FINAL

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Hero Pump Station
Jefferson Parish, Louisiana

April 2007

Submitted to:
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Hurricane Protection Office
7400 Leake Avenue
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Submitted by:
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Jefferson Parish, Louisiana

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) report was prepared to support the U.S. Army Corps of Engineers, New Orleans Division (hereafter referred to as the User) construction of infrastructure and improvements to the Hero Pump Station property (hereafter referred to as the subject property), owned by Jefferson Parish, Louisiana. The 4.9-acre parcel is located on Bayou Barataria at the intersection with the Harvey Canal at 4644 Peters Road, Harvey, Louisiana. The subject property is currently a developed site with an established drainage pump station, storage facilities, and a generator station.

This report was prepared and the site reconnaissance was conducted according to the American Society for Testing and Materials (ASTM) guidelines (ASTM E1527-05), which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601) and petroleum products.

According to information gathered from document searches, interviews, and the site reconnaissance, Gulf South Research Corporation (GSRC) found several *recognized environmental conditions* related to operations of the pump station facility and adjacent properties that may affect the subject property. While these conditions do not result in major impacts to the property, they are noted here for reference in relation to future activities and infrastructure that may be installed later.

SIGNIFICANT ASSUMPTIONS

No significant assumptions were made regarding this assessment.

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

By contract agreement with the User, no title search or search of recorded property documents was conducted as part of this assessment.

USER RELIANCE

This report has been prepared by GSRC for the User. It is intended for the sole use by the User, and no other person or entity may use or rely on any such report for any purpose.

1.0 PURPOSE OF THE PHASE I ENVIRONMENTAL SITE ASSESSMENT

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the processes described herein, *recognized environmental conditions* in connection with the subject property and to provide an opinion on: (1) indications that petroleum products or hazardous or toxic materials and/or waste exist, or have existed, on or adjacent to the subject property that could potentially have an adverse impact; (2) indications of possible contamination, based upon observable conditions and readily available and reviewed public records or information; (3) the possibility that violations of current environmental regulations have occurred, or are occurring, on the subject property; (4) the potential for spilled, leaked, or improperly handled hazardous substances or petroleum products to migrate to or from the subject property; and (5) the existence of unsafe or unhealthful conditions on the subject property.

1.1 BOUNDARIES OF THE PROPERTY AND SURVEY AREA

The subject property is located in Jefferson Parish (Figure 1) at 4644 Peters Road in Harvey, Louisiana on Bayou Barataria at the intersection with the Harvey Canal, as shown in Figures 2 and 3. A site plan was provided by the Jefferson Parish Department of Drainage. Global Positioning System (GPS) coordinates were taken in the field at the presumed property boundaries for comparison with the site plan and to geo-reference the site on historic maps and aerial photographs.

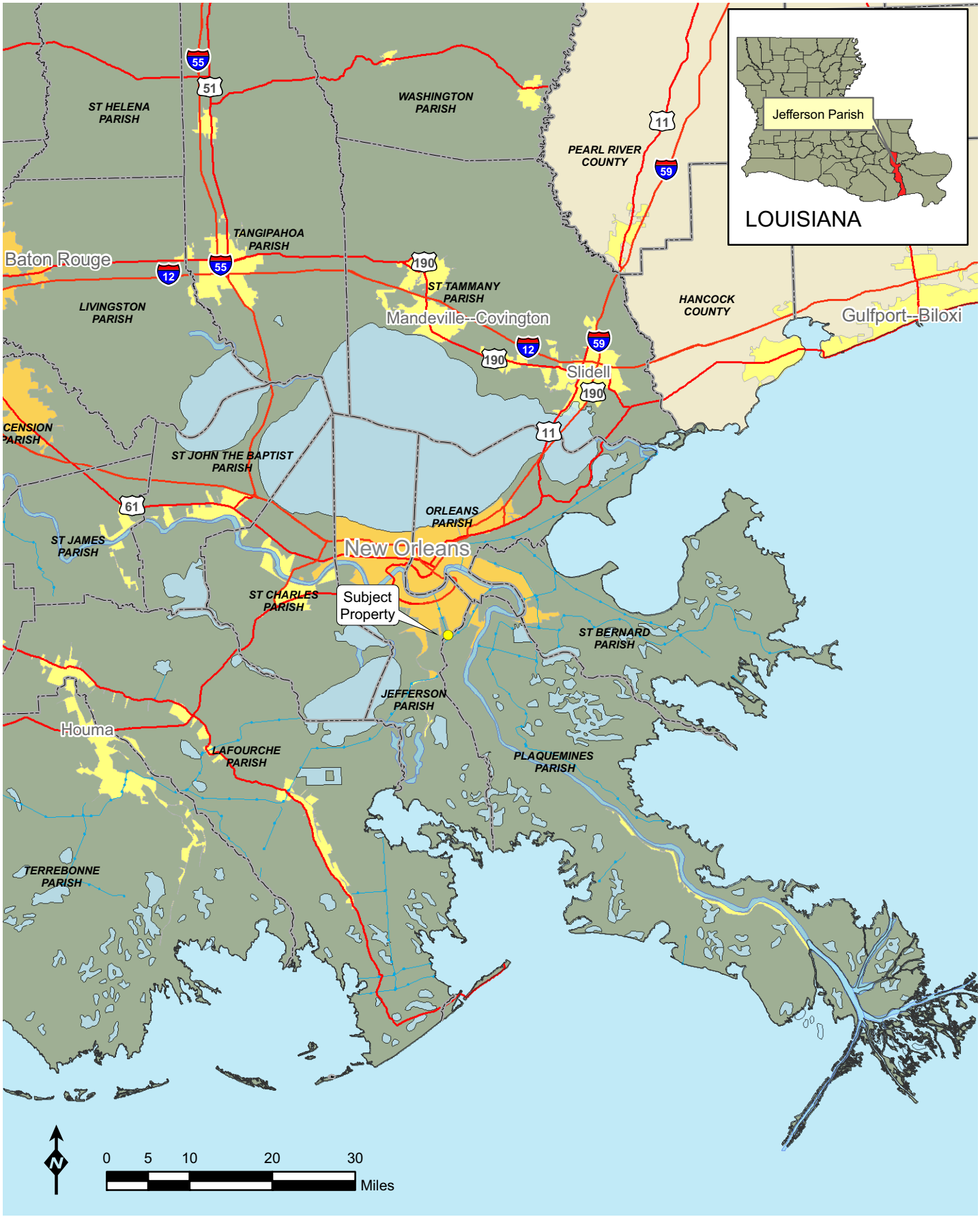

Figure 1: Vicinity Map

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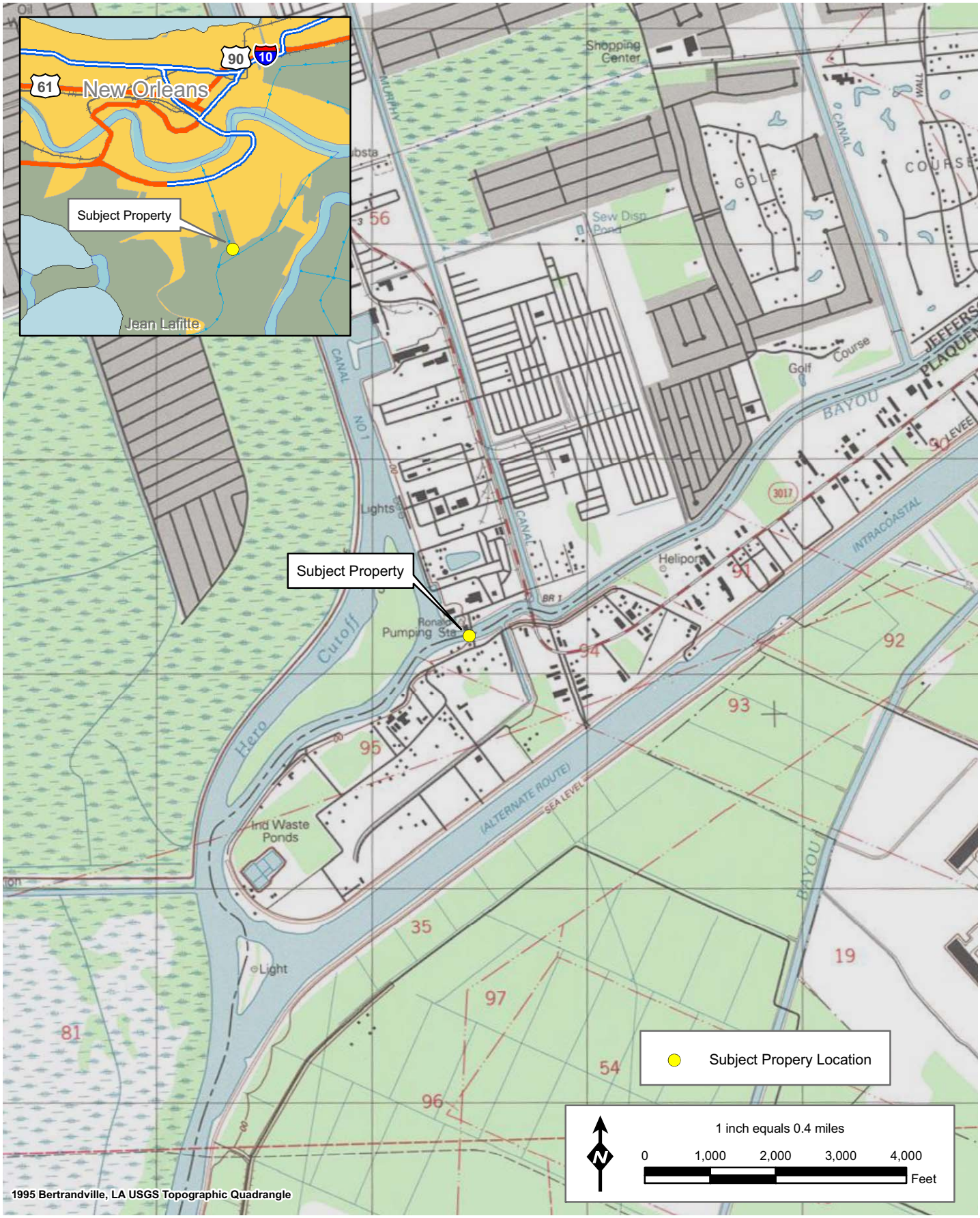

Figure 2: Hero Pump Station Location

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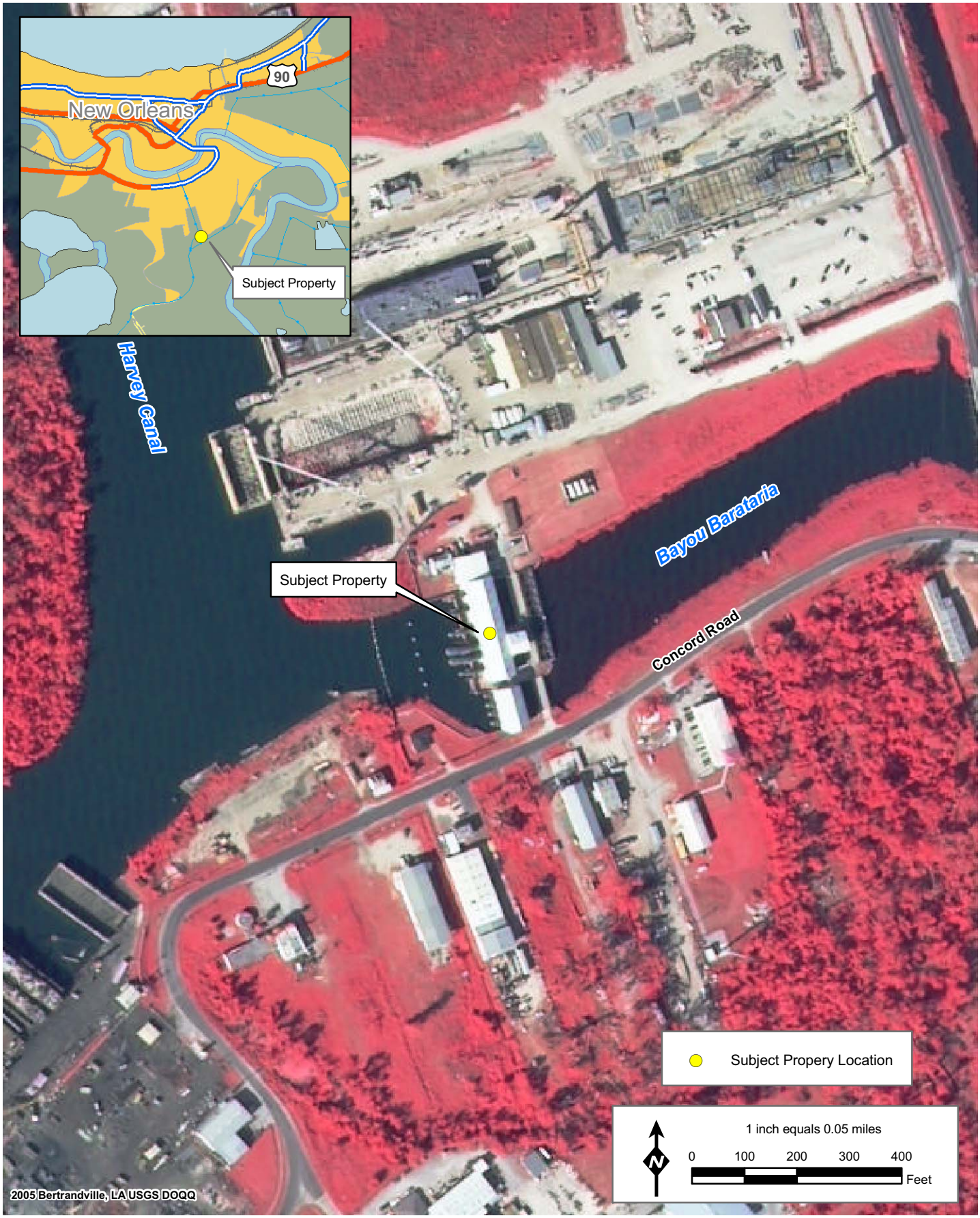

Figure 3: Hero Pump Station Area

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2.0 SURVEY METHODOLOGY

2.1 APPROACH AND RATIONALE

This report was produced in accordance with the following:

> "The ASTM guidelines (ASTM E1527-05) which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the CERCLA (42 USC 9601) and petroleum products. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability; that is, the practice that constitutes all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice."

GSRC's scope of services for this project included four major components: (1) Federal, state, and local environmental records review, including a review of historical and physical setting records; (2) a site reconnaissance to search for visible indications of impacts or potential impacts to the environment or human health and safety; (3) interviews with key site personnel and local government officials; and (4) the preparation of this report. Following ASTM guidelines, the review of individual component items is subject to the "reasonable ascertainability" of that item.

The conditions disclosed by this investigation have been separated into the following categories of environmental conditions:

- *Recognized environmental condition* – A recognized environmental condition is defined in ASTM Practice E1527-05 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicated 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, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws."
- *Historical recognized environmental condition* – A historical recognized environmental condition is defined in ASTM Practice E1527-05 as an "environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently. The final decision rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the property. If a past release of any hazardous substances or petroleum products has occurred in connection

with the property and has been remediated, with such remediation accepted by the responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered a historical recognized environmental condition."

- *De minimis condition* – A *de minimis condition* is defined in ASTM Practice E1527-05 as 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."

The subject property parcel was accessible by vehicle and by foot. The site reconnaissance consisted of a thorough walk-through of the subject property, and the objective of the site reconnaissance was to obtain information indicating the likelihood of identifying any *recognized environmental conditions* in connection with the subject property. The term is not intended to include *de minimis conditions*. Observations were mainly focused on the subject property and any structures located on the subject property to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles.

2.2 USER PROVIDED INFORMATION

2.2.1 Title Records

No title records were provided by the User. Past ownership of the subject property was verified by interviews with the property owner's representative.

2.2.2 Environmental Liens or Activity and Use Limitations

No environmental liens or activity and use limitations were reported by the User. No environmental liens or activity and use limitations were reported by the subject property owner. Since there have been no prior owners of the property, the current owner's statement is considered conclusive.

2.2.3 Specialized Knowledge

Historical and current knowledge of the subject property was provided by interviews with the subject property owner's representative.

2.2.4 Valuation Reduction for Environmental Issues

No valuation reduction for environmental issues was reported by the User or the subject property owner. Since the subject property has been owned by the current owner since prior to

the first development of the property, and no sale of the property is pending, valuation reductions do not apply in this case.

2.3 LIMITATIONS AND EXCEPTIONS

The only limitation or exceptions made to the ASTM Practice E1527-05 was the lack of title records search or recorded document search for the subject property by contract agreement with the User. Interviews with the subject property owner were used to verify the past ownership of the property and the presence or absence of use limitations on the property.

2.4 DESCRIPTION OF DOCUMENTS REVIEWED

Federal and State Environmental Databases

GSRC contracted Environmental Data Resources (EDR) to search Federal and state environmental databases that track activities associated with hazardous waste and incidents that have resulted in major environmental impairment. These databases are prepared and maintained by various Federal and state environmental agencies such as the U.S. Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ). The minimum appropriate search distance was 1 mile from the subject property's boundary. The EDR report showing all information pertaining to the database searches is presented in Volume II (F). A summary listing of the Federal and state databases searched can be found on pages 1 and 2 of the Executive Summary in the EDR report in Volume II (F). Descriptions of the type and currency of data in those databases can be found on pages GR-1 through GR-14 of the EDR report.

GSRC conducted searches on the LDEQ website and EPA databases via the Internet such as Enforcement and Compliance History Online (ECHO) and Envirofacts Warehouse. No information regarding additional environmental concerns, other than those reported by EDR, within or in the vicinity of the subject property was found in the Federal or state databases (LDEQ 2007 and EPA 2007).

The EDR report indicates that there are several sites/facilities recorded from the database search within the search radii that may have or have generated, stored, treated, and/or disposed of solid or hazardous waste within or near the subject property.

Barnett Marine, Inc., located approximately 0.25 mile southwest of the subject property, is a small quantity generator of hazardous waste, listed in the Resource Conservation and Recovery Act – Small Quantity Generator (RCRA-SQG) and Facility Index System/Facility Registry System (FINDS) databases. This facility had had numerous violations in the recent past, primarily as a result of reporting errors. The site is shown in Photograph 21 in Appendix B. Its location across the levee from the subject property, and the intervening waterways of Bayou Barataria and the Hero Canal, would preclude any release of hazardous materials from the site reaching or impacting the subject property.

Gretna Machine and Iron Works is located adjacent to the subject property to the north. It is listed in the FINDS, RCRA-LQG and Comprehensive Environmental Response, Conpemsation, and Lability Information System – No Further Response Action Required (CERC-NFRAP) databases as a large quantity generator of hazardous waste. Numerous violations were reported for this site in the past 20 years, primarily for reporting oversights. No current violations exist, and the site poses a minor business environmental risk to the subject property due to its adjacent proximity. Most of the hazardous emissions from the site are aerial.

The remaining sites listed in the vicinity of the subject property are not located within a distance of the subject property to pose a business environmental risk.

EDR reported 40 sites/facilities that could not be accurately located and mapped (orphan sites) in the vicinity of the subject property. Ground reconnaissance revealed that none of the orphan sites are located within the minimum appropriate search radius of the subject property that would result in a business environmental risk to the subject property.

Sanborn Insurance Maps

No insurance map coverage was available for the subject property area.

City Directory Abstracts

A search of the Polk's City Directory for Peters Road indicated numerous industrial activities listed from 1996 through 2006. These same industries were found in the Federal and state databases searched by EDR.

Historical Maps/Aerial Photographs

Historical topographic maps and aerial photographs provided by the User were used for this report, since they provided the most comprehensive coverage of the subject property. Historical quadrangle maps were available for years spanning 1891 to 1995. Historic aerial photographs were available from 1948 to 2005. These maps and photographs typically show any development or habitat changes over time. The historical topographic quadrangles and aerial photographs reviewed by GSRC are listed in Table 1 and are included in Appendix A.

Table 1. Historical Topographic Quadrangles/Aerial Photographs Reviewed

DATE	QUADRANGLE/PHOTOGRAPH NAME	SCALE
1891	New Orleans, LA 15-Minute Quadrangle	1:64,000
1932	New Orleans,LA 15-Minute Quadrangle	1:64,000
1938	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1947	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1948	Aerial Photograph	---
1950	New Orleans, LA 15-Minute Quadrangle	1:64,000
1951	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1954	New Orleans, LA 15-Minute Quadrangle	1:64,000
1960	Aerial Photograph	---
1966	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1967	New Orleans, LA 15-Minute Quadrangle	1:64,000
1970	Aerial Photograph	---
1977	Aerial Photograph	---
1987	Aerial Photograph	---
1995	Bertrandville, LA 7.5-Minute Quadrangle	1:24,000
1996	Aerial Photograph	---
1998	Aerial Photograph	---
2004	USGS DOQQ Aerial Photograph	1:24,000
2005	USGS DOQQ Aerial Photograph	1:24,000

Sources: U.S. Geological Survey, U. S. Army Corps of Engineers

2.5 SUBJECT PROPERTY INSPECTIONS/OBSERVATIONS

Photographs of the subject property parcels are presented in Appendix B, and the locations of photographs are shown in Figure 4. A site plan of the subject property is provided in Figure 5. A site reconnaissance was conducted on March 7, 2007 by Stephen Oivanki and Maria Reid. The focus of the effort was to investigate the subject property for evidence of potential hazardous or toxic substances, or the presence of potential sources for environmental impacts, such as drums, petroleum products and underground storage tanks (USTs). The subject property was accessible by foot and by vehicle and was

