



DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

November 25, 2013

REPLY TO
ATTENTION OF:

Operations Division
Regulatory Branch
Project Manager: Brenda A. Archer
Phone#: (504) 862-2046

SUBJECT: MVN-2013-01250-MA

PUBLIC NOTICE

Public Notice Purpose: Pursuant to Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344), the U.S. Army Corps of Engineers, New Orleans District, Regulatory Branch is soliciting comments from all interested parties on the development, utilization and long-term management of a proposed mitigation bank. The purpose of this mitigation bank is to provide compensatory mitigation for unavoidable impacts to wetland resources, including other waters of the United States, that result from projects authorized through the Department of the Army permit program.

PROPOSED SPRING BAYOU MITIGATION BANK IN AVOYELLES PARISH

NAME OF APPLICANT: Wetland Mitigation Strategies, LLC c/o Headwaters, Inc,
Attention: Clay Cromwell, Post Office Box 820188 Vicksburg, Mississippi 39182

LOCATION OF WORK: In Section 6 and 7, Township 2 South; Range 5 East, approximately 104.3 acres located approximately 4.0 miles south of the town of Plaquemine, Louisiana, in Avoyelles Parish, as shown on the attached prospectus. (Latitude 30.907562, Longitude -91.996227). Hydrologic Unit Code: 08080102.

CHARACTER OF WORK: The applicant proposes to establish a wetland mitigation bank by degrading agricultural ditches and crawfish levees, cross-disking field drains, plugging the ends of those field drains, removing culverts in the perimeter agricultural drains, removing access roads and planting appropriate bottomland hardwood (BLH) tree seedlings in order to re-establish a sustainable BLH forested wetland that could be used as compensation for unavoidable impacts to wetlands associated with Department of the Army (DA) permits authorized under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Additional details of the proposed restoration plan are attached for review in the mitigation banking prospectus.

The Corps of Engineers is soliciting written comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties. The comment period will close **30 days** from the date of this public notice advertisement. Written comments, including suggestions for modifications or objections to the proposed work, stating reasons thereof, are being solicited from anyone having interest in this prospectus. Letters must reference the applicant's name and the subject number, be addressed and mailed to the above address, ATTENTION: REGULATORY BRANCH.

You are requested to communicate the information contained in this notice to any other parties whom you deem likely to have interest in the matter.

Martin S. Mayer
Chief, Regulatory Branch

Enclosure

PROSPECTUS
SPRING BAYOU MITIGATION BANK
AVOYELLES PARISH, LOUISIANA

Prepared for

U.S. Army Corps of Engineers
New Orleans District
7400 Leake Ave.
New Orleans, Louisiana 70118

Submitted by

Wetland Mitigation Strategies, LLC
One American Place, Suite 820
Baton Rouge, LA 70825

Prepared by

Headwaters, Inc.
P.O. Box 820188
Vicksburg, MS 39182



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Prospectus
Wetland Mitigation Strategies, LLC
Spring Bayou Mitigation Bank
Avoyelles Parish, Louisiana

Wetland Mitigation Strategies, LLC (hereinafter the Sponsor), submits this prospectus to the U.S. Army Corps of Engineers, New Orleans District (New Orleans District), and the Interagency Review Team (IRT) to initiate evaluation of the proposed Spring Bayou Mitigation Bank (SBMB) in accordance with 33 CFR 332.8(d)(2). The SBMB is being proposed as a first phase of an umbrella bank as the Sponsor expects to have additions that would be located abutting, adjacent or nearby to the proposed bank site. The details pertaining to the use and operation of this site as a mitigation bank will be specified in the subsequent mitigation banking instrument (MBI). The proposed bank is located on a tract owned by Sponsor in southern Avoyelles Parish, 4.0 miles south of Plaquemine and 11.32 miles southeast of Bunkie (Figures 1, 2 and 3). The 104.37 acre tract is located approximately 3.5 miles west of the Bayou De Glaises Diversion Channel and the West Atchafalaya Basin Floodway, 11.3 miles west of the Atchafalaya River and is centered on the point N30.907562 – W91.996227, within:

- Township 2 South, Range 5 East, Sections 6 and 7.

The goal of the SBMB is the cumulative re-establishment of 102.09 acres of bottomland hardwoods (BLH) within the 104.37 acre parcel. SBMB will also re-establish riparian buffer zone within the headwater reaches of Spring Bayou, which has been identified on historical aerials, as dissecting the northern portion of the site.

