The profiles of all excavated shovel tests were examined for cultural features and other *in situ* historic deposits, but no such intact deposits were found. This absence is possibly the result of disturbance to the site caused by plowing or the construction of the canal or pipeline.

Summary and National Register Evaluation

16NA769 is a newly recorded archaeological site as a result of this survey and possibly represents the remains of a late-nineteenth- to mid-twentieth-century residence. The site consists of a low-density subsurface scatter of historic artifacts in a grass-covered field approximately 230 m north of Industrial Drive. It was delineated well outside the current project boundary.

A probable late-nineteenth- to mid-twentieth-century date is inferred from the recovered artifact assemblage. The records review indicated that a historic structure was depicted at or near the site location on the earliest available topographic quadrangle. The mapped historic structure was only depicted in 1937 (USGS 1937), and ceased to exist sometime prior to 1983. Given the site's location and probable occupation date, and the evidence from the recovered artifact assemblage, 16NA769 likely represents a residence. While a possible flake was also recovered, there were no other indications of prehistoric activity.

Investigations at 16NA769 did not provide any evidence that this site contains any intact historic features and artifact density was light. The historic component of the site does not appear to have any significant research potential, and therefore the portion within the project area boundary is recommended not eligible for listing in the NRHP. The recovery of a prehistoric artifact well below the historic materials suggests that deeper archaeological deposits may exist that were not assessed outside of the project area to the north.

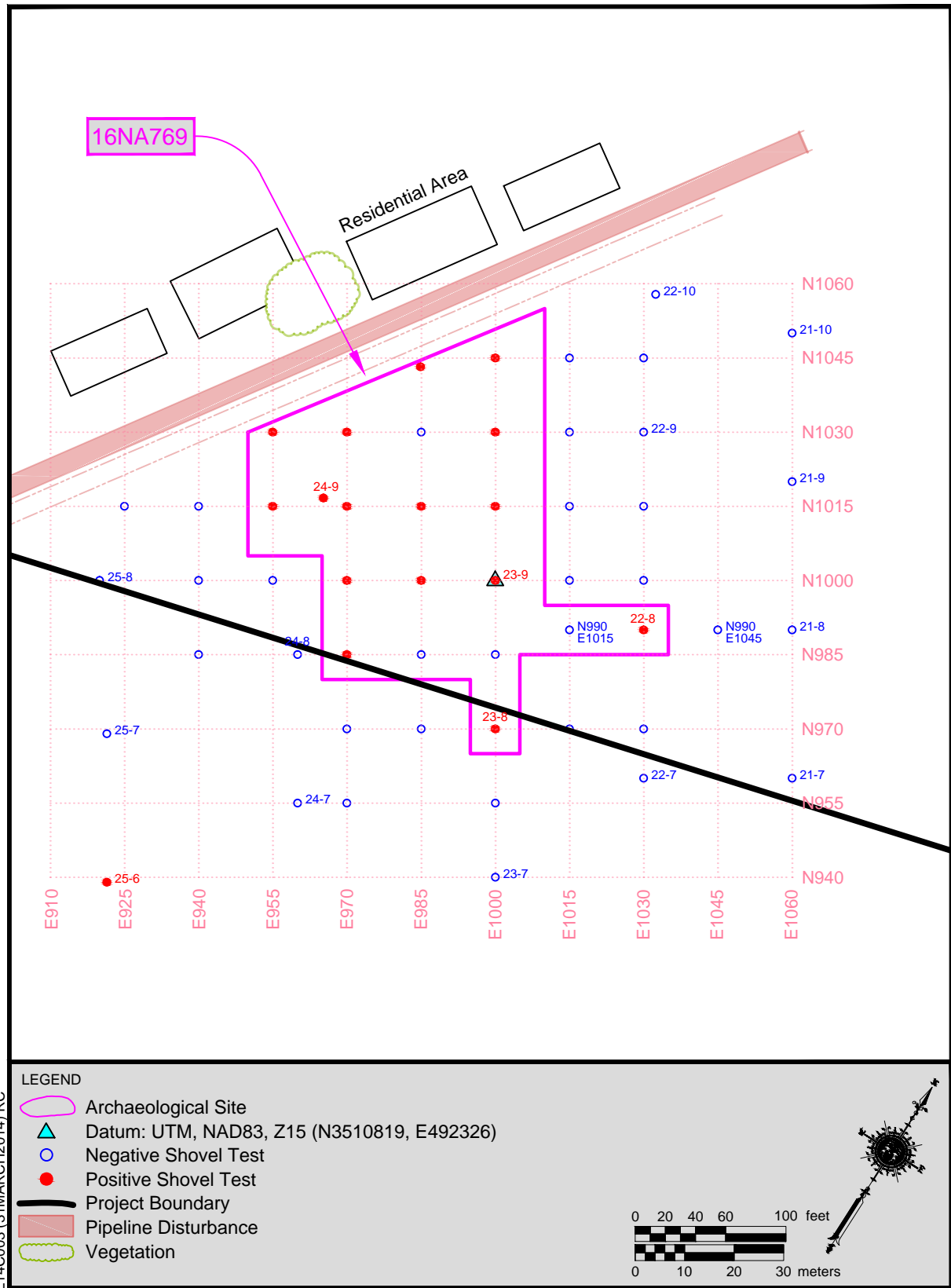


Figure 6.4. Schematic plan map of 16NA769 within the project area.



Figure 6.5. Photograph of 16NA769, facing approximately north.

Table 6.2. Historic Artifacts Recovered According to Functional Group from 16NA769.

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
Aug STP 21-8	Metal/Iron or Steel				1			1
N985 E970	Container Glass/Undiagnostic	1						1
N1000 E970	Ceramics/Whiteware	3						3
N1000 E970	Construction/Brick		4					4
N1000 E970	Construction/Mortar		1					1
N1000 E970	Container Glass/Undiagnostic	7						7
N1000 E970	Floral Remains/Wood charcoal					1		1
N1000 E970	Glass/Curved				1			1
N1000 E970	Metal/Iron or Steel				9			9
N1000 E970	Nails/Wire Nail		1					1
N1000 E985	Construction/Brick		1					1
N1000 E985	Glass Tableware/Pattern mold	1						1
N1015 E955	Construction/Brick		32					32
N1015 E955	Construction/Mortar		2					2
N1015 E955	Container Glass/Undiagnostic	16						16
N1015 E955	Electrical/Insulator: ceramic			1				1
N1015 E955	Flat Glass/Window Glass		2					2
N1015 E955	Floral Remains/Wood charcoal					1		1
N1015 E955	Fuels/Cinder or slag			2				2
N1015 E955	General Hardware/Bolt			1				1
N1015 E955	Metal/Iron or Steel				12			12
N1015 E955	Metal/Multiple metals				1			1
N1015 E955	Nails/Indeterminate		7					7
N1015 E955	Nails/Wire Nail		2					2
N1015 E955	Plastic/Modern				1			1
N1015 E970	Container Glass/ABM	1						1
N1015 E985	Container Glass/Undiagnostic	1						1
N1015 E1000	Container Glass/Undiagnostic	2						2
N1030 E955	Construction/Brick		1					1
N1030 E955	Container Glass/ABM	1						1
N1030 E955	Container Glass/Undiagnostic	2						2
N1030 E955	Metal/Iron or Steel				1			1
N1030 E970	Buttons/Sew-through						1	1
N1030 E970	Construction/Brick		1					1
N1030 E970	Container Glass/Undiagnostic	3						3
N1030 E970	Metal/Iron or Steel				1			1
N1045 E985	Container Glass/Undiagnostic	2						2
N1045 E985	Containers/Other			1				1
N1045 E985	Flat Glass/Window Glass		1					1
N1045 E1000	Construction/Brick		1					1
TR22, STP#8	Construction/Brick		2					2
TR23, STP#10	Construction/Brick		4					4
TR23, STP#10	Container Glass/Undiagnostic	3						3
TR23, STP#10	Fuels/Cinder or slag			1				1
TR23, STP#8	Glass Tableware/Unidentified mold	1						1
TR23, STP#9	Ceramics/Stoneware	1						1
TR23, STP#9	Container Glass/ABM	2						2
TR23, STP#9	Container Glass/Undiagnostic	5						5
TR23, STP#9	Metal/Iron or Steel				1			1
TR23, STP#9	Nails/Wire Nail		1					1
TR24, STP#9	Ceramics/Whiteware	1						1
TR24, STP#9	Construction/Brick		3					3
TR24, STP#9	Container Glass/Undiagnostic	5						5
TR24, STP#9	Floral Remains/Wood charcoal					1		1
TR24, STP#9	General Hardware/Wire			1				1
TR24, STP#9	Indeterminate				1			1
TR24, STP#9	Nails/Cut Nail: unspecified		1					1
TR24, STP#9	Nails/Indeterminate		2					2
Total		58	69	7	29	3	1	167

16NA770

UTM Coordinates:

Site Datum (STP 6-5): 15S, N3510473 E492469 (NAD 83)

Elevation: 33 m (110 ft) AMSL

Components: historic

Specific Components: mid-nineteenth to mid-twentieth century

Site Type: historic residential/domestic home site.

Size: 1.97 ha (4.89 acres) within project area

Distance/direction to nearest water: Bayou Julien, 15 m (49 ft) to the southwest

Type and extent of previous disturbance: agricultural disturbance throughout site

Topography: alluvial plain

Vegetation: low grasses

Ground surface visibility: 0 to 25 percent

Slope Direction (Aspect): level

Recommended NRHP status: not eligible; no further work

Site Description and Investigation Methods

16NA770 is a newly recorded archaeological site as a result of this project, and was assigned the temporary field site number L14C003-7. The site is comprised of a low-density, sub-surface scatter of historic artifacts in a fallow field located south of Industrial Drive (Figure 6.1). A historic structure that likely represented a residence was depicted at or near the site location on the 1937 Bermuda topographic quadrangle that was examined during the records review, and three unoccupied structures were located near this structure on the 1983 Natchitoches South topographic quadrangle map (see Chapter 3). Surface visibility was estimated at less than 25 percent.

The site was first detected through surface collecting adjacent to Transect 5 STP 2 and adjacent to Transect 6 STP 7, and delineation shovel tests were excavated at 10 and 15 m (49 ft) intervals due to the two separate delineations joining together. Possible disturbances to the site include agricultural practices and possibly the filling of the unnamed tributary of Bayou Julien that was marked on the 1937 and later quadrangle maps. No historic ruins or features

were observed at the 16NA770 location (Figures 6.6 and 6.7).

Depositional Context

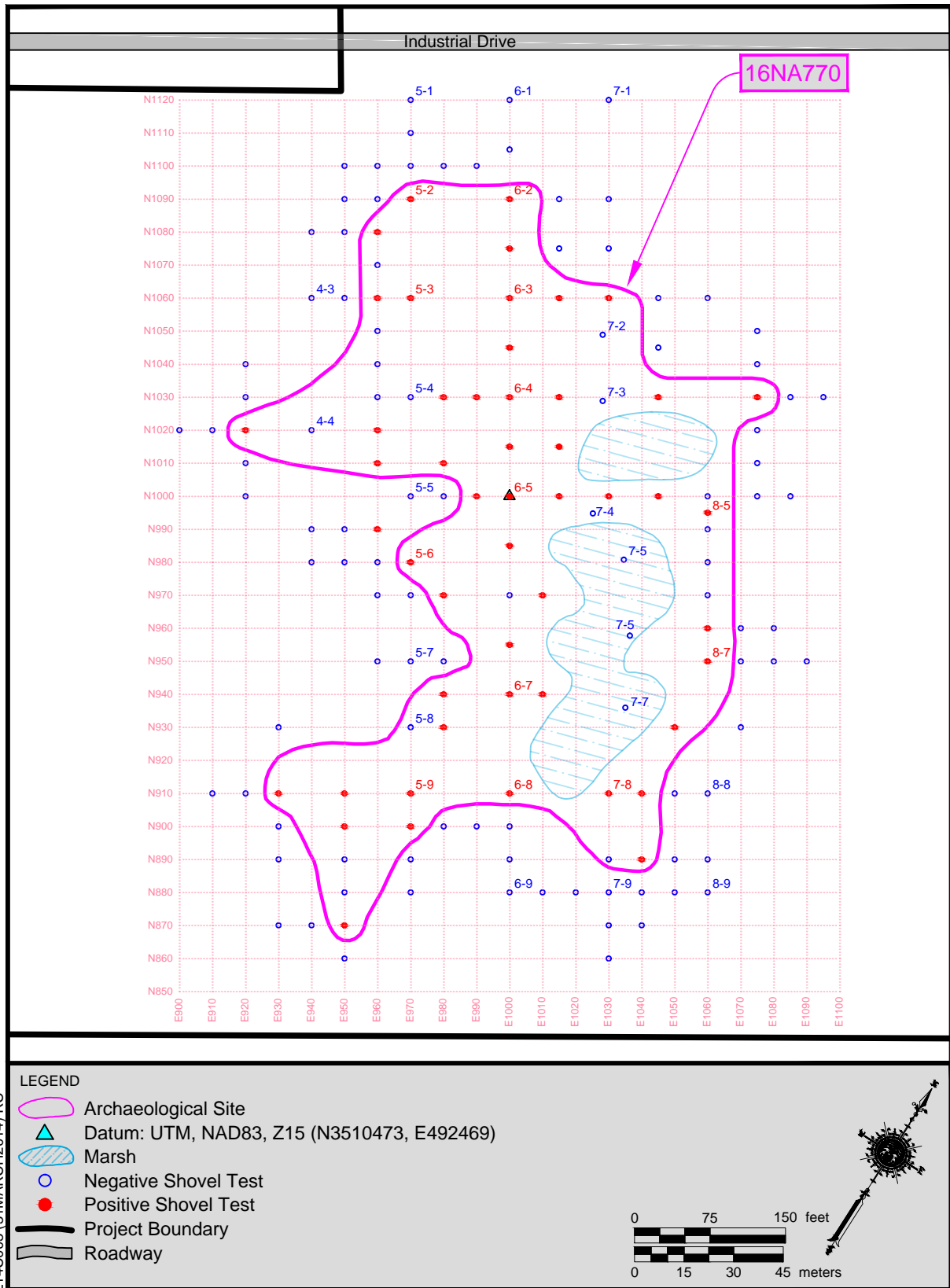
Profiles observed at 16NA770 during the cultural survey were generally consistent with a typical pedon of soil mapped as Gallion silt loam described by Martin et al. (1990). A shovel test profile exposed near the site center (STP N970 E940) consisted of 20 cm (7 in) of yellowish red (5YR 4/6) silt loam, overlying reddish brown (5YR 4/4) silty clay to a depth of 50 cm (16 in) bgs. This soil description was relatively consistent across the site, with artifacts coming from both strata.

Artifacts

The 16NA770 assemblage recovered during the survey consists of 332 artifacts. The majority of these artifacts (40 percent) fall within the domestic group, while 30 percent fall within the architectural group. The other historic groups that are represented (clothing, faunal, maintenance/subsistence and unidentified) constituted the remaining 30 percent of the assemblage. Since many of the artifact types were in use for a broad length of time or in the case of some architectural group artifacts could have been reused, an estimated temporal range of mid-nineteenth to mid-twentieth century is suggested. The historic artifact assemblage from the site suggests that it may have served for a domestic function, although the relatively lower quantity of domestic group artifacts when compared with other sites may indicate that it was occupied for a shorter duration. The recovery of several architectural group artifacts suggests a structure was present on the site. Artifacts recovered from the field investigation are tabulated by provenience in Table 6.3.

Features

The profiles of all excavated shovel tests were examined for cultural features and other *in situ* historic deposits, but no such intact deposits were found. This absence is possibly the result of disturbance to the site caused by plowing or the construction of the canal or pipeline.



L14C003 (31MARCH2014) RC

Figure 6.6. Schematic plan map of 16NA770 within the project area.

Table 6.3. Historic Artifacts Recovered According to Functional Group from 16NA770.

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
btw EOT TR6/7	Container Glass/Undiagnostic	1						1
btw TR5/6, STP#10	Ceramics/Ironstone	1						1
N870 E950	Container Glass/Undiagnostic	3						3
N890 E1040	Ceramics/White ware	1						1
N900 E950	Container Glass/ABM	1						1
N900 E950	Container Glass/Undiagnostic	1						1
N900 E970	Container Glass/Undiagnostic	1						1
N900 E970	Nails/Indeterminate		1					1
N900 E970	Nails/Wire Nail		1					1
N910 E930	Ceramics/White ware	1						1
N910 E930	Container Glass/ABM	1						1
N910 E930	Metal/Iron or Steel				1			1
N910 E950	Construction/Brick		1					1
N910 E950	Container Glass/Undiagnostic	3						3
N910 E950	Flat Glass/Window Glass		1					1
N910 E1040	Ceramics/Ironstone	1						1
N910 E1040	Ceramics/Porcelain: hard paste	1						1
N910 E1040	Container Glass/Undiagnostic	5						5
N910 E1040	Indeterminate				1			1
N930 E980	Construction/Brick		1					1
N930 E980	Container Glass/Undiagnostic	3						3
N930 E980	Nails/Wire Nail		2					2
N930 E1050	Construction/Brick		8					8
N930 E1050	Container Glass/Undiagnostic	5						5
N930 E1050	Glass Tableware/Unidentified mold	1						1
N930 E1050	Indeterminate				1			1
N930 E1050	Metal/Iron or Steel				1			1
N930 E1050	Metal/Iron or Steel				4			4
N940 E980	Construction/Brick		2					2
N940 E980	Construction/Mortar		3					3
N940 E980	Container Glass/Undiagnostic	4						4
N940 E980	Flat Glass/Window Glass		2					2
N940 E980	Floral Remains/Wood charcoal					1		1
N940 E980	Plastic/Modern				2			2
N940 E1010	Container Glass/Undiagnostic	1						1
N955 E1000	Construction/Brick		1					1
N955 E1000	Container Glass/Other	2						2
N955 E1000	Container Glass/Undiagnostic	1						1
N955 E1000	Glass Tableware/Pattern mold	2						2
N955 E1000	Metal/Iron or Steel				4			4
N960 E1060	Container Glass/Undiagnostic	3						3
N970 E940	Ceramics/White ware	1						1
N970 E980	Ceramics/White ware	2						2
N970 E980	Metal/Iron or Steel				43			43
N970 E980	Nails/Indeterminate		2					2
N970 E980	Nails/Wire Nail		1					1
N970 E980	Plastic/Modern				1			1
N970 E1015	Container Glass/Undiagnostic	1						1
N970 E1015	Fuels/Cinder or slag			1				1
N970 E1015	Metal/Iron or Steel				1			1
N985 E1000	Ceramics/Stoneware	1						1
N985 E1000	Construction/Brick		1					1
N985 E1000	Construction/Mortar		1					1
N985 E1000	Container Glass/Undiagnostic	4						4
N985 E1000	Floral Remains/Wood charcoal					1		1
N985 E1000	Nails/Indeterminate		1					1
N990 E960	Nails/Indeterminate		1					1
N1000 E990	Container Glass/Undiagnostic	1						1
N1000 E1015	Construction/Brick		2					2
N1000 E1015	Container Glass/Undiagnostic	2						2
N1000 E1015	Nails/Indeterminate		1					1
N1000 E1030	Construction/Brick		2					2
N1000 E1030	Nails/Indeterminate		1					1

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
N1000 E1030	Nails/Wire Nail		1					1
N1000 E1045	Container Glass/BIM	1						1
N1010 E960	Container Glass/Other	1						1
N1010 E960	Container Glass/Undiagnostic	1						1
N1010 E960	Faunal Remains/Bone, tooth, or claw					1		1
N1010 E960	Metal/Iron or Steel				16			16
N1010 E980	Container Glass/Undiagnostic	1						1
N1015 E1000	Ceramics/Ironstone	1						1
N1015 E1000	Ceramics/Stoneware	1						1
N1015 E1000	Ceramics/Whiteware	1						1
N1015 E1000	Construction/Brick		5					5
N1015 E1000	Container Glass/Undiagnostic	6						6
N1015 E1000	Fuels/Cinder or slag			1				1
N1015 E1000	Plastic/Modern				1			1
N1015 E1015	Ceramics/Whiteware	2						2
N1015 E1015	Construction/Brick		2					2
N1015 E1015	Container Glass/Undiagnostic	2						2
N1015 E1015	Flat Glass/Window Glass		2					2
N1020 E920	Container Glass/Undiagnostic	1						1
N1020 E940	Container Glass/Undiagnostic	2						2
N1020 E940	Faunal Remains/Bone, tooth, or claw					4		4
N1020 E940	Flat Glass/Window Glass		1					1
N1020 E960	Container Glass/Undiagnostic	3						3
N1030 E980	Construction/Brick		1					1
N1030 E980	Container Glass/Undiagnostic	2						2
N1030 E990	Construction/Brick		2					2
N1030 E990	Construction/Mortar		2					2
N1030 E990	Container Glass/Undiagnostic	3						3
N1030 E990	Metal/Iron or Steel				1			1
N1030 E1015	Buttons/Sew-through						1	1
N1030 E1015	Ceramics/Whiteware	3						3
N1030 E1015	Construction/Brick		17					17
N1030 E1015	Container Glass/BIM	1						1
N1030 E1015	Container Glass/Undiagnostic	18						18
N1030 E1015	Faunal Remains/Bone, tooth, or claw					1		1
N1030 E1015	Flat Glass/Window Glass		3					3
N1030 E1015	Floral Remains/Wood charcoal					1		1
N1030 E1015	Metal/Iron or Steel				3			3
N1030 E1015	Nails/Cut Nail: unspecified		2					2
N1030 E1015	Nails/Indeterminate		3					3
N1030 E1015	Nails/Wire Nail		1					1
N1030 E1045	General Hardware/Nut			1				1
N1030 E1075	Construction/Brick		1					1
N1045 E1000	Container Glass/Other	1						1
N1045 E1000	Container Glass/Undiagnostic	7						7
N1045 E1000	Indeterminate				1			1
N1060 E960	Container Glass/Undiagnostic	1						1
N1060 E1015	Construction/Brick		2					2
N1060 E1015	Container Glass/Undiagnostic	1						1
N1060 E1015	Flat Glass/Window Glass		1					1
N1060 E1015	Metal/Aluminum				2			2
N1060 E1015	Nails/Indeterminate		3					3
N1060 E1015	Nails/Wire Nail		1					1
N1060 E1030	Construction/Brick		1					1
N1060 E1030	Container Glass/Undiagnostic	2						2
N1075 E1000	Construction/Brick		1					1
N1075 E1000	Container Glass/Undiagnostic	1						1
N1080 E960	Container Glass/Undiagnostic	2						2
N1100 E970	Construction/Brick		1					1
TR5, STP#2	Container Glass/Undiagnostic	1						1
TR5, STP#3	Container Glass/Undiagnostic	1						1
TR5, STP#9	Container Glass/Undiagnostic	2						2
TR6, STP#2	Container Glass/Undiagnostic	1						1
TR6, STP#3	Container Glass/Undiagnostic	2						2

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
TR6, STP#3	Metal/Iron or Steel				1			1
TR6, STP#4	Ceramics/Whiteware	1						1
TR6, STP#4	Container Glass/Undiagnostic	2						2
TR6, STP#4	Flat Glass/Window Glass		2					2
TR6, STP#4	Metal/Iron or Steel				1			1
TR6, STP#5	Container Glass/Undiagnostic	1						1
TR6, STP#6	Glass Tableware/Unidentified mold	1						1
TR6, STP#7	Construction/Brick		1					1
TR6, STP#8	Construction/Brick		1					1
TR7, STP#2	Ceramics/Whiteware	1						1
TR7, STP#2	Metal/Iron or Steel				1			1
TR7, STP#4	Metal/Iron or Steel				1			1
TR7, STP#8	Container Glass/Undiagnostic	1						1
TR7, STP#9	Construction/Brick		1					1
TR8, STP#5	Construction/Brick		1					1
TR8, STP#7	Construction/Brick		1					1
TR8, STP#7	Construction/Mortar		1					1
TR8, STP#7	Flat Glass/Window Glass		1					1
Total		134	98	3	87	9	1	332



Figure 6.7. Photograph of 16NA770, site overview facing approximately north.

Summary and National Register Evaluation

Investigations at 16NA770 did not provide any evidence that this site contains any intact historic features, and artifact density was light. This site does not appear to have any significant research potential, and therefore is recommended not eligible for listing in the NRHP.