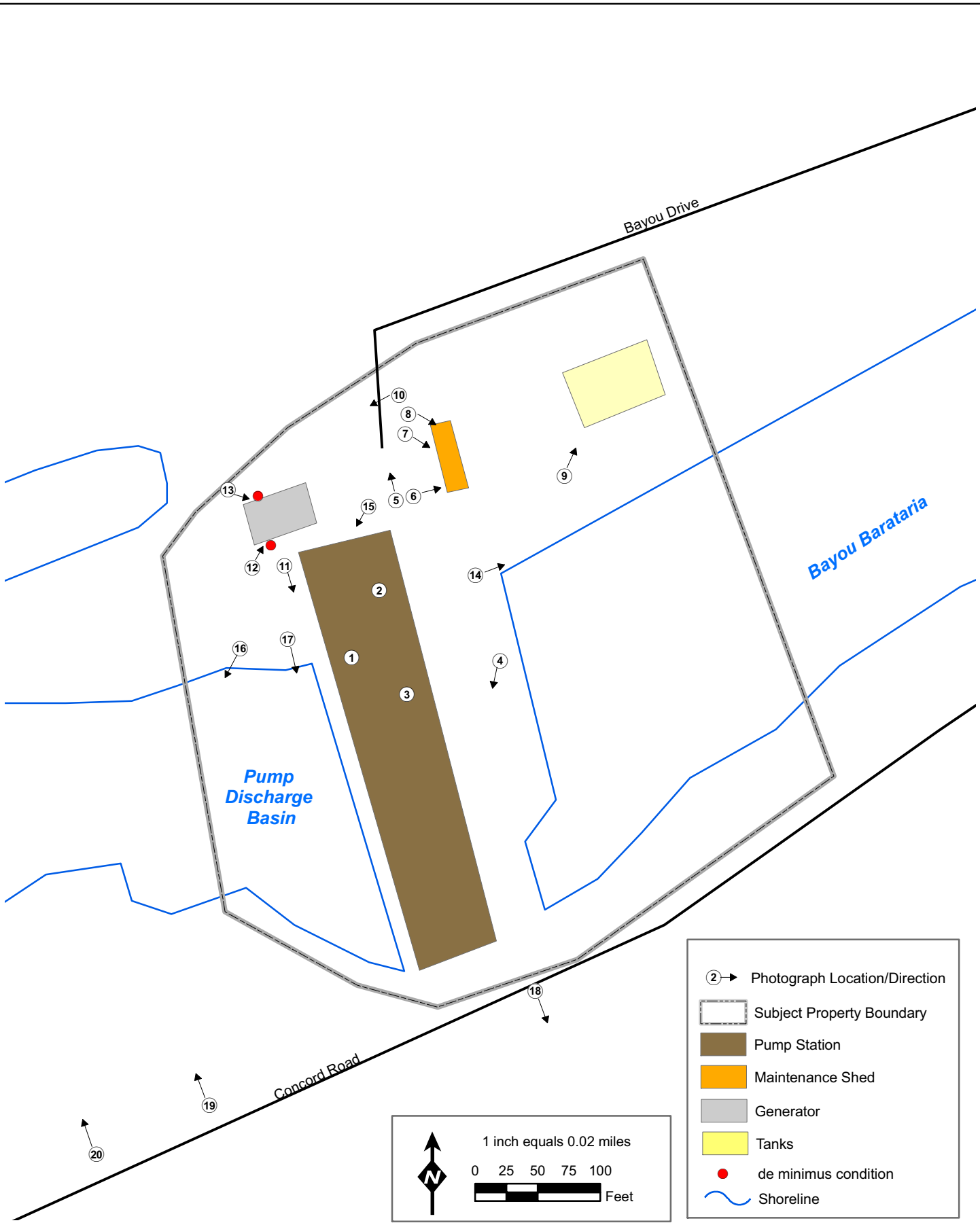

Figure 4: Survey Map of Hero Pump Station

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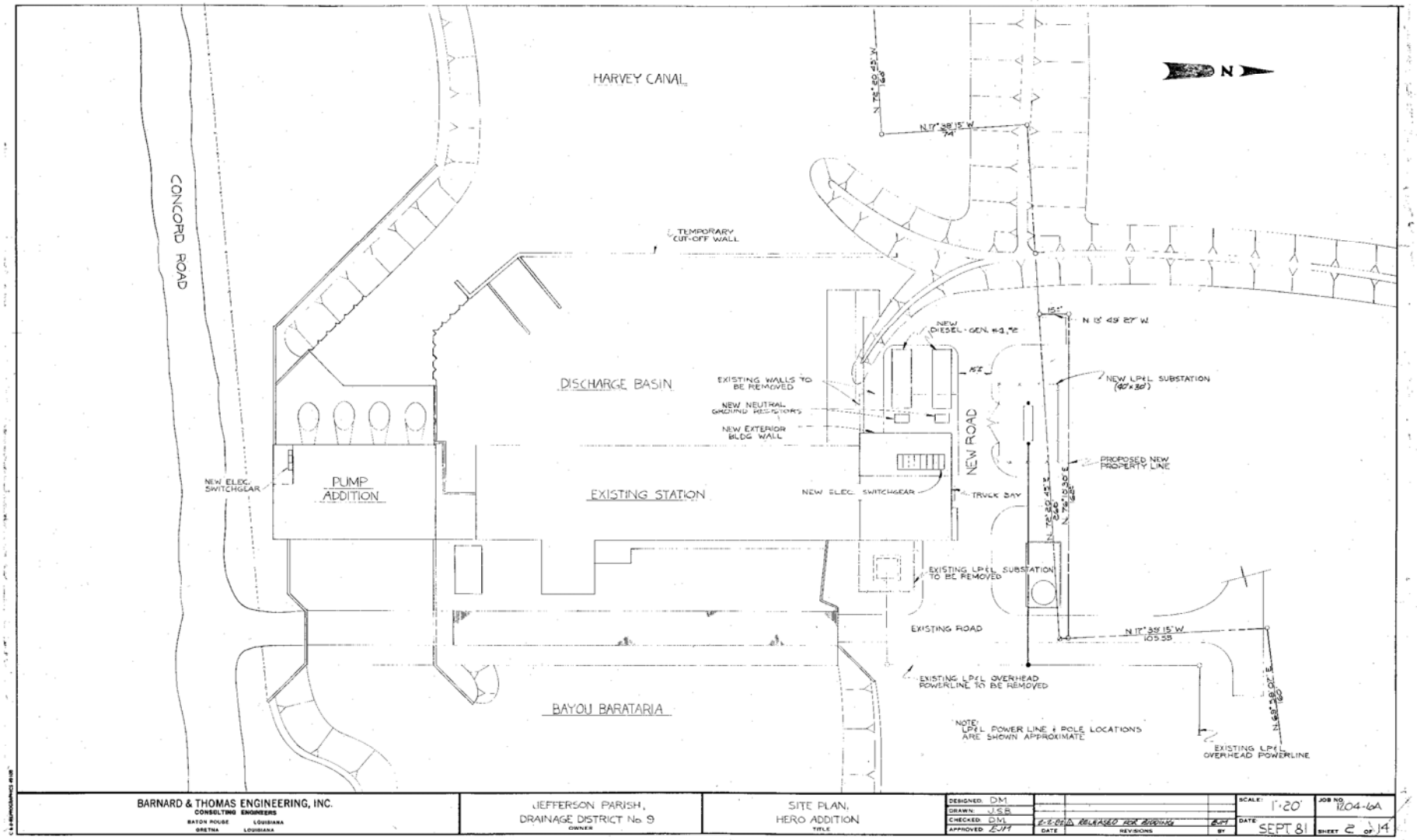

FIgure 5: Hero Pump Station Site Plan

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visually inspected for any *recognized environmental conditions*. The subject property is currently being used for an active drainage pumping station by Jefferson Parish.

The subject property consists of approximately 4.9 acres, as defined by a GPS survey of the observed property boundaries in the field. There are numerous structures on the property, both permanent and temporary, and the ground is relatively flat terrain covered with either gravel/shell, grass or concrete. All of the property appears to have been previously disturbed by construction or grading.

The main pump station facility is located straddling Bayou Barataria near its discharge point into the Harvey Canal, and it discharges into a discharge basin connected to the Harvey Canal on the opposite side of the levee. The subject property is bounded on the north by a barge maintenance facility and shipyard. It is bounded on the east by undeveloped property along Bayou Barataria. The Harvey Canal borders the west side of the subject property.

Concord Road borders the south side of the subject property across Bayou Barataria, and numerous industrial facilities are located along Concord Road. Immediately south of the subject property, Royal Chemical Corporation is located in a small facility with offices fronting on Concord Road (Photograph 18, Appendix B). This facility is not listed in any Federal or state database for hazardous materials. Other facilities across Concord Road from the subject property appear to be abandoned.

On the subject property, there are several Connex containers, most of which are locked. The operator on duty at the time of the site visit did not have keys to most of the storage containers. One container north of the station was unlocked, and contained numerous paint, oil and other flammable liquids containers (Photograph 11, Appendix B). According to the operator of the station, the other containers contain spare parts, electrical equipment, paint and documents.

There were numerous old empty 55-gallon oil drums stored in the maintenance shed on the property, and no evidence of spilled contents was visible (Photograph 7, Appendix B). There were also several pieces of maintenance equipment and fuel containers located under cover in the maintenance shed (Photograph 6, Appendix B). There was an empty diesel storage tank adjacent to the north side of the pump building, which was described as being under repair for a leak (Photograph 15, Appendix B).

There was a stack of used tires and wheels adjacent to the intake canal on the subject property (Photograph 14, Appendix B). The motor vent pipes from the generator station were routed to the ground in two places, and oil staining was evident around the discharge pipes (Photographs 12 and 13, Appendix B).

Waste oil is stored in a waste oil tank adjacent to the maintenance shed (Photograph 8, Appendix B), and the oil is recycled by a licensed transporter. Paint, lubricating oil and other fluids are stored under cover in the main pump building (Photographs 1 and 2, Appendix B). There is a current Spill Prevention Control and Countermeasures Plan kept on site, and a spill containment and cleanup kit is also stored on site. Day tank diesel is stored in two 500-gallon tanks adjacent to the intake sump (Photograph 4, Appendix B). Abundant trash and an oil sheen was observed in the intake water sump.

Diesel fuel storage for the station pump engines is contained in three horizontal storage tanks with a combined capacity of 40,200 gallons (Photograph 9, Appendix B), and the tanks have an approved spill containment basin, as defined in the SPCC plan.

The pump station is currently on city water service for potable water, but waste water and sewage is handled by a septic tank and drain field on the site. There is no water well on the property, and auxiliary cooling water for the pump engines is supplied by siphon from the adjacent canals.

A transformer station is located on the subject property to supply power to the electric pump motors (Photograph 5, Appendix B), and there was no visible indication of PCB content in the transformers. The transformers are owned and maintained by the local power company.

2.6 PERSONAL INTERVIEWS

Station Operator

On March 7, 2007, GSRC interviewed the Hero Pump Station operator, Mr. Anthony Taylor, who has been with the Jefferson Parish Department of Drainage for 5 years. He recounted that the Hero Station is one of the oldest in the parish, and was built in about 1914. He stated that there had been no oil or fuel spills on the property since he has been employed there, but there was a spill in the adjacent canal a long time ago. The station does not keep hazardous

materials on site, other than maintenance paint in 5-gallon buckets for the equipment. Used oil is recycled to a waste oil tank, and then is disposed of by a licensed transporter. The transformers and substation on the site are used to power the electric motors at the station. The substation is owned and serviced by the local power company, and there is no indication of PCB content in the transformers. Hurricane Katrina did not flood the pump station, but did a lot of wind damage to the roof and windows. A SPCC plan is on file at the station, as well as a spill containment and cleanup kit.

Other Interviews

Because other historical data and information sources indicated no prior use other than the current use and no other ownership prior to the current owner, and no indications of recognized environmental conditions were identified from other reliable sources, no further interviews of local officials were deemed necessary to determine the existence of recognized environmental conditions on the subject property. State agency information requests regarding individual properties are typically referred to the state database for information, and that database was consulted.

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3.0 FINDINGS FOR SUBJECT PROPERTY

3.1 HISTORIC USE

The documents reviewed by GSRC to determine historical land uses and potential environmental conditions associated with those uses regarding the subject property and surrounding areas are described in the paragraphs below.

Historic Topographic Quadrangles and Aerial Photographs

Historic topographic maps dated from 1891 to 1995 and aerial photographs dated from 1948 to 2005 (Appendix A) were inspected to identify structures and development on the subject property and surrounding properties. The developed Hero Pump Station first appeared on the 1932 topographic map. The 1938 topographic map showed no change from 1932. The 1947 topographic map also showed no change in the subject property development or surrounding areas, which were depicted as undeveloped wetlands.

The 1948 aerial photograph indicated the old pump station in its current position, and Peters Road and Concord Road were visible. Several small structures were visible along Concord Road and north of the subject property. Numerous barges were shown anchored along the Harvey Canal.

The 1951 topographic map indicated a large industrial development north of the subject property with numerous roads and several large buildings. A railroad spur had also been extended to the industrial development from the north.

The 1960 aerial photograph showed that most of the lots across Concord Road had been developed, and the industrial site north of the subject property was also developed. Numerous barges and other vessels were anchored along the Harvey Canal. The 1966 topographic map showed the same level of development indicated in the 1960 aerial photograph.

The 1970 aerial photograph showed more development of the industrial site north of the subject property, and greater development southwest of the subject property along Concord Road and the Harvey Canal. A large number of barges were anchored along the canal.

The 1977 aerial photograph indicated even greater levels of development along the Harvey Canal and Concord Road, and the addition to the Hero pump station was also shown. In the 1987 aerial photograph, development had increased again, and dry docks were visible along the Harvey Canal at the site of Barnett Marine, Inc., indicating shipyard operations.

The 1995 topographic map showed the entire industrial area along Harvey Canal and the Gulf Intracoastal Waterway as developed, and an industrial waste pond was present about 1 mile southwest of the subject property. The 1996 aerial photograph confirmed the development shown in the 1995 topographic map.

The 1998 aerial photograph showed the subject property and the pump station in essentially its current configuration, and all adjacent properties were developed. The 2004 and 2005 aerial photographs indicated little change from 1998.

Based on the review of historical topographic maps and aerial photographs, it is evident that the Hero Pump Station was the first development in the area, and there would be no reason to suspect any environmental risk conditions on the subject property from prior owners.

3.2 CURRENT USE

Environmental Setting

The subject property is located at 4644 Peters Road in Harvey, Louisiana on Bayou Barataria at its connection with the Harvey Canal. The entire property appears to be disturbed, and the ground cover consists of maintained turf grass and shell/gravel surfaces. All of the adjacent waterways (canals) appear manmade. The developed areas surrounding the subject property all appear to be disturbed, with no natural vegetation remaining. A manmade levee consisting of an earthen levee with concrete top walls separates the subject property from the Harvey Canal to the west.

According to the current topographic map, the elevation of the subject property is less than 5 feet above mean sea level, and the soil component within the subject property is the Barbary Muck, as indicated on the NRCS soil map for the area. This soil consists of poorly-drained mud that has low infiltration rates and is generally saturated to the soil surface in wetlands (NRCS 2007). The subject property has been extensively filled with other soil and materials, so the

indicated soil component is no longer valid. The topography of the subject property generally slopes toward the northeast, but is relatively flat. Because no *recognized environmental conditions* were identified on or adjacent to the subject property, and the subsurface of the subject property has been extensively modified by excavation and fill, an analysis of the geology and hydrology of the site is not warranted.

3.3 HAZARDOUS MATERIALS/WASTES

Hazardous materials observed on the subject property included waste oil and fluids in an outside storage tank and 5-gallon buckets of used oil, lubricants, paint and thinners stored under cover in containers and in the main pump building. Several indications of small ongoing petroleum product spills were noted around the generator station. None of the observed spills seemed to indicate a great business environmental risk, but they appeared to be larger than *de minimis* in size. The stack of used tires observed on the property does not constitute a business environmental risk, but disposal should follow state guidelines for used tires.

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3.4 SOLID WASTE

Solid waste was observed on the subject property in the form of old metal parts, electric motors and equipment and used oil drums. None of the solid waste observed constituted a business environmental risk to the property.

3.5 OTHER ENVIRONMENTAL CONCERNS

According to the EDR report and from the search of Federal and state databases no environmental concerns for the following substances were within the appropriate search radii of the subject property:

- Oil/Water Separators
- Medical Biohazard Waste
- Ordnance
- Radioactive Wastes/Radon
- Wastewater Treatment, Collection, and Discharge
- Asbestos

- Transformers/Polychlorinated Biphenyls (PCBs)
- Lead-based Paint

Transformers with unknown PCB content were observed in a fenced and locked enclosure on the property. They appeared to be in good working condition with no visible leaks. A septic tank and drain field was observed on the property, but it appeared to be functioning properly. Sumps are present in the pump building around the motors and pumps, and abundant trash and some oil sheen was observed in the water near the pump intake pipes.

4.0 FINDINGS FOR ADJACENT PROPERTIES

4.1 LAND USES

GSRC inspected adjacent areas to the subject property with efforts concentrated on observing existing *recognized environmental conditions* with the potential to affect the subject property.

Adjacent property to the north is currently used as a barge repair and refinishing facility. Hazardous materials in the form of sandblasted paint and new paint materials are likely to be present on that site. Adjacent property to the south and east is developed along Concord Road with numerous small industrial buildings. All of the industrial sites along Concord Road are located across Bayou Barataria from the subject property, so any contamination of soils or groundwater would not likely affect the subject property due to the high water table and the intervening waterway. The entire area around the subject property would be classified as heavy industrial use. No *recognized environmental conditions* were observed on any adjacent properties that would pose a business environmental risk to the subject property.

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5.0 APPLICABLE REGULATORY COMPLIANCE ISSUES

5.1 LIST OF COMPLIANCE ISSUES AND CORRECTIVE ACTIONS

According to the EDR report (Volume II, Section F) and information gathered from Internet searches, there are no outstanding violations or compliance issues regarding facilities/sites within the search radius surrounding the subject property that would constitute a business environmental risk to the subject property.

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6.0 OPINIONS & CONCLUSIONS

We have performed a Phase I *Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E1527-05 of the subject property. Any exceptions to, or deletions from, this practice are described in Section 7 of this report. This assessment revealed evidence of minor *recognized environmental conditions* in connection with the subject property in the form of continuing oil contamination of soils around the generator station on the property. The spills observed, while greater than *de minimis*, do not pose a significant business environmental risk to the subject property, and could be remediated with minor effort. The EDR report and searches from Federal and state databases yielded no information regarding other environmental conditions on or within the vicinity of the subject property. In addition, none of the orphan sites/facilities listed in the EDR report are located within an appropriate search distance from the subject property to constitute a business environmental risk.

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7.0 DEVIATIONS

No search was made for land use limitations or environmental liens at the request of the User; however, review of historical maps and other data confirmed single ownership of the subject property since at least 1914, so no prior environmental risk could have been present prior to current ownership. No other deletions or deviations from ASTM Practice E 1527-05 were noted.

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8.0 RECOMMENDATIONS

GSRC recommends that the empty oil drums stored under cover on the property be disposed of in accordance with state and Federal regulations. The observed oil spills around the generator station should be mitigated by removing and disposing of contaminated soils and modifying the existing generator relief exhaust piping to collect future oil mist discharged from the motors. No *recognized environmental conditions* were indicated on the subject property that would require further environmental studies or assessments.

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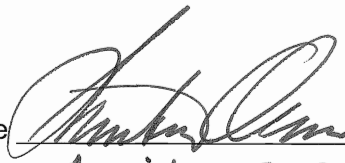
9.0 CERTIFICATIONS

The opinions and conclusions set forth in this report, either expressed or implied, are based solely upon the work and information described herein. No soil, water, or air sampling and analysis were conducted for the subject property; therefore, no statement can be made as to their actual quality. Comments regarding the site reconnaissance and records research results are limited strictly to field observations and the actual records that were reviewed by GSRC. Any opinions concerning the likelihood that the subject property contains toxic or hazardous waste materials are intended solely as a probabilistic evaluation based upon such information. No warranty or guarantee is made or intended. Should any higher level of confidence be desired, physical sampling and laboratory analysis (Phase II of an ESA) would be necessary.

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all of the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Stephen Oivanki
Project Manager
GSRC

Signature 
Date April 23, 2007

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10.0 REFERENCES

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Environmental Protection Agency (EPA). 2007. Enforcement and Compliance History Online: http://www.epa.gov/echo/> ,and Envirofacts Data Warehouse: http://www.epa.gov/enviro/index_java.html

Louisiana Department of Environmental Quality (LDEQ). 2007. Enforcement Actions. October 2003 to March 2006. http://www.deq.louisiana.gov/portal/tabid/225/Default.aspx

Natural Resource Conservation Service (NRCS) Web Soil Survey 2007, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Army Corps of Engineers, New Orleans Division (USACE) 1968 aerial photograph

USACE 1987, aerial photograph

USACE 1990, aerial photograph

U.S. Geological Survey (USGS) 1891, New Orleans, Louisiana 15-minute Quadrangle

USGS 1932, New Orleans, Louisiana 15-minute Quadrangle

USGS 1938, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1947, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1950, New Orleans, Louisiana 15-minute Quadrangle

USGS 1951, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1954, New Orleans, Louisiana 15-minute Quadrangle

USGS 1966, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1967, New Orleans, Louisiana 15-minute Quadrangle

USGS 1995, Bertrandville, Louisiana 7.5-minute Quadrangle

USGS 1998, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2004, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2005, DOQQ Aerial Photograph, 7.5 minute Quadrangle

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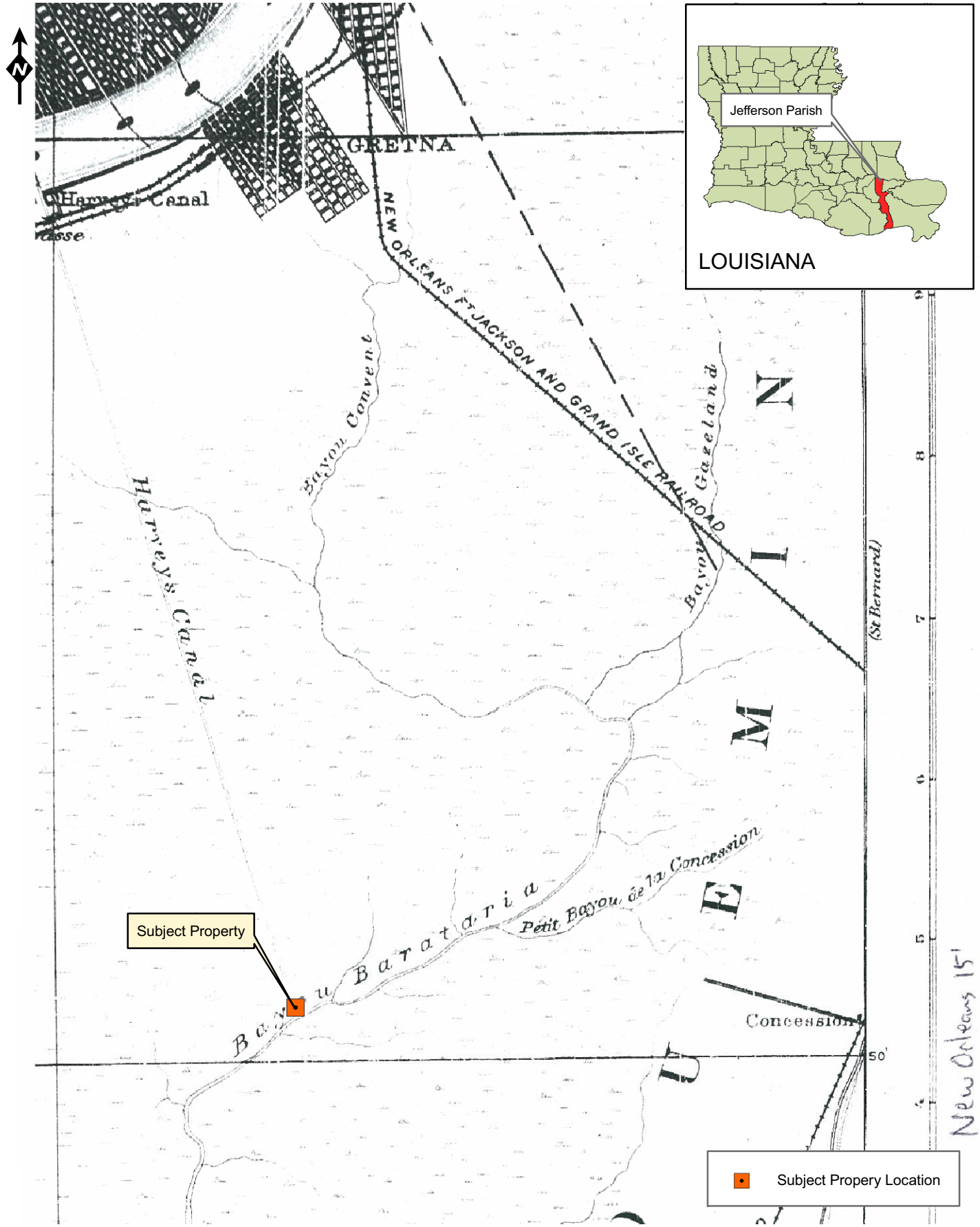
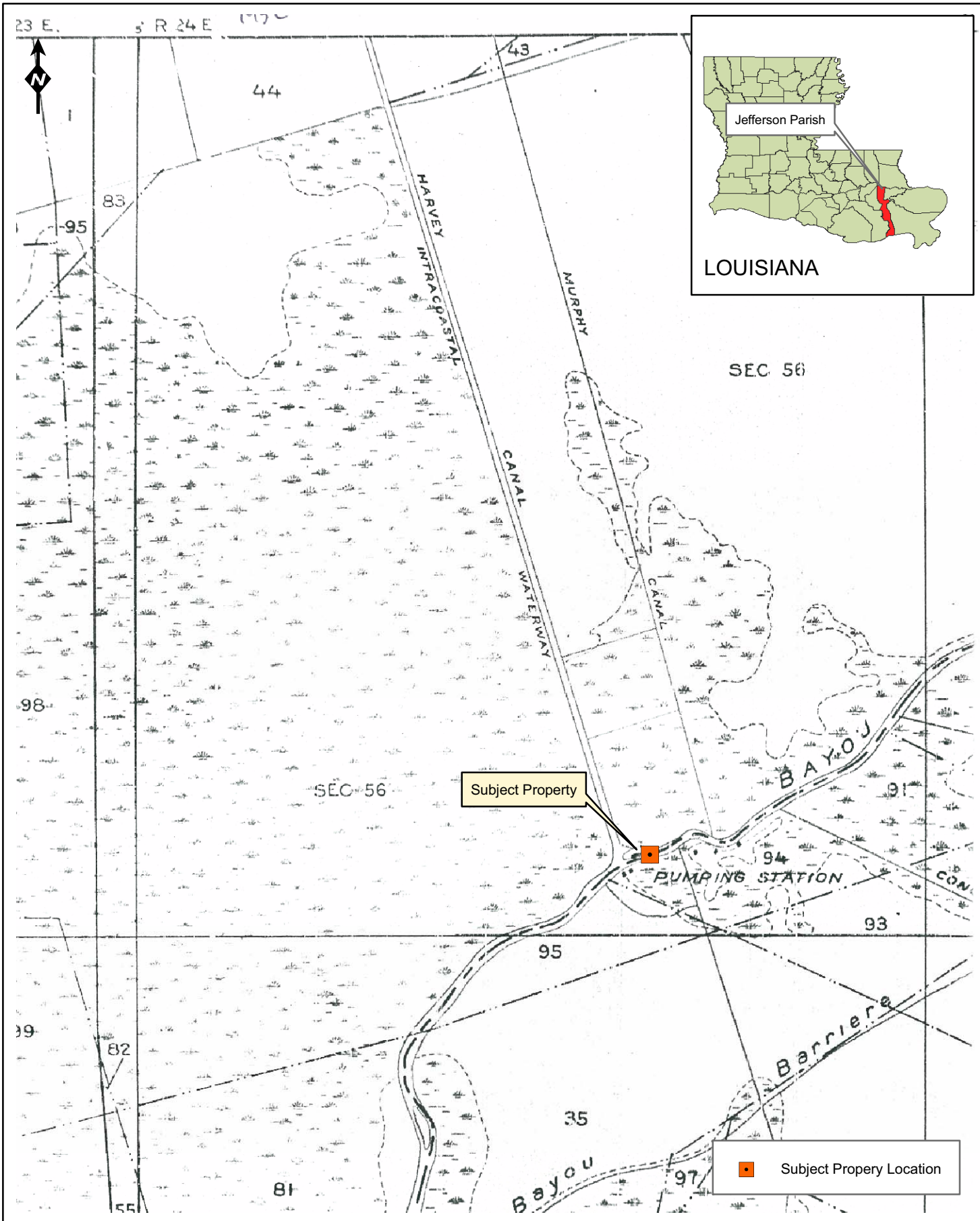
APPENDIX A
HISTORICAL TOPOGRAPHICAL MAPS AND AERIAL PHOTOGRAPHS