SBMB is located in the Atchafalaya – Vermillion basin and the Bayou Teche watershed. The site is also located within the Bayou Dubrock, Spring Bayou and slightly larger Bayou de Glaises Diversion Channel floodplain. Much of the Bayou de Glaises Diversion Channel floodplain consisted historically of bottomland hardwoods, bald cypress sloughs and scrub/shrub swamp hardwoods. However, as with many floodplains much of this area was deforested and converted to agricultural uses. The Bayou de Glaises Diversion Channel floodplain also represents an important flyway for migratory bird species, such as, waterfowl and neotropical migrants, as well as threatened and endangered species, such as, the Louisiana Black Bear.

The site was historically a bottomland hardwood forest and present site conditions are suitable for restoration using commonly employed methods (i.e., removal of hydrologic impediments, backfilling of ditches, ripping and tree planting). Given prior successes using these techniques coupled with the size of the project, the site will require little long-term management or maintenance, other than protection, yielding a self-sustaining aquatic resource.

1.0 OBJECTIVES

1.1 Current Habitat Types and Land Uses (Figure 4)

Habitat Type	Land Use	Acreage
Wetlands	Pasture/Agricultural	104.21
Non-RPW Streams	Streams	0.16
Total	-	104.37

1.2 Proposed Mitigation Bank Habitat Types (Figures 5 and 6)

Habitat Type	Acreage	Mitigation Type
BLH	102.09	Re-establishment
Stream	1764.62 LF (0.16 acres)	Stream Restoration
Out Parcel	2.12	Non-Mitigation
Total	104.37	----
Total Wetlands	102.09	

1.3 Aquatic Functions to be Restored

The existing drainage and hydrology is described in Section 3.1.3.

The degradation and filling of ditches and the removal of pertinent crawfish pond levees will restore natural sheet flow across the property and flow through natural sloughs. Water that is currently routed through man-made ditches or detailed by levee segments will again be allowed to sheet flow across the property and to flow through natural sloughs, thereby retaining surface water and upper soil saturation as it did historically. The stream and riparian buffer restoration of the unnamed tributaries of Spring Bayou will also help to create more historically natural drainage patterns. Some of the natural drainages that have been straightened to increase efficiency will be restored to their original sinuous courses.

The stream reaches observed within the site are relegated to natural unnamed tributaries of Spring Bayou. The proposed bottomland hardwood restoration efforts are intended to further enhance the functions and services of the stream reaches present within the site. It is not however, proposed to conduct in-stream restoration as a part of the bank. As mentioned, the project will enhance and conserve riparian buffer zones along the stream reaches and, more importantly, within the Spring Bayou and Bayou Dubrock floodplain and contiguous wetlands identified throughout the Bank Site.

Soil preparation and vegetative plantings will be used to restore natural vegetation across the property. Long-term maintenance, as necessary, will be exercised to prevent colonization by noxious plants, erosion along interfaces of drainage ways and trespass vandalism. Vegetative plantings, as well as the restoration of the historic hydroperiod across the property, will create improved wildlife habitat as well as benefiting water quality as described below in Section 1.4.

1.4 Water Quality

The Vermilion-Teche River Basin lies in south central Louisiana. The upper end of the basin lies in the central part of the state near Alexandria, and the basin extends southward to the Gulf of Mexico. The basin is bordered on the north and northeast by a low escarpment and the lower end of the Red River Basin. The Atchafalaya River Basin is located to the east, and the Mermentau River Basin is found to the west.

The SBMB project area is located in the drainage area to subsegment 060207 as designated by Louisiana Department of Environmental Quality (LDEQ), which includes the Bayou des Glaises Diversion Chanel/West Atchafalaya Borrow Pit Canal – from Bayou des Glaises to Bayou Courtableau.

The designated uses for subsegment 060207 are Fish and Wildlife Propagation (FWP) and Primary Contact Recreation (PCR). LDEQ listed subsegment 060207 as “impaired” for both uses in its 2012 Louisiana Water Quality Inventory: Integrated Report, Fulfilling Requirements of the Federal Clean Water Act Sections 305(d) and 303(d), Vermilion-Teche River Basin (06), LDEQ listed the following reasons for listing the subsegment as “impaired” for FWP:

- Carbofuran use in irrigated and non-irrigated crop production
- Nitrate/Nitrite caused by unknown sources
- Dissolved oxygen caused by unknown sources
- Phosphorus caused by unknown sources
- Sedimentation/Siltation caused by irrigated and non-irrigated crop production
- Total suspended solids (TSS) caused by irrigated and non-irrigated crop production
- Turbidity caused by irrigated and non-irrigated crop production

The LDEQ designated use of PCR for subsegment 060207 is characterized in the most recent LDEQ 303(d) list (2012) as “impaired” due to fecal coliform levels caused by on-site treatment systems (Septic Systems and Similar Decentralized Systems) and package plants or other permitted small flow discharges.