16NA770 is a newly recorded archaeological site as a result of this survey and possibly represents the remains of a mid-nineteenth- to mid-twentieth-century residence. The site consists of a low-density subsurface scatter of historic artifacts in a grass-covered field approximately 130 m south of Industrial Drive. The mid-nineteenth- to mid-twentieth-century date is inferred from the recovered artifact assemblage. A records review revealed that a historic structure depicted at or near the site location also

appears on the earliest available topographic quadrangle. The mapped historic structure was only depicted in 1937 (USGS 1937), but ceased to exist sometime prior to 1983, at which point three unoccupied structures are depicted to the south of the earlier structure. Given the site's location and probable occupation date, and the evidence from the recovered artifact assemblage, 16NA770 likely represents a residence with outbuildings that were added later, although it is possible that the additional buildings were added subsequent to the site's use as a residence.

Investigations at 16NA770 did not provide any evidence that this site contains any intact historic features or remains associated with the mid-nineteenth- to mid-twentieth-century residence. The site does not appear to have any significant research potential, and therefore is recommended not eligible for listing in the NRHP.

16NA771

UTM Coordinates:

Site Datum (STP 23-4): 15S, N3510708
E492396 (NAD 83)

Elevation: 34 m (111 ft) AMSL

Components: historic

Specific Components: unknown historic

Site Type: historic scatter

Size: 2000 sq m (21,527sq ft)

Distance/direction to nearest water: Bayou
Julien, 220 m (722 ft) to the southeast

Type and extent of previous disturbance: likely
agricultural disturbance throughout site

Topography: alluvial plain

Vegetation: low grasses

Ground surface visibility: 0 to 25 percent

Slope Direction (Aspect): level

Recommended NRHP status: not eligible; no
further work

Site Description and Investigation Methods

16NA771 is a newly recorded archaeological site as a result of this project, and was assigned the temporary field site number L14C003-8. The site is comprised of a low-density sub-surface scatter of historic artifacts in a manicured field located north of Industrial Drive (Figure 6.1). The records review did not show any structures that correlate with the location of this site on maps dating to 1937 or 1983. Surface visibility was poor, estimated at less than 25 percent.

The site was first detected through shovel testing on Transect 23 STP 4, and delineation shovel tests were excavated at 10 m (33 ft) intervals. A shallow indentation ran through the site northeast–southwest, which may have been used for drainage as some point in the past. No historic ruins or features were observed at the 16NA771 location (Figures 6.8 and 6.9).

Depositional Context

Profiles observed at 16NA771 during the cultural survey were generally consistent with a typical pedon of soil mapped as Gallion silt loam and described by Martin et al. (1990). A shovel test profile exposed near the site center (N1000 E1010) consisted of 35 cm (14 in) of

dark reddish brown (5YR 3/4) silty clay, overlying reddish brown (5YR 4/4) silty clay loam depth of 50 cm (16 in) bgs. This soil description was relatively consistent across the site, with artifacts generally occurring in the top stratum.

Artifacts

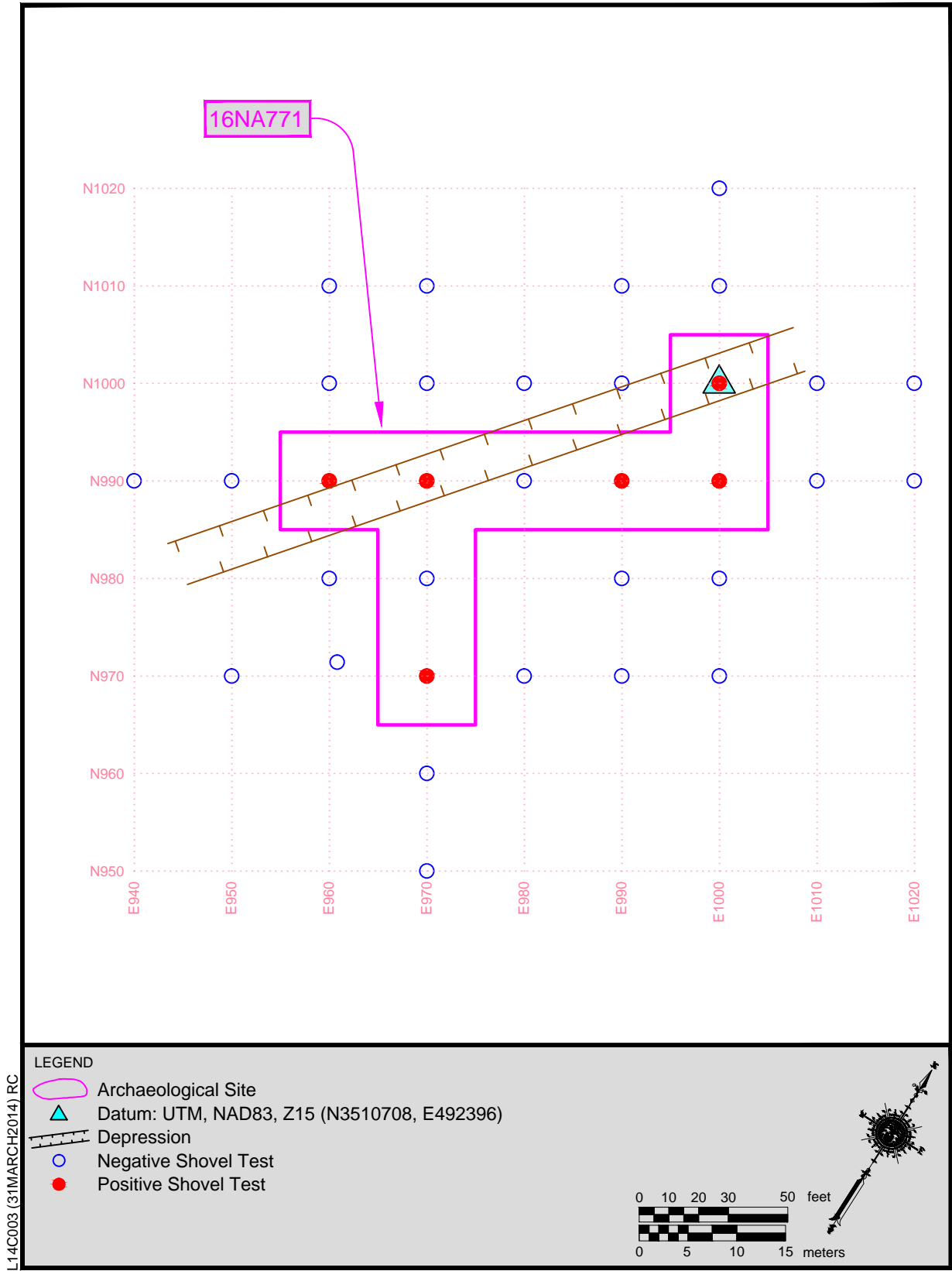
The 16NA771 assemblage recovered during the survey consists of 23 artifacts. The majority of these artifacts (35 percent) fall within the architectural group, while 22 percent fall within the unidentified group. The other historic groups that are represented (domestic, faunal, and maintenance/substance) constitute the remaining 43 percent of the assemblage. Only a single TPQ, or earliest date, could be determined for the assemblage. This was for a plain whiteware sherd, which suggested a date from 1830 to the present. Due to the broad temporal range and small sample size, this is a poor indication of when the site was in use, and the site was considered to have an unknown historic component. The scarcity of domestic group artifacts compared with other sites may suggest a different function for this site, or possibly that it was in use for a shorter duration. The architectural group artifacts indicate that it likely contained a structure, though the function is unknown. Artifacts recovered from the field investigation are tabulated by provenience in Table 6.4.

Features

The profiles of all excavated shovel tests were examined for cultural features and other *in situ* historic deposits, but no such intact deposits were found. This absence is possibly the result of disturbance to the site caused by plowing or other agricultural activities.

Summary and National Register Evaluation

16NA771 is a newly recorded archaeological site as a result of this survey. The site consists of a low-density subsurface scatter of historic artifacts in a grass-covered field approximately 100 m north of Industrial Drive.



L14C003 (31MARCH2014) RC

Figure 6.8. Schematic plan map of 16NA771 within the project area.



Figure 6.9. Photograph of 16NA771, site overview facing approximately north.

Table 6.4. Historic Artifacts Recovered According to Functional Group from 16NA771.

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Total
N970 E970	Ceramics/Whiteware	1					1
N970 E970	Construction/Brick		1				1
N970 E970	Faunal Remains/Bone, tooth, or claw					4	4
N990 E970	Construction/Brick		5				5
N990 E970	Flat Glass/Window Glass		1				1
N990 E970	General Hardware/Fencing			1			1
N990 E970	General Hardware/Wire			2			2
N990 E970	Metal/Iron or Steel				5		5
N990 E990	Container Glass/Undiagnostic	1					1
N990 E1000	Construction/Brick		1				1
STP 23-4	Container Glass/Undiagnostic	1					1
Total		3	8	3	5	4	23

No date for the site could be inferred from the recovered artifact assemblage. The records review for this project indicates that no structures were depicted at or near the site's location on the 1937 or 1983 mapping that was available for review. Based on the meager data from the artifact assemblage, it is unclear whether this site may pre-date the earliest mapping, or may have been constructed in the mid-twentieth century. The scarcity of domestic group artifacts compared with other

sites may suggest a different function for this site, or possibly that it was in use for a shorter duration, and the architectural group artifacts suggest it did contain a structure. Investigations at 16NA771 did not provide any evidence that this site contains any intact historic features and artifact density was light. This site does not appear to have any significant research potential, and therefore is recommended not eligible for listing in the NRHP.

16NA772

UTM Coordinates:

Site Datum (STP 2-5): 15S, N3510422
E492354 (NAD 83)

Elevation: 33 m (110 ft) AMSL

Components: historic

Specific Components: early to mid-twentieth century

Site Type: historic residential/domestic home site.

Size: 2,400 sq m (25,833 sq ft) within project area

Distance/direction to nearest water: Bayou Julien, 15 m (49 ft) to the southeast

Type and extent of previous disturbance: construction of the canal, and Atmos Energy pipeline along the west side and agricultural disturbance throughout site

Topography: alluvial plain

Vegetation: low grasses and tall weeds

Ground surface visibility: 0 to 50 percent

Slope Direction (Aspect): level

Recommended NRHP status: not eligible; no further work

Site Description and Investigation Methods

16NA772 is a newly recorded archaeological site as a result of this project, and was assigned the temporary field site number L14C003-9. The site is comprised of a low-density sub-surface scatter of historic artifacts in a fallow field and pipeline corridor located south of Industrial Drive. A historic structure was depicted at or near the site location on the 1937 Bermuda topographic quadrangle examined during the records review, which ceased to exist sometime prior to 1983 (see Chapter 3). Surface visibility was moderate along the pipeline ROW at approximately 30–50 percent and poor outside of the ROW, estimated at less than 25 percent.

The site was first detected through surface collecting adjacent to Transect 2 STP 5, and delineation shovel tests were excavated at 20 m (66 ft) intervals due to the extent of the surface scatter. The site was only delineated on the east side of the canal and pipeline, and no shovel tests were excavated to determine

the extent of the site beyond those boundaries. Possible disturbances were evident due to pipeline markers and the placement of the canal. No historic ruins or features were observed at the 16NA772 location (Figures 6.10 and 6.11).

Depositional Context

Profiles observed at 16NA772 during the cultural survey were generally consistent with a typical pedon of soil mapped as Gallion silt loam described by Martin et al. (1990). A shovel test profile exposed near the site center (STP N980 E1000) consisted of 30 cm (12 in) of brown (7.5YR 4/2) silt loam, overlying yellowish red (5YR 4/6) silt loam to a depth of 50 cm (16 in) bgs. This soil description was relatively consistent across the site, with artifacts generally occurring in the top stratum.

Artifacts

The 16NA772 assemblage recovered during the survey consists of 55 artifacts. The majority of these artifacts (73 percent) fall within the domestic group, while 11 percent fall within the architectural group. The other historic groups that are represented (clothing, faunal, and unidentified) constitute the remaining 16 percent of the assemblage. Most artifact types in the assemblage were in use during the early nineteenth century, although a few were in use earlier. However, these items were used for a broad length of time and in the case of some, such as architectural group artifacts including the cut nail, there may have been recycling. An estimated temporal range of early nineteenth to early twentieth century is inferred for this site based on the TPQ and TAQ determinations. The historic artifact assemblage is consistent with a domestic function, and the recovery of several architectural group artifacts suggests a structure was present on the site. Artifacts recovered from the field investigation are tabulated by provenience in Table 6.5.

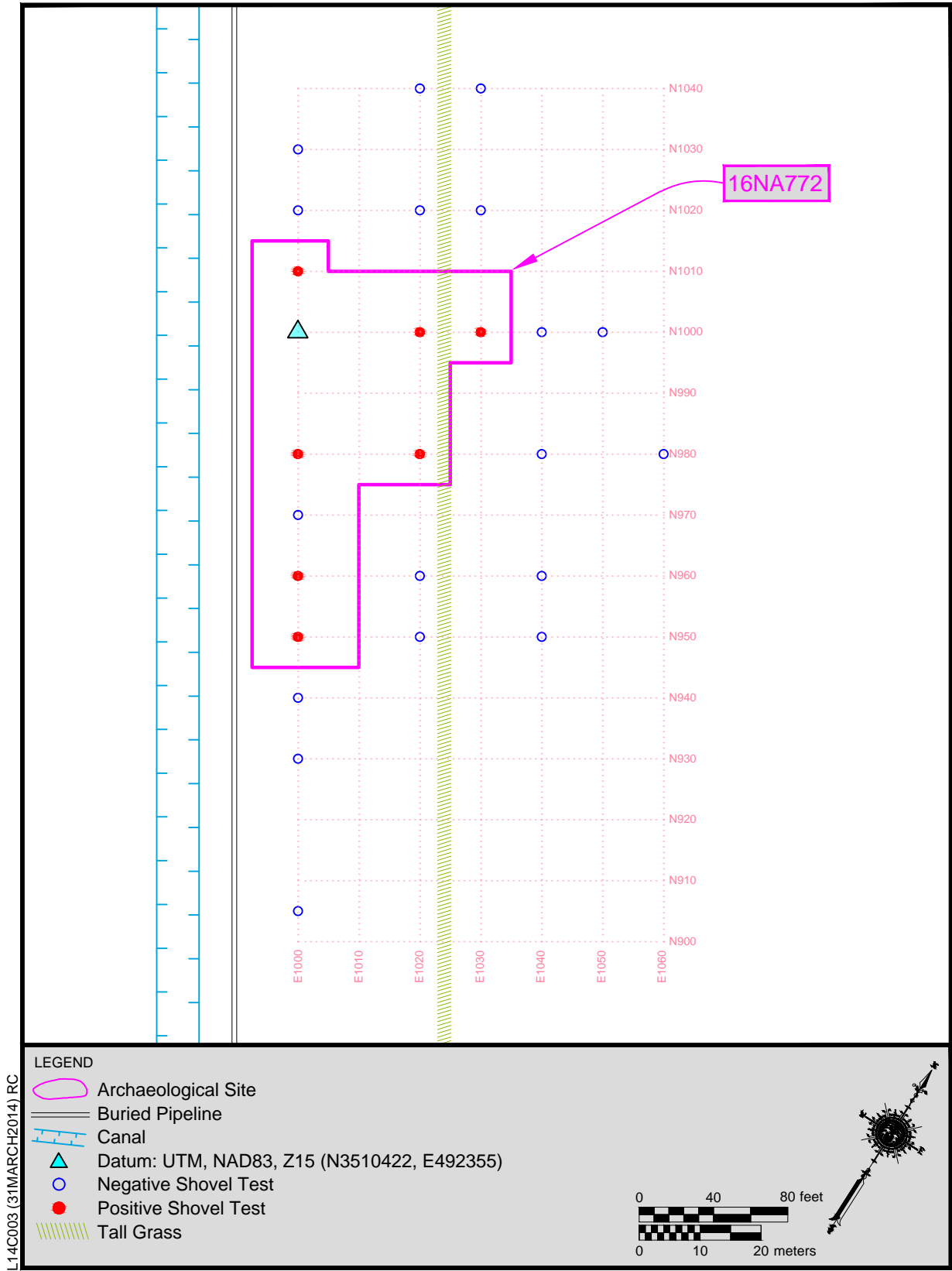


Figure 6.10. Schematic plan map of 16NA772 within the project area.



Figure 6.11. Photograph of 16NA772, site overview facing approximately north.

Table 6.5. Historic Artifacts Recovered According to Functional Group from 16NA772.

Horiz Prov	Artifact Class/Type	Domestic	Architecture	Maintenance and Subsistence	Unidentified	Biological	Clothing	Total
N940 E1000	Container Glass/Undiagnostic	1						1
N960 E1000	Container Glass/Undiagnostic	1						1
N980 E1000	Ceramics/White ware	1						1
N980 E1000	Container Glass/Undiagnostic	1						1
N980 E1000	Nails/Cut Nail: unspecified		1					1
N980 E1020	Container Glass/Undiagnostic	2						2
N980 E1020	Flat Glass/Window Glass		2					2
N980 E1020	Nails/Indeterminate		1					1
N1000 E1020	Container Glass/Undiagnostic	1						1
N1000 E1020	Metal/Iron or Steel				1			1
N1000 E1030	Container Glass/Undiagnostic	1						1
N1010 E1000	Container Glass/Undiagnostic	3						3
TR2, STP#5	Buttons/Sew-through						1	1
TR2, STP#5	Ceramics/Stoneware	1						1
TR2, STP#5	Ceramics/White ware	15						15
TR2, STP#5	Construction/Brick		1					1
TR2, STP#5	Container Glass/Undiagnostic	7						7
TR2, STP#5	Faunal Remains/Bone, tooth, or claw					3		3
TR2, STP#5	Metal/Iron or Steel				3			3
TR2, STP#5	Nails/Indeterminate		1					1
TR2, STP#6	Ceramics/White ware	1						1
TR2, STP#7	Ceramics/Stoneware	2						2
TR2, STP#7	Container Glass/Undiagnostic	2						2
TR2, STP#7	Glass Tableware/Undiagnostic fragment	1						1
TR2, STP#7	Metal/Tin				1			1
Total		40	6	0	5	3	1	55

Features

The profiles of all excavated shovel tests were examined for cultural features and other *in situ* historic deposits, but no such intact deposits were found. This absence is possibly the result of disturbance to the site caused by plowing

Summary and National Register Evaluation

16NA772 is a newly recorded archaeological site as a result of this survey and possibly represents the remains of an early-nineteenth- to early-twentieth-century residence. The site consists of a low-density subsurface scatter of historic artifacts in a grass-covered field approximately 100 m south of Industrial Drive.

A probable early-nineteenth- to early-twentieth-century date is inferred from the recovered artifact assemblage. The records review indicated that a historic structure was depicted at or near the site location on the earliest available topographic quadrangle dating to 1937 (USGS 1937), but ceased to exist sometime prior to 1983. Given the site's location and probable occupation date, and the evidence from the recovered artifact assemblage, 16NA772 likely represents a residence.

The archival data that was prepared for Sections 72 and 73 by Prentice Thomas and Associates, Inc., (Mathews et al. 1994) suggests that the property was in the possession of the heirs of Francois Monginot in the early nineteenth century, then became part of the Gentry Plantation in 1832, was sold to Alexander DeBlieux in 1867, then to Ambrose LeCompte in 1875, and to Alphonse Prudhome in 1883. It is possible that the structure may have been constructed while in the possession of any of these persons.

Investigations at 16NA772 did not provide any evidence that this site contains any intact historic features or remains associated with the residence. The site does not appear to have any significant research potential, and

therefore is recommended not eligible for listing in the NRHP.

IF-1

A single, plastic fragment was recovered from IF-1. This artifact offers little in the way of temporal data. It is unclear what the purpose of this artifact may have been or the reason for being at this location. This isolated find was located to the north of the project area boundary.

IF-2

A single brick fragment and a piece of amber glass were recovered from IF-2. The glass shard was observed to be part of a bottle made using an Automatic Bottle Machine so a date no earlier than 1903 can be inferred from the glass. While the brick is an Architectural Group artifact, as an isolated occurrence it seems unlikely to have occurred at the IF location as a part of a structure. In the absence of additional artifacts, the origin of this isolated find is unclear.

IF-3

A single, large ferrous object was recovered from IF-3 as a surface find. The function of this artifact is unclear though it is possibly related to the railroad that is adjacent to the project area.

IF-4

A single brick fragment was recovered from IF-4. This artifact offers little in the way of temporal data. While this is an Architectural Group artifact, as an isolated occurrence it seems unlikely to have occurred at the IF location as a part of a structure.

IF-5

A single nail and four pieces of glass were recovered from IF-5. These artifacts offer little in the way of temporal data. While the nail is an Architectural Group artifact, as an isolated occurrence it seems unlikely to have occurred at the IF location as a part of a structure. In addition, the pieces of container glass might

suggest that the recovered artifacts were simply disposed of at the IF location.

IF-6

A piece of mortar and a staple were recovered from IF-6. The chunk of mortar was originally one piece but was broken in the field. These artifacts offer little in the way of temporal data. While both are Architectural Group artifacts, as an isolated occurrence it seems unlikely to have occurred at the IF location as a part of a structure.

Chapter 7. Conclusions and Recommendations

CRA personnel completed a records review on January 24 and performed a cultural resource survey between February 5 and February 21, 2014, of a tract for which the City of Natchitoches sought to receive industrial site certification in Natchitoches Parish, Louisiana. The proposed project area is a 19.5 ha (48.2 acre) tract located in the southern part of the city of Natchitoches near the intersection of Highway 1 South and the Highway 1 Bypass.

A review of online files maintained by the Louisiana Office of Cultural Development, Division of Archaeology, was conducted to identify any cultural resources or cultural resource investigations documented in the area. This review indicated that that four documented cultural resource surveys and three previously recorded archaeological sites were within 1.6 km (1.0 mi) of the current project area. The previously recorded sites all are outside the boundaries of the Natchitoches industrial site certification tract.

Field investigation consisted of an intensive pedestrian survey and systematic, screened shovel tests excavated at a 30 m (98 ft) interval. Field investigations indicated that project area parcel may have been part of a back swamp prior to channelization of the tributaries in the area. To the north of the project area, soils that represent natural levees along the previous course of the Red River (now Cane River Lake) would have had a much higher likelihood of containing archaeological deposits, and a number of prehistoric and early historic resources have been documented along these soils. The soils along the northern edge of the project area are likely to have been reworked by a stream that is depicted on 1937 USGS quadrangle mapping. The soils within the project area are at a slightly lower elevation than the natural levees soils to the north, but some are mapped Gallion soils, which are formed by natural levee deposition. A portion of this area has already seen extensive deep testing within the

eastern edge of the project area, with negative results. Given this evidence, it seems unlikely that any deeply buried deposits exist within the project area.

The survey resulted in the identification of five archaeological sites (16NA768, 16NA769, 16NA770, 16NA771, and 16NA772) and six isolated finds. A portion of two of the newly recorded sites (16NA769 and 16NA768) extend outside of the current project area to the north, and one isolated find (IF-1) is located outside of the revised project area. The portions of the sites and isolated finds within the current project area are all recommended not eligible for listing in the NRHP, and no further archaeological work is recommended within the project area.

If any previously unrecorded archaeological materials are encountered during activities in the project area, the SHPO should be notified immediately. If human skeletal material is discovered, the construction activities should cease, SHPO and local law enforcement should be contacted immediately, and SHPO guidelines should be followed.

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APPENDIX A. LITHIC DEBITAGE

Table A-1. Lithic Debitage Recovered.

Bag	Site	Unit .	Grid N	Grid E	Level	Depth	Feature	Component	D1-2 Definition	SumOfCount	SumOfWeight	Size	D8	D9	D3 Tech	D5 Therm Alt	D6 CortexI	D7 CortexII	D4 Material	D1 Mod	D2 Class	
083	L14C003-3	delineation	1000	970		40-50 cm bgs		Flakes	1	1	3	3	0	1	1	2	1	166	1		01	

APPENDIX B. HISTORIC MATERIALS INVENTORY

Table B-1. Historic Materials Recovered.