Hero Pump Station
1891 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

March 2007



Hero Pump Station
1932 New Orleans, LA 15 minute USGS Topographic Quadrangle

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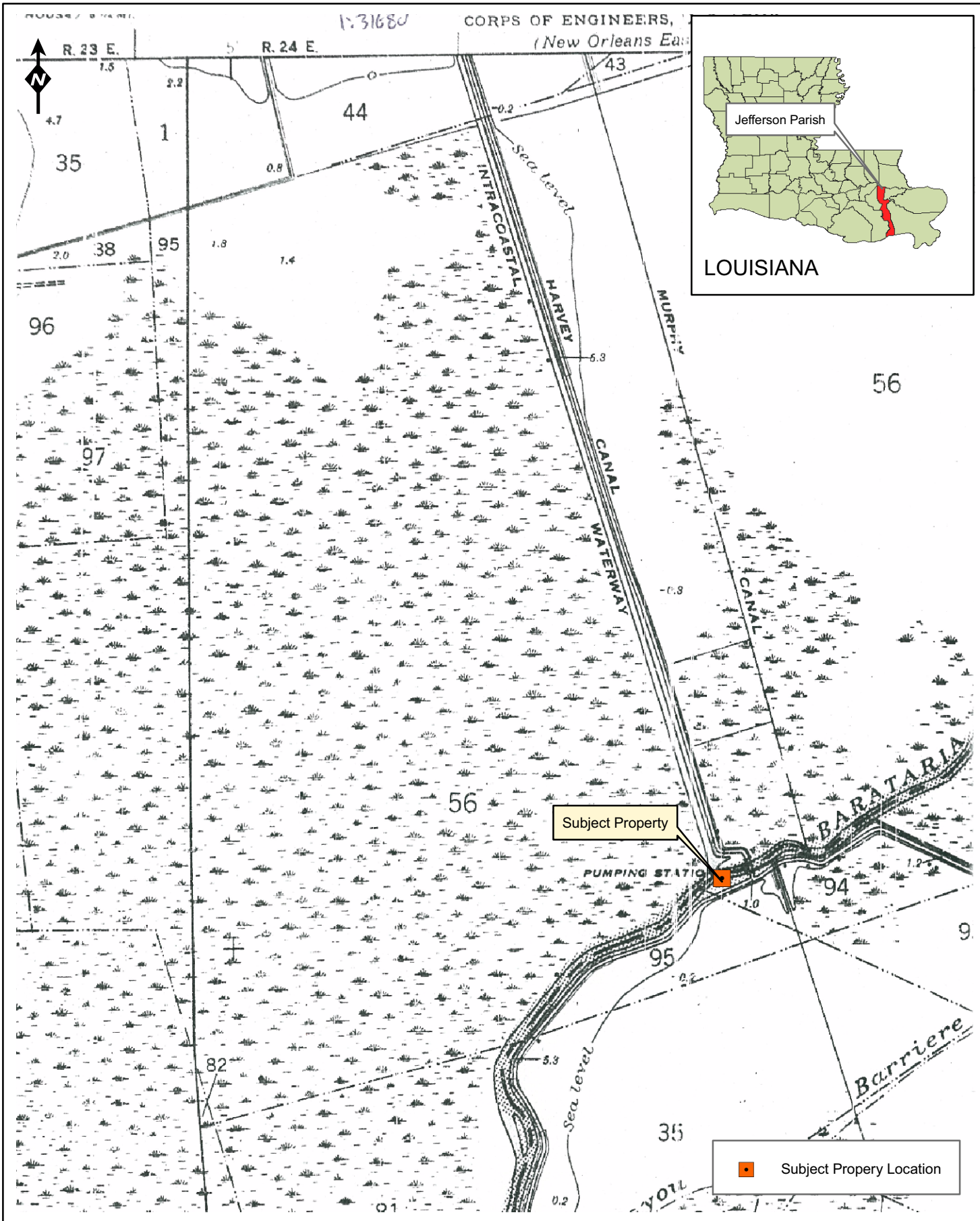

Hero Pump Station
1938 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

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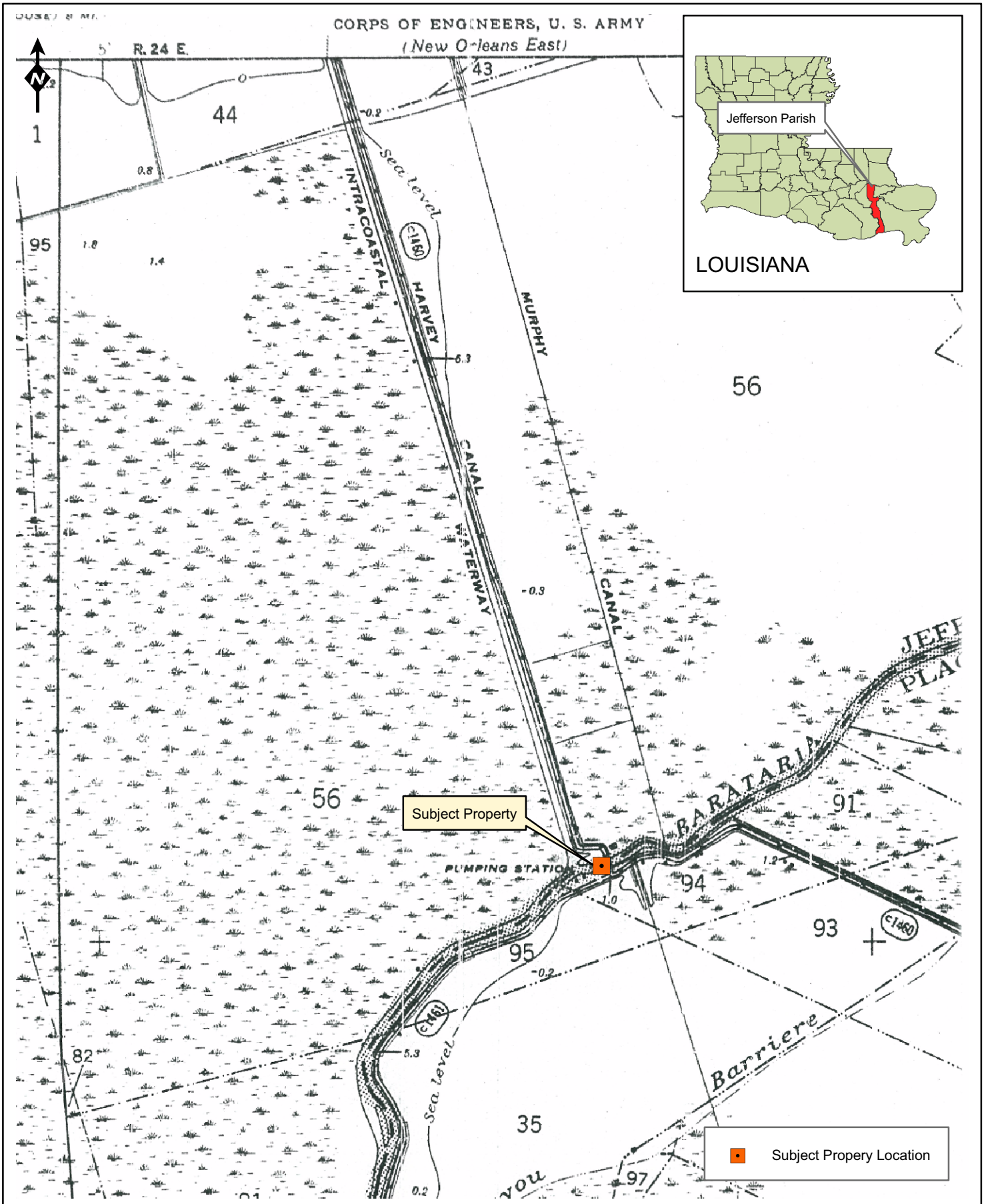

Hero Pump Station
1947 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

GSRC

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Hero Pump Station
1948 Aerial Photography

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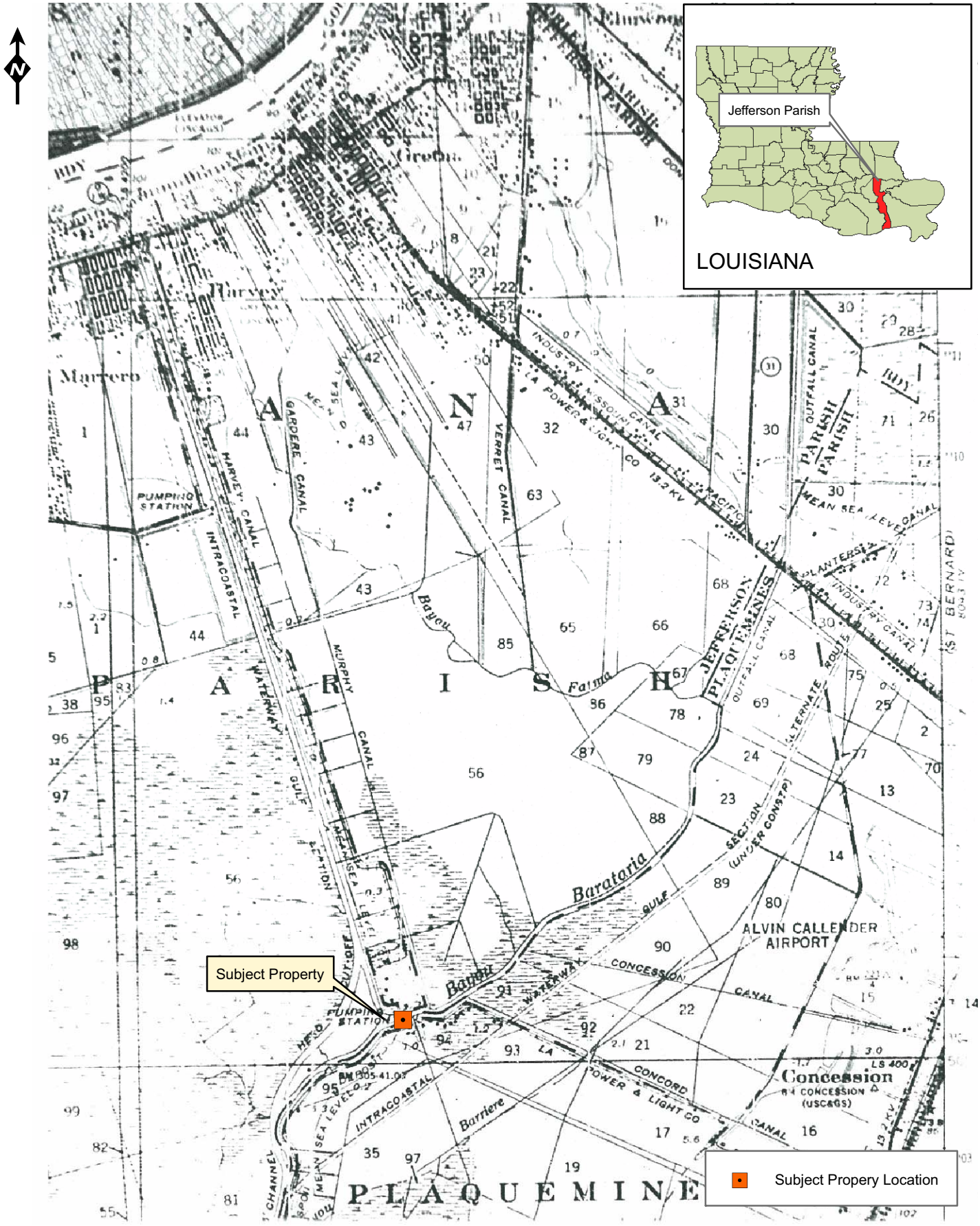
March 2007



Hero Pump Station
1950 New Orleans, LA 15 minute USGS Topographic Quadrangle

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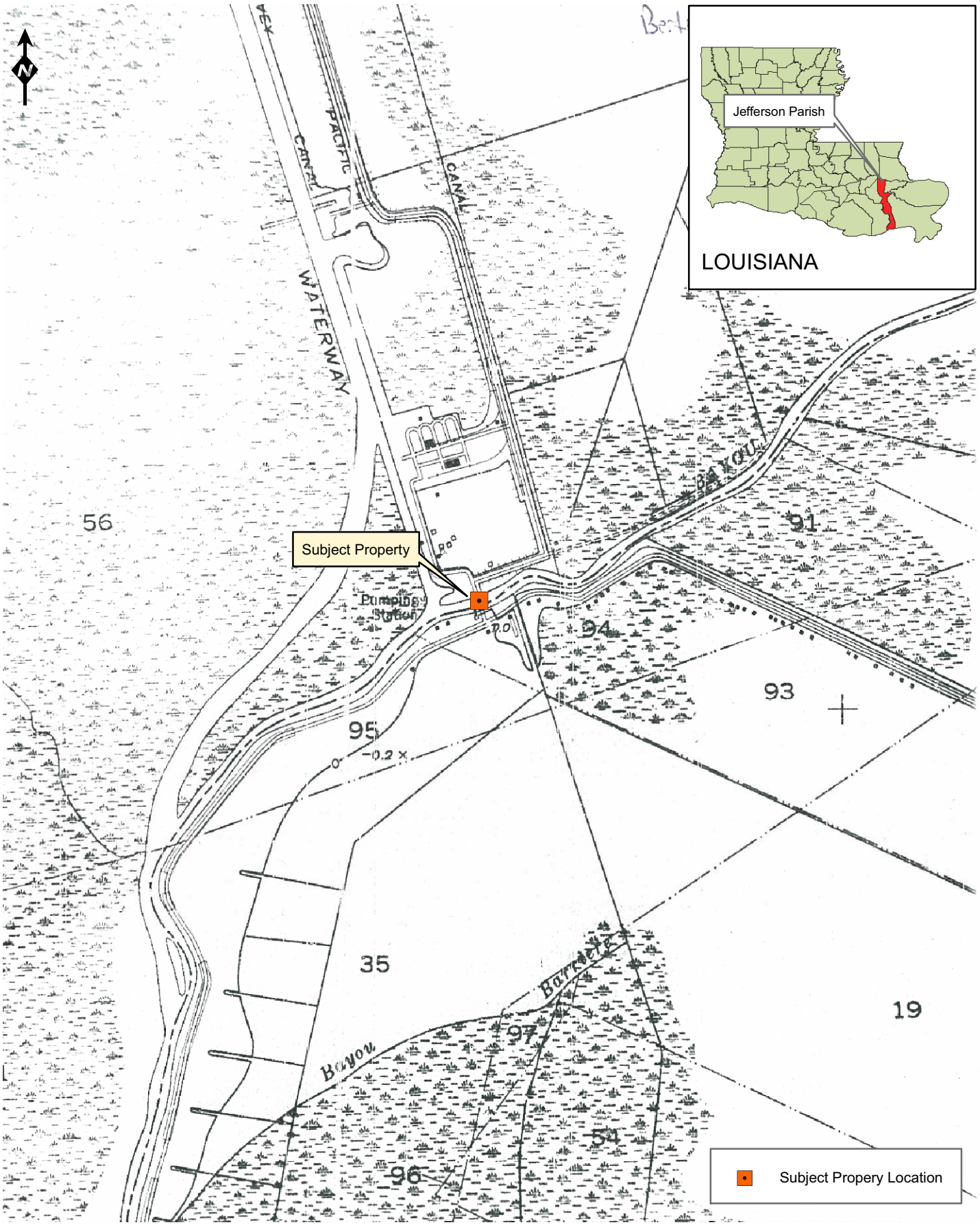

Hero Pump Station
1951 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

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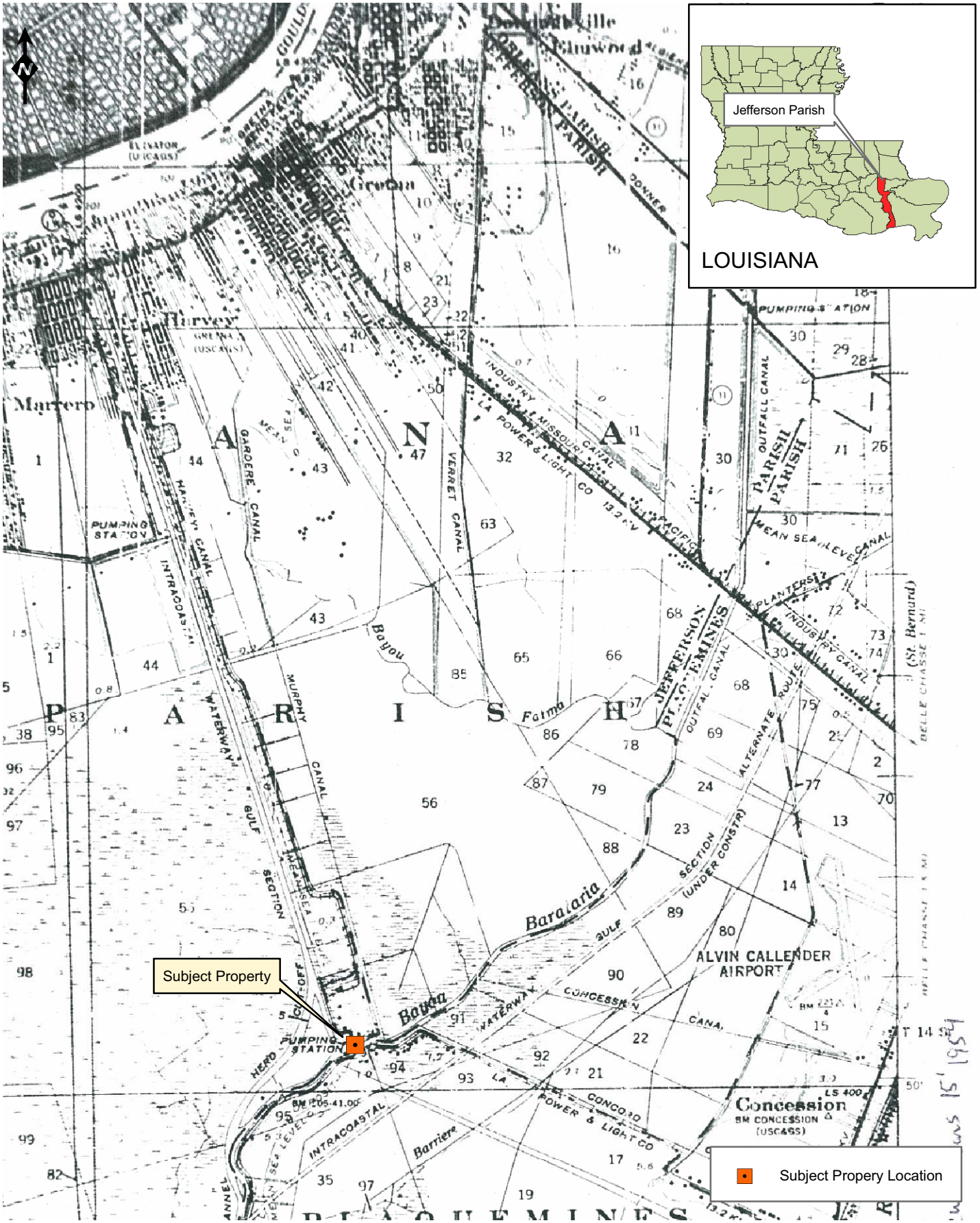

Hero Pump Station
1954 New Orleans, LA 15 minute USGS Topographic Quadrangle

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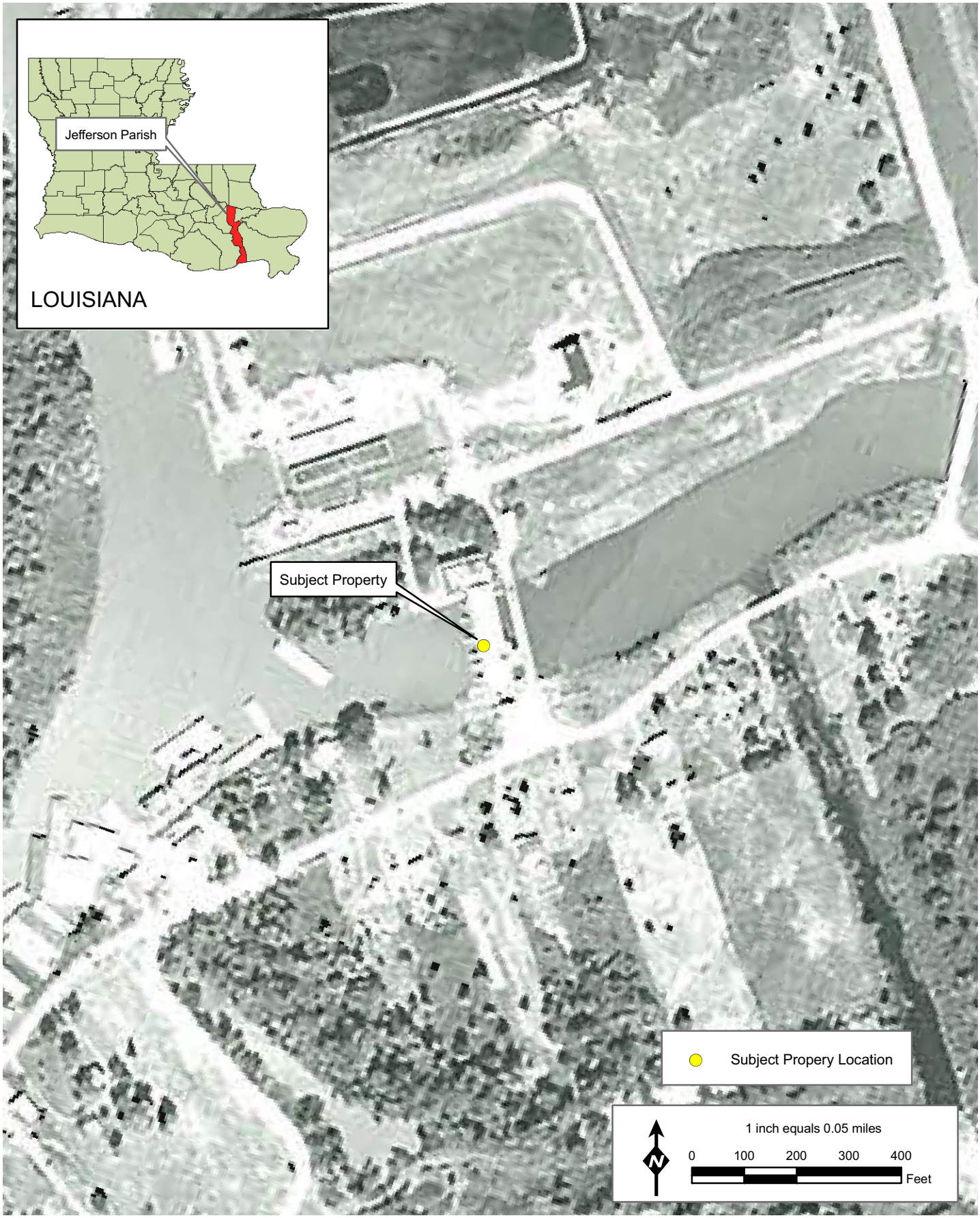

Hero Pump Station
1960 Aerial Photography

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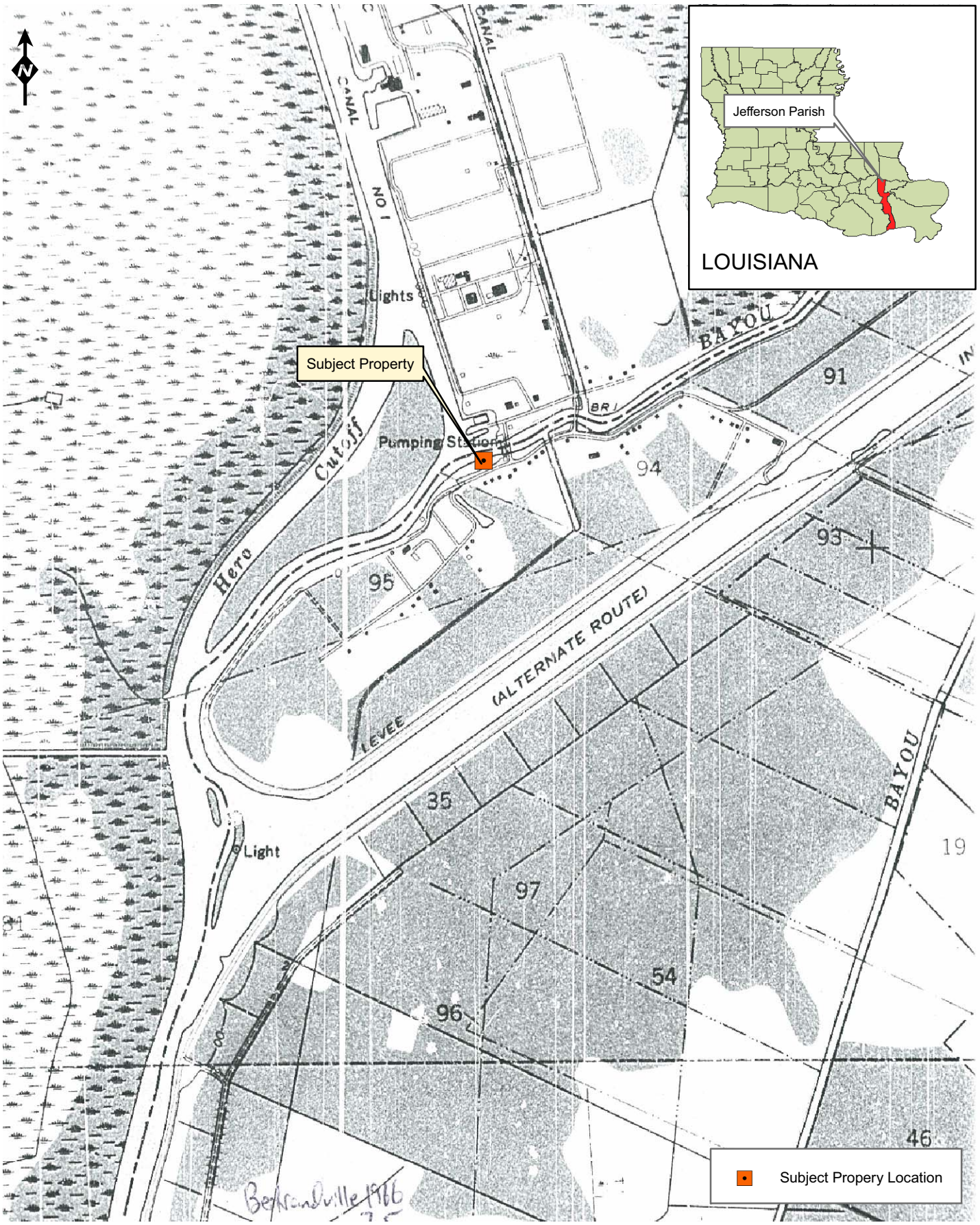