The removal of irrigated and non-irrigated crop production, filling of drainage features and planting of trees for this project will result in overall water quality improvements due to increased filtration and plant uptake, reduction of agricultural pesticides and herbicides, reduction of use of nitrogenous or phosphorous fertilizers, and minimization of sedimentation/siltation as well as TSS and turbidity (i.e., nonpoint source pollution prevention).

1.5 Wildlife Values

Bottomland hardwood forests provide important ecosystem functions, including maintenance of water quality, habitat for fish and wildlife species, regulation of flooding and stream recharge. In addition to the many species present in bottomland hardwood

forests, Spring Bayou seems properly sited to add to habitat and corridors of and for the Louisiana Black Bear. The Louisiana Department of Wildlife and Fisheries (LDWF) identified Avoyelles Parish as falling within the current range of Louisiana Black Bears in its Rare Animals of Louisiana publication. Spring Bayou is uniquely located between two very large forested areas and may serve as a connecting tract along with existing mature forests, Wetlands Reserve Program (WRP) and Conservation Reserve Program (CRP) parcels. It appears this property may serve the purpose of increasing habitat and reducing fragmentation and as an interconnecting corridor habitat for the Louisiana Black Bear. The restoration of the forest will also likely provide wintering habitat for neotropical migrants.

2.0 Bank Establishment

2.1 Management Summary

2.1.1. Agricultural Ditches

Agricultural ditches throughout the property will be degraded and filled to the maximum extent practicable. Figures 7 and 8 present the location of ditches to be filled. Small field drains will be cross-disked with a tractor to reduce their functionality and, if necessary, plugged where each empties into a larger drain. Figures 7 and 8 display the location of the field drains to be plugged.

Culverts will be removed and backfilled where they are located in artificial ditches or drains. Culverts located in natural sloughs or swales will be removed and the natural contour of the slough/swale restored in their place. Figures 7 and 8 present the location of the culverts to be removed/plugged.

2.1.2 Crawfish Pond Levees

Levee segments, which were prepared for crawfish farming will be degraded and removed to the maximum extent practicable. Figures 7 and 8 present the location of the levee segments traversing the Bank Site.

2.1.3 Soil Preparation

Following removal of access roads and crawfish pond levees and filling of ditches, Sponsor will mechanically prepare soils in the fields for vegetative plantings. Deep-ripping may be used to alleviate soil compaction and encourage air and water pore space for root growth. Herbicides may be used where necessary.

2.1.4 Vegetative Plantings

Following soil preparation, an appropriate combination of hard and soft mast producing bare-root stock will be planted. Species to be planted in the BLH habitat include native species, such as, Overcup oak (*Quercus lyrata*), Nuttall

oak (*Quercus nuttallii*), willow oak (*Quercus phellos*), water oak (*Quercus nigra*), cherrybark oak (*Quercus pagodafolia*), sweetpecan (*Carya illinoensis*), water hickory (*Carya aquatica*), sweetgum (*Liquidambar styraciflua*), Drummond red maple (*Acer rubrum drummondii*), baldcypress (*Taxodium distichum*), mayhaw (*Crataegus opaca*), sugarberry (*Celtis laevigata*), American elm (*Ulmus americana*), persimmon (*Diospyrus virginiana*) and green ash (*Fraxinus pennsylvanica*) and, if available, buttonbush (*Cephalanthus occidentalis*) (Appendix G). Planting success rates, escrow or bond sum release rates, and monitoring requirements will be consistent with other recently implemented New Orleans District approved mitigation banks.

2.1.5 Invasive/Noxious Species Control

Invasive and noxious plant species, such as, Chinese tallow tree (*Triadica sebifera*) will be removed using various techniques which may include pre and post-emergent herbicide applications, direct application by spray and/or injection, mowing and any other successful technique during initial planting. The percent cover of invasive plants will be monitored during short-term and long-term success monitoring and appropriate action taken, if needed.

2.1.6 Monitoring

At a minimum, monitoring reports shall be evaluated in the spring (when new growth makes identification practicable) of years 1, 3, 5, 8 and 10. Reports will be submitted by December 15th of each monitoring year.