Bag	Site	Trinomial	Unit	Grid N	Grid E	Dep	Cat	Group	Class Definition	Type Definition	Combined Attributes	Burned	ID	Discard	Count	Weight	Diameter	Unit Mea	Vessel Part	Vessel Type	Function	tMin	tMax	tRef	Comments	Figno	Figord	
001	L14C003-10		TR1, STP#6	0	0	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	6.89	mm	Body	Indeterminate bottle/jar	Bottle - Jar					medium thick, slightly curved fragments			
001	L14C003-10		TR1, STP#6	0	0	10-20 cm bgs	2	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.46	mm	-	-						common head and shank fragment--too corroded to determine attributes			
002	L14C003-11		TR2, STP#8	0	0	30-40 cm bgs	1	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	7	5.67	mm	-	-						small, beige mortar fragments-sand			
002	L14C003-11		TR2, STP#8	0	0	30-40 cm bgs	2	M	General Hardware	Staple	Fence Staple, Iron / Steel, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	5.16	mm	-	-						"u"-shaped fragment; possible fencing staple but very corroded			
052	L14C003-1	16NA768	delineation	1050	1000	20-30 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.14	mm	-	-							1 small dark red brick, 1 small orange-red brick fragments		
053	L14C003-1	16NA768	delineation	1050	1000	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	0.73	mm	-	-							very small dark red brick fragments		
054	L14C003-1	16NA768	delineation	1040	990	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.23	mm	-	-							small red brick fragment		
054	L14C003-1	16NA768	delineation	1040	990	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.47	mm	-	-							small red brick fragment		
055	L14C003-1	16NA768	delineation	1040	990	10-30 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	10.82	mm	-	-							1 medium-sized dark red brick, 1 medium-sized orange-red brick fragments		
056	L14C003-1	16NA768	delineation	1040	1010	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.37	mm	-	-							2 small red brick fragments		
056	L14C003-1	16NA768	delineation	1040	1010	30-40 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.01	mm	Body	Indeterminate bottle/jar	Bottle - Jar						medium thick, slightly curved fragment; partially sheared off		
057	L14C003-1	16NA768	delineation	1040	1018	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Handmade brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	14.22	mm	-	-							brick with white mortar fragment; dark red with large brown inclusions		
058	L14C003-1	16NA768	delineation	1050	1020	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, "Black" glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	13.31	mm	Base	Liquor/Beer/Wine	Bottle - Jar						very thick, oddly curved fragment; amber/olive color when held up to light; kick-up base thick, curved fragment; could be part of vessel's base? Possibly undulating mold design		
059	L14C003-1	16NA768	delineation	1040	1030	25-29 cm bgs	1	D	Ceramics	Whiteware	Molded, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	7.19	mm	Indeterminate part	Indeterminate	Other - Indet	1830				Majewski and O'Brien 1987:119; Smith 1983:119			
060	L14C003-1	16NA768	delineation	1060	1030	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.24	mm	-	-							small to medium sized red brick fragment		
061	L14C003-1	16NA768	delineation	1040	1040	10-20 cm bgs	1	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	11.57	mm	-	-							large stone inclusions and sand mortar fragment		

062	L14C003-1	16NA768	delineation	1040	1060	20-30 cm bgs	1	D	Glass Tableware	Unidentified mold	, Clear unleaded glass, -, -, Molded design/pattern, -, -, -, -	FALSE	FALSE	FALSE	1	2.38	mm	Body	Indeterminate	Other - Indet			medium thick, strongly curved fragment; rows of round indentations pattern
063	L14C003-1	16NA768	delineation	1040	1070	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	241.99	mm	-	-			large, light brown brick fragments with some gray mortar present	
063	L14C003-1	16NA768	delineation	1040	1070	10-20 cm bgs	2	M	Fuels	Cinder / Slag	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	5.43	mm	-	-			2 coal slag fragments	
064	L14C003-1	16NA768	delineation	1050	1070	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.55	mm	Body	Indeterminate bottle/jar	Bottle - Jar			medium thick, curved fragment
065	L14C003-1	16NA768	delineation	1060	1080	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Aqua glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.5	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thick, moderately curved fragment
066	L14C003-1	16NA768	delineation	1060	1080	30-40 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.61	mm	Body	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119	medium thick, curved fragment; crazing
067	L14C003-1	16NA768	delineation	1050	1080	0-10 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	22.9	mm	-	-			medium-sized red brick fragment with black substance (possible tar) present on one side	
068	L14C003-1	16NA768	delineation	1050	1090	0-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.54	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin, slightly curved; probably part of a panel bottle-indentation and very edge of embossed letter?
069	L14C003-1	16NA768	delineation	1060	1090	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.62	mm	-	-			small red brick fragment; too eroded to determine whether machine or hand-made	
070	L14C003-1	16NA768	delineation	1050	1100	20-30 cm bgs	1	U	Metal	Iron / Steel	, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	22.09	mm	-	-			thick, amorphous fragments; no other attributes-too corroded	
071	L14C003-1	16NA768	delineation	1070	1080	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	2.3	mm	Body	Indeterminate bottle/jar	Bottle - Jar			medium thick, slightly curved fragments; fragments mend together
072	L14C003-1	16NA768	delineation	1070	1080	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.12	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin, curved fragment
073	L14C003-1	16NA768	delineation	1070	1090	10-20 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.48	mm	Rim, body, base	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119	medium to thick fragment, flat; crazing
073	L14C003-1	16NA768	delineation	1070	1090	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	13.5	mm	-	-			medium-sized brown brick fragment	
074	L14C003-1	16NA768	delineation	1090	1090	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Aqua glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.85	mm	Body	Indeterminate bottle/jar	Bottle - Jar			medium fragment with moderate curve; very pale aqua color
075	L14C003-1	16NA768	delineation	1100	1090	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.83	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin to medium thick, curved fragment

076	L14C003-3	16NA769	delineation	1015	985	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.87	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin, curved fragment
077	L14C003-3	16NA769	delineation	1015	1000	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	4.9	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium to thick, curved fragments; 1 has seam present, the other has embossed letters: "...ART..."
078	L14C003-3	16NA769	delineation	1045	1000	0-10 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.42	mm	-	-					small, dark red brick fragment
079	L14C003-3	16NA769	delineation	1045	985	0-10 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.62	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin fragments; 1 is nearly flat, the other is curved
079	L14C003-3	16NA769	delineation	1045	985	0-10 cm bgs	2	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.68	mm	-	-					colorless fragment
017	L14C003-7	16NA770	TR6, STP#3	0	0	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Blue-green glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.25	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin, slightly curved fragment; slight blue-green coloration
017	L14C003-7	16NA770	TR6, STP#3	0	0	20-30 cm bgs	3	U	Metal	Iron / Steel	, Flat: thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	12.18	mm	-	-				corroded; no attributes present	
018	L14C003-7	16NA770	TR6, STP#4	0	0	10-20 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.36	mm	Rim with body	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119		medium thickness, strongly curved fragment
018	L14C003-7	16NA770	TR6, STP#4	0	0	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.62	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin to medium thick, very slightly curved
019	L14C003-7	16NA770	TR6, STP#4	0	0	20-35 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.48	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium thick, strongly curved fragment
019	L14C003-7	16NA770	TR6, STP#4	0	0	20-35 cm bgs	2	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	3.52	mm	-	-				colorless window glass fragments; 2.27mm and 2.11mm thick	
019	L14C003-7	16NA770	TR6, STP#4	0	0	20-35 cm bgs	3	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	12.91	mm	-	-				short, thick, amorphous fragment; no attributes present	
020	L14C003-7	16NA770	TR6, STP#5	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Green glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.88	mm	Lip with neck	Indeterminate bottle/jar	Bottle - Jar				medium to thick, strongly curved fragment; possible bead lip fragment
021	L14C003-7	16NA770	TR6, STP#7	0	0	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	368.54	mm	-	-				large red brick fragment	
022	L14C003-7	16NA770	TR6, STP#8	0	0	20-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	9.98	mm	-	-				small red brick fragment	
023	L14C003-7	16NA770	btw EOT TR6/7	0	0	- Surface	1	D	Container Glass	Undiagnostic container fragment	Fragment, Opaque white glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.3	mm	Cover / Lid	Canning jar	Bottle - Jar				milk glass canning jar lip with embossing: "Por..." (Genuine Porcelain lined cap)
024	L14C003-7	16NA770	TR7, STP#2	0	0	10-20 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.56	mm	Body with base	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119		medium thick, flat fragment ; possibly burned

024	L14C003-7	16NA770	TR7, STP#2	0	0	10-20 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thin, , , , , , , , , ,	FALSE	FALSE	FALSE	1	8.1	mm	-	-							thin, somewhat curved/warped fragment; no attributes	
025	L14C003-7	16NA770	TR7, STP#4	0	0	10-20 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Item / part, , , , , , , , , ,	FALSE	FALSE	FALSE	1	41.26	mm	-	-								thick, strongly (approx. 90 degree) curved fragment
026	L14C003-7	16NA770	TR7, STP#8	0	0	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	5.18	mm	Body	Indeterminate bottle/jar	Bottle - Jar							thick, strongly curved fragment; patina/weathered or possible frosting present?
027	L14C003-7	16NA770	TR7, STP#9	0	0	- Surface	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	15.02	mm	-	-								medium red brick fragment
028	L14C003-7	16NA770	TR8, STP#5	0	0	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	12.35	mm	-	-								medium, eroded red brick fragment; large tan/dark red inclusions
029	L14C003-7	16NA770	TR8, STP#7	0	0	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.52	mm	-	-								small, eroded, red brick fragment
029	L14C003-7	16NA770	TR8, STP#7	0	0	10-20 cm bgs	2	A	Construction Material	Mortar	Fragment, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.31	mm	-	-								white mortar fragment
029	L14C003-7	16NA770	TR8, STP#7	0	0	10-20 cm bgs	3	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.59	mm	-	-								colorless window glass fragment
031	L14C003-6		TR15 btw STP8/9	0	0	- Surface	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	63.12	mm	-	-								dark red brick fragment, white staining/patina
030	L14C003-5		TR14 btw STP5/6	0	0	- Surface	1	U	Metal	Iron / Steel	Cast iron, Item / part, , , , , , , , , ,	FALSE	FALSE	FALSE	1	11566.61	mm	-	-								heavy; rounded top w curved cylinder-like base; groove & hole in center; near railway-related?
032	L14C003-1	16NA768	TR16, STP#5	0	0	20-30 cm bgs	1	U	Glass	Flat	Glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.95	6.07	mm	-	-							very thick glass; nearly flat with slight curve; clear shank fragment
032	L14C003-1	16NA768	TR16, STP#5	0	0	20-30 cm bgs	2	A	Nails	Wire Nail	, , , , , , , , , ,	FALSE	FALSE	FALSE	1	3.43	mm	-	-			1880		Nelson 1968			
033	L14C003-1	16NA768	TR16, STP#5	0	0	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.32	mm	Body	Indeterminate bottle/jar	Bottle - Jar							thin, curved fragment
034	L14C003-1	16NA768	TR17, STP#4	0	0	10-20 cm bgs	1	U	Glass	Indeterminate	Glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.14	mm	-	-							small, sheared off fragment (ie-fragment's thickness & whether curved-indeterminate; clear medium to thick, flat fragment; much crazing	
035	L14C003-1	16NA768	TR17, STP#5	0	0	10-20 cm bgs	1	D	Ceramics	Ironstone	Plain, , , , , , , , , ,	FALSE	FALSE	FALSE	1	4.57	mm	Body with base	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:122				
036	L14C003-1	16NA768	TR17, STP#5	0	0	20-30 cm bgs	1	A	Flat Glass	Window Glass	>2.41 mm thick, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.63	mm	-	-								clear glass; varying thickness?
037	L14C003-2		TR17, STP#9	0	0	20-30 cm bgs	1	U	Plastic	Indeterminate plastic	, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.58	1.5	mm	-	-							flat, very thin fragment; high luster on 1 side; multiple layers in cross-section; beige color
038	L14C003-1	16NA768	TR19, STP#2	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.29	mm	Body	Indeterminate bottle/jar	Bottle - Jar							thin, curved fragment

039	L14C003-1	16NA768	TR19, STP#3	0	0	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	7.46	mm	-	-									small dark red fragment; some dark gray, medium-sized inclusions
040	L14C003-3	16NA769	TR22, STP#8	0	0	15-15 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	25.44	mm	-	-									dark red fragments; one small, one medium-sized
041	L14C003-3	16NA769	TR23, STP#8	0	0	30-40 cm bgs	1	D	Glass Tableware	Unidentified mold	, Clear unleaded glass, -, -, Undecorated / Plain, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.29	mm	Base	Indeterminate	Other - Indet								very thick, completely flat fragment; very slight green coloration?
042	L14C003-3	16NA769	TR23, STP#9	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.47	mm	Lip	Indeterminate bottle/jar	Bottle - Jar								external thread finish fragment. Under finish there is an embossed number "15"
042	L14C003-3	16NA769	TR23, STP#9	0	0	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	2.27	mm	Body	Indeterminate bottle/jar	Bottle - Jar								thin, slightly curved fragments
042	L14C003-3	16NA769	TR23, STP#9	0	0	20-30 cm bgs	3	D	Ceramics	Stoneware	Albany slipped exterior, -, -, Albany slipped interior, -, -, -, -, -	FALSE	FALSE	FALSE	1	14.9	mm	Rim with body	Indeterminate utility vessel	Utility Vessel	1780	1925	Greer 1999; Ketchum 1983				very thick, oddly shaped & curved fragment; narrow portion juts out (handle?) but broken	
042	L14C003-3	16NA769	TR23, STP#9	0	0	20-30 cm bgs	4	U	Metal	Iron / Steel	, Amorphous, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.63	mm	-	-								possible indeterminate nail but too much thick corrosion built up to determine	
043	L14C003-3	16NA769	TR23, STP#9	0	0	30-40 cm bgs	1	D	Container Glass	Automatic Bottle Machine	Indeterminate, Clear glass, -, Indeterminate, -, -, -, -, Crown	FALSE	FALSE	FALSE	1	4.47	mm	Lip	Indeterminate bottle/jar	Bottle - Jar	1903		Jones & Sullivan 1985; Lindsey 2006				probably a soda/mineral water/beer container. Seam runs up finish; top (bead edge) broken off	
043	L14C003-3	16NA769	TR23, STP#9	0	0	30-40 cm bgs	2	D	Container Glass	Automatic Bottle Machine	Indeterminate, -, -, Indeterminate, -, -, -, -, External thread	FALSE	FALSE	FALSE	1	1.46	mm	Lip	Indeterminate bottle/jar	Bottle - Jar	1903		Jones & Sullivan 1985; Lindsey 2006				lip frag w seam present running up the finish; curve appears to be for small to medium opening	
043	L14C003-3	16NA769	TR23, STP#9	0	0	30-40 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.06	mm	Body	Indeterminate bottle/jar	Bottle - Jar								medium thick, curved; embossed numbers/letters-indeterminate
043	L14C003-3	16NA769	TR23, STP#9	0	0	30-40 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.5	mm	Body	Indeterminate bottle/jar	Bottle - Jar								(possible "4/5") medium thick, curved fragment with seam present
043	L14C003-3	16NA769	TR23, STP#9	0	0	30-40 cm bgs	5	A	Nails	Wire Nail	, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.83	mm	-	-			1880	Nelson 1968				common head fragment; 2 fragments mend together (ie. accidentally broke in lab)	
044	L14C003-3	16NA769	TR23, STP#10	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.1	mm	Body	Indeterminate bottle/jar	Bottle - Jar								very thin, curved fragments
044	L14C003-3	16NA769	TR23, STP#10	0	0	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	8.78	mm	-	-									red brick fragments
044	L14C003-3	16NA769	TR23, STP#10	0	0	20-30 cm bgs	3	M	Fuels	Cinder / Slag	, -, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.75	mm	-	-									coal slag

045	L14C003-3	16NA769	TR23, STP#10	0	0	60-70 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	5.72	mm	Body	Indeterminate bottle/jar	Bottle - Jar							medium thick, curved/ corner fragment with start of base present (heel)
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	171.14	mm	-	-								1 large brown brick fragment; 1 small red brick fragment
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	2	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	5.29	mm	-	-								shank fragment; too corroded to determine type
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	3	A	Nails	Cut Nail: unspecified	, Pulled, -, Common, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.78	mm	-	-	1800	1880	Nelson 1968					size 4d; can not determine whether early or latt cut nail due to corrosion
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	4	M	General Hardware	Wire	, Iron / Steel, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.7	2.26	mm	-	-							very thin, bent wire fragment
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	5	B	Floral Remains	Wood Charcoal	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.18	mm	-	-							small charcoal fragment	
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	6	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.96	mm	Body	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:119; Smith 1983:119				thin to medium thick, curved fragment
103	L14C003-7	16NA770	delineation	955	1000	20-30 cm bgs	1	D	Glass Tableware	Pattern mold	, Clear unleaded glass, -, -, Cut, -, -, Depression glass, -	FALSE	FALSE	FALSE	1	2.21	mm	Indeterminate part	-		1880		Jones 2000:157				medium thick, flat w small cut starburst and other cut lines design-depression glass? Poor quality
103	L14C003-7	16NA770	delineation	955	1000	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.1	mm	Body	Indeterminate bottle/jar	Bottle - Jar							medium thick, curved fragment
104	L14C003-7	16NA770	delineation	955	1000	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.48	mm	-	-								small, thin red brick fragment
104	L14C003-7	16NA770	delineation	955	1000	30-40 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thin, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	13.98	mm	-	-								corroded; no observable attributes
105	L14C003-7	16NA770	delineation	1015	1000	10-20 cm bgs	1	U	Plastic	Modern	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.17	1.93	mm	-	-	1930		Meikle 1995				thin, flat, black plastic fragment with embossed "26" and thin ridge; 1 edge
105	L14C003-7	16NA770	delineation	1015	1000	10-20 cm bgs	2	M	Fuels	Cinder / Slag	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.32	mm	-	-								curved/rounded small coal slag fragment
105	L14C003-7	16NA770	delineation	1015	1000	10-20 cm bgs	3	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	17	mm	-	-								1 medium, 1 small, red brick fragments
105	L14C003-7	16NA770	delineation	1015	1000	10-20 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.34	mm	Body	Indeterminate bottle/jar	Bottle - Jar							thick, slightly curved fragment
105	L14C003-7	16NA770	delineation	1015	1000	10-20 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	2.46	mm	Body	Indeterminate bottle/jar	Bottle - Jar							1 thick, strongly curved fragment; 2 medium thick (1 slightly curved, 1 strong curve), 1 sheared off
106	L14C003-7	16NA770	delineation	1015	1000	20-30 cm bgs	1	D	Ceramics	Ironstone	Plain, -, -, -, -, -, -, -	TRUE	FALSE	FALSE	1	11.03	mm	Indeterminate part	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:122				thick, curved; dark gray staining/glassy (burned); very thick & deep footing? Or rim of sort

106	L14C003-7	16NA770	delineation	1015	1000	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.95	mm	-	-												small, red brick fragments
107	L14C003-7	16NA770	delineation	1015	1000	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.06	mm	-	-												small-medium, red fragment
107	L14C003-7	16NA770	delineation	1015	1000	30-40 cm bgs	2	D	Ceramics	Stoneware	Slipped exterior, -, -, Slipped interior, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.01	mm	Body	Indeterminate	Other - Indet	1780	1925	Greer 1999; Ketchum 1983								brown slip on exterior and interior with light brown paste; medium to thick, curved fragment
107	L14C003-7	16NA770	delineation	1015	1000	30-40 cm bgs	3	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.67	mm	Body with base	Plate	Place Setting	1830		Majewski and O'Brien 1987:119; Smith 1983:119								medium thick, nearly flat. Very thin, slightly yellowish-line on top surface-probably stain, decor?
108	L14C003-7	16NA770	delineation	1015	1000	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.36	mm	Base	Indeterminate bottle/jar	Bottle - Jar											base with some heel fragment; stippling made up of tiny circles covers base of fragment
109	L14C003-7	16NA770	delineation	1045	1000	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Blue-green glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.55	mm	Body	Indeterminate bottle/jar	Bottle - Jar											medium thick, moderately curved fragment
109	L14C003-7	16NA770	delineation	1045	1000	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Aqua glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1	mm	Body	Indeterminate bottle/jar	Bottle - Jar											thin to medium thick, slightly curved fragments;
109	L14C003-7	16NA770	delineation	1045	1000	20-30 cm bgs	3	D	Container Glass	Other glass container	, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.42	mm	Body	Indeterminate bottle/jar	Bottle - Jar											pale aqua color medium thick, curved fragment
109	L14C003-7	16NA770	delineation	1045	1000	20-30 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.26	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar											small fragments; both sheared off-can not determine thickness, curve, or vessel part
109	L14C003-7	16NA770	delineation	1045	1000	20-30 cm bgs	5	U	Indeterminate	1	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.26	mm	-	-												thin, black fragment; flat (rough texture) on 1 side & curved/rod-like (smooth) on other side; stone?
110	L14C003-7	16NA770	delineation	1045	1000	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Aqua glass, -, -, -, -, -, -, -, -	TRUE	FALSE	FALSE	1	3.13	mm	Body	Indeterminate bottle/jar	Bottle - Jar											medium thick, slightly curved fragment; very pale aqua color; warped/textured being burned?
110	L14C003-7	16NA770	delineation	1045	1000	40-50 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.38	mm	Body	Indeterminate bottle/jar	Bottle - Jar											thick, slightly curved fragment
111	L14C003-7	16NA770	delineation	1075	1000	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.56	mm	Body	Indeterminate bottle/jar	Bottle - Jar											medium thick, curved fragment
111	L14C003-7	16NA770	delineation	1075	1000	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	40.96	mm	-	-												large brownish-red brick fragment; has a few inclusions/voids
112	L14C003-7	16NA770	delineation	1000	1015	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	7.59	mm	-	-												2 small fragments with a few inclusions/voids; 1 is dark red, 1 is orange-red

112	L14C003-7	16NA770	delineation	1000	1015	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.89	mm	Body	Indeterminate bottle/jar	Bottle - Jar							1 is a thick, slightly curved fragment; the other is medium thick, slightly curved fragment	
113	L14C003-7	16NA770	delineation	1000	1015	30-40 cm bgs	1	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	8.02	mm	-	-								complete? too corroded to measure length or determine type	
114	L14C003-7	16NA770	delineation	1015	1015	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Handmade brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.35	mm	-	-								red brick fragment; crude with multiple medium to large inclusions and a few voids	
114	L14C003-7	16NA770	delineation	1015	1015	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.39	mm	-	-								small red fragment	
114	L14C003-7	16NA770	delineation	1015	1015	10-20 cm bgs	3	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.96	mm	-	-								colorless fragment	
114	L14C003-7	16NA770	delineation	1015	1015	10-20 cm bgs	4	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.25	mm	Body with base	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:119; Smith 1983:119			medium thickness; 1 is flat, 1 is curved		
114	L14C003-7	16NA770	delineation	1015	1015	10-20 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.58	mm	Body	Indeterminate bottle/jar	Bottle - Jar							thin, moderately curved fragment with whittle mark design	
115	L14C003-7	16NA770	delineation	1015	1015	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.51	mm	Body	Indeterminate bottle/jar	Bottle - Jar							medium thick, slightly curved fragment with 3 embossed dots in a row	
115	L14C003-7	16NA770	delineation	1015	1015	40-50 cm bgs	2	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.65	mm	-	-								very slightly aqua coloration	
116	L14C003-7	16NA770	delineation	1030	1015	0-10 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.88	mm	-	-								light red fragment	
117	L14C003-7	16NA770	delineation	1030	1015	10-20 cm bgs	1	A	Nails	Indeterminate	5d, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.59	mm	-	-								complete, straight, common head but shank too corroded to determine type	
117	L14C003-7	16NA770	delineation	1030	1015	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	1.49	mm	-	-								2 red, 1 orange-red fragments; too small to determine types	
117	L14C003-7	16NA770	delineation	1030	1015	10-20 cm bgs	3	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.43	mm	-	-								long bone fragment	
117	L14C003-7	16NA770	delineation	1030	1015	10-20 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.09	mm	Body	Indeterminate bottle/jar	Bottle - Jar								thin, curved fragment
117	L14C003-7	16NA770	delineation	1030	1015	10-20 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	3.91	mm	Body	Indeterminate bottle/jar	Bottle - Jar							1 very thin, 1 thin, 2 thick fragments all slightly curved	
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	1	D	Container Glass	Blown in Mold	Indeterminate, -, -, Indeterminate, -, -, Tooled, -, Packer	FALSE	FALSE	FALSE	1	30.19	mm	Lip with neck	Indeterminate bottle/jar	Bottle - Jar	1800	1920	Lindsey 2006; Miller & Sullivan 1984; Jones & Sullivan 1985				clear; multiple straw marks and small bubbles present; thick seam ends well below lip; 15.12 mm bore	