Hero Pump Station
1966 Bertrandville, LA 7.5 minute USGS Topographic Quadrangle

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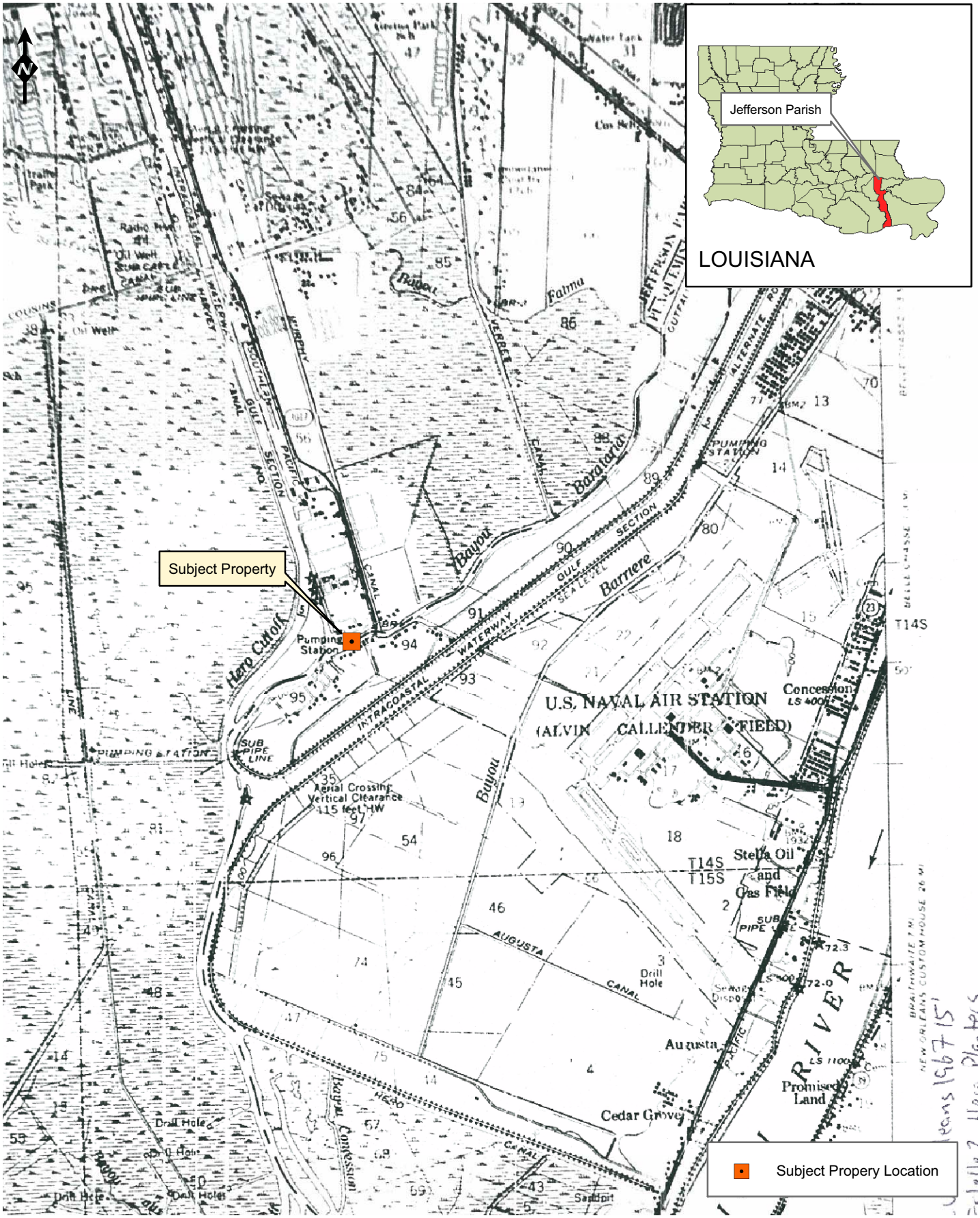

Hero Pump Station
1967 New Orleans, LA 15 minute USGS Topographic Quadrangle

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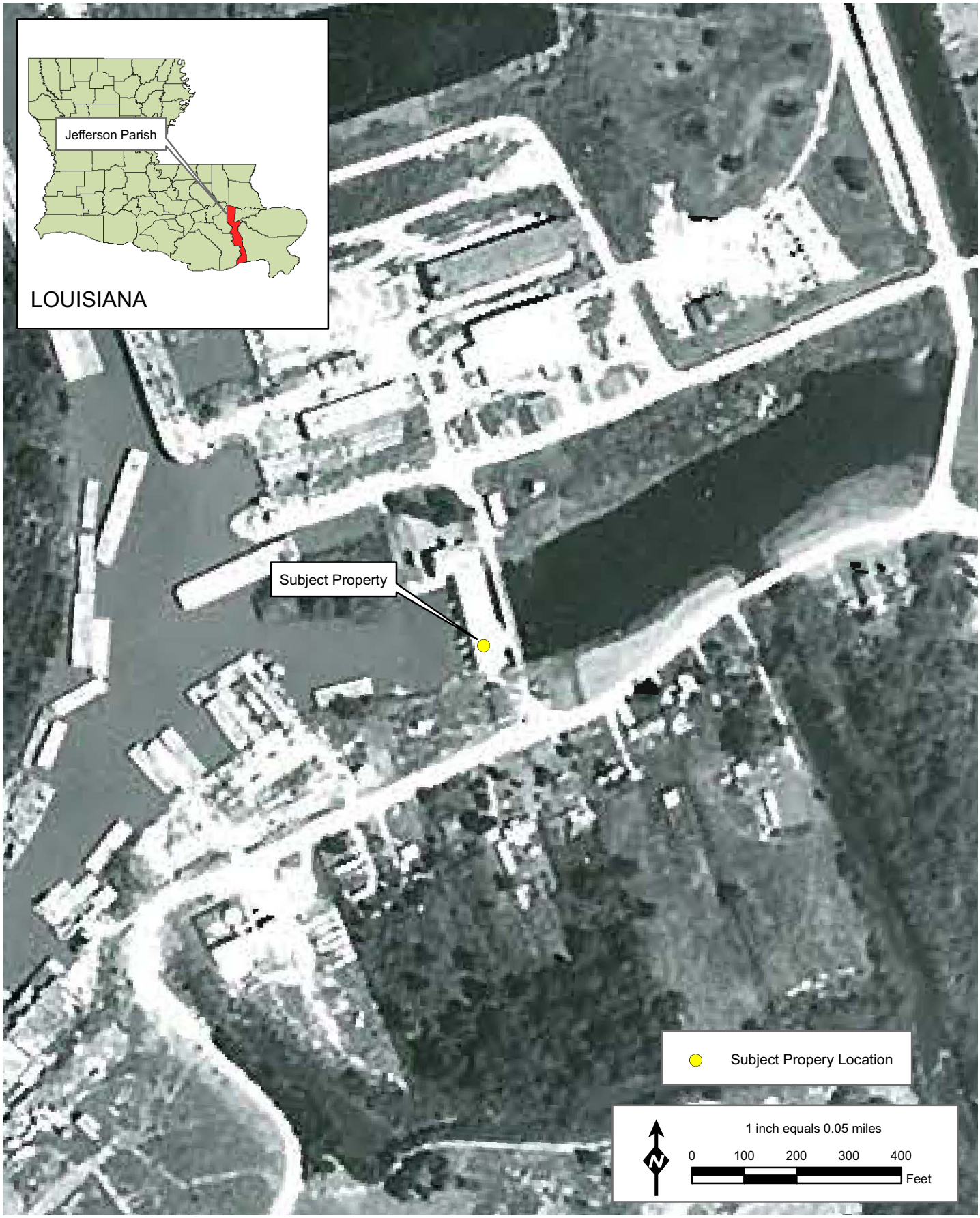
March 2007



Hero Pump Station
1970 Aerial Photography

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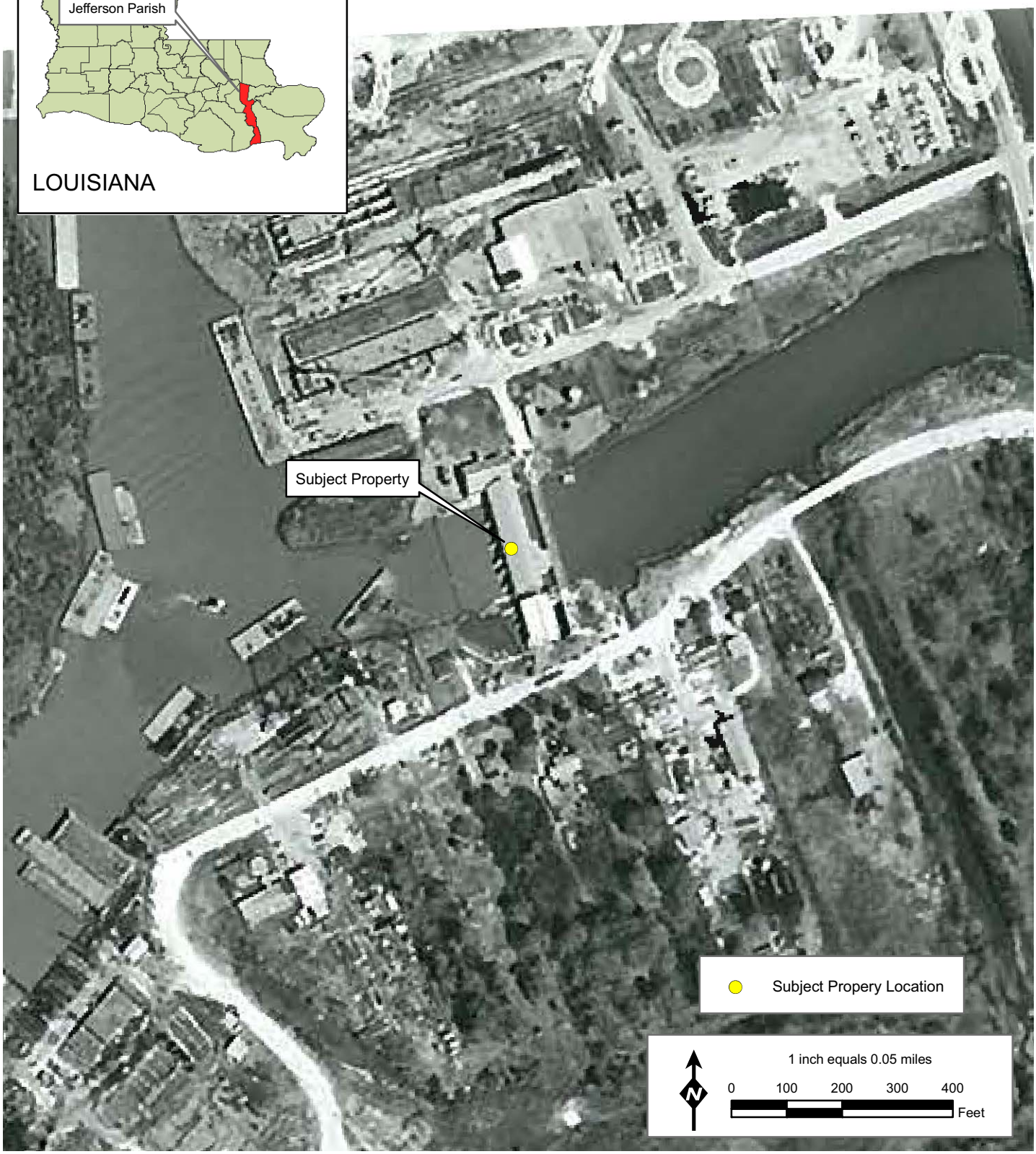

Hero Pump Station
1977 Aerial Photography

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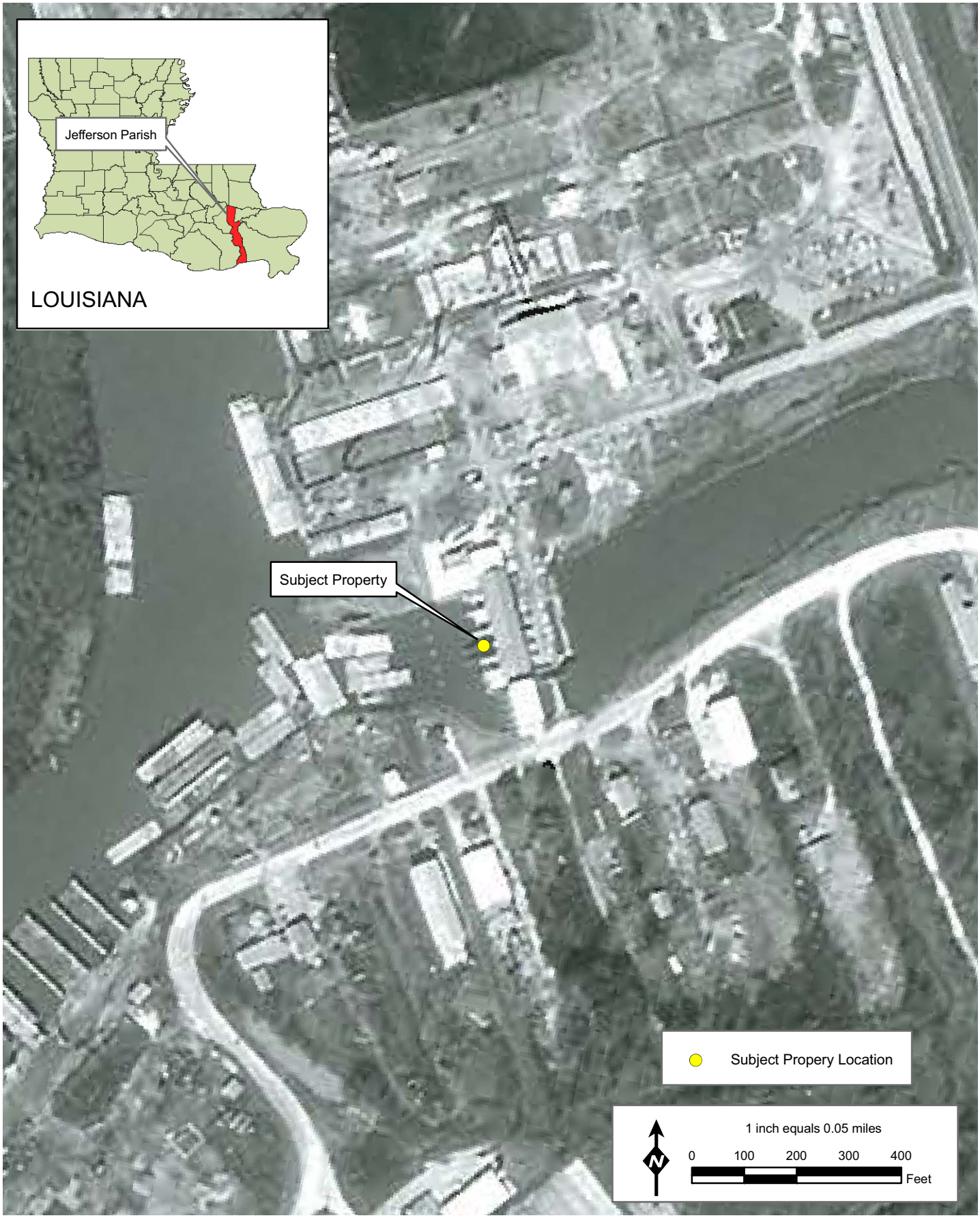

Hero Pump Station
1987 Aerial Photography

GSRC

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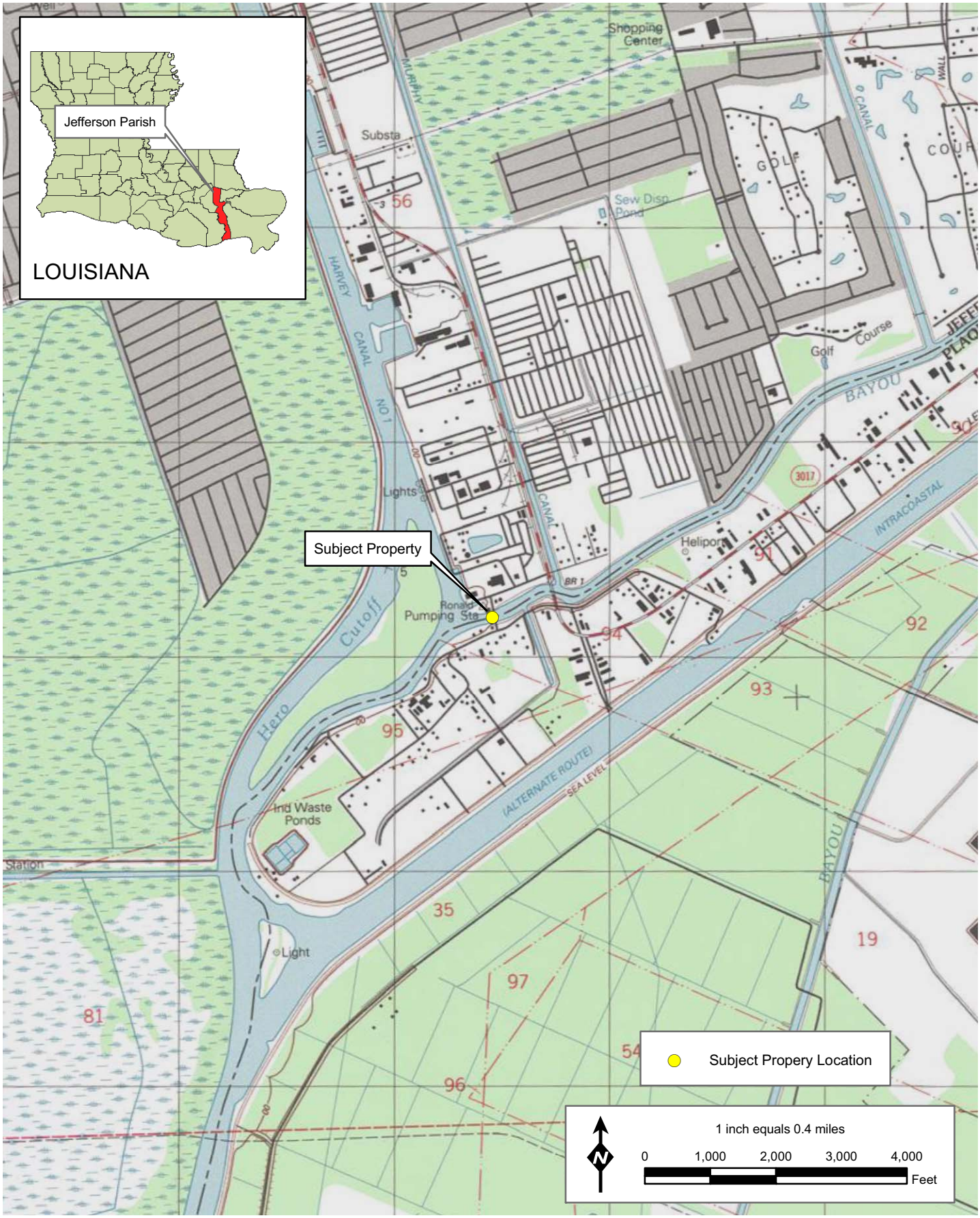


Hero Pump Station
1995 Bertrandville, LA USGS Topographic Quadrangle

GSRC

March 2007

Hero Pump Station
1996 Aerial Photography

GSRC

March 2007

Hero Pump Station
1998 Bertrandville, LA USGS DOQQ

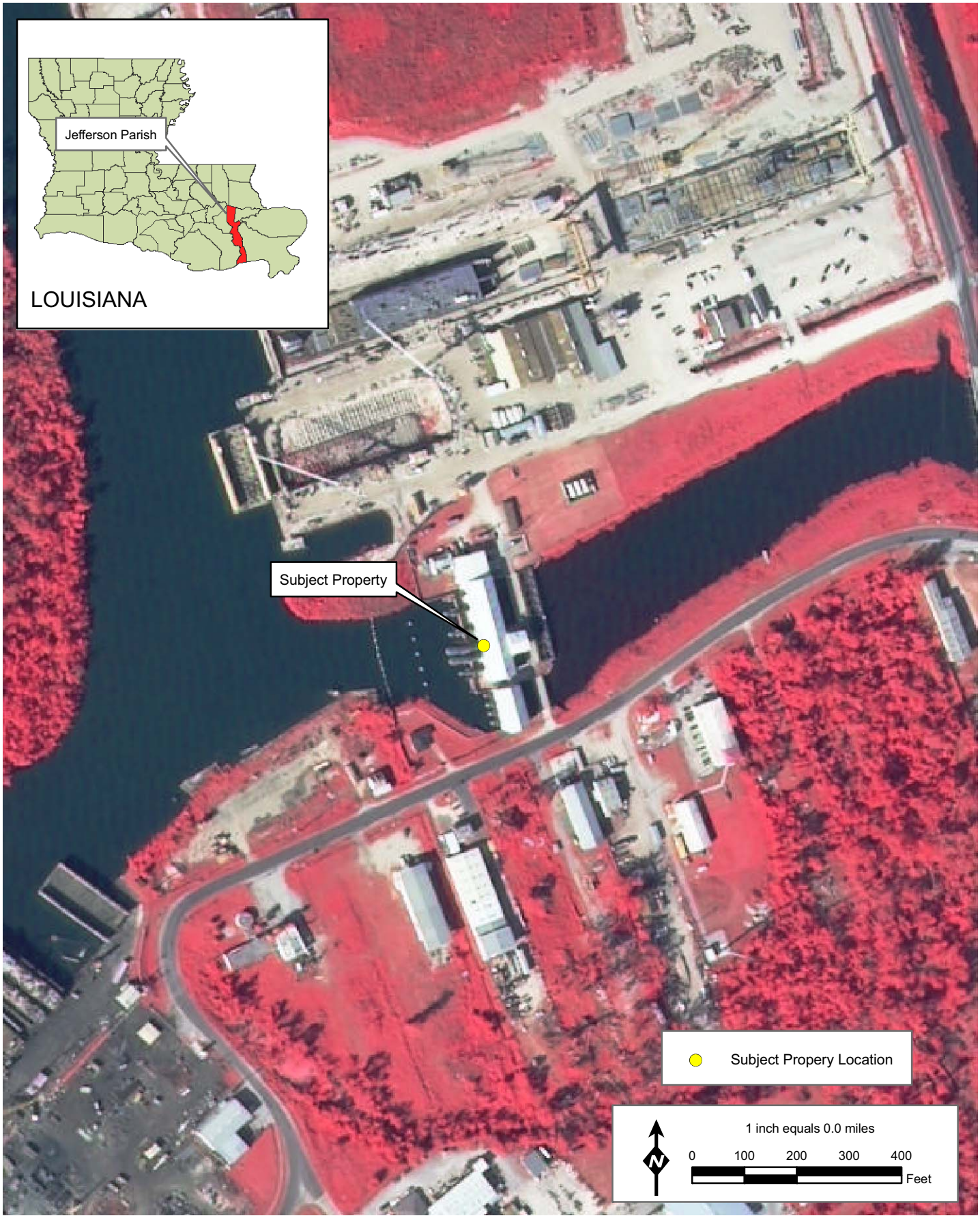
GSRC

March 2007

Hero Pump Station
2004 Bertrandville, LA USGS DOQQ

GSRC

March 2007



Hero Pump Station
2005 Bertrandville, LA USGS DOQQ

GSRC

March 2007

APPENDIX B
SITE PHOTOGRAPHS

SITE PHOTOGRAPHS

Photograph 1. Oil and paint containers stored inside pump station

Photograph 2. Oil containers stored inside pump station

Photograph 3. Interior view of pump station, view to the south

Photograph 4. Day tank diesel storage and intake sump of pump station

Photograph 5. Transformer station adjacent to pump station

Photograph 6. Maintenance shed with mowers and gasoline storage

Photograph 7. Maintenance shed with empty oil drums


Photograph 8. Waste oil tank adjacent to maintenance shed

Photograph 9. Diesel fuel storage tanks with spill containment basin

Photograph 10. Storage box and crane on subject property

Photograph 11. Paint containers inside storage box on subject property

Photograph 12. Oil stained gravel adjacent to generator station

Photograph 13. Oil stained soil adjacent to generator station

Photograph 14. Old tires on subject property

Photograph 15. Diesel truck tank adjacent to pump station building

Photograph 16. Discharge basin west of pump station, view to the west

Photograph 17. Discharge basin west of pump station, view to the south

Photograph 18. Adjacent property south of pump station

Photograph 19. Adjacent property southwest of pump station

Photograph 20. Abandoned fuel tanks on property southwest of pump station

Photograph 21. Shipyard on property southwest of pump station

APPENDIX C
LIST OF PREPARERS

The following people were primarily responsible for preparing this report.

Name	Discipline/Expertise	Experience	Role In Preparing Report
Stephen Oivanki	Geologist Environmental Assessment	20 years of environmental assessment and remediation experience	Project manager, ESA preparation, field survey
Greg Lacy	Environmental Studies	10 years of environmental, natural resource, ESA, and NEPA studies	Field Survey
Denise Rousseau Ford	Environmental Engineering	15 years of environmental studies experience	Field Survey
Maria Reid	Forestry and Environmental Studies	5 years of environmental assessment and NEPA experience	Field Survey
Sharon Newman	GIS/Graphics	5 years GIS analysis	GIS and Graphics
David Alford	GIS/Graphics	4 years GIS/graphics experience	GIS and Graphics
Eric Webb, Ph.D.	Ecology/Wetlands	15 years NEPA and natural resources related studies	QA/QC

APPENDIX D
PERSONNEL QUALIFICATIONS

STEPHEN M. OIVANKI, P.G.
Qualified Environmental Professional (ASTM E1527-05)
Statement of Qualifications

Education: B.S. – Geology – Louisiana State University
M.S. – Geology – Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder, current refresher
USACE 1997 Wetland Delineation Manual – 40-hour course
Mold Assessment and Remediation in Buildings – Training Course

Registrations: Registered Professional Geologist #412 – State of Mississippi

Experience: **Self-employed Consulting Geologist – 10 years**
Oil and gas exploration, subsurface site investigations, mining exploration, engineering geology

Mississippi Department of Environmental Quality – 9 years
Subsurface geology, subsurface site investigations, coastal geology and geomorphology

Mississippi Department of Marine Resources – 3 years
Coastal Zone Manager, supervision of environmental staff, oversight and review of Coastal Zone permits and environmental regulations

Compton Engineering, Inc. – 5.5 years
Phase I Environmental Site Assessments – 40
Phase II Environmental Site Assessments – 12
Emergency Response Action Contractor – Miss. LUST Trust Fund
LUST investigations and remediation – 5
Contaminated site investigations and remediation – 7
Wetland delineations – 50
Mold assessments and remediation supervision – 10
Spill Prevention Control and Countermeasure (SPCC) plans – 12
Rubbish and Subtitle D Landfill permits – 5
Storm Water Pollution Prevention Plans - 20

Gulf South Research Corporation – 6 months
Phase I Environmental Site Assessments - 13

GREGORY B. LACY
Qualified Environmental Professional (ASTM E1527-05)
Statement of Qualifications

Education: B.S.-Biology-Georgia Southwestern State University
M.S.-Biology-Georgia College and State University

Training: HAZWOPER-40-hour hazardous waste responder, current refresher.
HAZWOPER-8-hour Training for Supervisors
EPA Watershed Management - Training Certificate
Lead Supervisor - Training Course

Experience: **DDL Omni Engineering - 5 years**
Petroleum, oil, lubricant remediation, Chemical and biological decontaminations, Spill response, Hazardous waste management, Waste minimization.

Gulf South Research Corporation - 2 years
Phase I Environmental Site Assessments - 15

DENISE ROUSSEAU FORD
Qualified Environmental Professional
Statement of Qualifications

Education: M.S., Civil and Environmental Engineering, Louisiana State University
B.S., Geology, Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder

Professional Organizations: Louisiana Brownfields Association (LBA) charter and founding member, 2006-2007 acting Executive Director

Experience: **Gulf South Research Corporation – 3 months**
Performs NEPA EA investigations and Phase I ESAs

Louisiana State University – 11 years
Preformed numerous technical reviews of Phase I and Phase II environmental site assessments, and cleanup action plans for non-profit organizations and municipalities involved in Brownfields transactions.

Performed technical reviews of various Superfund documents (including PAs, PA/SIs, RI/FSs and others) at sites in Corpus Christi, TX; Lake Charles, LA; Alsen, LA and other sites throughout EPA Region 6.

GDC Engineering – 3 years
Worked as an environmental geologist and project manger in the field of hazardous waste remediation. Specific projects included groundwater investigations at Deltech, in Baton Rouge, LA and DOW Chemical in Plaquemine, LA.

MARIA BERNARD REID
Environmental Professional
Statement of Qualifications

Education: B.S. – Forest Management – Louisiana State University
M.S. – Agricultural Economics and Agribusiness, Natural Resources Policy and Environmental Management and Planning – Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder, current refresher
USFWS Endangered Species Act Section 7: Interagency Consultation Training – 40-hour course
Wetland Delineator Training – 40-hour course

Experience:

Soil and Water Conservation District: Washington County, Arkansas – 2 years
Beaver Lake/White River Water Quality Technician – Prepared nutrient management plans for area ranchers, and planned and implemented Best Management Practices for nutrient management and water quality and soil erosion protection.

Gulf Engineers and Consultants: Baton Rouge, Louisiana – 1.5 years
Environmental Scientist – Conducted wetland delineations and threatened and endangered species surveys and prepared NEPA documents.

Gulf South Research Corporation – 3 years
Natural Resources - Conducted wetland delineations, threatened and endangered species surveys, and environmental site assessments, and prepared NEPA documents.

APPENDIX E
CONTACT REPORTS

Phone Log/Contact Report

Project No.:	80600105s	Date: 3-8-07	Time: 2:00 pm
Project Name:	Jefferson Parish PS Stormproofing		
Employee:	Steve Oivanki	Person Contacted:	Anthony Taylor
Organization:	Jefferson Parish Dept. Public Works	Telephone No.:	Personal contact
Reason for Call/Topics Discussed:	Conditions at the Hero Pump Station		
Copies to:	file		

Comments: Mr. Anthony Taylor, Operator II for the Hero Pump Station, was interviewed during the site visit to the station. Mr. Taylor has been an operator at the station for the past five years. He recalled that the station is probably the oldest in the parish, built around 1914. He stated that the wastewater on site is handled by a septic system, and potable water is supplied by the city/parish water system. Lubricating oil and other fluids are stored inside the station. Used oil is kept in a waste oil tank outside of the station for recycling by a licensed transporter. Hurricane Katrina did not flood the station. He did not know the PCB content of the transformers, which are owned and operated by the local utility. He knew of no environmental concerns at the station, and there had been no spills or other incidents since he has been employed there. He recalled an oil spill in the canal a long time ago. He noted that there is a SPCC plan on the site. He knew of no environmental concerns at the site. He stated that there are 4 diesel engine pumps and the rest are electric, supplied by the generator station onsite. The Connex containers contain lubricating oil and other fluids and paint and equipment.

Decisions/ Agreements Reached:

Action Items: Information added to report

FINAL

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Lake Cataouatche # 1 Pump Station
Jefferson Parish, Louisiana

April 2007

Submitted to:
U.S. Army Corps of Engineers, New Orleans District
Hurricane Protection Office
7400 Leake Avenue
New Orleans, LA 70118

Submitted by:
Gulf South Research Corporation
8081 GSRI Avenue
Baton Rouge, LA 70820

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PHASE I ENVIRONMENTAL SITE ASSESSMENT
Lake Cataouatche # 1 Pump Station
Jefferson Parish, Louisiana

EXECUTIVE SUMMARY

This Phase I Environmental Site Assessment (ESA) report was prepared to support the U.S. Army Corps of Engineers (USACE), New Orleans District (hereafter referred to as the User) construction of infrastructure and improvements to the Lake Cataouatche #1 Pump Station property (hereafter referred to as the subject property), owned by Jefferson Parish, Louisiana. The 4.8-acre parcel is located at the south end of the Avondale Main Canal at 3901 Highway 90, Avondale, Louisiana. The subject property is currently a developed site with an established drainage pump station, office trailers, storage facilities, and an equipment yard.

This report was prepared and the site reconnaissance was conducted according to the American Society for Testing and Materials (ASTM) guidelines (ASTM E1527-05), which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601) and petroleum products.

According to information gathered from document searches, interviews, and the site reconnaissance, Gulf South Research Corporation (GSRC) found several *recognized environmental conditions* related to operations of the pump station facility that may affect the subject property. While these conditions do not result in major impacts to the property, they are noted here for reference in relation to future activities and infrastructure that may be installed later.

SIGNIFICANT ASSUMPTIONS

No significant assumptions were made regarding this assessment.

LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

By contract agreement with the User, no title search or search of recorded property documents was conducted as part of this assessment.

USER RELIANCE

This report has been prepared by GSRC for the User. It is intended for the sole use by the User, and no other person or entity may use or rely on any such report for any purpose.

1.0 PURPOSE OF THE PHASE I ENVIRONMENTAL SITE ASSESSMENT

The purpose of this Phase I ESA is to identify, to the extent feasible pursuant to the processes described herein, *recognized environmental conditions* in connection with the subject property and to provide an opinion on: (1) indications that petroleum products or hazardous or toxic materials and/or waste exist, or have existed, on or adjacent to the subject property that could potentially have an adverse impact; (2) indications of possible contamination, based upon observable conditions and readily available and reviewed public records or information; (3) the possibility that violations of current environmental regulations have occurred, or are occurring, on the subject property; (4) the potential for spilled, leaked, or improperly handled hazardous substances or petroleum products to migrate to or from the subject property; and (5) the existence of unsafe or unhealthful conditions on the subject property.

1.1 BOUNDARIES OF THE PROPERTY AND SURVEY AREA

The subject property is located in Jefferson Parish (Figure 1) at 3901 Highway 90, Avondale, Louisiana at the south end of the Avondale Main Canal, as shown in Figures 2 and 3. A site plan was provided by the Jefferson Parish Department of Drainage. Global Positioning System (GPS) coordinates were taken in the field at the presumed property boundaries for comparison with the site plan and to geo-reference the site on historic maps and aerial photographs.

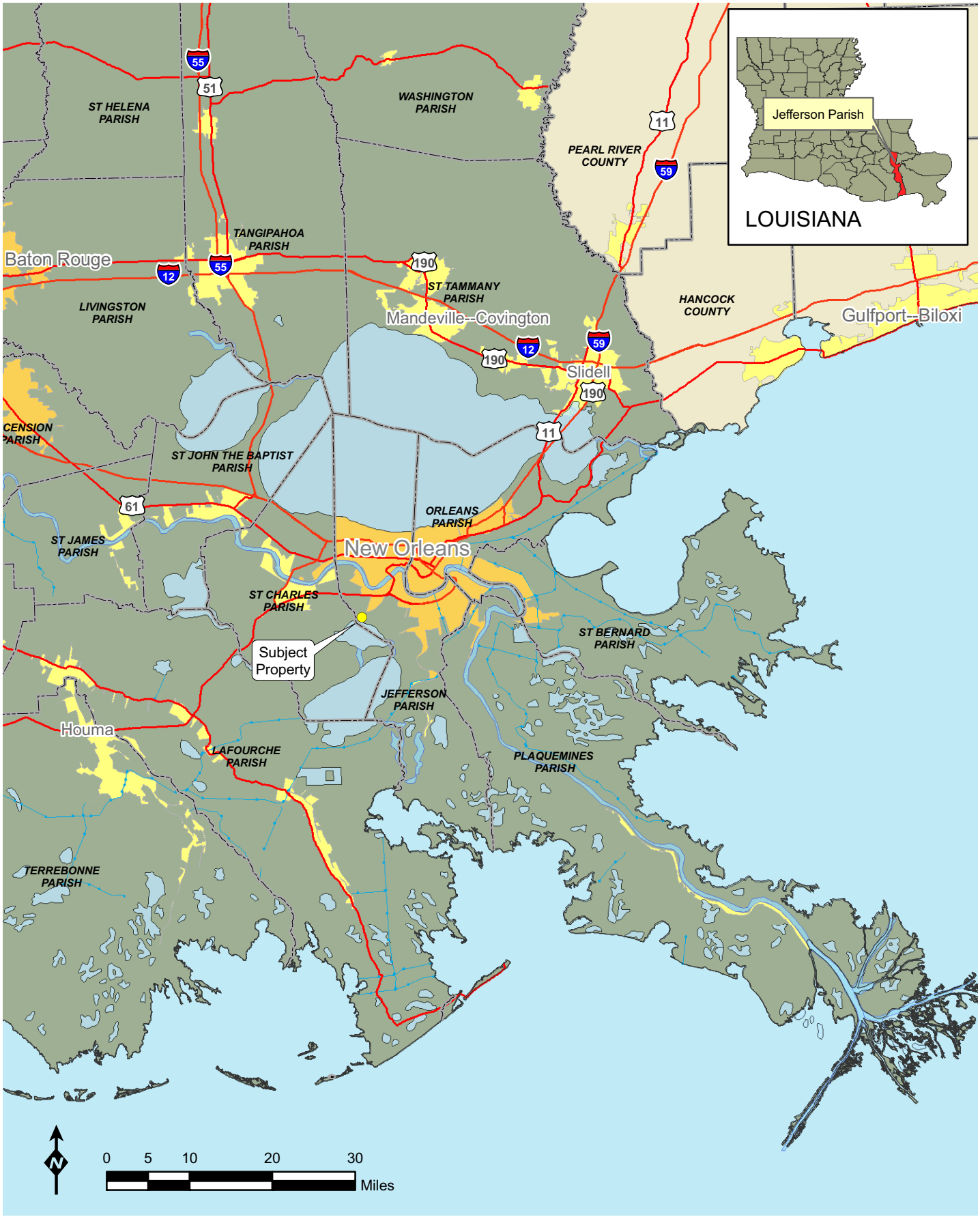

Figure 1: Vicinity Map

March 2007

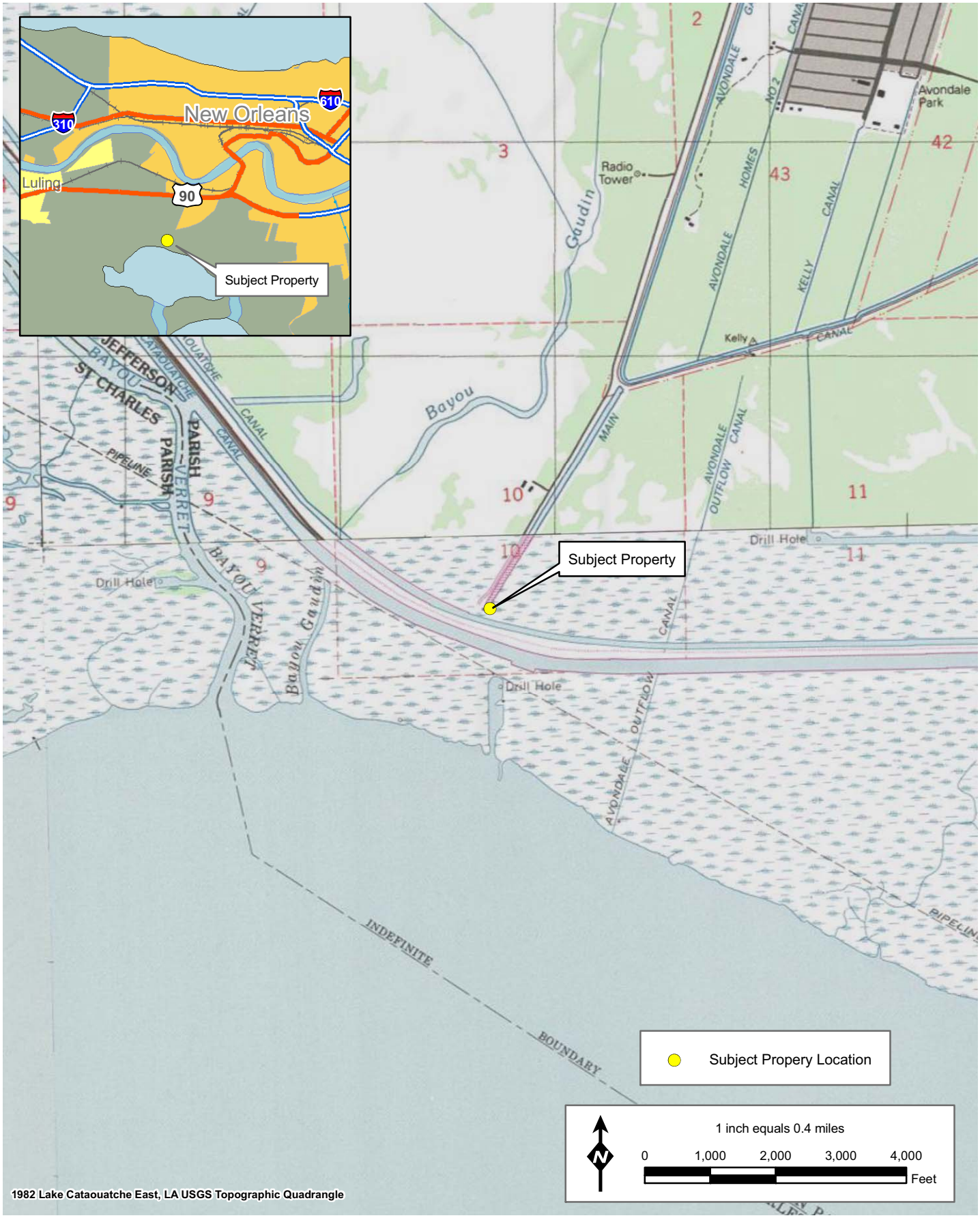

Figure 2: Lake Cataouatche #1 Pump Station Location

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March 2007

Figure 3: Lake Cataouatche #1 Pump Station Area

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March 2007

2.0 SURVEY METHODOLOGY

2.1 APPROACH AND RATIONALE

This report was produced in accordance with the following:

> "The ASTM guidelines (ASTM E1527-05) which define good commercial and customary practices in the U.S. for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the CERCLA (42 USC 9601) and petroleum products. This practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitations on CERCLA liability; that is, the practice that constitutes all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice."

GSRC's scope of services for this project included four major components: (1) Federal, state, and local environmental records review, including a review of historical and physical setting records; (2) a site reconnaissance to search for visible indications of impacts or potential impacts to the environment or human health and safety; (3) interviews with key site personnel and local government officials; and (4) the preparation of this report. Following ASTM guidelines, the review of individual component items is subject to the "reasonable ascertainability" of that item.

The conditions disclosed by this investigation have been separated into the following categories of environmental conditions:

- *Recognized environmental condition* – A recognized environmental condition is defined in ASTM Practice E1527-05 as "the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicated 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, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws."
- *Historical recognized environmental condition* – A historical recognized environmental condition is defined in ASTM Practice E1527-05 as an "environmental condition which in the past would have been considered a recognized environmental condition, but which may or may not be considered a recognized environmental condition currently. The final decision rests with the environmental professional and will be influenced by the current impact of the historical recognized environmental condition on the property. If a past release of any hazardous substances or petroleum products has occurred in connection with the property and has been remediated, with such remediation accepted by the

responsible regulatory agency (for example, as evidenced by the issuance of a no further action letter or equivalent), this condition shall be considered a historical recognized environmental condition."

- *De minimis condition* – A *de minimis condition* is defined in ASTM Practice E1527-05 as 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."

The subject property parcel was accessible by vehicle and by foot. The site reconnaissance consisted of a thorough walk-through of the subject property, and the objective of the site reconnaissance was to obtain information indicating the likelihood of identifying any *recognized environmental conditions* in connection with the subject property. The term is not intended to include *de minimis conditions*. Observations were mainly focused on the subject property and any structures located on the subject property to the extent not obstructed by bodies of water, adjacent buildings, or other obstacles.

2.2 USER PROVIDED INFORMATION

2.2.1 Title Records

No title records were provided by the User. Past ownership of the subject property was verified by interviews with the property owner's representative.

2.2.2 Environmental Liens or Activity and Use Limitations

No environmental liens or activity and use limitations were reported by the User. No environmental liens or activity and use limitations were reported by the subject property owner. Since there have been no prior owners of the property, the current owner's statement is considered conclusive.

2.2.3 Specialized Knowledge

Historical and current knowledge of the subject property was provided by interviews with the subject property owner's representative.

2.2.4 Valuation Reduction for Environmental Issues

No valuation reduction for environmental issues was reported by the User or the subject property owner. Since the subject property has been owned by the current owner since prior to

the first development of the property, and no sale of the property is pending, valuation reductions do not apply in this case.

2.3 LIMITATIONS AND EXCEPTIONS

The only limitation or exceptions made to the ASTM Practice E1527-05 was the lack of title records search or recorded document search for the subject property by contract agreement with the User. Interviews with the subject property owner and other historical data sources were used to verify the past ownership of the property and the presence of absence of use limitations on the property.

2.4 DESCRIPTION OF DOCUMENTS REVIEWED

Federal and State Environmental Databases

GSRC contracted Environmental Data Resources (EDR) to search Federal and state environmental databases that track activities associated with hazardous waste and incidents that have resulted in major environmental impairment. These databases are prepared and maintained by various Federal and state environmental agencies such as the U.S. Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ). The minimum appropriate search distance was 1 mile from the subject property's boundary. The EDR report showing all information pertaining to the database searches is presented in Volume II (G). A summary listing of the Federal and state databases searched can be found on pages 1, 2 and 3 of the Executive Summary in the EDR report in Volume II (G). Descriptions of the type and currency of data in those databases can be found on pages GR-1 through GR-14 of the EDR report.

GSRC conducted searches on the LDEQ website and EPA databases via the Internet such as Enforcement and Compliance History Online (ECHO) and Envirofacts Warehouse. No information regarding additional environmental concerns, other than those reported by EDR, within or in the vicinity of the subject property was found in the Federal or state databases (LDEQ 2007 and EPA 2007).

The EDR report indicates that there are no sites/facilities recorded from the database search within the search radii that may have or have generated, stored, treated, and/or disposed of solid or hazardous waste within or near the subject property.

EDR reported 17 sites/facilities that could not be accurately located and mapped (orphan sites) in the vicinity of the subject property. Ground reconnaissance revealed that none of the orphan sites are located within the minimum appropriate search radius of the subject property that would result in a business environmental risk to the subject property.

Sanborn Insurance Maps

No insurance map coverage was available for the subject property area.

City Directory Abstracts

Polk's City Directory indicated no addresses for the subject property, but numerous addresses for other businesses on Highway 90. None of the businesses on Highway 90 are located within a distance of the subject property to constitute a business environmental risk.

Historical Maps/Aerial Photographs

Historical topographic maps and aerial photographs provided by the User were used for this report, since they provided the most comprehensive coverage of the subject property. Historical quadrangle maps were available for years spanning 1891 to 1982. Historic aerial photographs were available from 1968 to 2005. These maps and photographs typically show any development or habitat changes over time. The historical topographic quadrangles and aerial photographs reviewed by GSRC are listed in Table 1 and are included in Appendix A.

2.5 SUBJECT PROPERTY INSPECTIONS/OBSERVATIONS

Photographs of the subject property are presented in Appendix B, and the locations of photographs are shown in Figure 4. A site plan for the subject property is presented in Figure 5. A site reconnaissance was conducted on March 7, 2007 by Stephen Oivanki and Maria Reid. The focus of the effort was to investigate the subject property for evidence of potential hazardous or toxic substances, or the presence of potential sources for environmental impacts, such as drums, petroleum products and underground storage tanks (USTs). The subject property was accessible by foot and by vehicle and was visually inspected for any *recognized*

environmental conditions. The subject property is currently being used for an active drainage pumping station by Jefferson Parish.

Table 1. Historical Topographic Quadrangles/Aerial Photographs Reviewed

DATE	QUADRANGLE/PHOTOGRAPH NAME	SCALE
1891	New Orleans, LA 15-Minute Quadrangle	1:62,500
1950	New Orleans, LA 15-Minute Quadrangle	1:62,500
1952	Lake Cataouatche East, LA 7.5-Minute Quadrangle	1:24,000
1954	New Orleans, LA 15-Minute Quadrangle	1:62,500
1966	Lake Cataouatche East, LA 7.5-Minute Quadrangle	1:24,000
1967	New Orleans, LA 15-Minute Quadrangle	1:62,500
1968	Aerial Photograph	---
1982	Lake Cataouatche East, LA 7.5-Minute Quadrangle	1:24,000
1989	Aerial Photograph	---
1994	Aerial Photograph	---
1998	Aerial Photograph	---
2004	USGS DOQQ Aerial Photograph	1:24,000
2005	USGS DOQQ Aerial Photograph	1:24,000

Sources: U.S. Geological Survey, U. S. Army Corps of Engineers

The subject property consists of approximately 4.8 acres, as defined by a GPS survey of presumed property boundaries in the field. There are numerous structures on the property, both permanent and temporary, and the ground is relatively flat terrain covered with either gravel/shell, grass or concrete. All of the property appears to have been previously disturbed by construction or grading. Manmade slope is present toward the north and northwest on portions of the property.