118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	7.18	mm	Other part	Indeterminate bottle/jar	Bottle - Jar	neck w/ body; med thick, strongly curved; bead finish like ring around base of neck; body flares out		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Blue-green glass, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.38	mm	Body	Indeterminate bottle/jar	Bottle - Jar	medium thick, moderately curved fragment		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	2.15	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thin to medium, curved fragments		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	7	6.03	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thin to med, slight to mod curved; 1 has whittle marks, 2 have indentation marks		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	6	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	2.31	mm	Body	-	1830	Majewski and O'Brien 1987:119; Smith 1983:119	thin, curved fragments; no crazing; 1 small fragment, surfaces nearly eroded away completely	
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	7	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	10	15.55	mm	-	-	-	all small fragments; 4-orange-red; 3 red; 3 brown (including 1 with white/gray mortar on 1 surface		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	8	A	Construction Material	Brick (measure in inches)	Handmade brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	6.43	mm	-	-	-	1 dark red, 1 purplish; both small fragments with very crude/rough texture and small inclusions		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	9	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.79	mm	-	-	-	very pale greenish coloration		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	10	A	Nails	Cut Nail: unspecified	9d, Clinched, -, Indeterminate, -, -, -, -, -	FALSE	FALSE	FALSE	1	8.2	mm	-	-	1800	1880	Nelson 1968	corrosion around head, can not determine head type byt shape of shank
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	11	A	Nails	Cut Nail: unspecified	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.55	mm	-	-	1800	1880	Nelson 1968	observable near tip
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	12	A	Nails	Wire Nail	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.32	mm	-	-	1880	Nelson 1968	thick head and shank fragment	
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	13	A	Nails	Indeterminate	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	4.68	mm	-	-	-	small, shank fragment		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	14	U	Metal	Iron / Steel	, Flat: thin, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	2.54	mm	-	-	-	1 head and shank, 1 shank fragment; both too corroded to determine type		
118	L14C003-7	16NA770	delineation	1030	1015	20-30 cm bgs	15	B	Floral Remains Buttons	Wood Charcoal	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.07	mm	-	-	-	no observable attributes		
119	L14C003-7	16NA770	delineation	1030	1015	30-40 cm bgs	1	C	Buttons	Sew-through	Two holes, One-piece, flat, -, Vulcanized rubber, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.39	13.57	mm	-	-	-	small charcoal fragment	
119	L14C003-7	16NA770	delineation	1030	1015	30-40 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thick, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	14.59	mm	-	-	-	back marked with "I.R.C.CO.(India Rubber Comb Co.) & Goodyear 1851(patent)"		
119	L14C003-7	16NA770	delineation	1030	1015	30-40 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.19	mm	-	-	-	no observable attributes		
119	L14C003-7	16NA770	delineation	1030	1015	30-40 cm bgs	4	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.19	mm	-	-	-	small orange-red fragment		
119	L14C003-7	16NA770	delineation	1030	1015	30-40 cm bgs	4	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.19	mm	-	-	-	colorless fragments		

119	L14C003-7	16NA770	delineation	1030	1015	30-40 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.25	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin, curved fragment
120	L14C003-7	16NA770	delineation	1030	1015	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.55	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium thick, moderately curved fragment
121	L14C003-7	16NA770	delineation	1060	1015	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.41	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thick, moderately curved fragment
121	L14C003-7	16NA770	delineation	1060	1015	10-20 cm bgs	2	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	3.74	mm	-	-	-	-	-	-	shank fragments; too corroded to determine type
121	L14C003-7	16NA770	delineation	1060	1015	10-20 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.92	mm	-	-	-	-	-	-	small brownish-red fragment
122	L14C003-7	16NA770	delineation	1060	1015	30-40 cm bgs	1	A	Flat Glass	Window Glass	>2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.29	mm	-	-	-	-	-	-	colorless fragment
122	L14C003-7	16NA770	delineation	1060	1015	30-40 cm bgs	2	A	Nails	Wire Nail	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.29	mm	-	-	-	-	1880	Nelson 1968	shank fragment
122	L14C003-7	16NA770	delineation	1060	1015	30-40 cm bgs	3	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.08	mm	-	-	-	-	-	-	shank fragment; too corroded to determine type
085	L14C003-3	16NA769	delineation	1000	970	60-70 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	3.69	mm	Body	Indeterminate bottle/jar	Bottle - Jar				1 thin, curved fragment; 2 medium to thick, moderately curved fragments
085	L14C003-3	16NA769	delineation	1000	970	60-70 cm bgs	4	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.05	mm	Rim, body, base	Plate	Place Setting	1830	Majewski and O'Brien 1987:119; Smith 1983:119		medium thick, slightly curved; only slight crazing
085	L14C003-3	16NA769	delineation	1000	970	60-70 cm bgs	5	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	5	15.14	mm	-	-	-	-	-	-	corroded, amorphous fragments
086	L14C003-3	16NA769	delineation	1000	970	70-80 cm bgs	1	U	Metal	Iron / Steel	, Flat: thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.53	mm	-	-	-	-	-	-	corroded fragment, void of attributes
086	L14C003-3	16NA769	delineation	1000	970	70-80 cm bgs	2	B	Floral Remains	Wood Charcoal	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.17	mm	-	-	-	-	-	-	small charcoal fragment
086	L14C003-3	16NA769	delineation	1000	970	70-80 cm bgs	3	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.08	mm	Body with base	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119		medium to thick fragment, flat; no crazing
087	L14C003-3	16NA769	delineation	1015	970	20-30 cm bgs	1	D	Container Glass	Automatic Bottle Machine	Indeterminate, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.42	mm	Lip	Indeterminate bottle/jar	Bottle - Jar	1903	Jones & Sullivan 1985; Lindsey 2006		lip fragment; seam runs up and over finish
088	L14C003-3	16NA769	delineation	1030	970	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.22	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin to medium thick, moderately curved fragment
088	L14C003-3	16NA769	delineation	1030	970	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Cobalt glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.22	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar				small sheared off fragment, very little of either surface remains
088	L14C003-3	16NA769	delineation	1030	970	10-20 cm bgs	3	C	Buttons	Sew-through	Four holes, One-piece, domed, -, Prosser: plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.34	10.34	mm	-	-	-	-	-	complete button, white
088	L14C003-3	16NA769	delineation	1030	970	10-20 cm bgs	4	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.04	mm	-	-	-	-	-	-	small to medium sized, red brick fragment

088	L14C003-3	16NA769	delineation	1030	970	10-20 cm bgs	5	U	Metal	Iron / Steel	Unspecified iron / steel, Rod, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.85	mm	-	-				possible nail shank fragment but too much corrosion built up to determine	
089	L14C003-3	16NA769	delineation	1030	970	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.74	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar				possibly melted fragment; irregular shape and 1-side is sheared off; partial lip?
090	L14C003-3	16NA769	delineation	1000	985	10-20 cm bgs	1	D	Glass Tableware	Pattern mold	Fragment, Clear unleaded glass, -, -, Molded design/pattern, -, -, -, -	FALSE	FALSE	FALSE	1	0.67	mm	Body	Indeterminate	Other - Indet	1880	Jones 2000:157		thin, relatively flat fragment with an undulating pattern
090	L14C003-3	16NA769	delineation	1000	985	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.58	mm	-	-				small to medium-sized, red brick fragment	
091	L14C003-3	16NA769	delineation	1015	955	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	5	26.97	mm	-	-				1 medium-sized, orange-red; 4 small red brick fragments	
091	L14C003-3	16NA769	delineation	1015	955	10-20 cm bgs	2	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	4.93	mm	-	-				whitish mortar fragments; sand and a few large stone inclusions	
091	L14C003-3	16NA769	delineation	1015	955	10-20 cm bgs	3	A	Nails	Indeterminate	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	3.86	mm	-	-				head and shank fragments; too corroded to determine type	
091	L14C003-3	16NA769	delineation	1015	955	10-20 cm bgs	4	M	Electrical	Insulator: ceramic	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	13.66	mm	-	-		1892	Berge 1980:156	partial (half?) porcelain insulator; round	
091	L14C003-3	16NA769	delineation	1015	955	10-20 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	4.54	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin, curved fragments; 1 has embossed lettering "THI..."
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.68	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin, moderately curved fragment
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.41	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin, moderately curved fragment
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	3	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.09	mm	-	-				clear fragment	
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	4	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	8	132.7	mm	-	-				4 orange-red fragments (3 large, 1 small) and 4 small red (1 is darker red) fragments	
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	5	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	5	11.08	mm	-	-				3 red (1 has a large stone inclusion), 1 very small brown brick & 1 large brown brick fragments	
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	5	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.78	mm	-	-				ovalish fragment; no other attributes	
092	L14C003-3	16NA769	delineation	1015	955	20-30 cm bgs	7	M	Fuels	Cinder / Slag	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.69	mm	-	-				coal slag fragments	
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	9.31	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin-medium thick, moderately curved; 1 has a large

093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.1	mm	Body with base	Indeterminate bottle/jar	Bottle - Jar				embossed "K", 1 has embossed unidentified image medium thick, curved fragment; heel portion with indentation line running around top of base	
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.53	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin to medium thick fragment with strong curve. Scratched or design lines? Very pale amethyst medium-sized charcoal fragment red, thin, moderately curved fragment	
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	4	B	Floral Remains	Wood Charcoal	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.81	mm	-	-				short rod with articulation at 1 end; cog-like disc (copper alloy-greenish) around center		
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	5	U	Plastic	Modern	, Item / part, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.3	1.38 mm	-	-		1930	Meikle 1995			
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	6	U	Metal	Multiple metals	, Item / part, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.57	mm	-	-						
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	7	A	Flat Glass	Window Glass	>2.41 mm thick, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.56	mm	-	-						
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	8	M	General Hardware	Bolt	Indeterminate, Iron / Steel, -, Square, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	56.43	mm	-	-					large, thick fragment	
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	9	A	Nails	Wire Nail	, -, -, Spike, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	22.11	mm	-	-		1880			spike; head and shank fragment very thick, flat fragment; interior slip has black speckling thin, curved fragment with partial handle present	
003	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	1	D	Ceramics	Stoneware	Unglazed exterior, -, -, Slipped interior, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	74.92	mm	Base	Indeterminate utility vessel	Utility Vessel	1780	1925	Nelson 1968 Greer 1999; Ketchum 1983 Majewski and O'Brien 1987:119; Smith 1983:119		
003	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	2	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.96	mm	Handle	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:119; Smith 1983:119		
003	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	3	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	4.52	mm	Body	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:119; Smith 1983:119		
003	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	4	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.89	mm	Rim, body, base	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:119; Smith 1983:119		
003	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	5	D	Container Glass	Undiagnostic container fragment	Fragment, Blue-green glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.82	mm	Base	Indeterminate bottle/jar	Bottle - Jar				medium thick, nearly flat fragment; only slightly blue-green coloration	
004	L14C003-9	16NA772	TR2, STP#6	0	0	- Surface	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	TRUE	FALSE	FALSE	1	1.79	mm	Rim, body, base	Indeterminate	Other - Indet	1830		Majewski and O'Brien 1987:119; Smith 1983:119		
005	L14C003-9	16NA772	TR2, STP#7	0	0	- Surface	1	D	Container Glass	Undiagnostic container fragment	Fragment, "Black" glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	34.81	mm	Base	Liquor/Beer/Wine	Bottle - Jar				thick fragment with kick-up base, patina present; probably a	

005	L14C003-9	16NA772	TR2, STP#7	0	0	- Surface	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	7.68		mm	Lip with neck	Indeterminate bottle/jar	Bottle - Jar				wine bottle (kick-up, black color) wide external thread finish fragment with seam running around and just below finish very thin tin fragment; manufacture indentation lines; folded over on itself in multiple places medium to thick, curved fragments; unidentified molded line design	
005	L14C003-9	16NA772	TR2, STP#7	0	0	- Surface	3	U	Metal	Tin	, Flat: thin, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.08	1.35	mm	-	-						
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	1	D	Ceramics	Whiteware	Molded, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	23.4		mm	Body	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119			
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	2	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.14		mm	Rim, body, base	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119			small; very thin, slightly curved fragment
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	3	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	7.95		mm	Footring with base	Plate	Place Setting	1830	Majewski and O'Brien 1987:119; Smith 1983:119			1 thin, moderately curved fragment; 1 thick fragment, only slightly curved with prominent footring
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	4	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	11.15		mm	Body with base	Plate	Place Setting	1830	Majewski and O'Brien 1987:119; Smith 1983:119			3 medium, slightly curved frag; 1 thin, nearly flat with maker's mark: "...NY MA..." in narrow circle
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.43		mm	Lip	Indeterminate bottle/jar	Bottle - Jar					wide mouth external thread lip fragment; deep threads
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	6	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, -, -, -, -, -, -, -, -	TRUE	FALSE	FALSE	1	3.18		mm	Lip, neck, body	Indeterminate bottle/jar	Bottle - Jar					fragment mishapen by melting?; possible patent lip
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	7	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	4.28		mm	Body	Indeterminate bottle/jar	Bottle - Jar					thin, curved fragments; 1 has patina; another has a textured appearance (weathered or decorative?)
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	10	A	Nails	Wire Nail	2d, Clinched, -, Common, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.95		mm	-	-		1880	Nelson 1968			
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	11	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	20.13		mm	-	-						all 3 are likely complete but only 1 could be measured (10d) due to corrosion
093	L14C003-3	16NA769	delineation	1015	955	30-40 cm bgs	12	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	11	293.21		mm	-	-						3 large, 5 medium, 3 small fragments; orange-red or red fragments
094	L14C003-3	16NA769	delineation	1015	955	40-50 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	5022.83		mm	-	-						1 nearly complete brick, 1 medium fragment; red fragments

094	L14C003-3	16NA769	delineation	1015	955	40-50 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, -, -, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	22.38	mm	-	-				dark red brick fragment; medium- sized	
094	L14C003-3	16NA769	delineation	1015	955	40-50 cm bgs	3	A	Nails	Indeterminate	, -, -, -, -, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	2	3.36	mm	-	-				1 head and shank fragment; 1 shank fragment; too corroded to determine type	
094	L14C003-3	16NA769	delineation	1015	955	40-50 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	4	3.29	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin, curved fragments; 1 has whittle mark design	
094	L14C003-3	16NA769	delineation	1015	955	40-50 cm bgs	5	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thin, , -, -, -, -, -, -	FALSE	FALSE	FALSE	10	113.51	mm	-	-				1 large, numerous small fragments; no attributes	
095	L14C003-3	16NA769	delineation	1015	955	60-70 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	5.56	mm	-	-				no attributes	
095	L14C003-3	16NA769	delineation	1015	955	60-70 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	2	2.76	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium to thick, slightly curved fragments
096	L14C003-3	16NA769	delineation	1030	955	0-10 cm bgs	1	D	Container Glass	Automatic Bottle Machine	Indeterminate, Clear glass, -, - Indeterminate, -, - , -, -, External thread	FALSE	FALSE	FALSE	1	4.11	mm	Lip	Other bottle/jar	Bottle - Jar	1903	Jones & Sullivan 1985; Lindsey 2006		wide mouth external thread lip; seam all the way up finish
096	L14C003-3	16NA769	delineation	1030	955	0-10 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.9	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar				1 side sheared off; other side has whittle marks
097	L14C003-3	16NA769	delineation	1030	955	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.43	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium to thick fragment, moderately curved
097	L14C003-3	16NA769	delineation	1030	955	30-40 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non- vitrified, -, -, -, -, - , -, -, -	TRUE	FALSE	FALSE	1	52.36	mm	-	-				very light beige color; numerous small to large inclusions, blackened (burned) on 1 side curved, thin? Fragment; no other attributes	
097	L14C003-3	16NA769	delineation	1030	955	30-40 cm bgs	3	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	1.5	mm	-	-				observable small fragment; thick, slightly curved	
098	L14C003-8	16NA771	STP 23-4	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, - , -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.24	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar				very thin, slightly curved fragment
099	L14C003-7	16NA770	delineation	985	1000	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.13	mm	Body	Indeterminate bottle/jar	Bottle - Jar				
046	L14C003-3	16NA769	TR24, STP#9	0	0	20-30 cm bgs	7	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	4	5.47	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin to medium thick fragments; slightly to moderately curved
047	L14C003-3	16NA769	TR24, STP#9	0	0	30-40 cm bgs	1	U	Indeterminate	1	, -, -, -, -, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	13.43	48.26	mm	-	-				round black disk with hole in center and an indentation that runs around; very weathered reddish-brown brick fragment
048	L14C003-3	16NA769	TR24, STP#9	0	0	38-38 cm bgs	1	A	Construction Material	Brick (measure in inches)	Machine made brick: non- vitrified, -, -, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	35.43	mm	-	-					
048	L14C003-3	16NA769	TR24, STP#9	0	0	38-38 cm bgs	2	A	Nails	Indeterminate	, -, -, -, -, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	3.58	mm	-	-				indeterminate head and shank fragment; too corroded to determine type	
048	L14C003-3	16NA769	TR24, STP#9	0	0	38-38 cm bgs	3	D	Container Glass	Undiagnostic container	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.48	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin to medium thick with

049	L14C003-4		TR25, STP#6	0	0	10-20 cm bgs	1	D	Container Glass	fragment Automatic Bottle Machine	, - Indeterminate, Amber glass, -, Indeterminate, -, -, -, -	FALSE	FALSE	FALSE	1	1.08	mm	Lip with neck	Indeterminate bottle/jar	Bottle - Jar	1903	Jones & Sullivan 1985; Lindsey 2006	moderate curve incomplete lip frag w/ seam running up it-can not determine finish b/c only small portion present small; orangey-red brick fragment
049	L14C003-4		TR25, STP#6	0	0	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate lip Machine made brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.97	mm	-	-				
050	L14C003-1	16NA768	delineation	1040	1000	20-30 cm bgs	1	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	18.24	mm	-	-				white exterior surfaces with grayish-brown interior mortar fragments very small red brick fragment
050	L14C003-1	16NA768	delineation	1040	1000	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.21	mm	-	-				
051	L14C003-1	16NA768	delineation	1050	1000	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.72	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin, curved fragment with whittle mark texture (on interior?); portion where two sides meet
079	L14C003-3	16NA769	delineation	1045	985	0-10 cm bgs	3	M	Containers	Other	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	30.17	48.37	mm	-	-			oil container cap: round, black; "OIL" in raised letters; 3-piece, base piece broken off
080	L14C003-3	16NA769	delineation	985	970	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.46	mm	Body	Indeterminate bottle/jar	Bottle - Jar			medium to thick, moderately curved fragment
081	L14C003-3	16NA769	delineation	1000	970	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.33	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin, moderately curved fragment
081	L14C003-3	16NA769	delineation	1000	970	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.36	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin fragment, only slightly curved
081	L14C003-3	16NA769	delineation	1000	970	20-30 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.17	mm	-	-				small red brick fragment
081	L14C003-3	16NA769	delineation	1000	970	20-30 cm bgs	4	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	107.92	mm	-	-				somewhat rectangular fragment with one short edge curving upwards; no other attributes present
082	L14C003-3	16NA769	delineation	1000	970	30-40 cm bgs	1	U	Glass	Curved	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.05	0.63	mm	-	-			very thin, slightly curved, clear fragment; too thin to be container or window glass
099	L14C003-7	16NA770	delineation	985	1000	10-20 cm bgs	2	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	8.73	mm	-	-				too corroded to determine type and can not distinguish if head is present or broken off
100	L14C003-7	16NA770	delineation	985	1000	20-30 cm bgs	1	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.51	mm	-	-				white mortar fragment with brown staining?
100	L14C003-7	16NA770	delineation	985	1000	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.52	mm	Body	Indeterminate bottle/jar	Bottle - Jar			medium to thick, moderately curved fragments
100	L14C003-7	16NA770	delineation	985	1000	20-30 cm bgs	3	D	Ceramics	Stoneware	Salt glazed exterior, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.32	mm	Body	Indeterminate	Other - Indet	1780 1925	Greer 1999;	medium thick, moderately curved;

										Slipped interior, - , -, -, -, -										Ketchum 1983	gray paste and ext glaze; brown slip int-no luster at all thin, very slightly curved fragment			
101	L14C003-7	16NA770	delineation	985	1000	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.25	mm	Body	Indeterminate bottle/jar	Bottle - Jar				
101	L14C003-7	16NA770	delineation	985	1000	30-40 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, -, -, -, - , -, -, -	FALSE	FALSE	FALSE	1	1.91	mm	-	-			small red brick fragment		
101	L14C003-7	16NA770	delineation	985	1000	30-40 cm bgs	3	B	Floral Remains	Wood Charcoal	-, -, -, -, -, -, -, - , -, -, -	FALSE	FALSE	FALSE	1	0.1	mm	-	-			small, thin charcoal fragment		
102	L14C003-7	16NA770	delineation	955	1000	10-20 cm bgs	1	D	Glass Tableware	Pattern mold	, Clear unleaded glass, -, -, Cut, -, , -, Depression glass, -	FALSE	FALSE	FALSE	1	2.05	mm	Indeterminate part	-	1880	Jones 2000:157	medium to thick, flat; poor quality w small multiple starburst cut design- probably depression glass?		
102	L14C003-7	16NA770	delineation	955	1000	10-20 cm bgs	2	D	Container Glass	Other glass container	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	2	0.83	mm	Body	Indeterminate bottle/jar	Bottle - Jar		thin to medium thick, slightly curved fragments		
122	L14C003-7	16NA770	delineation	1060	1015	30-40 cm bgs	4	U	Metal	Aluminum	, -, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	2	3.51	mm	-	-			flat thin fragments; folded/twisted on themselves		
122	L14C003-7	16NA770	delineation	1060	1015	30-40 cm bgs	5	A	Construction Material	Brick (measure in inches)	Machine made brick: non- vitrified, -, -, -, - , -, -, -	FALSE	FALSE	FALSE	1	15.02	mm	-	-			brownish-red, medium-sized fragment		
123	L14C003-7	16NA770	delineation	1000	1030	10-20 cm bgs	1	A	Nails	Wire Nail	8d, Indeterminate, -, Common, -, -, -, - , -	FALSE	FALSE	FALSE	1	10.91	mm	-	-	1880	Nelson 1968			
123	L14C003-7	16NA770	delineation	1000	1030	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non- vitrified, -, -, -, - , -, -, -	FALSE	FALSE	FALSE	1	5.51	mm	-	-			light red fragment with some small to medium-sized inclusions		
124	L14C003-7	16NA770	delineation	1000	1030	30-40 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, -, -, -, - , -, -, -	FALSE	FALSE	FALSE	1	5.77	mm	-	-			small red brick fragment		
124	L14C003-7	16NA770	delineation	1000	1030	30-40 cm bgs	2	A	Nails	Indeterminate	-, -, -, -, -, -, - , -, -, -	FALSE	FALSE	FALSE	1	1.52	mm	-	-			shank fragment; too corroded to determine type		
125	L14C003-7	16NA770	delineation	1060	1030	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, -, -, -, - , -, -, -	TRUE	FALSE	FALSE	1	15.76	mm	-	-			medium-sized, dark red frag w/ black, (circle-shaped) char stains?; rough texture (due to burn?)		
125	L14C003-7	16NA770	delineation	1060	1030	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, - , -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.22	mm	Body	Indeterminate bottle/jar	Bottle - Jar		thick, slightly curved fragment		
125	L14C003-7	16NA770	delineation	1060	1030	10-20 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.33	mm	Body	Indeterminate bottle/jar	Bottle - Jar		thin, slightly curved fragment		
126	L14C003-7	16NA770	delineation	1000	1045	10-20 cm bgs	1	D	Container Glass	Blown in Mold	Pattern mold (ex. Pitkin style flask), -, -, Embossed, -, -, Indeterminate, -, Indeterminate lip	FALSE	FALSE	FALSE	1	20.34	mm	Body with base	Misc. commercial food	Bottle - Jar	1800	1920	Lindsey 2006; Miller & Sullivan 1984; Jones & Sullivan 1985	rows and columns of diagonal line design on body; thick base with "Ball" maker's mark
127	L14C003-7	16NA770	delineation	940	1010	0-10 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	2.05	mm	Body	Indeterminate bottle/jar	Bottle - Jar		medium thick, moderately curved fragment		
128	L14C003-7	16NA770	delineation	910	1040	10-20 cm bgs	1	D	Ceramics	Porcelain: hard paste	Decal, -, -, -, -, -, - , -, -	FALSE	FALSE	FALSE	1	4.54	mm	Indeterminate part	Indeterminate	Other - Indet	1800	Faulkner 2000	medium thick, strongly curved; red	