The main pump station facility is located at the south end of the Avondale Main Canal, and it discharges into the Outer Cataouatche Canal on the opposite side of the levee. The subject property is bounded on the south by the flood protection levee and on the north and northeast by undeveloped wetlands. It is bounded on the west and northwest by a large construction area resulting from USACE efforts to rebuild and maintain the flood protection levee in that area. Construction on the levee was ongoing at the time of the site visit. The old Lake Cataouatche Pump Station is located approximately 150 feet west of the new pump station. It is a smaller pump station, and has its own infrastructure and fuel supply.

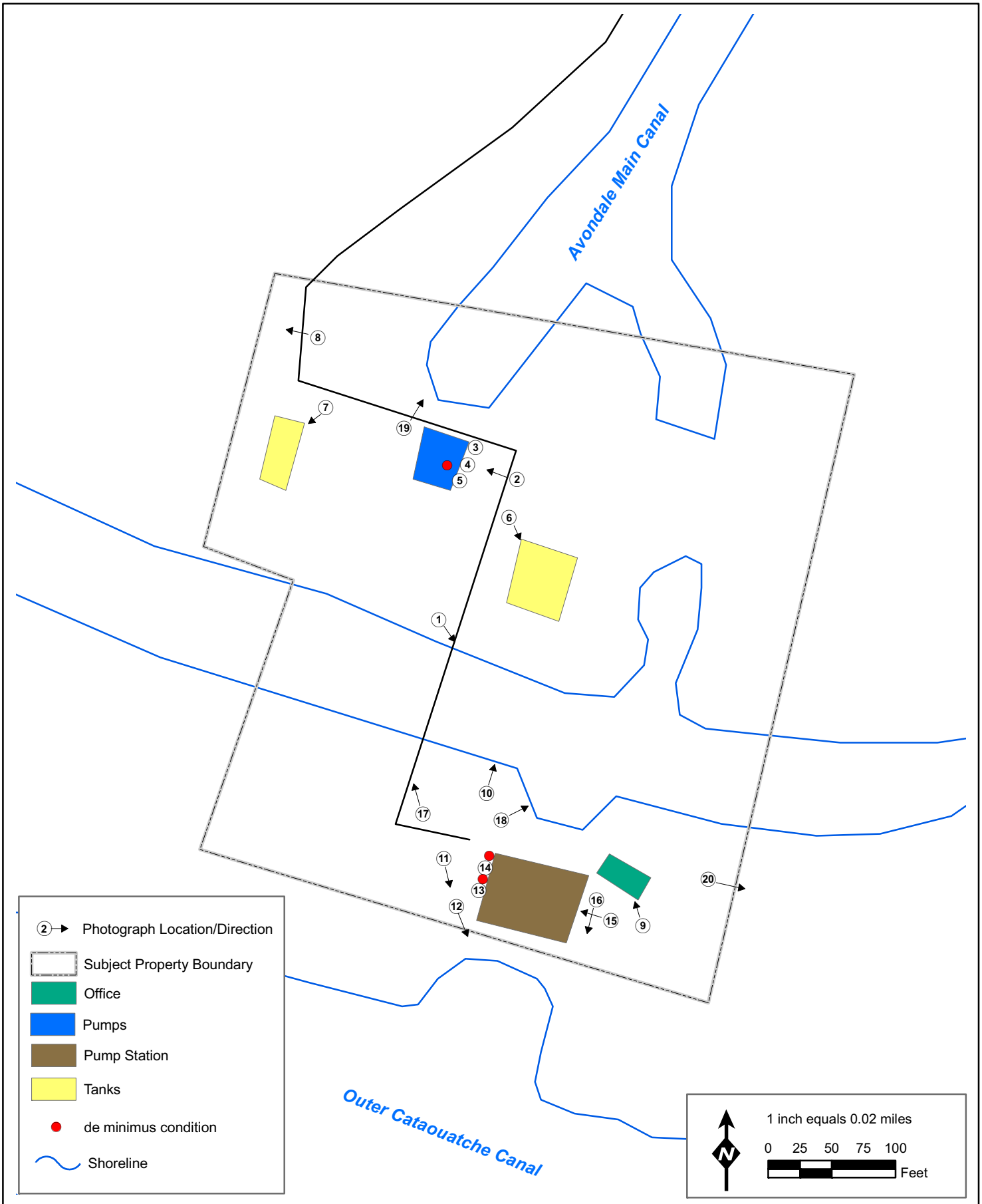

Figure 4: Survey Map of Lake Cataouatche #1 Pump Station

GSRC

March 2007

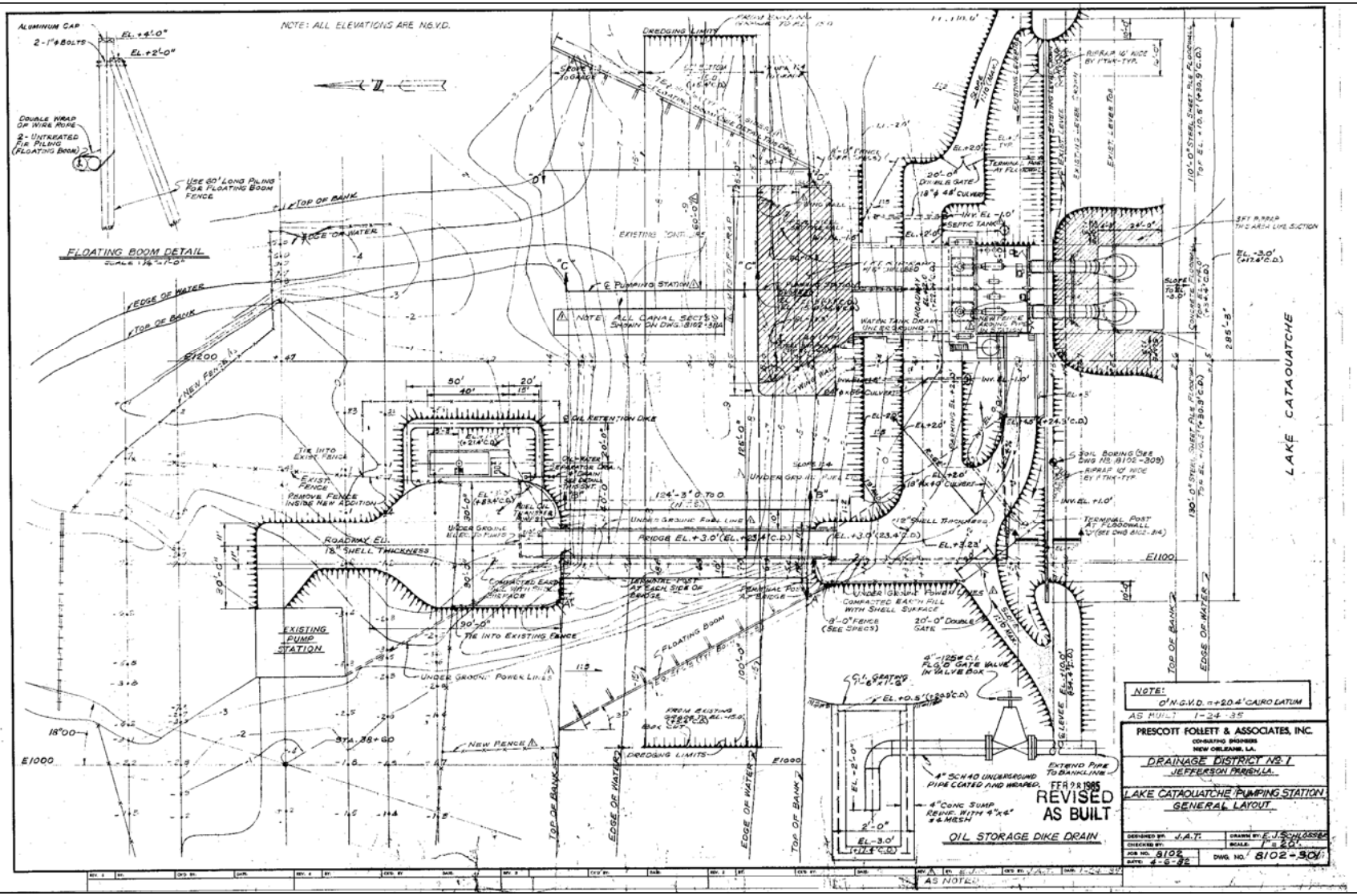

FIgure 5: Lake Cataouatche #1 Pump Station Site Plan

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On the subject property, there is an office/control building, which consists of a reinforced trailer (Photograph 9, Appendix B). An equipment shed (Photograph 10, Appendix B) contains grounds maintenance equipment and gasoline for that equipment.

There were numerous old 55-gallon drums and 5-gallon containers around the property. Most of the drums and containers were filled with used oil or other petroleum products, and several leaks or spills were noted on the adjacent ground surface (Photographs 11 through 14, Appendix B). The quantity of petroleum products stored on the site, the manner of storage, and the visible evidence of spills and leaks would constitute a *recognized environmental condition* on the subject property. Two large used lead-acid batteries were also noted on the ground behind the pump station (Photograph 12, Appendix B). Inside the old pump station building, there were numerous oil-filled drums and containers, and visible signs of oil spills on the concrete floor of the building (Photographs 3 through 5, Appendix B).

A Spill Prevention Control and Countermeasures (SPCC) plan is kept on site, as well as a spill containment and cleanup kit. Diesel fuel storage for the station pump engines is contained in a horizontal storage tank with a capacity of 10,000 gallons (Photograph 6, Appendix B), and the tank has an approved spill containment basin, as defined in the SPCC plan. Lake Cataouatche Pump Station # 1 has two vertical diesel fuel storage tanks with a combined capacity of 14,000 gallons, and it also has a spill containment basin.

The pump station receives potable water from an on-site well, and waste water and sewage is handled by a septic tank and drain field on the property.

2.6 PERSONAL INTERVIEWS

Station Operator, Key Site manager

On March 7, 2007, GSRC interviewed the Lake Cataouatche Pump Station #2 operator, Mr. Richard Honea, who has been at the station for the past 5 years. He recalled that the old pump station was built about 30 years ago, and the new station is approximately 5 years old. The land was undeveloped swamp prior to construction of the canals and the pump stations. He stated that there had been no reportable oil or fuel spills on the property since he has been employed there. The station does not keep hazardous materials on site, other than maintenance paint in 5-gallon buckets for the equipment. Used oil is recycled to 55-gallon

drums, which are disposed of by a licensed transporter. He noted that the pickup for the used oil was overdue. He stated that each station on the site operates independently, with its own fuel supply.

Other Interviews

Because other historical data and information sources indicated no prior use other than the current use and no other ownership prior to the current owner, and no indications of recognized environmental conditions were identified from other reliable sources, no further interviews of local officials were deemed necessary to determine the existence of recognized environmental conditions on the subject property. State agency information requests regarding individual properties are typically referred to the state database for information, and that database was consulted.

3.0 FINDINGS FOR SUBJECT PROPERTY

3.1 HISTORIC USE

The documents reviewed by GSRC to determine historical land uses and potential environmental conditions associated with those uses regarding the subject property and surrounding areas are described in the paragraphs below.

Historic Topographic Quadrangles and Aerial Photographs

Historic topographic maps dated from 1891 to 1982 and aerial photographs dated from 1968 to 2005 (Appendix A) were inspected to identify structures and development on the subject property and surrounding properties. All of the maps dated prior to 1982 showed no development on the subject property. The first indication of development near the subject property appeared on the 1950 topographic map, where the Waggaman Canal was visible running from Highway 90 down to Lake Cataouatche adjacent to the subject property.

The 1966 and 1967 topographic maps showed the flood protection levee in place, but no other development on the subject property. The levee south of the subject property was indicated as under construction.

The 1968 aerial photograph showed the flood protection levee and adjacent borrow canals in place to the south of the subject property, but no structures or other development was visible. The 1982 topographic map showed the Avondale Main Canal had been constructed to the subject property, and a small structure was indicated, probably the start of Pump Station #1.

The 1989 aerial photograph showed the old pump station completed and functioning, and the new pump station site was either under construction or built; the photograph quality was insufficient to distinguish details.

The 1994 aerial photograph indicated that the subject property and surrounding properties were in their current state of development. The new pump station was shown as completed. Several vehicles and dirt roads were indicated on the adjacent property to the west (the site of the current levee construction project).

The 1998 aerial photograph confirmed the same structures and pump stations shown in the 1994 aerial photograph. The 2004 aerial photograph indicated the same structures and development shown in the 1998 aerial photograph. Previous timber forest north of the Cataouatche Canal for a distance of about 500 feet northeast of the subject property had been clear-cut and harvested.

In the 2005 aerial photograph, an additional drainage canal had been added in the area of timber harvest shown in the 2004 aerial photograph. Otherwise, no change was indicated from 2004.

None of the historical topographic maps and aerial photographs indicated any development of adjacent properties or any evidence of business environmental risk to the subject property.

3.2 CURRENT USE

Environmental Setting

The subject property is located at 3901 Highway 90 in Avondale, Louisiana at the southern end of a long shell and dirt road that is very near the north shore of Lake Cataouatche. The entire subject property appears to be disturbed, and the ground cover consists of maintained turf grass and shell/gravel surfaces. All of the adjacent waterways (canals) appear manmade. The undeveloped areas located to the west, east and north of the subject property appear to be natural wetlands with native vegetation. A manmade earthen levee with concrete top walls separates the subject property from the native wetlands and Lake Cataouatche to the south.

According to the current topographic map, the elevation of the subject property is less than 5 feet above mean sea level, and the soil component within the subject property is the Allemands Muck, as indicated on the NRCS soil map for the area. This soil consists of poorly-drained mud that has low infiltration rates and is generally saturated to the soil surface in wetlands (NRCS 2007). The subject property has been extensively filled with other soil and materials, so the indicated soil component is no longer valid. The topography of the subject property generally slopes toward the northeast, but is relatively flat. Because no *recognized environmental conditions* were identified on or adjacent to the subject property, and the subsurface soils on the subject property have been extensively modified by excavation and fill, an analysis of the geology and hydrology of the site is not warranted.

3.3 HAZARDOUS MATERIALS/WASTES

Hazardous materials and waste was observed on the subject property included numerous 55-gallon drums and 5-gallon buckets of used oil, lubricants, paint and thinners stored in the open adjacent to buildings, inside storage buildings and inside the old pump building. Several indications of petroleum product spills were noted around the drums and buckets stored outside on the property and stored inside of the old pump building. None of the observed spills seemed to indicate a great business environmental risk, but they appeared to be larger than *de minimis* in size. The large quantity of oil and fluids stored and the method of storage would constitute a *recognized environmental condition* on the subject property.

Several old lead-acid batteries were also observed outside on the ground behind the main pump building.

3.4 SOLID WASTE

Solid waste was observed on the subject property in the form of old metal parts and equipment and stacks of old metal pipe. None of the solid waste observed constituted a business environmental risk to the property.

3.5 OTHER ENVIRONMENTAL CONCERNS

According to the EDR report and from the search of Federal and state databases no environmental concerns for the following substances were within the appropriate search radii of the subject property:

- Oil/Water Separators
- Medical Biohazard Waste
- Ordnance
- Radioactive Wastes/Radon
- Wastewater Treatment, Collection, and Discharge
- Asbestos
- Transformers/Polychlorinated Biphenyls (PCBs)
- Lead-based Paint

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4.0 FINDINGS FOR ADJACENT PROPERTIES

4.1 LAND USES

GSRC inspected adjacent areas to the subject property with efforts concentrated on observing existing *recognized environmental conditions* with the potential to affect the subject property.

To the west of the subject property, north of the levee, the USACE is reconstructing the levee, and currently maintains a very large area of cleared property, with numerous piles of dirt and clay and cleared debris. Trucks were hauling levee material into the site at the time of the site visit and numerous pieces of heavy equipment were working along the levee and other parts of the site. Two large horizontal fuel tanks were located on the construction site with no spill protection berms visible (Photograph 8, Appendix B). These tanks would constitute a business environmental risk to the subject property in the event of a leak or spill.

Approximately 0.25 mile north along the access road, there is a cleared field with several sheds used to fly radio-controlled model aircraft. No evidence of business environmental risk was noted at that site.

In general, the land use in the vicinity of the subject property can be classified as rural undeveloped wetlands.

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5.0 APPLICABLE REGULATORY COMPLIANCE ISSUES

5.1 LIST OF COMPLIANCE ISSUES AND CORRECTIVE ACTIONS

According to the EDR report (Volume II, Section G) and information gathered from Internet searches, there are no outstanding violations or compliance issues regarding facilities/sites within the search radius surrounding the subject property.

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6.0 OPINIONS & CONCLUSIONS

We have performed a Phase I *Environmental Site Assessment* in conformance with the scope and limitations of ASTM Practice E1527-05 of the subject property. Any exceptions to, or deletions from, this practice are described in Section 7 of this report. This assessment revealed evidence of *recognized environmental conditions* in connection with the subject property in the form of oil-filled drums and other containers located outside in several areas of the property. The spills observed around these containers, while greater than *de minimis*, do not pose a significant business environmental risk to the subject property, and could be remediated with minor effort. Fuel tanks without spill protection berms were noted on the adjacent property to the west, and these tanks constitute a business environmental risk to the subject property.

The EDR report and searches from Federal and state databases yielded no information regarding other environmental conditions on or within the vicinity of the subject property. In addition, none of the orphan sites/facilities listed in the EDR report, are located within an appropriate search distance from the subject property to constitute a business environmental risk.

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7.0 DEVIATIONS

No records search for use limitations or environmental liens was made at the request of the User. Other knowledge of the past history of the subject property from historical photographs and maps and from interviews with the owner indicates that past environmental conditions on the property are not applicable to this site. No other deletions or deviations from ASTM Practice E1527-05 were noted.

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8.0 RECOMMENDATIONS

GSRC recommends that, the drums and containers of petroleum products and paint stored outside be brought under cover or disposed of in accordance with state and Federal regulations. The observed spills around the containers and drums should be mitigated by removing and disposing of contaminated soils. No *recognized environmental conditions* were indicated on the subject property that would require further environmental studies or assessments.

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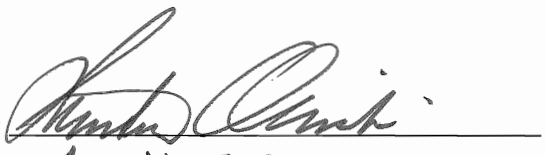
9.0 CERTIFICATIONS

The opinions and conclusions set forth in this report, either expressed or implied, are based solely upon the work and information described herein. No soil, water, or air sampling and analysis were conducted for the subject property; therefore, no statement can be made as to their actual quality. Comments regarding the site reconnaissance and records research results are limited strictly to field observations and the actual records that were reviewed by GSRC. Any opinions concerning the likelihood that the subject property contains toxic or hazardous waste materials are intended solely as a probabilistic evaluation based upon such information. No warranty or guarantee is made or intended. Should any higher level of confidence be desired, physical sampling and laboratory analysis (Phase II of an ESA) would be necessary.

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional as defined in §312.10 of 40 CFR 312, and I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed all of the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Stephen Oivanki
Project Manager
GSRC

Signature 
Date April 23, 2007

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10.0 REFERENCES

EDR 2007, Lake Cataouatche #1, 3901 Highway 90, Avondale, LA EDR Radius Map with GeoCheck, I.N. 10870098.10r, March 5, 2007

Environmental Protection Agency (EPA). 2007. Enforcement and Compliance History Online: http://www.epa.gov/echo/> ,and Envirofacts Data Warehouse: http://www.epa.gov/enviro/index_java.html

Louisiana Department of Environmental Quality (LDEQ). 2007. Enforcement Actions. October 2003 to March 2006. http://www.deq.louisiana.gov/portal/tabid/225/Default.aspx

Natural Resource Conservation Service (NRCS) Web Soil Survey 2007, http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

U.S. Army Corps of Engineers, New Orleans Division (USACE) 1968 aerial photograph

USACE 1989, aerial photograph

USACE 1994, aerial photograph

U.S. Geological Survey (USGS) 1891, New Orleans, Louisiana 15-minute Quadrangle

USGS 1932, New Orleans, Louisiana 15-minute Quadrangle

USGS 1950, New Orleans, Louisiana 15-minute Quadrangle

USGS 1952, Lake Cataouatche East, Louisiana 7.5-minute Quadrangle

USGS 1954, New Orleans, Louisiana 15-minute Quadrangle

USGS 1966, Lake Cataouatche East, Louisiana 7.5-minute Quadrangle

USGS 1967, New Orleans, Louisiana 15-minute Quadrangle

USGS 1982, Lake Cataouatche East, Louisiana 7.5-minute Quadrangle

USGS 1998, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2004, DOQQ Aerial Photograph, 7.5 minute Quadrangle

USGS 2005, DOQQ Aerial Photograph, 7.5 minute Quadrangle

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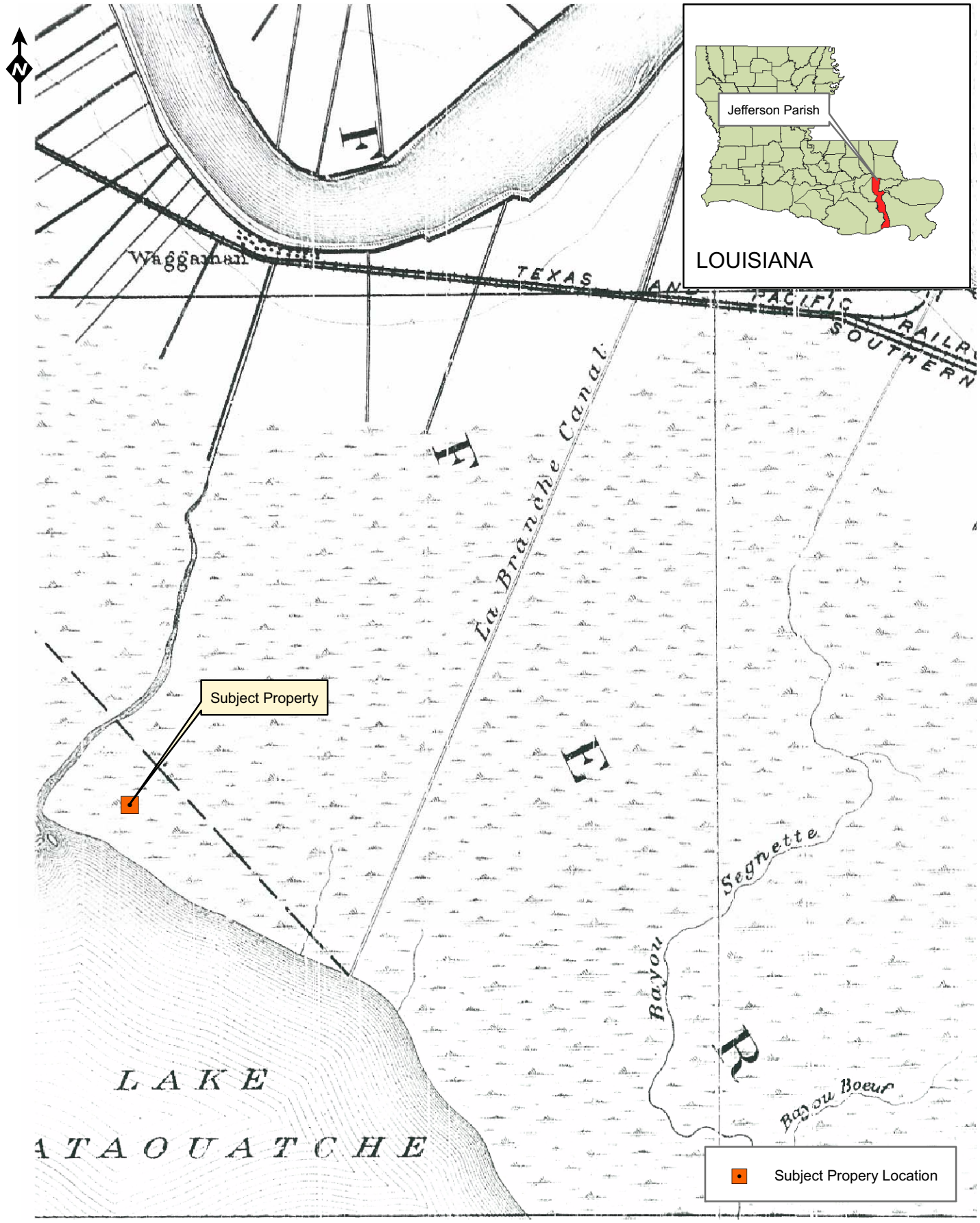
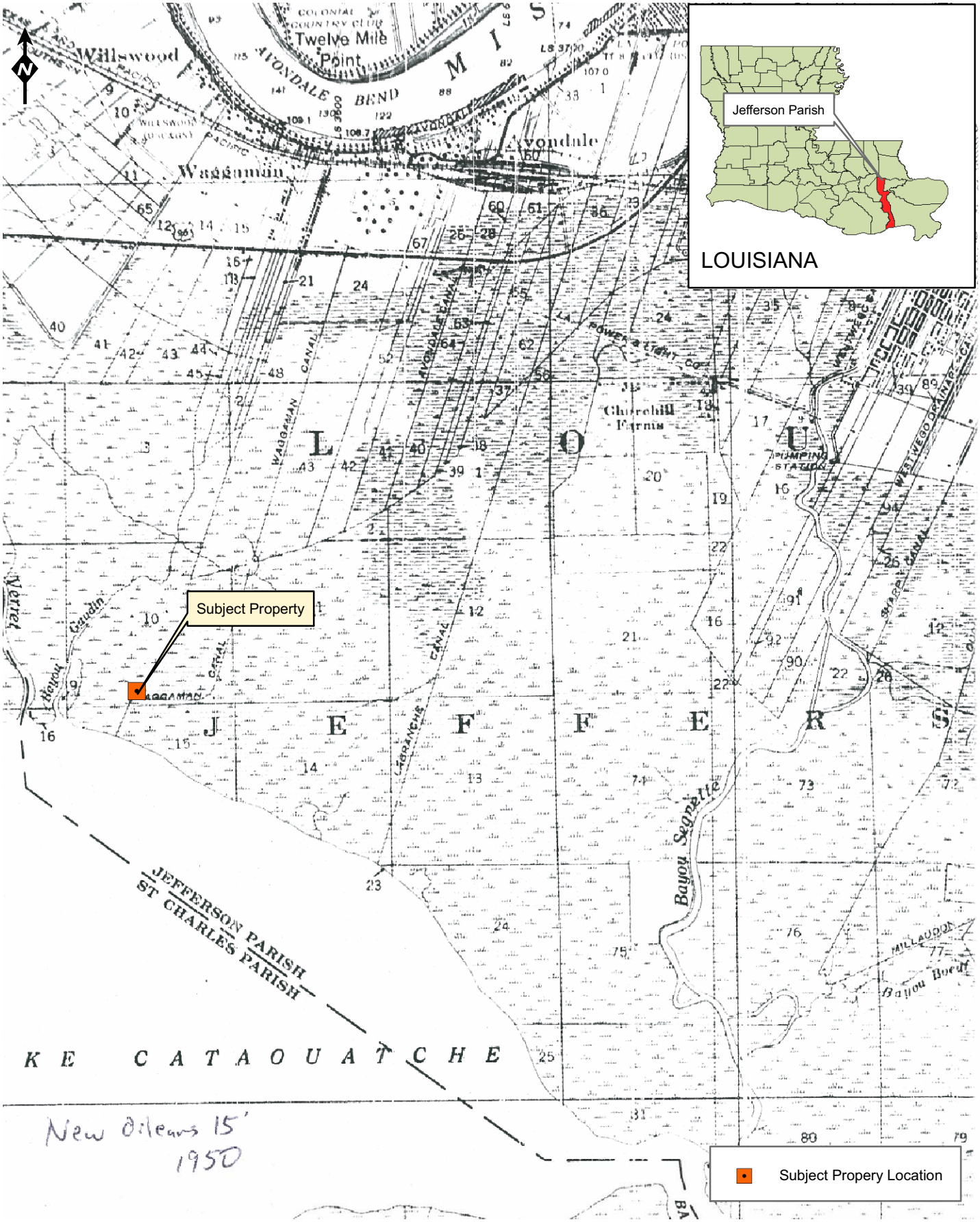
APPENDIX A
HISTORICAL TOPOGRAPHICAL MAPS AND AERIAL PHOTOGRAPHS



Lake Cataouatche #1 Pump Station
1891 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

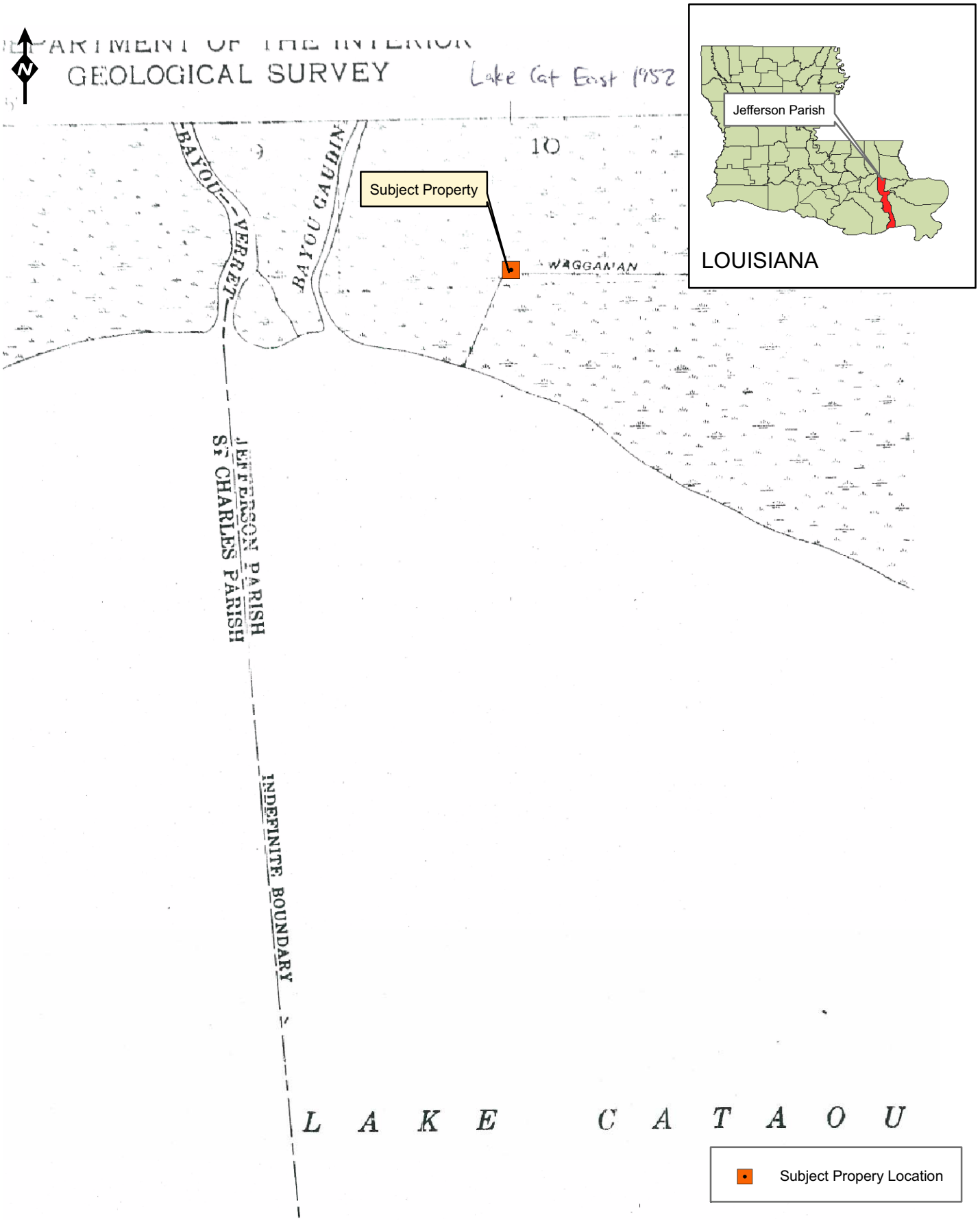
March 2007



Lake Cataouatche #1 Pump Station
1950 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

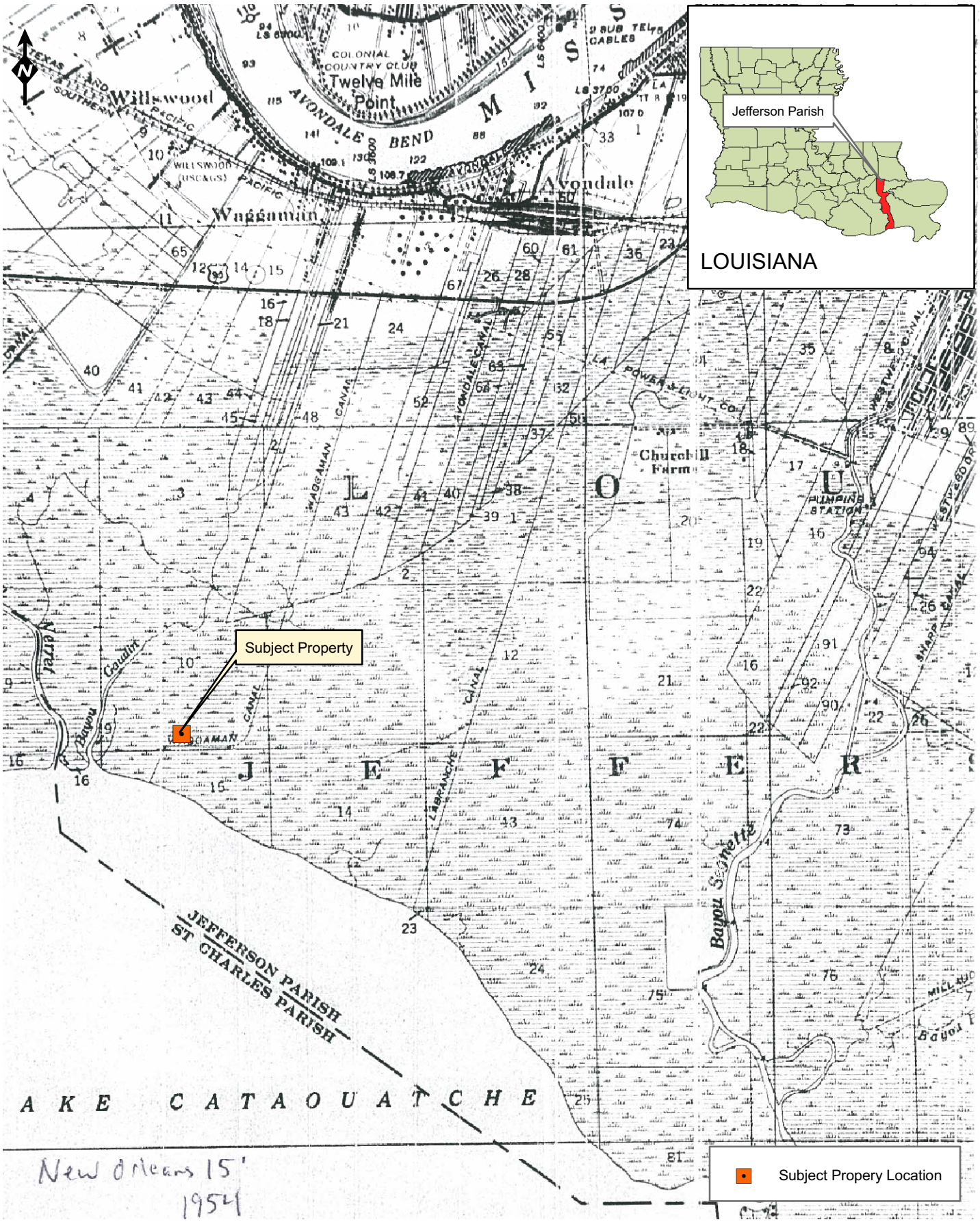
March 2007



Lake Cataouatche #1 Pump Station
1952 Lake Cataouatche East, LA 7.5 minute USGS Topographic Quadrangle

GSRC

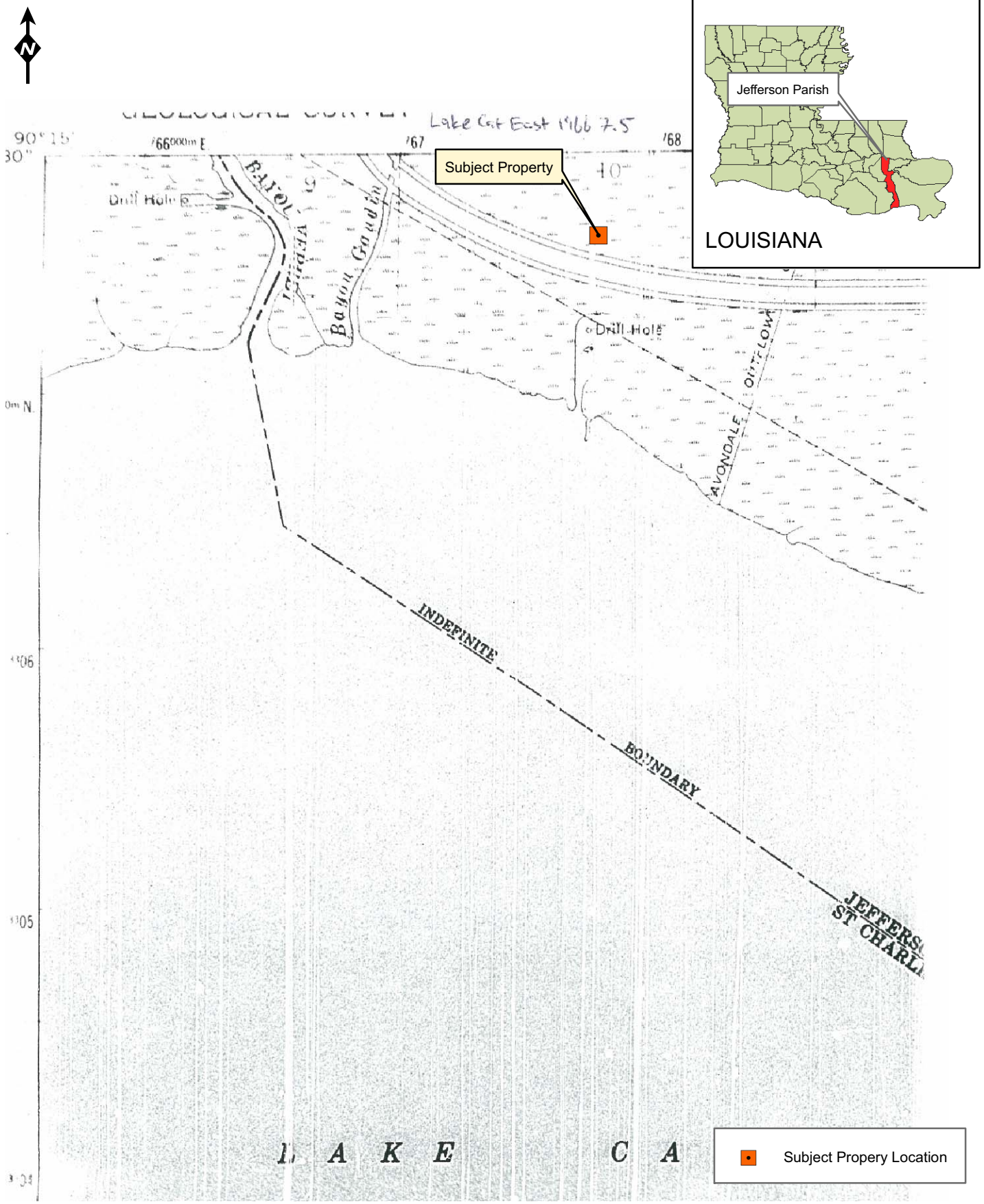
March 2007



Lake Cataouatche #1 Pump Station
1954 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

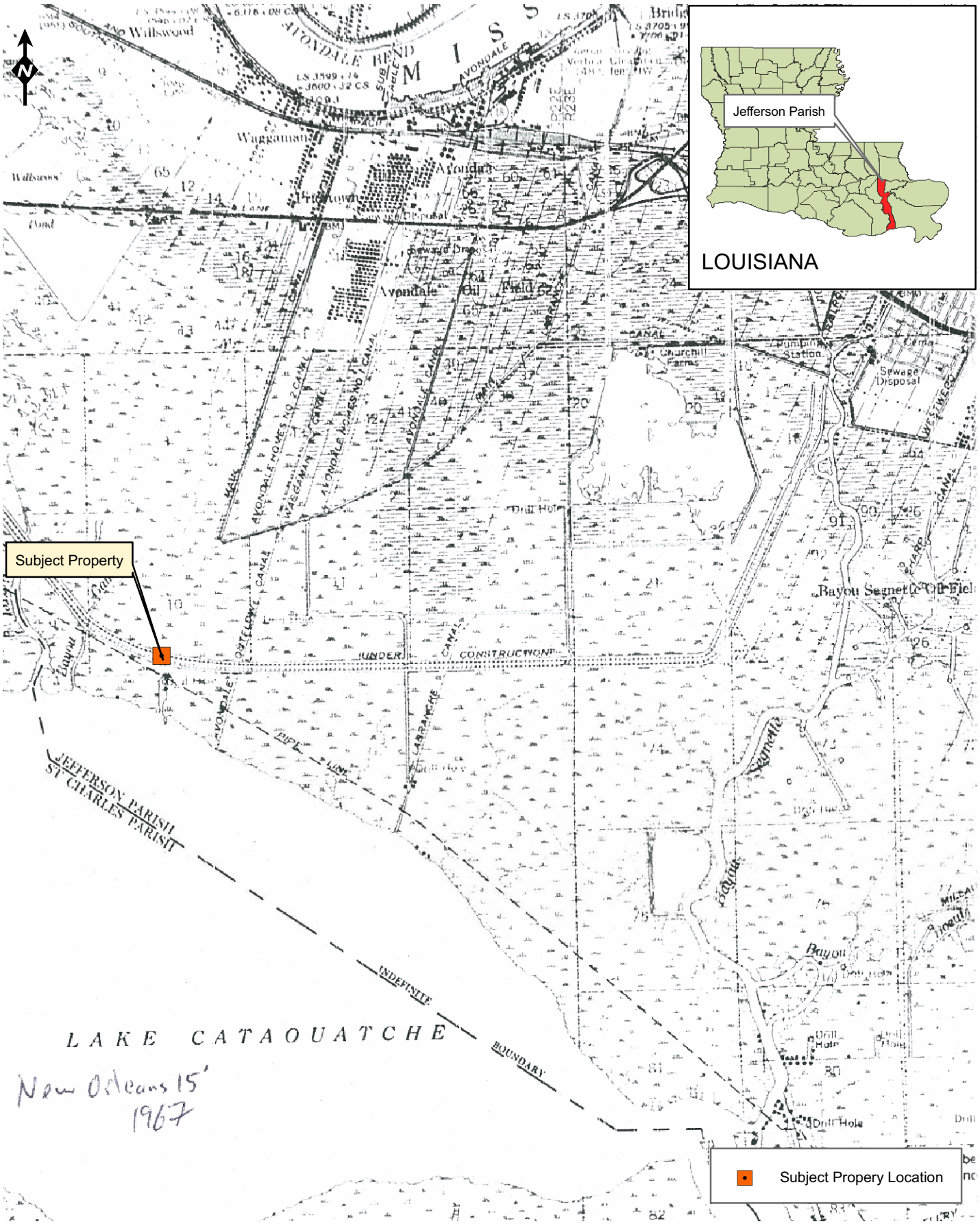
March 2007



Lake Cataouatche #1 Pump Station
1966 Lake Cataouatche East, LA 7.5 minute USGS Topographic Quadrangle

GSRC

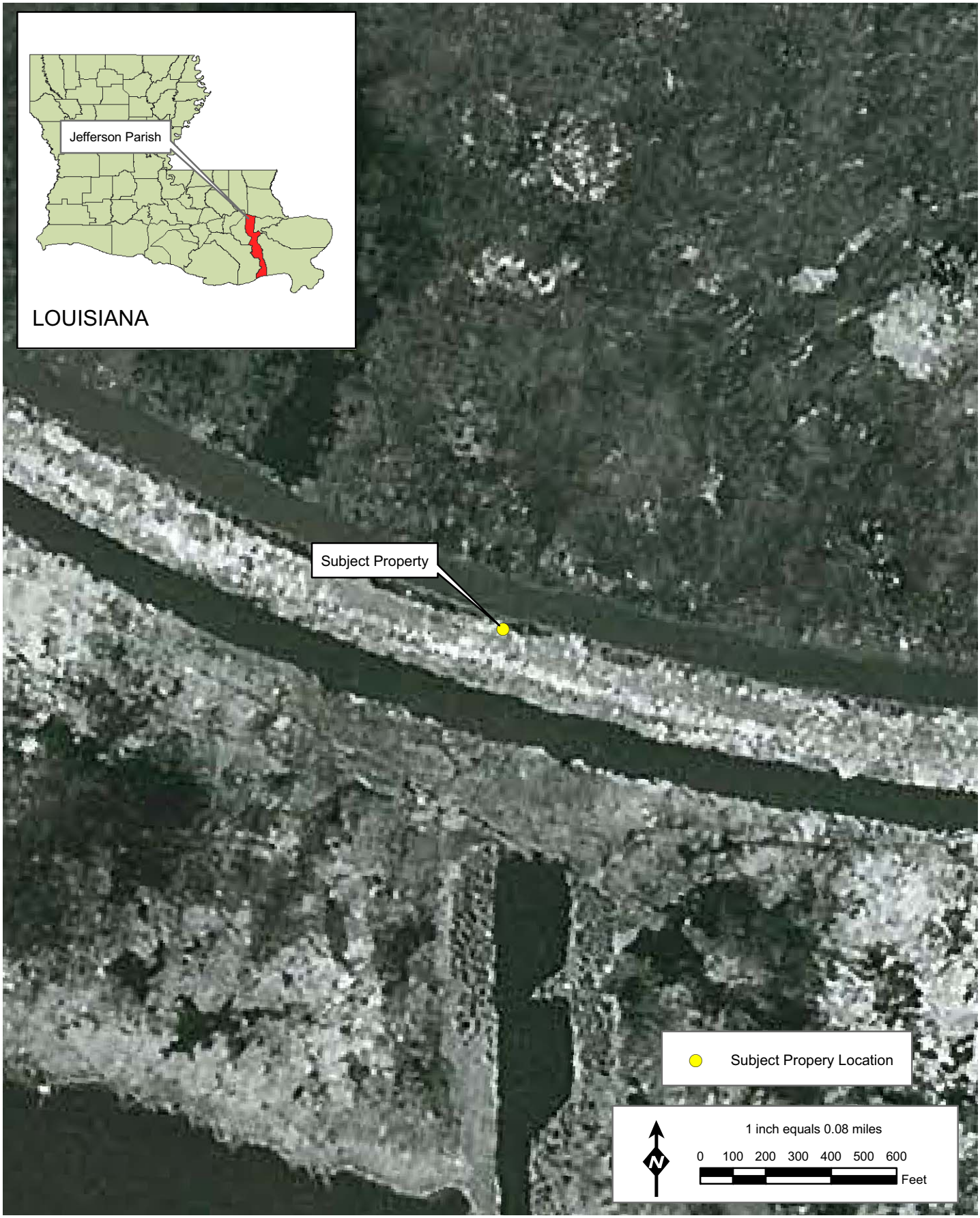
March 2007



Lake Cataouatche #1 Pump Station
1967 New Orleans, LA 15 minute USGS Topographic Quadrangle