128	L14C003-7	16NA770	delineation	910	1040	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.55	mm	Body	Indeterminate bottle/jar	Bottle - Jar	flower decal with the remains of other floral decals (eroded) medium thick, slightly curved fragment		
128	L14C003-7	16NA770	delineation	910	1040	10-20 cm bgs	3	U	Indeterminate	1	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.15	mm	-	-	-	very thin, black flat fragment with rough texture-looks like leather/alligator skin?		
129	L14C003-7	16NA770	delineation	910	1040	20-30 cm bgs	1	D	Ceramics	Ironstone	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	15.05	mm	Rim, body, base	Plate	Place Setting	1830	Majewski and O'Brien 1987:122	thick, flat fragment ridge line runs along the fragment; some crazing
129	L14C003-7	16NA770	delineation	910	1040	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Aqua glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	13.38	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thick fragment, moderately curved; dark aqua color		
129	L14C003-7	16NA770	delineation	910	1040	20-30 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	3.36	mm	Body	Indeterminate bottle/jar	Bottle - Jar	1 medium thick slightly curved fragment, 1 thick strongly curved		
130	L14C003-7	16NA770	delineation	890	1040	40-50 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	11.89	mm	Footring with base	Platter	Serving	1830	Majewski and O'Brien 1987:119; Smith 1983:119	very thick, curved fragment with moderately shallow footring; much crazing
131	L14C003-7	16NA770	delineation	930	1050	0-10 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.42	mm	Base	Indeterminate bottle/jar	Bottle - Jar	medium thick, nearly flat fragment		
131	L14C003-7	16NA770	delineation	930	1050	0-10 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.47	mm	-	-	-	very small red fragment		
132	L14C003-7	16NA770	delineation	930	1050	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	2.7	mm	-	-	-	very small fragments; 3-red; 1 brown		
132	L14C003-7	16NA770	delineation	930	1050	10-20 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.5	mm	-	-	-	no observable attributes		
132	L14C003-7	16NA770	delineation	930	1050	10-20 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.96	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thin to medium thick, slightly curved fragments		
133	L14C003-7	16NA770	delineation	930	1050	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.44	mm	Indeterminate part	-	-	small, thin, slightly curved fragments		
133	L14C003-7	16NA770	delineation	930	1050	20-30 cm bgs	2	D	Glass Tableware	Unidentified mold	, Clear unleaded glass, -, -, Undecorated / Plain, -, -, -, -, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.16	mm	Rim with body	Indeterminate	Other - Indet	very thin, slightly curved fragment		
082	L14C003-3	16NA769	delineation	1000	970	30-40 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.5	mm	-	-	-	corroded amorphous fragment; no attributes present		
083	L14C003-3	16NA769	delineation	1000	970	40-50 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.09	mm	-	-	-	corroded fragment, void of attributes		
083	L14C003-3	16NA769	delineation	1000	970	40-50 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.24	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thin, slightly curved fragment with whittle mark design		
083	L14C003-3	16NA769	delineation	1000	970	40-50 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.15	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar	very small, thin fragment (with varying thickness);		

083	L14C003-3	16NA769	delineation	1000	970	40-50 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, ,-, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	1.06	mm	-	-			nearly flat but slight curve detected red brick fragment	
084	L14C003-3	16NA769	delineation	1000	970	50-60 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, - , -, -	TRUE	FALSE	FALSE	1	1.98	mm	Base	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119 Nelson 1968	medium thick, flat fragment; crazing
084	L14C003-3	16NA769	delineation	1000	970	50-60 cm bgs	2	A	Nails	Wire Nail	, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.58	mm	-	-		1880		common head and partial shank fragment
085	L14C003-3	16NA769	delineation	1000	970	60-70 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, ,-, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	2	0.71	mm	-	-			2 small brick fragments; 1 red, 1 orange-red	
085	L14C003-3	16NA769	delineation	1000	970	60-70 cm bgs	2	A	Construction Material	Mortar	Fragment, -, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	0.86	mm	-	-			beige fragment; sand	
133	L14C003-7	16NA770	delineation	930	1050	20-30 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, ,-, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	3	9.64	mm	-	-			2 small red fragments; 1 medium-sized gray fragment, possibly burned	
133	L14C003-7	16NA770	delineation	930	1050	20-30 cm bgs	4	U	Metal		Unspecified iron / steel, Amorphous, -, -, - , -, -, -, -, -	FALSE	FALSE	FALSE	4	2.25	mm	-	-			no observable attributes; all very small fragments	
134	L14C003-7	16NA770	delineation	930	1050	30-40 cm bgs	1	U	Indeterminate	1	, -, -, -, -, -, -, -, - , -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.5	mm	-	-			yellowish-brown, thick, flat fragment; possible mortar? or non-cultural (rock?) small fragment; no observable attributes	
135	L14C003-7	16NA770	delineation	970	1015	0-10 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, - , -, -, -, -, -	FALSE	FALSE	FALSE	1	0.2	mm	-	-			small fragment; no observable attributes	
135	L14C003-7	16NA770	delineation	970	1015	0-10 cm bgs	2	M	Fuels	Cinder / Slag	, -, -, -, -, -, -, -, - , -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.12	mm	-	-			small coal slag fragment	
135	L14C003-7	16NA770	delineation	970	1015	0-10 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.6	mm	Body	Indeterminate bottle/jar	Bottle - Jar			thin, slightly curved fragment
136	L14C003-7	16NA770	delineation	1030	1045	20-30 cm bgs	1	M	General Hardware	Nut	Square, Iron / Steel, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	16.72	mm	-	-				
137	L14C003-7	16NA770	delineation	1030	1075	20-30 cm bgs	1	A	Construction Material	Brick (measure in inches)	Handmade brick: non- vitrified, ,-, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	64.67	mm	-	-			small to medium- sized inclusions; large red fragment	
138	L14C003-7	16NA770	delineation	930	980	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	2	3.62	mm	Body	Indeterminate bottle/jar	Bottle - Jar			medium to thick, moderately curved fragments
138	L14C003-7	16NA770	delineation	930	980	30-40 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, ,-, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	2.62	mm	-	-			small red fragment- too small to determine type; has a few small dark red inclusions	
138	L14C003-7	16NA770	delineation	930	980	30-40 cm bgs	3	A	Nails	Wire Nail	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	1.99	mm	-	-		1880	Nelson 1968	shank fragments
139	L14C003-7	16NA770	delineation	1100	970	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non- vitrified, ,-, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	6.48	mm	-	-			small red fragment	
140	L14C003-7	16NA770	delineation	1080	960	0-10 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	2	3.24	mm	Body	Indeterminate bottle/jar	Bottle - Jar			1 thick, moderately curved fragment; the other is medium thick with a slight

142	L14C003-7	16NA770	delineation	1060	960	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.43	mm	Body	Indeterminate bottle/jar	Bottle - Jar	curve thin, moderately curved fragment	
143	L14C003-7	16NA770	delineation	1030	990	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.91	mm	Body	Indeterminate bottle/jar	Bottle - Jar	medium thick, moderately curved fragment; very pale amethyst coloration bright blue color with white areas on exterior surface (could be glue?); thin, slightly curved small black with reddish areas fragment; very weathered, possibly burned	
143	L14C003-7	16NA770	delineation	1030	990	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Other color, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.36	mm	Body	Indeterminate bottle/jar	Bottle - Jar	flat, thick; half is rectangular, flares out to amorphous and has a hole in center of amorphous part white, sandy fragments; do not observed any inclusions tiny brownish-gray fragment	
143	L14C003-7	16NA770	delineation	1030	990	10-20 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.83	mm	-	-	-	amorphous part	
144	L14C003-7	16NA770	delineation	1030	990	20-20 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Item / part, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	176.93	mm	-	-	-	amorphous part	
145	L14C003-7	16NA770	delineation	1030	990	20-30 cm bgs	1	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	13.82	mm	-	-	-	amorphous part	
145	L14C003-7	16NA770	delineation	1030	990	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.23	mm	-	-	-	amorphous part	
145	L14C003-7	16NA770	delineation	1030	990	20-30 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.78	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thin to medium thick, slightly curved fragment	
146	L14C003-7	16NA770	delineation	1030	980	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.53	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar	both are sheared off fragments; moderate curve small red fragment	
146	L14C003-7	16NA770	delineation	1030	980	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.53	mm	-	-	-	amorphous part	
147	L14C003-7	16NA770	delineation	1010	980	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.97	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thick, moderately curved fragment	
148	L14C003-7	16NA770	delineation	1010	960	20-30 cm bgs	1	D	Container Glass	Other glass container	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.74	mm	-	-	Indeterminate bottle/jar	Bottle - Jar	medium thick, moderately curved fragment no observable attributes
148	L14C003-7	16NA770	delineation	1010	960	20-30 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thin, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	6	8.85	mm	-	-	-	amorphous part	
149	L14C003-7	16NA770	delineation	1010	960	30-40 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	10	5.74	mm	-	-	-	amorphous part	
149	L14C003-7	16NA770	delineation	1010	960	30-40 cm bgs	2	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.24	mm	-	-	-	amorphous part	
149	L14C003-7	16NA770	delineation	1010	960	30-40 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.1	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thin, flat fragment	
150	L14C003-7	16NA770	delineation	1000	990	20-30 cm bgs	2	D	Container	Undiagnostic	Fragment, Clear	FALSE	FALSE	FALSE	1	4.98	mm	Body with	Indeterminate	Bottle - Jar	medium to thick, moderately curved fragment; embossed vertical column of lines (possible tic marks?) cup-bottom mold;	

					cm bgs				Glass	container fragment	glass, -, -, -, -, -, -, -, -, -, -						base	bottle/jar	Jar									
151	L14C003-7	16NA770	delineation	990	960	20-30 cm bgs	1	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.75	mm	-	-									side seam present on body; partial base; medium thick, curved fragment very corroded fragment-can not determine type or whether complete/fragment but too corroded to determine type no observable attributes
152	L14C003-7	16NA770	delineation	970	980	20-30 cm bgs	1	A	Nails	Indeterminate	2d, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.22	mm	-	-									
152	L14C003-7	16NA770	delineation	970	980	20-30 cm bgs	2	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thin, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	4.11	mm	-	-									
152	L14C003-7	16NA770	delineation	970	980	20-30 cm bgs	3	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	2.84	mm	Body with base	Indeterminate	Other - Indet	1830	Majewski and O'Brien 1987:119; Smith 1983:119						1 thick, flat fragment; 1 medium thick, moderately curved fragment
153	L14C003-7	16NA770	delineation	970	980	30-40 cm bgs	1	U	Plastic	Modern	, Amorphous, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.06	mm	-	-			1930	Meikle 1995					very thin; moderately translucent; fold marks/curves; wrapper?
153	L14C003-7	16NA770	delineation	970	980	30-40 cm bgs	2	U	Metal	Iron / Steel	, Amorphous, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	32	63.49	mm	-	-									thin, mostly flat; some slight curved fragments; no other attributes observable
153	L14C003-7	16NA770	delineation	970	980	30-40 cm bgs	3	A	Nails	Wire Nail	, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	11.16	mm	-	-			1880	Nelson 1968					clinched shank fragments
153	L14C003-7	16NA770	delineation	970	980	30-40 cm bgs	4	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.26	mm	-	-									shank fragment
154	L14C003-7	16NA770	delineation	970	980	40-50 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thin, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	9	11.94	mm	-	-									no observable attributes
155	L14C003-7	16NA770	delineation	970	940	20-30 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.16	mm	Indeterminate part	-			1830	Majewski and O'Brien 1987:119; Smith 1983:119					thin, slightly curved fragment; only 1 surface remains-mostly eroded away; crazing
156	L14C003-7	16NA770	delineation	960	1060	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Aqua glass, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.84	mm	Body	Indeterminate bottle/jar	Bottle - Jar								thick, moderately curved fragment; side seam present
156	L14C003-7	16NA770	delineation	960	1060	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.47	mm	Body	Indeterminate bottle/jar	Bottle - Jar								medium thick, moderately curved fragment; pale amethyst color
156	L14C003-7	16NA770	delineation	960	1060	20-30 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.55	mm	Body	Indeterminate bottle/jar	Bottle - Jar								thin, slightly curved fragment
157	L14C003-7	16NA770	delineation	940	980	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.15	mm	Base	Indeterminate bottle/jar	Bottle - Jar								nearly flat, medium thick fragment
157	L14C003-7	16NA770	delineation	940	980	20-30 cm bgs	2	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.91	mm	-	-									dark red fragment; very rough texture, no inclusions/voids
157	L14C003-7	16NA770	delineation	940	980	20-30 cm bgs	3	A	Flat Glass	Window Glass	>2.41 mm thick, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.91	mm	-	-									thick, colorless fragment
157	L14C003-7	16NA770	delineation	940	980	20-30 cm bgs	4	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.56	mm	-	-									colorless fragment
157	L14C003-7	16NA770	delineation	940	980	20-30 cm bgs	5	A	Construction Material	Mortar	Fragment, -, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	17.62	mm	-	-									white fragment; sandy

157	L14C003-7	16NA770	delineation	940	980	20-30 cm bgs	6	B	Floral Remains	Wood Charcoal	,, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.04	mm	-	-			small charcoal fragment	
158	L14C003-7	16NA770	delineation	940	980	40-50 cm bgs	1	U	Plastic	Modern	, Item / part, , , , , , , , ,	FALSE	FALSE	FALSE	2	0.05	mm	-	-	1930	Meikle 1995	very thin, slightly curved; dark red fragments; silver cross-hatch stain on exterior	
158	L14C003-7	16NA770	delineation	940	980	40-50 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	2	8.77	mm	Body	Indeterminate bottle/jar	Bottle - Jar	medium thickness, moderately curved fragment; seams present on both fragments		
158	L14C003-7	16NA770	delineation	940	980	40-50 cm bgs	3	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.76	mm	Base	Indeterminate bottle/jar	Bottle - Jar	medium thick, nearly flat fragment		
158	L14C003-7	16NA770	delineation	940	980	40-50 cm bgs	4	A	Construction Material	Mortar	Fragment, , , , , , , , , ,	FALSE	FALSE	FALSE	1	19.23	mm	-	-			white, 2 flat sides fragment; sandy	
158	L14C003-7	16NA770	delineation	940	980	40-50 cm bgs	5	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	3.41	mm	-	-			small orange-red fragment	
159	L14C003-7	16NA770	delineation	930	980	40-50 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.81	mm	Body	Indeterminate bottle/jar	Bottle - Jar	medium to thick fragment; slightly curved fragment		
160	L14C003-7	16NA770	delineation	910	950	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	1.02	mm	Body	Indeterminate bottle/jar	Bottle - Jar	side fragment; thin, strongly curved		
160	L14C003-7	16NA770	delineation	910	950	10-20 cm bgs	2	A	Flat Glass	Window Glass	>2.41 mm thick, , , , , , , , , ,	FALSE	FALSE	FALSE	1	1.71	mm	-	-			thick, colorless fragment	
160	L14C003-7	16NA770	delineation	910	950	10-20 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.26	mm	-	-			very small red fragment	
161	L14C003-7	16NA770	delineation	910	950	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	5	mm	Base	Indeterminate bottle/jar	Bottle - Jar	post-bottom mold		
161	L14C003-7	16NA770	delineation	910	950	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.11	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar	sheared off fragment; moderate curve		
162	L14C003-7	16NA770	delineation	1020	960	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, , , , , , , , , ,	FALSE	FALSE	FALSE	1	1.06	mm	Body	Indeterminate bottle/jar	Bottle - Jar	medium thick, moderately curved fragment		
162	L14C003-7	16NA770	delineation	1020	960	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	2	1.62	mm	Body	Indeterminate bottle/jar	Bottle - Jar	1 medium to thick fragment with slight curve; other fragment is thin with moderate curve		
163	L14C003-7	16NA770	delineation	1020	940	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, , , , , , , , , ,	FALSE	FALSE	FALSE	2	3.08	mm	Body	Indeterminate bottle/jar	Bottle - Jar	1 sheared off, moderately curved-seam present; the other is thin to medium, mod curved with seam		
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	8	C	Buttons	Sew-through	Four holes, One-piece, domed, , , , , , , , , ,	FALSE	FALSE	FALSE	1	0.45	10.62	mm	-	-			complete button, high luster
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	9	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, , , , , , , , , ,	FALSE	FALSE	FALSE	1	66.32	mm	-	-			red brick fragment, surface mostly eroded away	
006	L14C003-9	16NA772	TR2, STP#5	0	0	- Surface	10	U	Metal	Iron / Steel	Metal, Flat: thin, , , , , , , , , ,	FALSE	FALSE	FALSE	1	70.65	6.46	mm	-	-			flat, corroded fragment; no attributes present
007	L14C003-9	16NA772	TR2, STP#5	0	0	20-30 cm bgs	1	U	Metal	Iron / Steel	, Amorphous, , , , , , , , , ,	FALSE	FALSE	FALSE	1	41.98	mm	-	-			thick, amorphous and corroded fragment	

007	L14C003-9	16NA772	TR2, STP#5	0	0	20-30 cm bgs	2	U	Metal	Iron / Steel	Metal, Item / part, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	17.4	mm	-	-														possible circular shape; facet with curved metal jutting out from both sides	
007	L14C003-9	16NA772	TR2, STP#5	0	0	20-30 cm bgs	3	A	Nails	Indeterminate	, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.09	mm	-	-														can not determine type due to corrosion	
007	L14C003-9	16NA772	TR2, STP#5	0	0	20-30 cm bgs	4	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	0.24	mm	-	-														thin fragments	
007	L14C003-9	16NA772	TR2, STP#5	0	0	20-30 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.5	mm	Body	Indeterminate bottle/jar	Bottle - Jar														thin to medium thick, moderately curved
007	L14C003-9	16NA772	TR2, STP#5	0	0	20-30 cm bgs	6	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.99	mm	Rim, body, base	Plate	Place Setting	1830				Majewski and O'Brien 1987:119; Smith 1983:119								medium thick, slightly curved	
008	L14C003-9	16NA772	TR2, STP#5	0	0	30-40 cm bgs	1	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.52	mm	-	-														thin, flat, spongy fragment	
009	L14C003-9	16NA772	TR2, STP#7	0	0	- Surface	1	D	Ceramics	Stoneware	Slipped exterior, -, -, Slipped interior, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	35.31	mm	Body	Indeterminate utility vessel	Utility Vessel	1780	1925			Greer 1999; Ketchum 1983								very thick side fragment	
009	L14C003-9	16NA772	TR2, STP#7	0	0	- Surface	2	D	Ceramics	Stoneware	Slipped exterior, -, -, Slipped interior, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	9.45	mm	Body	Indeterminate	Other - Indet	1780	1925			Greer 1999; Ketchum 1983								medium to thick, curved fragment	
009	L14C003-9	16NA772	TR2, STP#7	0	0	- Surface	3	D	Glass Tableware	Undiagnostic fragment	, Opaque white glass, -, -, Molded design/pattern, -, -, -, -	FALSE	FALSE	FALSE	1	8.79	mm	Rim, body, base	Indeterminate server	Serving														thin to medium thick, curved; footing; molded diagonal ridges on top surface; no luster, milk glass
010	L14C003-7	16NA770	TR5, STP#2	0	0	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.52	mm	Body	Indeterminate bottle/jar	Bottle - Jar													thin to medium thick, moderately curved	
011	L14C003-7	16NA770	TR5, STP#3	0	0	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.1	mm	Body	Indeterminate bottle/jar	Bottle - Jar													medium thick, slightly curved	
012	L14C003-7	16NA770	TR6, STP#6	0	0	20-30 cm bgs	1	D	Glass Tableware	Unidentified mold	, Clear unleaded glass, -, -, Molded design/pattern, -, -, -, -	FALSE	FALSE	FALSE	1	17.98	mm	Body with base	Indeterminate server	Serving														rounded; molded side-by-side panel design at the way to edge of base; possible footed vessel?
013	L14C003-7	16NA770	TR5, STP#9	0	0	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.86	mm	Body	Indeterminate bottle/jar	Bottle - Jar													medium thick, moderately curved fragment	
014	L14C003-7	16NA770	TR5, STP#9	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.89	mm	Body	Indeterminate bottle/jar	Bottle - Jar													thin, slightly curved fragment	
015	L14C003-7	16NA770	btw TR5/6, STP#10	0	0	- Surface	1	D	Ceramics	Ironstone	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	35.94	mm	Rim with body	Indeterminate	Other - Indet	1830				Majewski and O'Brien 1987:122								thick, strongly curved fragment; no crazing present	
016	L14C003-7	16NA770	TR6, STP#2	0	0	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Olive green glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.7	mm	Body	Indeterminate bottle/jar	Bottle - Jar													medium to thick, strongly curved fragment	
017	L14C003-7	16NA770	TR6, STP#3	0	0	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amethyst glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.26	mm	Body	Indeterminate bottle/jar	Bottle - Jar													medium to thick, slightly curved fragment	
164	L14C003-7	16NA770	delineation	1020	940	50-60 cm bgs	1	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	4	30.53	mm	-	-													4 large fragments, somewhat flattened appearance; multiple tiny fragments; mammal?		