GSRC

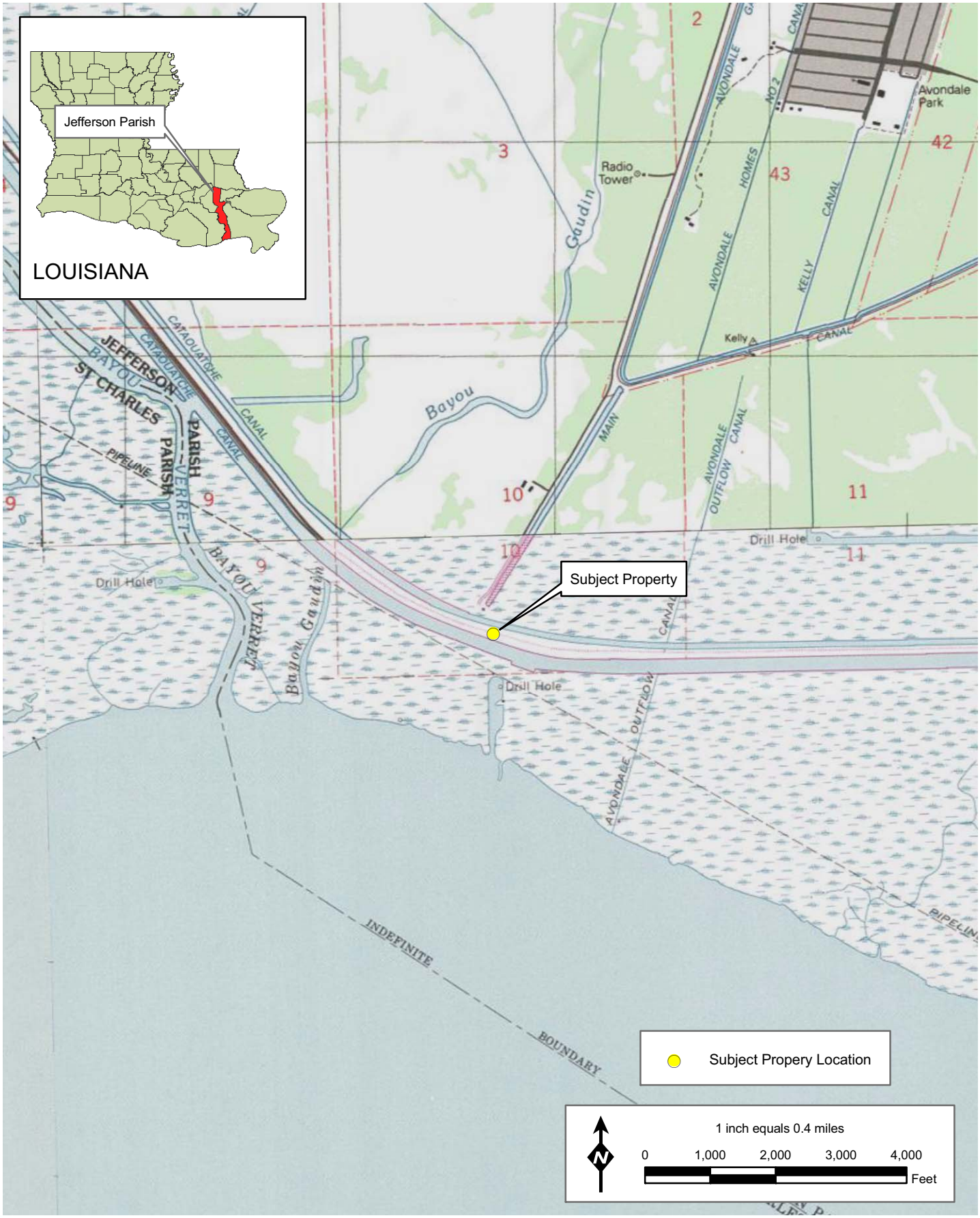
March 2007



Lake Cataouatche #1 Pump Station
1968 Aerial Photography

GSRC

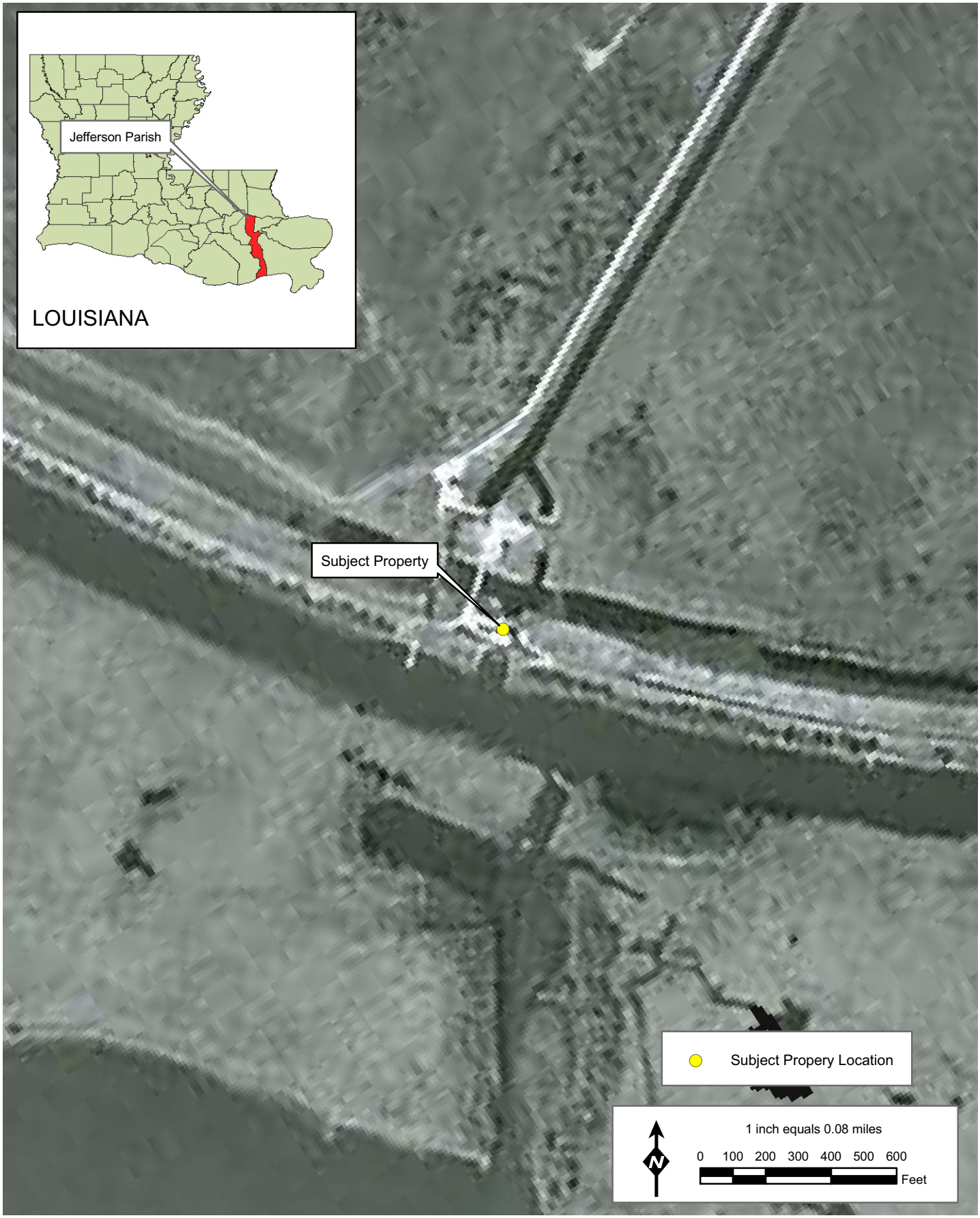
March 2007



Lake Cataouatche #1 Pump Station
1982 Lake Cataouatche East, LA USGS Topographic Quadrangle

GSRC

March 2007



Lake Cataouatche #1 Pump Station
1989 Aerial Photography

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March 2007

Subject Propery Location

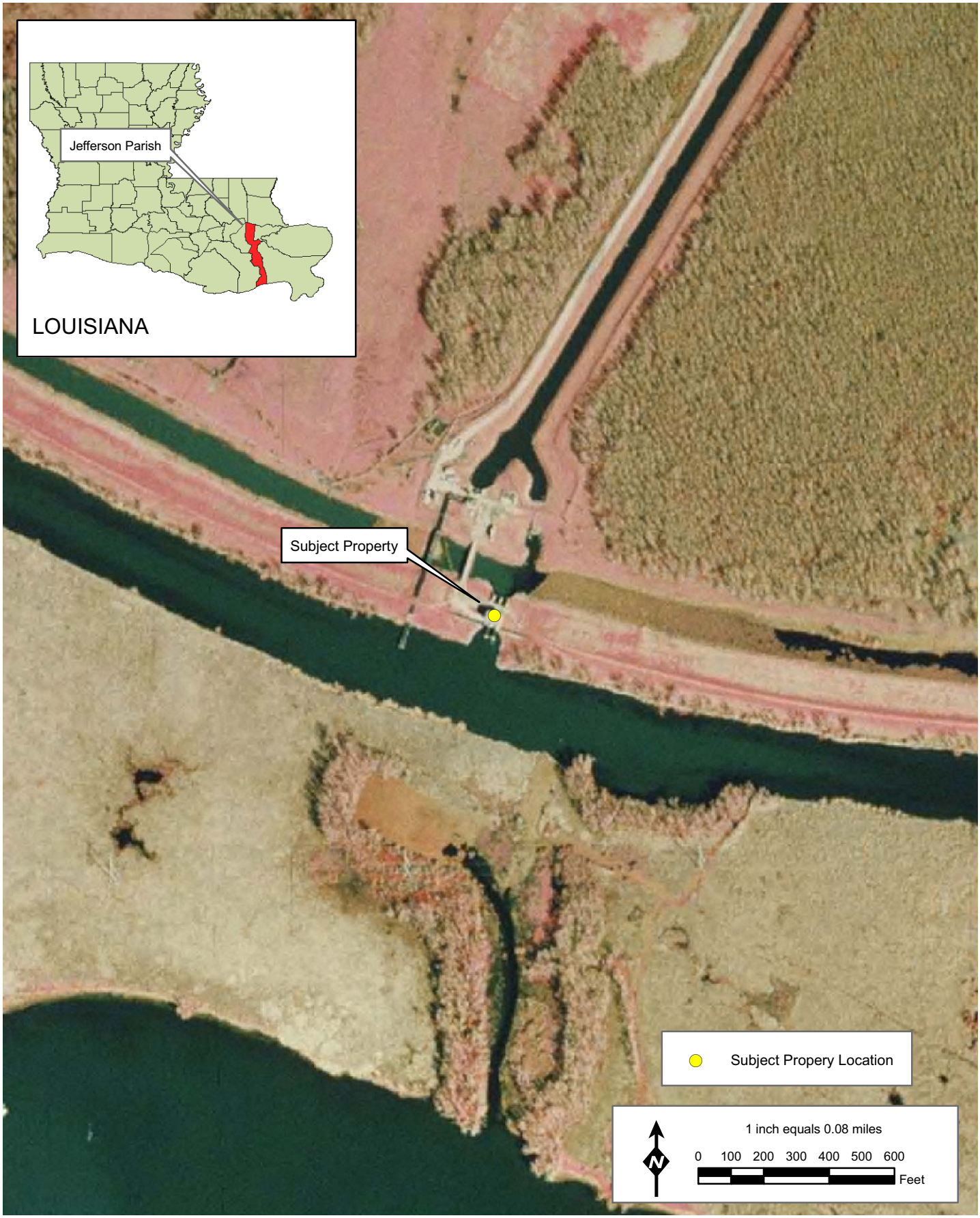
1 inch equals 0.08 miles

0 100 200 300 400 500 600 Feet

Lake Cataouatche #1 Pump Station
1994 Aerial Photography

GSRC

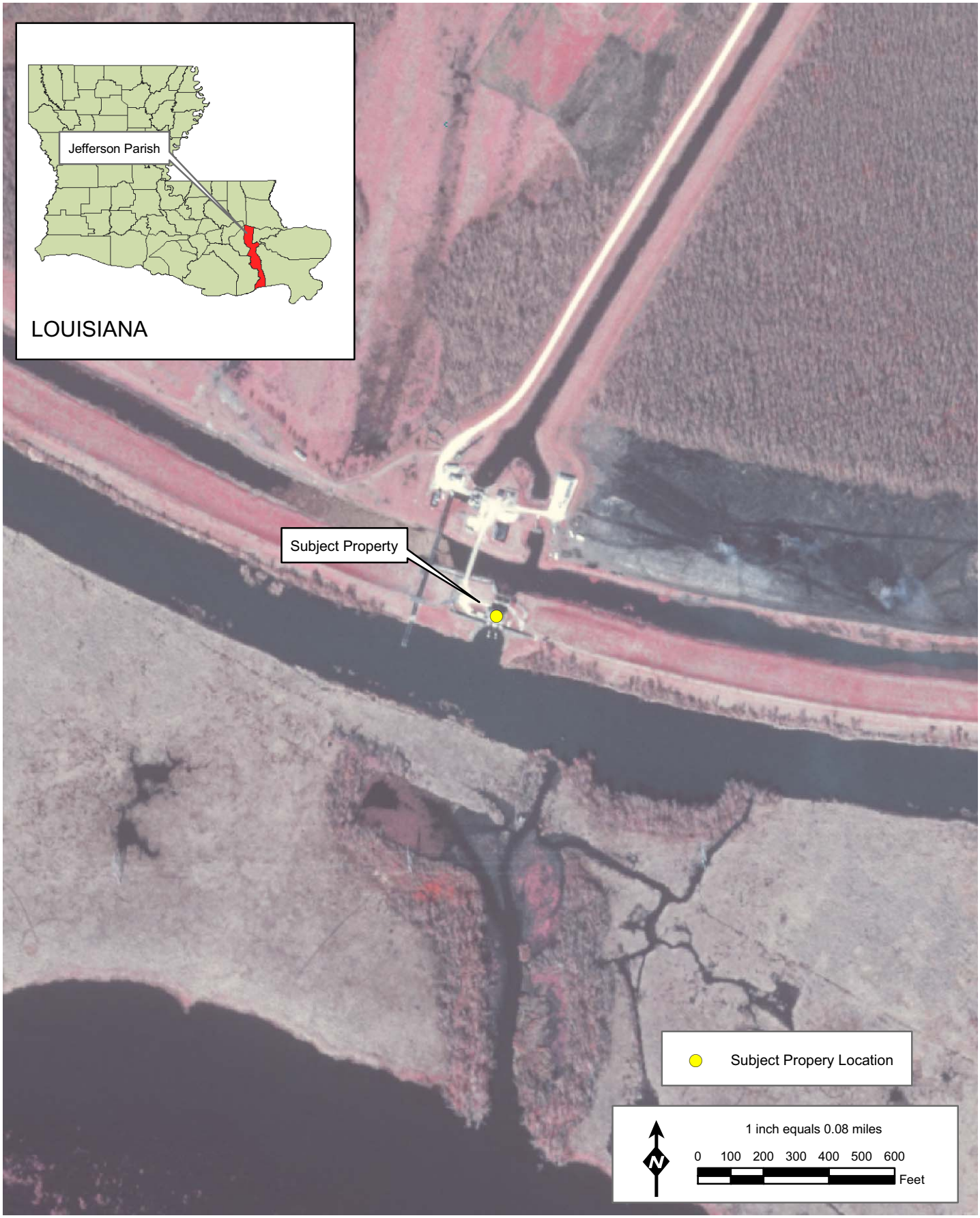
March 2007



Lake Cataouatche #1 Pump Station
1998 Lake Cataouatche East, LA USGS DOQQ

GSRC

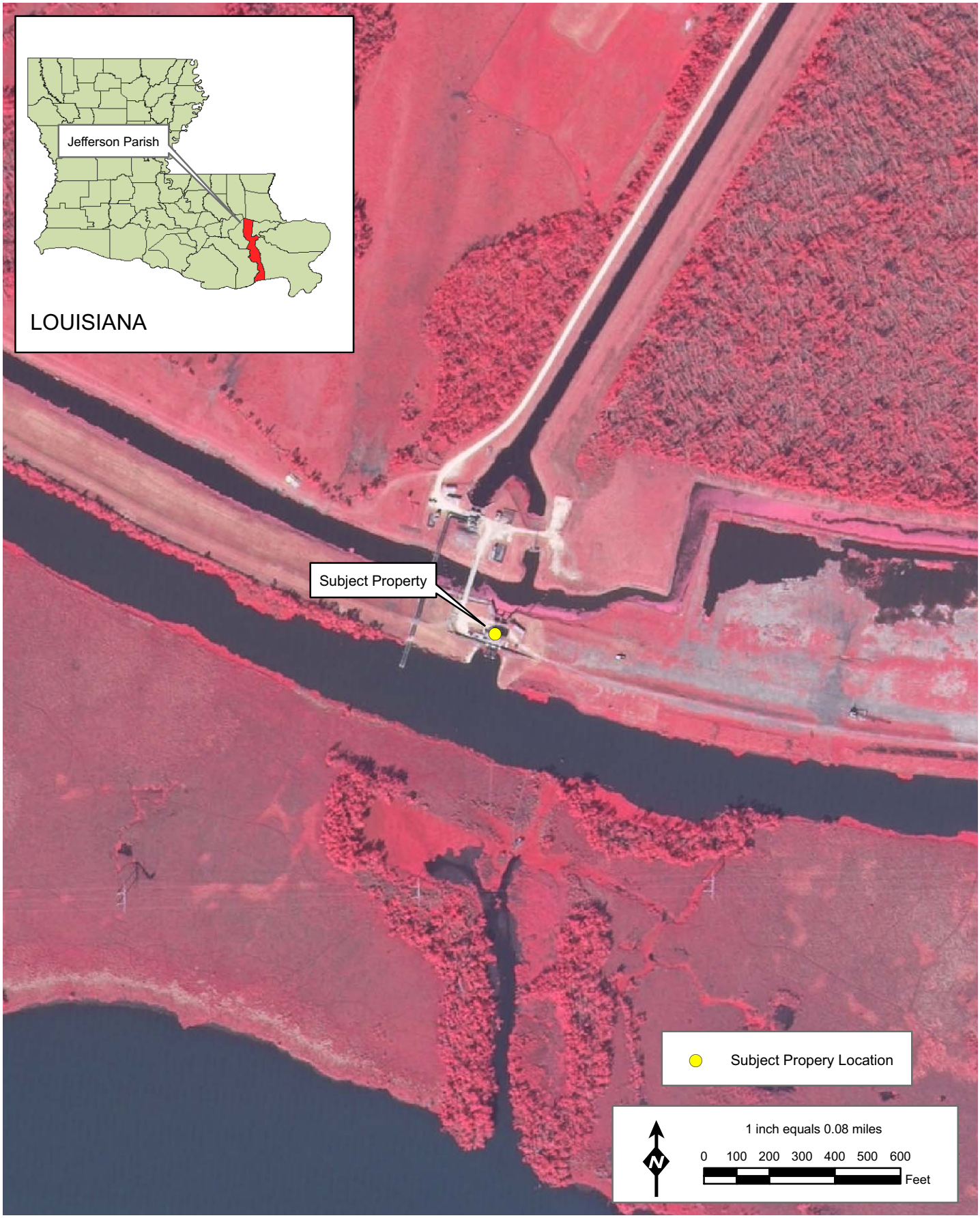
March 2007



Lake Cataouatche #1 Pump Station
2004 Lake Cataouatche East, LA USGS DOQQ

GSRC

March 2007



Lake Cataouatche #1 Pump Station
2005 Lake Cataouatche East, LA USGS DOQQ

GSRC

March 2007

APPENDIX B
SITE PHOTOGRAPHS

SITE PHOTOGRAPHS

Photograph 1. New pump station, view to the south

Photograph 2. Old pump station building on subject property

Photograph 3. Oil drums and stains inside old pump station building

Photograph 4. Oil drums and spills inside old pump station building

Photograph 5. Oil and paint containers inside old pump station building

Photograph 6. Diesel storage tank with spill containment basin

Photograph 7. Diesel storage tanks with spill containment basin

Photograph 8. Diesel storage tanks on adjacent levee construction site to the west

Photograph 9. Office/control trailer on subject property

Photograph 10. Equipment storage shed on subject property

Photograph 11. Oil drums and other materials stored adjacent to pump building


Photograph 12. Old batteries and tanks adjacent to pump building

Photograph 13. Oil/fuel spill adjacent to stored barrels near pump building


Photograph 14. Open oil containers and spills adjacent to the pump building

Photograph 15. Diesel storage day tank on deck of pump station building

Photograph 16. Propane tank adjacent to pump building

Photograph 17. Old pipes stored on the subject property

Photograph 18. Debris raked from intake pond at pump station

Photograph 19. View to the adjacent north of the Avondale Main Canal

Photograph 20. View to the east of adjacent property

APPENDIX C
LIST OF PREPARERS

The following people were primarily responsible for preparing this report.

Name	Discipline/Expertise	Experience	Role In Preparing Report
Stephen Oivanki	Geologist Environmental Assessment	20 years of environmental assessment and remediation experience	Project manager, ESA preparation, field survey
Greg Lacy	Environmental Studies	10 years of environmental, natural resource, ESA, and NEPA studies	Field Survey
Denise Rousseau Ford	Environmental Engineering	15 years of environmental studies experience	Field Survey
Maria Reid	Forestry and Environmental Studies	5 years of environmental assessment and NEPA experience	Field Survey
Sharon Newman	GIS/Graphics	5 years GIS analysis	GIS and Graphics
David Alford	GIS/Graphics	4 years GIS/graphics experience	GIS and Graphics
Eric Webb, Ph.D.	Ecology/Wetlands	15 years NEPA and natural resources related studies	QA/QC

APPENDIX D
PERSONNEL QUALIFICATIONS

STEPHEN M. OIVANKI, P.G.
Qualified Environmental Professional (ASTM E1527-05)
Statement of Qualifications

Education: B.S. – Geology – Louisiana State University
M.S. – Geology – Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder, current refresher
USACE 1997 Wetland Delineation Manual – 40-hour course
Mold Assessment and Remediation in Buildings – Training Course

Registrations: Registered Professional Geologist #412 – State of Mississippi

Experience: **Self-employed Consulting Geologist – 10 years**
Oil and gas exploration, subsurface site investigations, mining exploration, engineering geology

Mississippi Department of Environmental Quality – 9 years
Subsurface geology, subsurface site investigations, coastal geology and geomorphology

Mississippi Department of Marine Resources – 3 years
Coastal Zone Manager, supervision of environmental staff, oversight and review of Coastal Zone permits and environmental regulations

Compton Engineering, Inc. – 5.5 years
Phase I Environmental Site Assessments – 40
Phase II Environmental Site Assessments – 12
Emergency Response Action Contractor – Miss. LUST Trust Fund
LUST investigations and remediation – 5
Contaminated site investigations and remediation – 7
Wetland delineations – 50
Mold assessments and remediation supervision – 10
Spill Prevention Control and Countermeasure (SPCC) plans – 12
Rubbish and Subtitle D Landfill permits – 5
Storm Water Pollution Prevention Plans - 20

Gulf South Research Corporation – 6 months
Phase I Environmental Site Assessments - 13

GREGORY B. LACY
Qualified Environmental Professional (ASTM E1527-05)
Statement of Qualifications

Education: B.S.-Biology-Georgia Southwestern State University
M.S.-Biology-Georgia College and State University

Training: HAZWOPER-40-hour hazardous waste responder, current refresher.
HAZWOPER-8-hour Training for Supervisors
EPA Watershed Management - Training Certificate
Lead Supervisor - Training Course

Experience: **DDL Omni Engineering - 5 years**
Petroleum, oil, lubricant remediation, Chemical and biological decontaminations, Spill response, Hazardous waste management, Waste minimization.

Gulf South Research Corporation - 2 years
Phase I Environmental Site Assessments - 15

DENISE ROUSSEAU FORD
Qualified Environmental Professional
Statement of Qualifications

Education: M.S., Civil and Environmental Engineering, Louisiana State University
B.S., Geology, Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder

Professional Organizations: Louisiana Brownfields Association (LBA) charter and founding member, 2006-2007 acting Executive Director

Experience: **Gulf South Research Corporation – 3 months**
Performs NEPA EA investigations and Phase I ESAs

Louisiana State University – 11 years
Preformed numerous technical reviews of Phase I and Phase II environmental site assessments, and cleanup action plans for non-profit organizations and municipalities involved in Brownfields transactions.

Performed technical reviews of various Superfund documents (including PAs, PA/SIs, RI/FSs and others) at sites in Corpus Christi, TX; Lake Charles, LA; Alsen, LA and other sites throughout EPA Region 6.

GDC Engineering – 3 years
Worked as an environmental geologist and project manger in the field of hazardous waste remediation. Specific projects included groundwater investigations at Deltech, in Baton Rouge, LA and DOW Chemical in Plaquemine, LA.

MARIA BERNARD REID
Environmental Professional
Statement of Qualifications

Education: B.S. – Forest Management – Louisiana State University
M.S. – Agricultural Economics and Agribusiness, Natural Resources Policy and Environmental Management and Planning – Louisiana State University

Training: HAZWOPER – 40-hour hazardous waste responder, current refresher
USFWS Endangered Species Act Section 7: Interagency Consultation Training – 40-hour course
Wetland Delineator Training – 40-hour course

Experience:

Soil and Water Conservation District: Washington County, Arkansas – 2 years
Beaver Lake/White River Water Quality Technician – Prepared nutrient management plans for area ranchers, and planned and implemented Best Management Practices for nutrient management and water quality and soil erosion protection.

Gulf Engineers and Consultants: Baton Rouge, Louisiana – 1.5 years
Environmental Scientist – Conducted wetland delineations and threatened and endangered species surveys and prepared NEPA documents.

Gulf South Research Corporation – 3 years
Natural Resources - Conducted wetland delineations, threatened and endangered species surveys, and environmental site assessments, and prepared NEPA documents.

APPENDIX E
CONTACT REPORTS

Phone Log/Contact Report

Project No.:	80600105s	Date:	3-8-07	Time:	8:45
Project Name:	Jefferson Parish PS Stormproofing				
Employee:	Steve Oivanki	Person Contacted:	Richard Honea		
Organization:	Jefferson Parish Dept. Public Works	Telephone No.:	Personal contact		
Reason for Call/Topics Discussed:	Conditions at the Lake Cataouatche Pump Station #1				
Copies to:	file				

Comments: Mr. Richard Honea, Operator II for the Lake Cataouatche Pump Station, was interviewed during the site visit to the station. Mr. Honea has been an operator at the station for the past five years. He recalled that the old station was built about thirty years ago. He stated that there was nothing but swamp on the site prior to construction. He stated that the wastewater on site is handled by a septic system, and potable water is supplied by well onsite. Lubricating oil and other fluids are stored inside the station and in several other locations on the grounds. Used oil is kept in 55-gallon drums outside of the station for recycling by a licensed transporter. He noted that they are overdue for used oil pickup by the transporter. Hurricane Katrina did not flood the station. He did not know the PCB content of the transformers, which are owned and operated by the local utility. He knew of no environmental concerns at the station, and there had been no spills or other incidents since he has been employed there. He noted that there is a SPCC plan on the site. He stated that each pump station (No. 1 and No. 2) has its own fuel supply and generators, and can operate independently.

Decisions/ Agreements Reached:

Action Items: Information added to report