165	L14C003-7	16NA770	delineation	1020	920	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.61	mm	Body	Indeterminate bottle/jar	Bottle - Jar				side fragment; medium thick, curved with 3 indentation lines on each side; side seam present
166	L14C003-7	16NA770	delineation	910	930	20-30 cm bgs	1	D	Container Glass	Automatic Bottle Machine	Indeterminate, Clear glass, -, -, -, -, External thread	FALSE	FALSE	FALSE	1	1.43	mm	Lip	Indeterminate bottle/jar	Bottle - Jar	1903	Jones & Sullivan 1985; Lindsey 2006		thin to medium thick; partial lip fragment with seam
166	L14C003-7	16NA770	delineation	910	930	20-30 cm bgs	2	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	5.94	mm	Footring with base	Plate	Place Setting	1830	Majewski and O'Brien 1987:119; Smith 1983:119		thin to medium thick, slightly curved fragment
166	L14C003-7	16NA770	delineation	910	930	20-30 cm bgs	3	U	Metal	Iron / Steel	Unspecified iron / steel, Flat: thick, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	10.2	mm	-	-				no observable attributes	
167	L14C003-7	16NA770	delineation	900	970	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.09	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium thick, moderately curved fragment
167	L14C003-7	16NA770	delineation	900	970	10-20 cm bgs	2	A	Nails	Wire Nail	12d, Pulled, -, Common, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	10.94	mm	-	-		1880	Nelson 1968		clinched shank fragment
167	L14C003-7	16NA770	delineation	900	970	10-20 cm bgs	3	A	Nails	Indeterminate	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.5	mm	-	-				medium to thick, partial lip fragment with seam running up finish	
168	L14C003-7	16NA770	delineation	900	950	20-30 cm bgs	1	D	Container Glass	Automatic Bottle Machine	Indeterminate, Clear glass, -, -, -, -, External thread	FALSE	FALSE	FALSE	1	7.02	mm	Lip	Indeterminate bottle/jar	Bottle - Jar	1903	Jones & Sullivan 1985; Lindsey 2006		medium thick, moderately curved fragment
168	L14C003-7	16NA770	delineation	900	950	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.99	mm	Body	Indeterminate bottle/jar	Bottle - Jar				medium thick, moderately curved fragments; the smaller fragment has seam present post-bottom mold, partial base and heel fragment; medium thick
169	L14C003-7	16NA770	delineation	870	950	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	4.31	mm	Body	-				large dark red fragment with some small red and large tan inclusions; some mortar present in spots	
169	L14C003-7	16NA770	delineation	870	950	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	3.91	mm	Base	Indeterminate bottle/jar	Bottle - Jar				medium thick, moderately curved fragment
170	L14C003-8	16NA771	delineation	990	1000	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Handmade brick: non-vitrified, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	31.85	mm	-	-				approx. 5" long fragment; 2 twisted wire with four point barb (Shinn locked 4-point?)	
171	L14C003-8	16NA771	delineation	990	990	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Olive green glass, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.47	mm	Body	Indeterminate bottle/jar	Bottle - Jar				thin gauge, bent over on its self; corroded
172	L14C003-8	16NA771	delineation	990	970	30-40 cm bgs	1	M	General Hardware	Fencing	Barbed, Iron / Steel, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	20.88	mm	-	-				small dark red fragment	
172	L14C003-8	16NA771	delineation	990	970	30-40 cm bgs	2	M	General Hardware	Wire	-, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	6.47	mm	-	-				thin, aqua colored fragment	
172	L14C003-8	16NA771	delineation	990	970	30-40 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.76	mm	-	-					
172	L14C003-8	16NA771	delineation	990	970	30-40 cm bgs	4	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.67	mm	-	-					

172	L14C003-8	16NA771	delineation	990	970	30-40 cm bgs	5	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, -, -, -, -	FALSE	FALSE	FALSE	5	9.53	mm	-	-																	2 flat, thin fragments; 3 amorphous; no observable attributes red fragment		
173	L14C003-8	16NA771	delineation	990	970	10-20 cm bgs	1	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	2.43	mm	-	-																			
173	L14C003-8	16NA771	delineation	990	970	10-20 cm bgs	2	A	Construction Material	Brick (measure in inches)	Machine made brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	5.99	mm	-	-																			small orange-red fragments; 1 has mortar present on one side
174	L14C003-8	16NA771	delineation	970	970	20-30 cm bgs	1	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	17.07	25.85	mm	-	-																	wide long bone fragment; somewhat flattened; mammal?	
174	L14C003-8	16NA771	delineation	970	970	20-30 cm bgs	2	B	Faunal Remains	Bone / tooth / claw	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	3	5.32	mm	-	-																		thin, curved fragments with spongy bone	
174	L14C003-8	16NA771	delineation	970	970	20-30 cm bgs	3	A	Construction Material	Brick (measure in inches)	Indeterminate brick: non-vitrified, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.56	mm	-	-																		small brownish-red fragment	
174	L14C003-8	16NA771	delineation	970	970	20-30 cm bgs	4	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.74	mm	Base	-		1830																Majewski and O'Brien 1987:119; Smith 1983:119	top surface eroded away; base is flat with crazing
175	L14C003-9	16NA772	delineation	1010	1000	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Amber glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	5.86	mm	Body	Indeterminate bottle/jar																			medium thick, 2 moderate curves
175	L14C003-9	16NA772	delineation	1010	1000	20-30 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Olive green glass, -, -, -, -, -, -	FALSE	FALSE	FALSE	2	2.04	mm	Body	Indeterminate bottle/jar																			very thin, moderately curved; fragments mend together
176	L14C003-9	16NA772	delineation	980	1000	10-20 cm bgs	1	D	Ceramics	Whiteware	Plain, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.94	mm	Body	-		1830																	thick, curved fragment; 1 side is eroded away; crazing
176	L14C003-9	16NA772	delineation	980	1000	10-20 cm bgs	2	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.75	mm	Body	Indeterminate bottle/jar																			medium thick, moderately curved fragment
176	L14C003-9	16NA772	delineation	980	1000	10-20 cm bgs	3	A	Nails	Cut Nail: unspecified	-, -, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.41	mm	-	-		1800	1880																common head and shank fragment
177	L14C003-9	16NA772	delineation	960	1000	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	6.1	mm	Body	Indeterminate bottle/jar																			medium thick, moderately curved with 2 ridges present on exterior surface
178	L14C003-9	16NA772	delineation	940	1000	20-30 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	TRUE	FALSE	FALSE	1	9.51	mm	Indeterminate part	-																			amorphous--rough texture- partially melted; appears folded over on itself with dirt/ash on interior
179	L14C003-9	16NA772	delineation	1000	1020	10-20 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.76	mm	Body	Indeterminate bottle/jar																			thin, slightly curved fragment with seam present
180	L14C003-9	16NA772	delineation	1000	1020	30-40 cm bgs	1	U	Metal	Iron / Steel	, Amorphous, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	4.07	mm	-	-																			possible nail but too corroded to determine
181	L14C003-9	16NA772	delineation	980	1020	20-30 cm bgs	1	A	Flat Glass	Window Glass	>2.41 mm thick, -, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.75	mm	-	-																			slightly aqua color fragment

181	L14C003-9	16NA772	delineation	980	1020	20-30 cm bgs	2	A	Flat Glass	Window Glass	>2.41 mm thick, , -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	0.32	mm	-	-		colorless fragment
181	L14C003-9	16NA772	delineation	980	1020	20-30 cm bgs	3	A	Nails	Indeterminate	, -, -, -, -, -, -, -	FALSE	FALSE	FALSE	1	1.08	mm	-	-		shank fragment
181	L14C003-9	16NA772	delineation	980	1020	20-30 cm bgs	4	D	Container Glass	Undiagnostic container fragment	Fragment, Olive green glass, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	0.16	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar	small, sheared off fragment, curved
181	L14C003-9	16NA772	delineation	980	1020	20-30 cm bgs	5	D	Container Glass	Undiagnostic container fragment	Fragment, Clear glass, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.04	mm	Indeterminate part	Indeterminate bottle/jar	Bottle - Jar	tiny, sheared off fragment with slight curve
182	L14C003-9	16NA772	delineation	1000	1030	30-40 cm bgs	1	D	Container Glass	Undiagnostic container fragment	Fragment, Light green glass, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	1.26	mm	Body	Indeterminate bottle/jar	Bottle - Jar	thick, moderately curved fragment
183	L14C003-3	16NA769	Aug STP 21-8	0	0	80-90 cm bgs	1	U	Metal	Iron / Steel	Unspecified iron / steel, Amorphous, -, -, - , -, -, -, -	FALSE	FALSE	FALSE	1	1.19	mm	-	-		no observable attributes
163	L14C003-7	16NA770	delineation	1020	940	20-30 cm bgs	2	A	Flat Glass	Window Glass	0.86 - 2.41 mm thick, -, -, -, -, -, - , -	FALSE	FALSE	FALSE	1	0.61	mm	-	-		colorless fragment

EXHIBIT # 15

GEOTECHNICAL REPORT



Geotechnical Testing Laboratory, Inc.

Engineering and Construction Materials Testing Services

April 2, 2014

City of Natchitoches, Louisiana
c/o Cothren, Graff, Smoak Engineering, Inc.
6305 Westport Avenue
Shreveport, Louisiana 71129-2499

Attention: Mr. Randal Smoak, P.E.

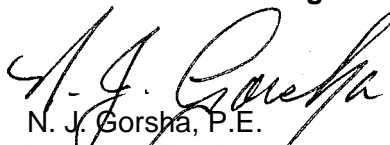
**RE: Preliminary Geotechnical Investigation Services
Natchitoches Industrial Park Site Qualification
Natchitoches Parish, Louisiana
GTL Report No. 03-14-041**

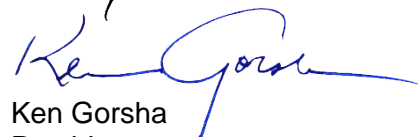
Dear Mr. Smoak:

Geotechnical Testing Laboratory, Inc. is pleased to submit this preliminary report of subsurface exploration for the above referenced project. Included in the report are the results of the exploration and general recommendations concerning the potential design and construction of the foundations.

We appreciate the opportunity to have provided you with our geotechnical engineering services and look forward to assisting you by providing additional investigation services for individual projects during the development of the subject tract. If you have any questions concerning this report, or if we may be of further service, please contact our office.

Respectfully submitted,
Geotechnical Testing Laboratory, Inc.


N. J. Gorsha, P.E.
Louisiana Registration # 20082


Ken Gorsha
President

Distribution:

NJG/krq



Preliminary Geotechnical Investigation Services
Natchitoches Industrial Park Site Qualification
Natchitoches Parish, Louisiana
GTL Report No. 03-14-041

Prepared For:

City of Natchitoches, Louisiana
C/o Cothren, Graff, Smoak Engineering, Inc.
6305 Westport Avenue
Shreveport, Louisiana 71129-2499

Prepared By:

Geotechnical Testing Laboratory, Inc.
226 Parkwood Drive
Alexandria, Louisiana 71301

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TABLE OF CONTENTS

Introduction:..... **1#**
 Project Authorization:..... 1#
 Project Description:..... 1#

Site and Subsurface Conditions: **2#**
 Subsurface Stratigraphy: 2#
 Groundwater Conditions: 2#

Foundation Recommendations: **3#**
 Shallow Foundations:..... 3#
 Select Fill: 4#
 Deep Foundations:..... 5#
 Driven Piles:..... 5#
 Seismicity:..... 6#
 OSHA Classification for Excavations: 6#
 Underground Storage Tanks..... 6#

Pavements:..... **7#**
 Subgrade: 7#
 Cement Treatment: 8#
 Shrinkage Cracks:..... 8#
 Crushed Stone Surfacing:..... 9#
 Traffic and Design Data: 10#
 Asphaltic Pavement Materials:..... 10#
 Portland Cement Concrete: 10#
 Recommended Pavement Sections:..... 10#
 Wet Weather and Soft Ground Considerations:..... 11#
 Geotechnical Risk: 12#

Limitations:..... **13#**

APPENDIX

Plan of Borings
Boring Logs and Test Results

Preliminary Geotechnical Investigation Services
Natchitoches Industrial Park Site Qualification
Natchitoches Parish, Louisiana
GTL Report No. 03-14-041

Introduction:

This report transmits the findings of a geotechnical investigation performed for the above-referenced project. The purpose of this investigation was to define and evaluate the general subsurface conditions in the general vicinity of a planned new industrial complex. Specifically, the study was planned to determine the following:

- Subsurface stratigraphy within the limits of our exploratory borings.
- Classification, strength, and compressibility characteristics of the foundation strata.
- Suitable foundation systems and allowable soil bearing pressures.
- Preliminary recommendations for rigid and flexible pavements below unspecified traffic.

The purpose of this report is to provide the owner, structural engineer, civil engineer, and other design team professionals with preliminary recommendations to consider for the design and construction considerations of the proposed project. This report should not be used by the contractor in lieu of project plans and specifications.

Project Authorization:

Formal authorization to perform the work was provided by the Honorable Lee Posey, Mayor of the City of Natchitoches, Louisiana (client), by accepting our May 26, 2013 written proposal. Authorization to proceed was provided on January 28, 2014. Field procedures were conducted on March 20, 2014. The delay between project authorization and the field operations was due to the pending To accomplish the intended purposes, a three-phase study program was conducted which included:

- a field investigation consisting of three exploratory test borings with samples obtained at selected intervals;
- a lab testing program designed to evaluate the expansive and strength characteristics of the subsurface soils; and,
- an engineering analysis of the field and laboratory test data for preliminary foundation design recommendations.

No additional analysis was requested. A brief description of the field and laboratory test procedures are provided in the Appendix.

Project Description:

The project will be the development of an industrial park site. We understand that the industrial park will consist of a number of structures varying from one (1) story to four (4) stories in height. Preliminary structural information was not available at the time this report was prepared. The proposed buildings should consist of either steel or wood framing and could be supported on either shallow foundations, or on drilled shafts bearing at depths sufficient to resist the anticipated loadings. The pavements will most likely consist of light duty pavements for passenger cars and pickup trucks and heavy duty pavements for tractor-trailer trucks.

For the purpose of this report, we have assumed that column loads could be between 25 and 150 kips, and that maximum continuous wall loads will be between one (1) and four (4) kips per linear foot. Maximum uniform and isolated concentrated floor loads are expected to be 125 psf

and five (5) kips, respectively. Grade changes are expected to be nominal with no more than two (2) to three (3) feet of cut or fill.

Information pertaining to anticipated traffic loads and volumes was not available. For the purpose of our pavement analysis of this report, we assume that the industrial traffic could consist of up to 500 repetitions of light passenger cars and pick-up trucks, 50 medium-sized delivery trucks and vans, and up to 50 heavy tractor-trailer trucks per day.

If any of this information should change significantly or be in error, it should be brought to our attention so that we may review recommendations made in this report.

Site and Subsurface Conditions:

The project site is located north of State Highway and at the east end of Industrial Drive in Natchitoches, north of State Highway and at the east end of Industrial Drive in Natchitoches Parish, Louisiana. The site was noted to be relatively level with estimated maximum elevation differences of no more than one (1) to two (2) feet. The site was vegetated with weeds and grass at the time of drilling. The drilling rig experienced moderate difficulty moving about the site due to a soft subgrade.

Subsurface Stratigraphy:

In accordance with your request, general subsurface conditions across the site were explored by drilling a total of three (3) borings to depths between approximately 30 and 100 feet. The borings were located in the field by the drilling crew by measuring approximate distances from existing features as shown on the Plan of Borings included in the Appendix of this report.

The stratification of the soils encountered during field drilling operations is presented on the boring logs in the Appendix. The stratification of the subsurface materials shown on the boring logs represents the subsurface conditions encountered at the actual boring locations and variations may occur across the site. The lines of demarcation represent the approximate boundary between the soil types, but the actual transition may be gradual. The following subsurface descriptions are of a generalized nature to highlight the major stratification features. The boring logs should be reviewed for more detailed information.

In order of increasing depth, the borings generally encountered the following soil strata beneath the surface: slightly clayey silt (CL-ML), fat clay (CH), lean clay (CL), lean to fat clay (CL-CH), sandy lean clay (CL), and poorly graded sand (SP-SM).

Groundwater Conditions:

Seepage was observed only in Borings B-1 and B-3 at depths of four (4) and five (5) feet during advancement of the test borings. Groundwater was measured at depths of three (3) to 20 feet below existing ground surface upon completion of the borings. We feel that the shallow seepage in both borings was due to a perched water table and that the level is expected to fluctuate with seasonal rainfall. The subsurface water regime is subject to change with variations in climatic conditions. Future construction activities may also alter the surface and/or subsurface drainage patterns of this site. Therefore, groundwater conditions should be explored at the start of construction by others. If there is a noticeable variance from the observations reported herein, then GTL should be notified immediately to review the effect, if any, such data may have on the design recommendations. It is not possible to predict future ground water conditions based upon short-term observations.

Foundation Recommendations:

The soil parameters presented below are based on single borings placed at large and irregular intervals across the site. The deviations between the boring locations indicate variable subsurface conditions across the site and should not be assumed as representative of the individual borings. Thus, the findings presented herein should be considered preliminary in nature and should be confirmed through further investigation prior to development of the subject parcel. Prior to developing any section of the tract, a specific subsurface investigation should be obtained and tailored to the individual project. This report should not be used in lieu of a final geotechnical investigation addressing site specific needs for the intended projects.

A review of the boring logs indicates that soft to very soft soils are present in all three borings and will probably be encountered during grading operations for shallow foundations. Recent area rains are probably responsible for the presence the soft, saturated surficial soils. If these wet conditions exist during construction, this can cause extreme difficulty in the preparation of the building pad areas. *We recommend that the construction take place during warmer and drier time of year.*

The surficial site soils are characterized as being relatively impermeable. During wet weather periods, the surficial soils may become saturated and unstable. If these wet conditions exist during construction, this can cause extreme difficulty in the preparation of the building pad and pavement areas. It is recommended that the plans and bid documents include a cost item and procedure for removal of wet soils, should they exist at that time, and replacement with properly moisture conditioned select fill. Over-excavation required during wet episodes could extend to depths ranging from one (1) to two (2) feet.

If instability persists within the exposed subgrades, the recommendations presented in our Wet Weather and Soft Ground Considerations section of this report should be reviewed.

Detailed information on structural systems and planned grading was not available to us at the time this report was prepared. Based on the size and type of anticipated structures, as well as the findings from this investigation, a system of shallow footings with an on-grade floor slab, in conjunction with the recommended subgrade preparation is believed to be the most practical and economical means of support. However, heavier building loads could result in the use of deep foundations. Recommendations for both foundation types are discusses separately below.

Potential Vertical Rise (PVR) values were estimated to vary between less than one (1) inch and approximately two (2) inches for this site. One (1) inch of PVR is generally accepted as the maximum allowable value for design and construction in the geographical area. The surficial soils encountered by the borings are considered to be moderately expansive.

Shallow Foundations:

To remediate variable soil conditions in the surficial zone, provide a consistent subgrade for slab support, and reduce the potential for active soils to affect the foundations where active clays are present at the surface, GTL recommends that a uniform layer of density-approved select fill be provided beneath the floor slabs. The select fill for the building pads should extend at least five (5) feet beyond the perimeter of the buildings. The table below indicates the estimated undercut and select fill pad thickness to limit the PVR to a value of one (1) inch or less for the individual building pads in the vicinity of the boring locations.

Boring No.	Estimated PVR (inches)	Estimated Thickness of Select Fill Pad (feet)
1	2.0	3.0
2	> 1.0	1.0
3	1.5	2.0

If instability persists within the exposed subgrade at the bottom of the building pad excavation, the area may require over-excavation of the wet material to provide a single over-sized bridge lift of drier material. The fill for this layer should consist of silty or sandy clay with a plasticity index between 25 and 35 and a moisture content no more than four (4) percent below optimum moisture content. Over-excavation for a bridge lift could extend to depths ranging from 1.5 to two (2) feet. To prevent moisture from migrating into the bridge lift from below, compaction levels for the bridge lift should be between 90 and 95 percent of Standard Proctor density.

Shallow foundations may utilize individual or continuous footings bearing within the upper five (5) feet of the surficial zone. The provision of at least one (1) to three (3) feet of select fill should be anticipated to be necessary to provide a suitable subgrade for the structures. Typical bearing capacity values for shallow spread footings may vary from between approximately 1,500 psf to 2,500 psf for soils with consistencies of medium dense or medium stiff. Strip footings for continuous wall loads may be estimated between 1,150 and 2,000 pounds per linear foot.

The above allowable soil bearing values should result in a total settlement of one (1) inch, with approximately ½ inch occurring differentially (between adjacent individual footings or within 10 feet of a continuous footing). Approximately half of this settlement should occur during construction. The remaining long-term settlement of ½ inch (1/4 inch occurring differentially) should be tolerable. These settlement estimates are valid for footings up to five (5) feet in plan dimensions. If footings larger than five (5) feet are required, this office should be contacted to issue additional recommendations to mitigate the potential for higher settlement.

Construction of select fill as specified herein beneath the building should result in the development of a modulus of subgrade reaction (k_s) to range between 125 and 150 pounds per cubic inch based upon empirical equations that estimate the results of a plate load test. For warehouse slabs exposed to fork lift loads, the subgrade modulus may be increased to between 250 and 300 pci by placing eight (8) inches of crushed limestone base or equal below the slab.

Select Fill:

Select fill material should be free of organic or other deleterious materials, homogeneous mixture, have a maximum particle size of three (3) inches, have a liquid limit less than 40 and plasticity index between 8 and 20, and consist of silty-clayey sands (SM-SC), low plasticity sandy clays (CL), or clayey sands (SC) as defined by the Unified Soil Classification System. If a fine-grained material is used for fill, very close moisture content control will be required to achieve the recommended degree of compaction.

Fill should be placed in maximum lifts of eight (8) inches of loose materials and should be compacted within the range of one (1) percentage point below to three (3) percentage points above the optimum moisture content value and a minimum of 95% of the maximum density as determined by the Standard Proctor (ASTM D-698) test. If water must be added, it should be uniformly applied and thoroughly mixed into the soil by disking or scarifying.

Each lift of compacted soil should be tested and inspected by the soils engineer or his representative prior to placement of subsequent lifts. As a guideline, it is recommended that field density tests be taken at a frequency of not less than one (1) test per 2,500 square feet of surface area per lift or a minimum of four (4) per lift for each tested area for the buildings.

Deep Foundations:

We understand that deep foundations may be considered for use at this site due to special equipment or building loads. The table below presents the estimated allowable single shaft capacities for an 18 inch diameter shaft founded at depths between 30 and 50 feet below present ground surface. Once the final site investigations are performed, the estimated values for other diameters of deep foundations may be provided at that time.

<u>Diameter of Shaft (inches)</u>	<u>Depth of Shaft (feet)</u>	<u>Allowable Single Shaft Capacity (kips)</u>	
		<u>Compressive</u>	<u>Uplift</u>
18	30	25	20
	35	30	25
	40	35	30
	45	50	35
	50	55	40
	55	65	45
	60	70	50
	65	110	60
	70	115	75
	75	135	85

The factor of safety for these calculations is estimated to be 2.0. Shafts should have a minimum diameter of 18 inches even if the actual bearing pressure is less than the design value. Groundwater will most likely be encountered in the drilled shafts. Casing for installing drilled shafts is always a possible necessity when dealing with the unknowns inherent with subsurface conditions. It is prudent for contract documents to include this option.

Driven Piles:

The bearing capacity of the naturally occurring soil was evaluated from the results of the Standard Penetration Tests (SPT) and the Unified Soil Classifications. These test results indicate that the existing soil has a range from low to moderate bearing capacity with respect to shear strength. The superstructure loads for the commercial structures may be supported on Class B creosote treated timber piles founded at a minimum depth of 25 feet below the existing ground surface. The final depth of the piles may be selected from the following table after considering the estimated structural total loads.

<u>Depth (feet)</u>	<u>Estimated Allowable Load (kips)</u>	
	<u>Compressive</u>	<u>Uplift</u>
25	12	9
30	15	10
35	18	12
40	22	14
45	25	16
50	30	20

If the above allowable timber pile loads are found to be inadequate for the actual structural loads, consideration may be given to using 12-inch square per-cast, pre-stressed concrete piles. Such piles may be selected from the following table.

Depth (feet)	Estimated Allowable Load (kips)	
	Compressive	Uplift
25	23	14
30	26	16
35	29	18
40	33	20
45	39	22
50	46	26

The factor of safety for these calculations is at least 2.0. Total settlement is estimated to be on the order of one (1) inch or less for foundation units designed in accordance with recommendations provided herein. Differential settlements (between adjacent piles or clusters) are estimated to be on the order of 0.5 inch or less.

The recommended pile capacities are based on field and laboratory tests and/or empirical data. The magnitude of this project should include a pile testing program to determine if the pile capacities are adequate, or if shorter piles are warranted.

Seismicity:

According to the USGS website for Seismic Hazard Design Parameters, the project site has a mapped 0.2 second spectral response acceleration (S_s) of 0.116 g. The project also has a mapped 1.0 second spectral response acceleration (S_1) of 0.065. Based on Section 1613 of the IBC-2012, a Site Class of E has been estimated for this site. Using Tables 1613.3.3(1) and 1613.3.3(2), the mapped spectral accelerations, and Site Class E; the site coefficients F_a and F_v have been determined to be 2.5 and 3.5, respectively. The design spectral response accelerations, S_{DS} and S_{D1} , were determined to be 0.194 g and 0.152 g, respectively. Based on Tables 1613.3.5(1) and 1613.3.5(2), the site has an assigned Seismic Design Category of C for structures classified as Risk Categories I, II, and III. For structures classified as Risk Category IV, site has an assigned Seismic Design Category of D.

OSHA Classification for Excavations:

For excavations deeper than four feet, the side slopes should conform to applicable federal, state and local regulations. The guidelines provided in the construction requirement section should be followed. A review of the boring logs and testing for the site indicates that the soils should be classified as a Type C Soil contingent on monitoring of the excavation to confirm the absence of free water seeping during the time the excavation is open. For this type of excavation, a slope of 1.5H:1V is allowed if the excavation is 20 feet or less in depth. Federal rules require daily inspection of excavations by a competent person when workers are present.

Underground Storage Tanks

The manufacturer's recommendations should be strictly followed for tank shipment, delivery, unloading and installation of tanks and piping, and in anchoring them against potential uplift forces. As a minimum, the installation should comply with published guidelines of the American Petroleum Institute (API) and the manufacturer's instructions.

We suggest that construction equipment and stockpiled materials should be kept away from the excavation at a minimum distance equal to the excavation depth to avoid surcharging of the excavation slopes. Also, the sequence of construction should be planned so that soil support under and beside foundation elements is not jeopardized by any tank excavations.

It is critical that consideration be given to the risk of floating the tank, both during installation and the service life. Such consequences include damage to the tank system and paving, loss of product and, if a product release occurs, related environmental impacts, including surface cleanup and remediation to soil and groundwater. The tank manufacturer should be contacted regarding proper anchoring, tank-hold fill specifications, and allowable fill and loads over the tanks. Control of runoff into the excavation during backfilling and paving over the tanks is also critically important to preventing flotation.

For flotation calculations, we recommend that the unit weight of the soil above the tank be assumed to be a maximum of 100 pounds per cubic foot. Groundwater was present in the borings, and it is anticipated that water may seep into open excavations during the construction at some locations. The excavations should be clean and free of loose soil or standing water. The tanks may continue to be susceptible to flotation even after the tank-hold is backfilled with granular materials, until it is ballasted internally by filling, and/or by external tie-down anchors.

Pavements:

In the absence of known traffic volumes, we assume that some areas of the plant will be paved for light vehicular traffic and other areas will receive heavier tractor-trailer loads. We assume that the pavements receiving light traffic could receive asphaltic concrete or Portland cement concrete surfacing. Heavier tractor-trailer traffic could use drives and parking areas surfaced with either crushed stone, asphaltic concrete or Portland cement concrete.

Information for this pavement analysis is inferred from the building borings. Our scope of services did not include extensive sampling and CBR testing of existing subgrade or potential sources of imported base material for the specific purpose of a detailed pavement analysis. Instead, we have assumed pavement related design parameters that are considered to be typical for the area soil types. It has been assumed that the constructed pavement subgrade will consist of well compacted soils. Based on experience, it is anticipated that the compacted native subgrade will yield a California Bearing Ratio (CBR) of between 5.0 and 8.0.

The general pavement design information presented in this report is based on subsurface conditions inferred by the test borings, information published by The Asphalt Institute, the Portland Cement Association, and past experience in the locale. The published information was utilized in conjunction with the available field and laboratory test data to develop general pavement designs based on the AASHTO structural numbering system.

Pavements to be utilized by light vehicular traffic may be either flexible or rigid pavement sections supported on well-compacted subgrade or select fill. However, Portland cement concrete pavements should be utilized where large loads (i.e. waste disposal containers, etc.) are located. Both flexible and rigid pavement sections have been designed using general engineering design criteria referenced above.

Subgrade:

It is paramount to the satisfactory performance of pavements that the subgrade be stable under loads and compacted prior to deployment of flexible base or concrete. All pavement subgrade should be proof rolled prior to beginning placement of pavement section materials. Stable subgrade is especially critical to the successful performance of flexible pavement sections. The surficial soils within the proposed paving limits should be tested to determine the average plasticity index (PI) value. If the average PI of the subgrade is above a value of 20, the upper eight (8) inches of subgrade should be either removed and replaced with select fill, or treated with lime to reduce the PI to an acceptable limit.

If fill is imported to complete the pavement grading, the material may consist of usable soils as determined by Section 203 of the *Louisiana Standard Specifications for Roads and Bridges, 2006 Edition*. If the fill has 50 percent or more silt, the material should have a maximum liquid limit of 45 with a plasticity index between 11 and 25. For fill with a silt content less than 50 percent, the plasticity index should be between 0 and 25.

The subgrade should be compacted within the range of one (1) percentage point below to three (3) percentage points above the optimum moisture content value and a minimum of 95% of the maximum density as determined by the Standard Proctor (ASTM D-698) test. As a guideline, it is recommended that field density tests be taken at a frequency of not less than one (1) test per 5,000 square feet of surface area per lift or a minimum of four per lift for each tested area for the pavement.

Subgrade may be, or become, wet and unstable under paving areas, depending on several factors, including construction season, groundwater fluctuations, contractor's maintenance of positive drainage, routing of equipment, weather, and scheduling constraints. Flexible base and concrete should be placed only on subgrade that has passed both stability and compaction requirements. Also, it is prudent for contract documents to accommodate over-excavation and replacement as needed or, more typically, to anticipate such remedial activity through the change order process. In any event, the owner should be advised that this risk is inherent in practically every construction project that involves site work.

Cement Treatment:

Research data obtained from the Louisiana DOTD indicates satisfactory pavement performance has been realized utilizing Cement Treated Base Course. This process is widely used, and consists of treating usable soils to a depth of 12 inches with not less than six (6) percent by volume Portland cement. Usable soils typically contain plasticity indices of 22 or less, and normally can be pulverized to acceptable limits. The treatment also permits generating a minimum compressive strength of 150 psi in seven days in lieu of 300 psi or greater. Pulverization and compaction requirements should apply to treated soil in accordance with the *Louisiana Standard Specifications for Roads and Bridges, 2006 Edition*.

A bulk sample of the anticipated subgrade was subjected to standard laboratory tests to determine its compatibility for cement treatment. The results of those tests indicate that the material is usable for cement treatment. A copy of the Determination of Usable Materials for Cement Treatment is included in the Appendix of this report.

The cement-treated base should be compacted to at least 95 percent of Standard Proctor density at, or near the optimum moisture content as defined by ASTM D-698. As a guideline, it is recommended that field density tests be taken at a frequency of not less than one (1) test per 5,000 square feet of surface area of the pavements.

Shrinkage Cracks:

Performance evaluations of soil cement mixtures have repeatedly found that the major problem with the process is not strength or durability, but shrinkage cracking. The shrinkage of cement treated materials results from the loss of water by drying and from self-desiccation during the hydration of the cement. The factors which influence the severity and amount of cracking may include the amount of cement used, the water content used in the field, the aggregate properties, the adequacy of the curing procedures, weather conditions, the degree of subgrade restraint on the base, and the type and time of placement of the final surfacing.

Shrinkage cracks can result in reflective cracks in the asphaltic wearing course relatively soon after installation since soil-cement mixtures typically generate tensile strengths equal to approximately 20 percent of the compressive strength of the mixture. Consequently, additional cracking may occur from subbase stresses, poor drainage or slope failures. These cracks are aesthetically unsightly and invariably permit water intrusion of the soil subgrade. This intrusion regularly results in higher maintenance costs and reduces overall pavement life if the cracks are not sealed once they appear and exceed approximately 1/8 inch in width.

Shrinkage cracks cannot be eliminated, but may be significantly reduced in the treated base by compacting the mixture at or below optimum moisture content, and be adequately cured. The extent and severity of reflective cracking in the asphalt surface may be reduced by delaying placement of the hot-mixed asphalt (HMA) surface. This concept could involve placing a chip seal on the cured section and the final HMA surface two to four months later.

Micro-cracking (or pre-cracking) of the treated mixture should be considered. This process consists of making a maximum of four passes of a steel wheel vibratory roller applied two to four days after finishing. The vibration will introduce a network of hairline cracks into the base early in its' life with the idea that these "micro-cracks" will minimize the major shrinkage cracks associated with soil-cement bases. Studies have been conducted on bases ranging in thickness from six to eight inches, and generating a minimum compressive strength of 500 psi in seven days.

The borings indicate the subgrade soils beneath some of the areas of treated roads could consist of high plasticity clays. The high PI's are indicative of a highly compressible and high shrink-swell susceptible material. Consequently, subgrade movements in the clays may cause tension cracking. This volume change by very high PI's will express itself also at the edge of the pavement where higher moisture contents and less density exist.

Crushed Stone Surfacing:

As previously discussed, some heavy truck areas may consist of crushed stone surfacing. The estimated material thicknesses presented herein assume that the upper eight (8) inches consist of density-approved subgrade and that the drives will receive no more than 20 heavy tractor-trailer trucks with H-20 loading per day.

The subgrade should be crowned along the centerline to shed surface water off to the sides of the roadway where drainage ditches or swales collect the runoff and drain it away as rapidly as possible. At a minimum, the drainage for the roadbed should consist of shallow gravity ditches cut on both sides of the roadway. The bottom of the ditch should be a minimum of 18 inches below finished pavement elevation and the side slopes should be cut at a maximum 3H:1V. The slopes for the ditch bottoms should be checked to ensure rapid drainage of runoff away from the sides of the roadbed. Water must not be allowed to pond or stand in the ditches near the perimeter of the roadways.

Prior to placing crushed stone surfacing, the entire roadway should receive a single layer of Tensar TriAx TX160 Geogrid or equal. A Tensar BX1200 geogrid may also be considered. The crushed stone materials should have a minimum compacted thickness of eight (8) inches and should meet the requirements for Item 1003.04(a) of the Louisiana DOTD Standard Specifications for Construction of Roads & Bridges, Current Edition. As an option, Recycled Portland Cement Concrete meeting the requirements for Item 1003.04(c) may be used. The stone surface should be compacted to 95 percent of the maximum density defined by the Modified Proctor (ASTM D-1557). Periodic re-shaping of the gravel surface should be

anticipated. Potholes and ruts could develop within several years, depending upon the drainage of the driveway and the frequency of truck loadings. We recommend that a stockpile of the crushed stone surfacing be provided on-site for periodic maintenance of the truck drives.

Portland cement concrete should be provided at trash receptacles and approach pads and concrete thickness should be a minimum of seven (7) inches. Concrete compressive strength should be a minimum of 3,000 psi at 28 days. The concrete should be designed with 5 percent (\pm 1 percent) entrained air to improve workability and durability.

Traffic and Design Data:

Commercial pavement sections presented herein are based upon minimum material thickness as recommended by the Asphalt Institute and the Portland Cement Association. These sections are not based upon anticipated traffic loads as these were not available at the time this report was prepared. As previously discussed, we assume that the industrial traffic could consist of up to 500 repetitions of light passenger cars and pick-up trucks, 50 medium-sized delivery trucks and vans, and up to 50 heavy tractor-trailer trucks per day.

Asphaltic Pavement Materials:

Surface or wearing course asphaltic concrete should consist of Item 501, Type 3. Surface course asphalt should be compacted to a minimum of 95 percent of the density of the laboratory molded specimen, or a minimum of 92% of the maximum theoretical density. The placement temperature and compacted thickness of Hot Mix Asphaltic Concrete (HMAC) should be determined during placement. Samples for extraction and gradation analysis should be obtained at the rate of at least one sample for each day's operation, for each pavement course, with at least one sample for each 600 tons.

Granular base should meet the requirements for Item 1003.03(b) for crushed stone or Item 1003.03(c) for recycled Portland cement concrete. The material should be compacted to 95 percent of the maximum density defined by the Modified Proctor (ASTM D-1557). Cohesive (clay) subgrade soils should be compacted to a minimum of 95% of maximum density defined by the Standard Proctor (ASTM D-698). Non-cohesive (sand) subgrade soils should be compacted to 100% of maximum density defined by the Standard Proctor (ASTM D-698).

Portland Cement Concrete:

Concrete compressive strength should be a minimum of 3,000 psi at 28 days. The concrete should be designed with 5 percent (\pm 1 percent) entrained air to improve workability and durability. Subgrade (and subbase, if specified) should be compacted to a minimum of 95% of the maximum density defined by the Standard Proctor (ASTM D-698). The design of steel reinforcement, if advised by the structural engineer, should be in accordance with local or accepted codes. (Although reinforcement is not normally required by design, it is customary to provide minimum reinforcement of 6 x 6 x No. 6 welded wire flat mesh or No. 3 deformed steel bars spaced on 18-inch centers each way.)

Recommended Pavement Sections:

The table below presents a summary of both rigid and flexible pavement sections for standard and heavy duty applications. It should be noted that the pavement sections as presented below are minimums. If it is desired to reduce potential cracking, greater thickness of select fill and/or greater pavement section thickness could be utilized. In addition, long term pavement performance requires good drainage and performance of periodic maintenance activities. Refer to the text for qualification of the designs and further discussion and limitations.

MINIMUM PAVEMENT RECOMMENDATIONS *		
Pavement Type	Light Duty (Parking Lot Entries & Drives)	Heavy Duty (Truck Entries & Drives)
Portland Cement Concrete	5.0" Portland Cement Concrete 4.0" Item 1003.03 (b) Base 8.0" Density-Approved Subgrade or Imported Fill	7.0" Portland Cement Concrete 4.0" Item 1003.03 (b) Base 8.0" Density-Approved Subgrade or Imported Fill
Asphalt Over Crushed Stone Base	2.0" Item 501 Type 3 Surface 6.0" Item 1003.03 (b) Base 8.0" Density-Approved Subgrade or Imported Fill	3.0" Item 501 Type 3 Surface 12.0" Item 1003.03 (b) Base 8.0" Density-Approved Subgrade or Imported Fill
Asphalt Over Cement Treated Subgrade	2.0" Item 501 Type 3 Surface 12.0" Density Approved Cement Treated Subgrade	4.0" Item 501 Type 3 Surface 12.0" Density Approved Cement Treated Subgrade
*Materials shall meet general requirements of the Louisiana DOTD Standard Specifications for Construction of Roads & Bridges, and specific requirements listed herein.		

The pavement section for the parking stalls may consist of either five (5) inches of Portland cement concrete, or two (2) inches of HMAC over six (6) inches of compacted stone base. Concrete thickness at trash receptacles should be a minimum of seven (7) inches. All paving recommendations are based on stable subgrade. Subgrade areas which are unstable should be over-excavated and replaced, or otherwise rendered stable prior to proceeding with base material placement.

Wet Weather and Soft Ground Considerations:

The soils encountered in the surficial zone at this site are expected to be relatively sensitive to disturbances caused by construction traffic when wet. The contractor should be cognizant of the importance of proper maintenance of surface drainage. Depending on weather-related ground conditions, contractor's maintenance of drainage during construction, and other factors, some difficulty may be encountered by the contractor in achieving compaction on initial lifts of fill placed on loose or soft subgrade. This will be exacerbated by wet weather, particularly if the contractor allows surface drainage to enter and pond in the excavations.

Fine-grained soils are expected to be relatively sensitive to disturbances caused by construction traffic and to changes in moisture content. During wet weather periods, increases in the moisture content of the soil can cause significant reduction in the soil strength and support characteristics. In addition, fine-grained soil that becomes wet may be slow to dry and thus significantly retard the progress of grading and compaction activities. It will, therefore, be advantageous to perform earthwork and foundation construction activities during dry weather. Earthwork activities performed during cooler, wetter months may certainly offer more difficulties than if performed during warmer, drier periods.

If construction is performed during wet conditions, work platforms may be necessary; these can be created for earthwork by mixing soil and hydrated lime, cement, or combinations of these additives. Quicklime may also be used in areas where dusting is of concern, if proper worker safety considerations are observed. *"Pumping" (unstable) subgrades are possible at this site and it is recommended that bid documents incorporate this possibility into the bid schedule.*

It is advisable to obtain unit prices in the bid schedule for remedial subgrade preparation options, should these become necessary. The following lists several subgrade preparation options; the best option will depend upon the specific soil and groundwater conditions encountered. All items should be bid "in-place, complete", on a pre-approved, as-needed basis only. Only the necessary quantity should be approved, usually as recommended (and later confirmed) by the geotechnical engineer's representative. Over-excavation presumes that the contractor must dispose of unsuitable (unusable) materials off-site. The contract documents should carefully and specifically state that such options will be allowed only when the work cannot be successfully prosecuted using ordinary or normal construction skill, efforts and equipment. (descriptive wording only; not necessarily to be used for contract language).

Over-excavation and replacement with Select Fill (Cubic Yard)

Over-excavation and replacement with clay bridging layer (drier than optimum, $18 < P.I. < 35$ (or as otherwise approved), attainable compaction as specified by geotechnical engineer's representative (Cubic Yard)

Provide and deploy geogrid (Tensar TriAx or approved equal), cover with minimum 6-inch thick (compacted with plate compactor) layer of minimum one (1) inch durable, crushed gravel (LDOTD Item 1003.03.b Base or approved alternate). (Square Yard)

Provide and deploy light-duty non-woven drainage geotextile (Square Yard)

Provide and install subsurface ("French") drain; drain media of washed, durable one (1) inch crushed stone, 36 inch wide by 18 to 48 inch high, with minimum four (4) inch diameter perforated PVC or HDPE pipe (contractor to submit pipe manufacturer's assurance of "non-crushing" under depth of planned cover), non-woven geotextile layer across top of gravel (Cubic Yard)

Lime-stabilize upper 12 inches (compacted thickness) with minimum 40 lbs hydrated lime per square yard (Square Yard)

Construction de-watering well, including periodic pumping as required (Each, or per vertical foot from surface to bottom)

The above are suggested options; the site civil engineer should adopt these or similar, standardized bid items as deemed appropriate.

Geotechnical Risk:

The concept of risk is an important aspect of the geotechnical evaluation. The primary reason for this is that the analytical methods used to develop geotechnical recommendations do not comprise an exact science. The analytical tools which geotechnical engineers use are generally empirical and must be used in conjunction with engineering judgment and experience. Therefore, the solutions and recommendations presented in the geotechnical evaluation should not be considered risk-free and, more importantly, are not a guarantee that the interaction between the soils and the proposed structure will perform as planned. The engineering recommendations presented in the preceding sections constitutes GTL's professional estimate of those measures that are necessary for the proposed structure to perform according to the proposed design based on the information generated and referenced during this evaluation, and GTL's experience in working with these conditions.

Limitations:

The exploration and analysis of the site conditions reported herein are considered preliminary in detail and scope and are not intended to form a basis for pavement and foundation design. The information submitted is based on the available soil information only and not on design details for the intended projects.

The findings, recommendations or professional advice contained herein have been made after being prepared in accordance with generally accepted professional engineering practice in the fields of foundation engineering, soil mechanics, and engineering geology. No other warranties are implied or expressed.

The scope of services did not include any environmental assessment for the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below or around this site. Any statements in this report or on the boring logs regarding odors, colors, or unusual or suspicious items or conditions are strictly for the information of the client. Prior to purchase or development of this site, an environmental assessment is advisable.

The scope of services did not include a geologic investigation to address any faults, large scale subsidence, or other macro geologic features not specifically addressed in this report or the agreement between GTL and the client.

After plans are more complete, it is recommended that the soils and foundation engineer be retained to provide a subsurface investigation tailored to meet the specific needs of the project.

This report has been prepared for the exclusive use of our client for the general application for the referenced project. GTL cannot be responsible for interpretations, opinions, or recommendations made by others based on the data contained in this report.

This report was prepared for general purposes only and should not be considered sufficient for purposes of preparing accurate plans for construction. Contractors reviewing this report are advised that the discussions and recommendations contained herein were provided exclusively to and for use by the project owner.

END OF REPORT TEXT

SEE FOLLOWING APPENDIX w/BORING LOGS & TEST RESULTS

APPENDIX

**FIELD AND LABORATORY PROCEDURES
PLAN OF BORINGS
LOG OF BORINGS**

Field And Laboratory Procedures
Natchitoches Industrial Park Site Qualification
Natchitoches, Natchitoches Parish, Louisiana
GTL Report Number 03-14-041

I. Field Operations:

Subsurface conditions were evaluated by advancing three (3) intermittent sample borings on March 20, 2014 within the project area. Boring locations were selected and staked in the field by representatives of Geotechnical Testing Laboratory, Inc. An illustration of the approximate boring locations with respect to the area investigated is provided on the attached Plan of Borings. Descriptive terms and symbols used on the logs are in accordance with the Unified Soil Classification System (USCS). Surface elevations at the boreholes was not supplied at the time of this investigation.

A truck-mounted rotary drill rig was used to make the test borings. Each boring was rotary washed using flight auger drilling techniques. Intermittent undisturbed samples were obtained in the following manner.

Standard penetration tests were performed in accordance with ASTM D-1586 procedures. This test is conducted by recording the number of blows required for a 140-pound hammer falling 30 inches to drive a split-spoon sampler eighteen inches into the substrata. Depths at which split-spoon samples were taken are indicated by two crossed lines in the "Samples" column on the Log of Boring. The number of blows required to drive the sampler for each 6-inch increment were recorded. The penetration resistance is the number of blows required to drive the split-spoon sampler the final 12-inches of penetration. Information related to the penetration resistance is presented under the "Field Data" heading of the Log of Boring as the Standard Penetration (Blows/Foot). These samples were visually examined, logged, and packaged for transport to our laboratory.

Cohesive strata were sampled in accordance with ASTM D-1587 procedures by means of pushing a thin walled Shelby tube a distance of two feet into the substrata. Consistency of the sample was measured in the field by means of a calibrated hand penetrometer. Such values, in tons per square foot, are provided under the "Field Data" heading on the Log of Boring. Depths which these undisturbed samples were obtained are indicated by a shaded portion in the "Samples" column of the Log of Boring. All samples were prudently extruded in the field were sealed to maintain "in-situ" conditions, labeled, and packaged for transport to our laboratory.

The presence of ground water was monitored during drilling operations. Initial water seepage readings are provided under "Groundwater Information" in the right hand column of the Log of Boring. After boring completion, water levels were allowed to rise and stabilize for several minutes prior to final water readings. These readings are also found under "Groundwater Information". Soil sloughing from the walls of the boring are also recorded here as depth of cave-in.

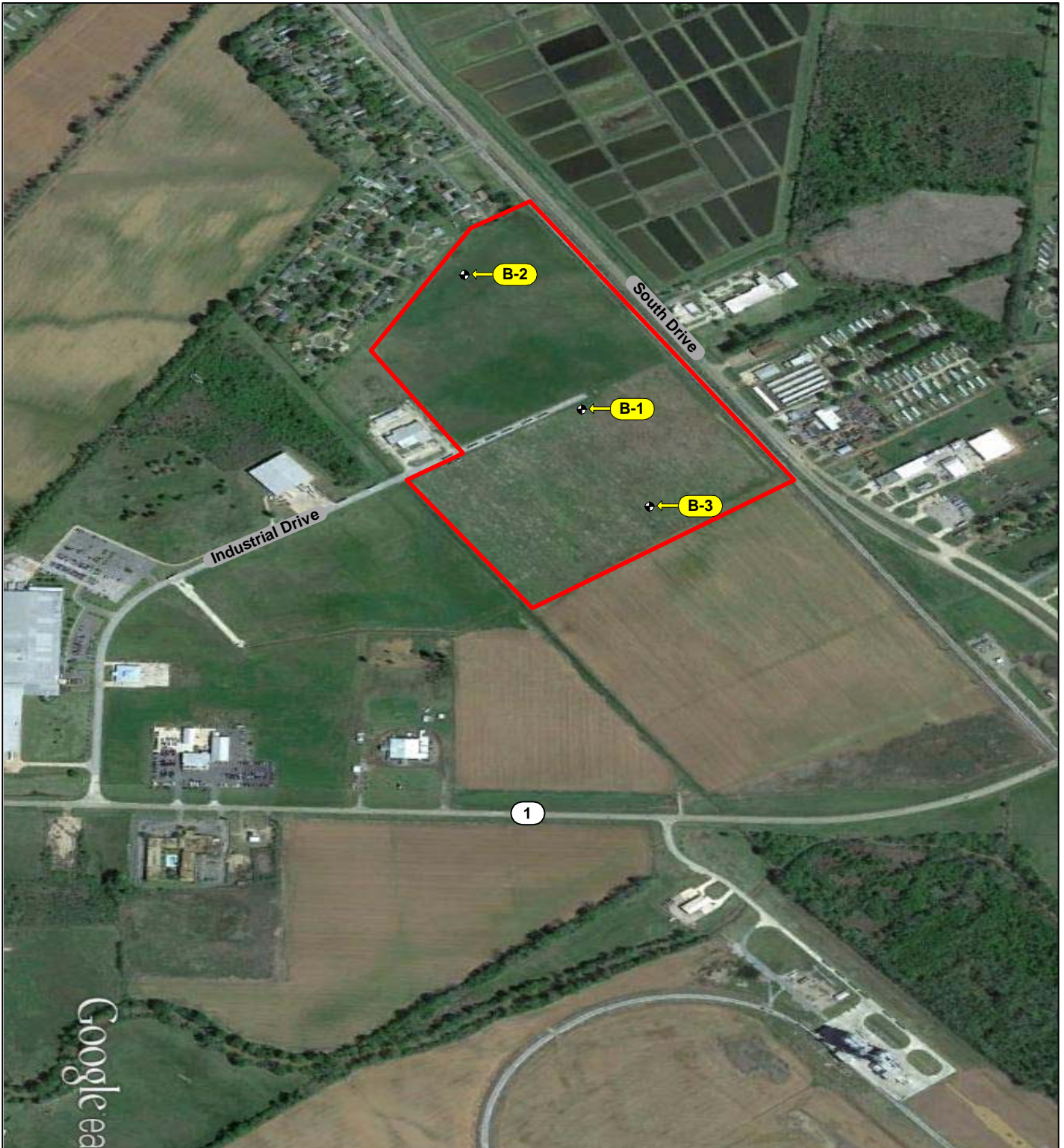
II. Laboratory Studies:

Upon return to the laboratory, all samples were visually examined and representative samples were selected for testing. Tests were performed on selected samples recovered from the test borings to verify classification and to determine pertinent engineering properties of the substrata. Individual test and designations are provided on the following page.

Test	Designations
Atterberg Limits	ASTM D4318
Moisture Content	ASTM D2216
Partial Gradation	ASTM D1140
Unconfined Compression Tests	ASTM D2166

Results for soil classifications are tabulated on the Log of Boring in their respective columns under "Laboratory Data."

Samples obtained during our field studies and not consumed by laboratory testing procedures will be retained free of charge for a period of 30 days. Arrangements for storage beyond that period of time must be made in writing to ***Geotechnical Testing Laboratory, Inc.***



This is a generalized drawing intended to locate the borings relative to the general area investigated.

Plan of Borings

(Not to Scale)

PROJECT Natchitoches Site Qualification, Natchitoches Parish, Louisiana		
DATE 3/26/2014	FILE NUMBER 03-14-041	

LOG OF BORING B-1



Geotechnical Testing Laboratory, Inc.
 226 Parkwood Drive
 Alexandria, LA 71301
 Telephone: (318) 443-7429

CLIENT: **City of Natchitoches**
 PROJECT: **Natchitoches Industrial Park Site Qualification**
 LOCATION: **Natchitoches, Natchitoches Parish, Louisiana**
 FILE No.: **03-14-041**

DATE DRILLED: **3/20/14**

SOIL SYMBOL	FIELD DATA			LABORATORY DATA						DRILLING METHOD(S): Diedrich D-50, Rotary Drill		
	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ.FT	MOISTURE CONTENT (%)	ATTERBERG LIMITS			MINUS NO. 200 SIEVE (%)	DRY DENSITY (Lbs./Cu.Ft.)			COMPRESSIVE STRENGTH (Lb./Sq. Ft.)
					LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI					
DESCRIPTION OF STRATUM												
1	0	X	N = 4	20	24	19	5	95			Loose Yellowish Brown, Slightly Clayey, SILT (CL-ML) 2.0'	
5	5	X	N = 3	32							Soft Yellowish Brown FAT CLAY (CH) - firm @ 6.0' - stiff below 7.5' - yellowish brown & gray below 9.5'	
	6	X	N = 3	32								
	7	X	N = 4	42	71	28	43	99				
	8	P	P = 1.00	26					97	2572		
	10	P	P = 1.00	26	56	24	32	98	98	2012		
	15	P	P = 1.00	28					94	2409	17.0'	
	20	P	P = 0.50	27	30	22	8	87	87	1115	Firm Yellowish Brown LEAN CLAY (CL) w/occasional sandy silt s(ML) layers	
	25	X	N = 6	32							Firm Yellowish Brown FAT CLAY (CH) - soft @ 29.0'	
	30	X	N = 3	33								
	35	P	P = 0.50	43					78	1193		
	40	P	P = 1.00	40	82	30	52	99	82	1210		
	45	P	P = 1.50	29					100	2833	- stiff below 44.0'	
	50	P	P = 1.50	24					102	2315		
	55	P	P = 2.50	21					100	3438	57.0'	
	60	P	P = 2.00	19	39	18	21	51	109	2456	Stiff Yellowish Brown Sandy LEAN CLAY s(CL)	

GTL LOG - GINT STD US LAB.GDT - 4/3/14 07:40 - Y:\GINT PROJECTS\2014_JOBS\03-14-041.GPJ

N - STANDARD PENETRATION TEST RESISTANCE
 P - POCKET PENETROMETER RESISTANCE

NOTES:
 See Plan of Borings for Location
 Stratification and Groundwater Depths Are Not Exact
 SLS = Slickensided Sample

LOG OF BORING B-1



Geotechnical Testing Laboratory, Inc.
 226 Parkwood Drive
 Alexandria, LA 71301
 Telephone: (318) 443-7429

CLIENT: **City of Natchitoches**
 PROJECT: **Natchitoches Industrial Park Site Qualification**
 LOCATION: **Natchitoches, Natchitoches Parish, Louisiana**
 FILE No.: **03-14-041**
 DATE DRILLED: **3/20/14**

FIELD DATA		LABORATORY DATA							DRILLING METHOD(S): Diedrich D-50, Rotary Drill	
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT	MOISTURE CONTENT (%)	ATTERBERG LIMITS			MINUS NO. 200 SIEVE (%)	DRY DENSITY (Lbs./Cu.Ft.)	COMPRESSIVE STRENGTH (Lb./Sq. Ft.)
					LL	PL	PI			
LOGGED BY: R. Leggett CHECKED BY: H. Carroll, E.I.										
GROUNDWATER INFORMATION: Water Seepage Noted @ 5.0 Feet While Drilling Water Observed @ 20.0 Upon Completion Boring Walls Collapsed @ 58.0 Feet Not Determined										
DESCRIPTION OF STRATUM										
										Stiff Yellowish Brown Sandy LEAN CLAY s(CL) <i>(continued)</i>
	65	N = 35		19						63.0'
	70	N = 23		15						- medium dense @ 69.0'
	75	N = 27		15	NP	NP	NP	7		
	80	N = 44		12						- dense w/gravel below 79.0'
	85	N = 44		27						87.0'
	90	N = 44		25	65	24	41	70		Hard Gray & Brown FAT CLAY (CH)s w/sand
	95	N = 50		27						
	100	N = 55		26						100.0'
Boring Terminated @ 100.0 Feet										

GTL LOG - GINT STD US LAB.GDT - 4/3/14 07:40 - Y:\GINT PROJECTS\2014_JOBS\03-14-041.GPJ

N - STANDARD PENETRATION TEST RESISTANCE
 P - POCKET PENETROMETER RESISTANCE

NOTES:
 See Plan of Borings for Location
 Stratification and Groundwater Depths Are Not Exact
 SLS = Slickensided Sample

LOG OF BORING B-2



Geotechnical Testing Laboratory, Inc.
 226 Parkwood Drive
 Alexandria, LA 71301
 Telephone: (318) 443-7429

CLIENT: **City of Natchitoches**
 PROJECT: **Natchitoches Industrial Park Site Qualification**
 LOCATION: **Natchitoches, Natchitoches Parish, Louisiana**
 FILE No.: **03-14-041**

DATE DRILLED: **3/20/14**

FIELD DATA		LABORATORY DATA							DRILLING METHOD(S): CME 45B, 4.5" Hollow Stem Auger	
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT	MOISTURE CONTENT (%)	ATTERBERG LIMITS			MINUS NO. 200 SIEVE (%)	DRY DENSITY (Lbs./Cu.Ft.)	COMPRESSIVE STRENGTH (Lb./Sq. Ft.)
					LIQUID LIMIT LL	PLASTIC LIMIT PL	PLASTICITY INDEX PI			
DESCRIPTION OF STRATUM										
										Firm Yellowish Brown LEAN CLAY (CL)s w/sand
			P = 1.00	22	34	18	16	75		
			N = 3	26						- soft @ 2.5'
			N = 2	35						3.5'
	5		P = 0.25	40	58	24	34	97	80	912
			P = 1.25	34					88	865
	10									
	15		P = 2.00	27					98	3040
	20		N = 8	30	37	22	15	86		
	25		N = 3	28						- soft @ 24.0'
	30		N = 1	30	NP	NP	NP	76		- very soft @ 28.5' (split sample)
Boring Terminated @ 30.0 Feet										

GTL LOG - GINT STD US LAB.GDT - 4/13/14 07:40 - Y:\GINT PROJECTS\2014 JOBS\03-14-041.GPJ

N - STANDARD PENETRATION TEST RESISTANCE
 P - POCKET PENETROMETER RESISTANCE

NOTES:
 See Plan of Borings for Location
 Stratification and Groundwater Depths Are Not Exact

LOG OF BORING B-3



Geotechnical Testing Laboratory, Inc.
 226 Parkwood Drive
 Alexandria, LA 71301
 Telephone: (318) 443-7429

CLIENT: **City of Natchitoches**
 PROJECT: **Natchitoches Industrial Park Site Qualification**
 LOCATION: **Natchitoches, Natchitoches Parish, Louisiana**
 FILE No.: **03-14-041**

DATE DRILLED: **3/20/14**

FIELD DATA		LABORATORY DATA							DRILLING METHOD(S): CME 45B, 4.5" Hollow Stem Auger	
SOIL SYMBOL	DEPTH (FT)	SAMPLES	N: BLOWS/FT P: TONS/SQ FT	MOISTURE CONTENT (%)	ATTERBERG LIMITS			MINUS NO. 200 SIEVE (%)	DRY DENSITY (Lbs./Cu.Ft.)	COMPRESSIVE STRENGTH (Lb./Sq. Ft.)
					LL	PL	PI			
LOGGED BY: J. Bennett CHECKED BY: H. Carroll, E.I.										
GROUNDWATER INFORMATION: No Water Seepage Noted While Drilling No Water Observed Upon Completion Boring Walls Remained Uncaved										
SURFACE ELEVATION: Not Determined										
DESCRIPTION OF STRATUM										
5	N = 4	26								Firm Yellowish Brown LEAN CLAY (CL)s w/sand
	P = 1.00	32	38	23	15	95				- soft @ 4.5'
5	N = 3	29								6.0'
	N = 3	34	53	25	28	98				Stiff Yellowish Brown LEAN to FAT CLAY (CL-CH)
10	N = 4	32								- firm @ 9.0'
	N = 6	29								13.5'
15	N = 5	28	37	22	15	94				Firm Yellowish Brown LEAN CLAY (CL) w/occasional sandy silt s(ML) layers
20	N = 3	30								- soft below 24.0'
25	N = 3	31								30.0'
30	Boring Terminated @ 30.0 Feet									

GTL LOG - GINT STD US LAB.GDT - 4/3/14 07:40 - Y:\GINT PROJECTS\2014 JOBS\03-14-041.GPJ

N - STANDARD PENETRATION TEST RESISTANCE
 P - POCKET PENETROMETER RESISTANCE

NOTES:
 See Plan of Borings for Location
 Stratification and Groundwater Depths Are Not Exact

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS	
			GRAPH	LETTER		
<p>COARSE GRAINED SOILS</p> <p>MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE</p>	<p>GRAVEL AND GRAVELLY SOILS</p>	<p>CLEAN GRAVELS</p> <p>(LITTLE OR NO FINES)</p>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES	
		<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES	
		<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES	
		<p>GRAVELS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES	
	<p>SAND AND SANDY SOILS</p>	<p>CLEAN SANDS</p> <p>(LITTLE OR NO FINES)</p>		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES	
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES	
		<p>SANDS WITH FINES</p> <p>(APPRECIABLE AMOUNT OF FINES)</p>		SM	SILTY SANDS, SAND - SILT MIXTURES	
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES	
			<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT LESS THAN 50</p>		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
					CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
<p>SILTS AND CLAYS</p> <p>LIQUID LIMIT GREATER THAN 50</p>		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY			
		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS			
		CH	INORGANIC CLAYS OF HIGH PLASTICITY			
		OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS			
<p>HIGHLY ORGANIC SOILS</p>				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS	

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

EXHIBIT # 16

INDUSTRIAL WASTE DISCHARGES

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

Sec. 30-35. Use of the public sewers.

Sec. 30-36. Industrial user classification.

Sec. 30-35. Use of the public sewers.

- (a) No person shall discharge or cause to be discharged any storm water, surface water, groundwater, roof runoff, or swimming pool drain, or subsurface drainage to any sanitary sewer.
- (b) Industrial cooling water and unpolluted process water may be discharged to sanitary sewers subject to the other provisions of these regulations, or to a natural outlet with approval of the state.
- (c) No person shall discharge or cause to be discharged any of the following described waters or wastes to any public sewers:
 - (1) Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas.
 - (2) Any waters or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity, either singly or by interaction with other wastes, to injure or interfere with any sewage treatment process, constitute a hazard to humans or animals, create a public nuisance, or create any hazard in the receiving waters of the sewage treatment plant, including but not limited to cyanides in excess of one (1) milligrams per liter (mg/l), as CN, in the wastes as discharged to the public sewer.
 - (3) Any waters or wastes having a pH lower than five and five tenths (5.5) or having any other corrosive property capable of causing damage or hazard to structures, equipment, and personnel of the sewage works.
 - (4) Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interference with the proper operation of the sewage works such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, unground garbage, whole blood, paunch manure, hair and fleshings, entrails and paper dishes, cups, milk containers, etc.
- (d) No person shall discharge or cause to be discharged the following described substances, materials, waters, or wastes if it violates EPA prohibitions against such substances and such wastes can harm either the sewers, sewage treatment process, or equipment, have an adverse effect on the receiving stream, or can otherwise endanger life, limb, public property, or constitute a nuisance. Following EPA guidelines as to the acceptability of these wastes, the superintendent will give consideration to such factors as the quantities of subject wastes in relation to flows and velocities in the sewers, materials of construction of the sewers, nature of the sewage treatment process, capacity of the sewage treatment plant, degree of treatability of wastes in the sewage treatment plant, and other pertinent factors. The substances prohibited are:
 - (1) Any liquid or vapor having a temperature higher than one hundred fifty (150) degrees Fahrenheit (sixty-five (65) degrees centigrade).
 - (2) Any water or waste containing fats, wax, grease, or oils whether emulsified or not, in excess of one hundred (100) mg/l or containing substances which may solidify or become viscous at

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

temperatures between thirty-two (32) and one hundred fifty (150) degrees Fahrenheit (zero (0) and sixty-five (65) degrees centigrade).

- (3) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipped with a motor of three-fourths (¾) horsepower or greater shall be prohibited. The intent of this article is that only small home-type garbage grinders be allowed to discharge into the sanitary sewers.
- (4) Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not.
- (5) Any waters or wastes containing in excess of the amounts (expressed in mg/l) of the following materials:

Arsenic	0.05
Barium	5.0
Boron	1.0
Chromium	2.0
Copper	1.0
Lead	0.1
Manganese	1.0
Nickel	1.0
Tin	1.0
Zinc	5.0

and similar objectionable or toxic substances, or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage treatment works exceeds the limits established by the EPA for such materials.

- (6) Maximum limits for discharge of heavy metals shall include, but not be limited to:

	mg/l
--	------

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

Cadmium	0.02
Mercury	0.005
Selenium	0.02
Silver	0.10

(7) Prohibited heavy metal and toxic material shall include, but not be limited to the following materials:

Antimony	Rhenium
Beryllium	Strontium
Bismuth	Tellurium
Cobalt	Herbicides
Molybdenum	Fungicides
Pesticides	Uranyl ion

(8) Any waters or wastes containing phenols or other taste- or odor-producing substances, in such concentrations exceeding limits, after treatment of the composite sewage, to meet the requirements of the state, federal, or other public agencies of jurisdiction for such discharge to the receiving waters.

(9) Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by state or federal regulations.

(10) Any waters or wastes having a pH in excess of nine and nine tenths (9.9).

(11) Materials which exert or cause:

- a. Unusual concentrations of inert suspended solids (such as, but not limited to, Fullers earth, lime slurries, and lime residues) or of dissolved solids (such as, but not limited to, sodium chloride and sodium sulfate).

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

- b. Excessive discoloration (such as, but not limited to, dye wastes and vegetable tanning solutions).
- c. Unusual BOD (greater than three hundred (300) parts per million), chemical oxygen demand, total suspended solids (greater than three hundred (300) parts per million), or chlorine requirements in such quantities as to constitute a significant load on the sewage treatment works.
- d. Unusual volume of flow or concentration of wastes constituting "slugs" as defined in section 30-30

(12) Waters or wastes containing substances which are not amenable to treatment or reduction by the sewage treatment process employed, or are not amenable to treatment only to such degree that the sewage treatment plant effluent cannot be applied to the land satisfactorily.

No person shall dilute their waste discharge (in lieu of treatment or removal) to reduce the concentration of any of the above parameters to levels below the concentrations stated in this article.

- (e) If any waters or wastes are discharged that contain the substances or possess the characteristics enumerated in paragraph (d) of this section, the industry or persons responsible are subject to penalties outlined. If in the judgement of the superintendent, any wastes may have a deleterious effect upon the sewage works, processes, equipment, or constitute a public nuisance, the superintendent may:
 - (1) Require pretreatment to reduce the levels of the deleterious substances to acceptable amounts; all costs of pretreatment are to be borne by the customer;
 - (2) Require control over the quantities and rates of discharge; and/or
 - (3) Require payment to cover the added cost of handling and treating the wastes not covered by existing taxes or sewer charges under the provisions of paragraph (k) of this section.

If the superintendent permits the pretreatment or equalization of waste flows, the design and installation of this pretreatment plant and equipment shall be subject to the review and approval of the city and subject to the requirements of all applicable codes, ordinances, and laws.

- (f) Grease, oil and sand traps shall be provided when, in the opinion of the superintendent, they are necessary for the proper handling of liquid wastes containing grease in excessive amounts, or any flammable wastes, sand, or other harmful ingredients; except that such traps shall not be required for private living quarters or dwelling units. All traps shall be of a type and capacity approved by the superintendent, and shall be located so as to be readily and easily accessible for cleaning and inspection. The proper operation of these traps shall be the responsibility of the customer, and failure to maintain them in proper working order shall be cause for discontinuance of sewer and/or water service.
- (g) Where preliminary treatment or flow-equalizing facilities are provided for any waters or wastes, they shall be maintained continuously in satisfactory and effective operation by the owner at his expense.
- (h) When required by the superintendent, the owner of any property serviced by a building sewer carrying industrial wastes shall install a suitable control manhole together with such necessary meters and other appurtenances in the building sewer to facilitate continuous observation, sampling, and measurement of the wastes. Such manholes, when required, shall be accessibly and safely located and shall be constructed in accordance with plans approved by the superintendent. The manhole shall be installed by the owner at his expense and shall be maintained by him so as to be safe and accessible at all times.

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

- (i) The following types of premises, but not limited to these types, shall have facilities installed as follows:
- (1) *Laundries.* Commercial or institutional laundries shall be equipped with an interceptor having a removable wire basket or similar device which will prevent strings, rags, buttons, or other materials detrimental to the public sewage system from passing into the sewage system. The basket or device shall prevent passage into the sewage system of solids one-half inch or larger in size and shall be removable for cleaning purposes. When required by the director of utilities, laundries shall install oil and grease separators and sand interceptors which shall be readily accessible for cleaning.
 - (2) *Bottling establishments.* Bottling establishments shall discharge their process waste into an interceptor which will provide for separation of broken glass or other solids before discharging liquid waste into sewage system. In the event the waste contains a prohibited substance in excessive quantity as specified above, a neutralizing or other pretreatment device shall be required.
 - (3) *Slaughter houses.* Slaughter houses, poultry processing houses, and other similar food processing and packing establishments shall be equipped with separators which shall prevent the discharge into the sewer system of feathers, entrails, feet, bones, and other materials likely to clog the sewer system. They shall be provided with grease interceptors of a size and design for ready inspection and cleaning so as to prevent the introduction of grease into the sewer system. In the event the waste has an [excessive] biological oxygen demand or otherwise violates the requirements of this division, adequate pretreatment devices including aerators and neutralizing devices shall be provided.
 - (4) *Motor vehicle servicing.* Motor vehicle servicing facilities, as in repair shops and service stations, shall have the capacity of the grease and sand separator based on a net capacity of one (1) cubic foot for each one hundred (100) square feet of surface to be drained into the interceptor, with a minimum capacity of six (6) cubic feet.
- (j) Pretreatment permits:
- (1) *Permits and records.* Permits for discharge into the municipal sewer system shall be required in cases where the superintendent has reason to believe that a discharger may be in violation of the requirements of this division or may be subject to the provisions of this division. A permit shall be issued to the discharger setting the limitations on the waste he may discharge.
 - (2) *Approval for pretreatment devices.* Any interceptor, separator, neutralizing device, aerator or other pretreatment device shall be submitted to the superintendent for approval before construction.
 - (3) *Reports.* Any discharger who is required to pretreat his waste before discharge shall submit such reports concerning his discharge to the superintendent as may be reasonably required to determine the waste load and the proper operation of the municipal sewage system.
 - (4) *Sampling.* All measurements, tests, and analyses of the characteristics of water and wastes to which reference is made in this article shall be determined in accordance with the latest edition of Standard Methods for the Examination of Water and Wastewater, published by the American Public Health Association, and shall be determined at the control manhole provided, or upon suitable samples taken at the control manhole. In the event that no special manhole has been required, the control manhole shall be considered to be the nearest downstream manhole in the public sewer to the point at which the building sewer is connected. Sampling shall be carried out by customarily accepted methods to reflect the effect of constituents upon the sewage works and to determine the existence of hazards of life, limb, and property.

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

(The particular analyses involved will determine whether a twenty-four-hour composite of all outfalls of a premises is appropriate or whether a grab sample or samples should be taken. Normally, but not always, B.O.D. and suspended solids analyses are obtained from twenty-four-hour composites of all outfalls whereas pH's are determined from periodic grab samples).

- (5) *Inspection.* All dischargers shall cooperate with the superintendent and his authorized inspectors and representatives at all times, giving them access to the treatment devices and the discharge to the sewer system.
- (6) *Accidental discharges.* Each discharger shall provide protection from accidental discharge of prohibited substances or other substances regulated by this division. Facilities to prevent accidental discharge of prohibited materials shall be provided and maintained at the owner's or discharger's own cost and expense. Plans and operating procedures to prevent accidental discharges shall be submitted to the superintendent for his approval and shall not relieve the discharger from the responsibility to modify his facilities as necessary to meet the requirements of this division.

In the case of an accidental discharge, it is the responsibility of the discharger to immediately telephone and notify the treatment works of this incident. The notification shall include location of discharge, type of waste, concentration of volume and corrective action.

When required by the superintendent, the discharger shall submit a written notice within five (5) days following an accidental discharge, detailing the cause of the discharge and measures taken to prevent similar future occurrences.

- (7) *Fees.* The city reserves the right to accept waste in limits exceeding those previously stated, but not exceeding limits established by EPA or the state regulatory agency, and assess a user surcharge fee that shall cover the additional costs of operation and maintenance associated with the higher limits.
 - (8) *Notification of violation.* Whenever the superintendent finds that any discharger has violated or is violating this division, the city may serve upon such person a written notice stating the nature of the violation. Within thirty (30) days of the date of the notice, a plan for the satisfactory correction thereof shall be submitted to the city by the user or discharger. Any discharger who continues to violate the provisions of this order may be directed by the superintendent to cease discharge into the municipal system.
 - (9) *Legal action.* If any discharger discharges a waste in violation of the provisions of this division or contrary to any order of the superintendent concerning discharge and pretreatment, the city attorney may commence legal action for appropriate legal and/or equitable relief in the courts of this parish.
- (k) No statement contained in this section shall be construed as preventing an agreement or arrangement between the city and industrial concern whereby an industrial waste that is not prohibited by EPA and/or state regulations such as those outlined in subsection (d), may be accepted by the city for treatment, subject to satisfactory payment arrangements by the industrial concern. Payment by the industry shall include reimbursement of any costs for construction, on the part of the city to accommodate the industrial waste operation and maintenance of the increment of the wastewater facilities required to treat and transport the wastewater discharge of the industry. Costs to be considered shall include:
- (1) Amortization of the indebtedness of costs to the city for required improvements to the wastewater facilities, plant and interceptor sewers to accommodate the industrial waste.
 - (2) Operation and maintenance of the treatment facilities.

PART II - CODE OF ORDINANCES

Chapter 30 - UTILITIES

ARTICLE III. - SEWERS

DIVISION 2. INDUSTRIAL WASTE DISCHARGES

(3) Any additional costs which are necessary to assure adequate treatment on a continuous basis.

(Ord. No. 28-1990, § A, 9-24-90)

Sec. 30-36. Industrial user classification.

Certain sanitary sewer system users may be classified as "industrial users" as determined by the superintendent. These users include, but are not limited to:

- (1) Users that discharge a waste that is greater than or equivalent to twenty-five thousand (25,000) gallons per day of sanitary waste.
- (2) Users that discharge a quantity of wastewater that is significantly less than the quantity of water consumed.
- (3) Users that discharge a large quantity of water not containing human waste or organic material from any type of process or packaging operation.
- (4) Users that have their own unmetered water supply (wells, surface water, etc.) which may be metered in a manhole or by an approved water meter.

(Ord. No. 28-1990, § A, 9-24-90)

EXHIBIT # 17

UTILITY DEPARTMENT LETTER



CITY OF NATCHITOCHES
UTILITY DEPARTMENT

September 30, 2014

Mr. K. Randal Smoak, P.E.
Cothren, Graff, Smoak Engineering, Inc.
6305 Westport Avenue
Shreveport, LA 71129

Re: Water and Sewer Capacity

Dear Mr. Smoak:

The City of Natchitoches has excess water production and sewer treatment capacity as listed below:

Water Production

Excess over average daily demand --	9 mgd
Excess over peak daily demand --	5 mgd

Sewer Treatment

Excess over average daily demand --	9 mgd
Excess over peak daily demand --	5 mgd

Sincerely,

CITY OF NATCHITOCHES

Bryan Wimberly
Director of Utilities