2.2 Proposed Service Area

2.2.1 Primary Service Area

SBMB is proposed to primarily serve the Bayou Teche Cataloguing Unit 08080102 and secondarily serve the Atchafalaya Cataloging Unit 08080101. Use beyond this area will be determined on a case-by-case basis as deemed appropriate by the New Orleans District.

2.3 General Bank and Need and Technical Feasibility

SBMB is proposed to provide compensatory mitigation for New Orleans District approved projects within the Hydrologic Unit Code (HUC) 08080102 and secondarily HUC 08080101.

In addition to providing mitigation for activities associated with continued population growth, the proposed service area has a history of oil and gas exploration and production, including the development of the Tuscaloosa Marine Shale formation, federal water control projects and considerable linear activities, including transportation, power transmission and pipelines.

2.4 Future Ownership and Long-Term Management Strategy

2.4.1 Sponsor/Operations Manager/Long-Term Management

Wetland Mitigation Strategies, LLC
One American Place, Suite 820
Baton Rouge, LA 70825
POC: Mr. Andrew J. Harrison, Jr.

2.4.2 Landowner/Long-Term Ownership

Mr. Andrew J. Harrison, Jr.
Wetland Mitigation Strategies, LLC

2.4.3 Agent

Headwaters, Inc.
P.O. Box 820188
Vicksburg, Mississippi 39182-0188
POC: Mr. Clay Cromwell

2.4.4 Perpetual Site Protection Mechanism

SBMB will be protected in perpetuity by Conservation Servitude, pursuant to Louisiana Revised Statute 9:1271 *et seq.* The Conservation Servitude will be held by a conservation-oriented 501 (c)(3) organization to be determined, and will inure and run with the property title.

The Conservation Servitude will prohibit activities, such as, clear cutting, fill discharges, cattle grazing or other commercial surface development that would diminish the quality or quantity of restored wetlands.

2.4.5 Sponsor Qualifications

Wetland Mitigation Strategies, LLC (WMS) managed by Mr. Andrew J. Harrison, Jr., which will be the primary operator for bank land management and office operations. Mr. Harrison holds B.S. and M.S. degrees in wildlife management from Louisiana Tech University (1981) and Louisiana State University (1984). He previously managed wetland properties for Williams, Inc. focusing on multiple use opportunities and winter waterfowl habitat management. Mr. Harrison later attained a J.D. (1990) and an LL.M. (environmental law) (1991) from Loyola University School of Law and the George Washington University National Law Center, respectively. Following law school, he was assistant regional counsel at the U.S. Environmental Protection Agency, Region IV, for four years and spent an additional year on detail to the Environmental Enforcement Section of the Lands and Natural Resources Division of the U.S. Department of Justice. In

1996, Mr. Harrison commenced working on mitigation banks, including counseling, establishing and, for some, managing the business of banks. Since then, Mr. Harrison has worked on a number of mitigation banks and permittee responsible mitigation projects (PRMs) in the New Orleans (NOD) and Vicksburg (VKD) Districts. Wetland Mitigation Strategies, LLC currently operates some or all aspects of five (5) mitigation banks, four (4) in VKD and one (1) in NOD.

Mr. Harrison and WMS will be supported by Mr. Clay Cromwell and others of Headwaters who have considerable experience in mitigation banking in VKD and the Mobile District.

3.0 Ecological and Site Suitability

3.1 Summary of Current Site Conditions

3.1.1 Current and Previous Land Uses

SBMB lands are currently in agricultural row crop production and, to a lesser degree, crawfish farming. SBMB lands were historically BLH and were cleared for agricultural use (Figure 4).

3.1.2 Current Vegetation

Prior Converted Farmlands- As discussed, the subject property is predominated by an open field habitat type that has historically been utilized for agricultural row crop production purposes. Due to the topography, natural drainage patterns of the site and the overall property location, the preponderance of the open field complex has hydric (soils and hydrology) characteristics throughout. The Natural Resources Conservation Service (NRCS) has designated the property as prior converted farmland (PC) habitat.

The soils matrix color within the prior converted farmland habitat ranges from 4/1–5/1 (dark gray/gray) and 4/2-5/2 (dark grayish-brown/grayish-brown) to 5/3 (brown) on the 10YR Munsell Soil Color chart. A matrix color of 5/1 (gray), 4/4 (reddish-brown) appears on the 5YR Munsell soil color chart. There is a soil mottling present (~5% - 50%) with a soil mottle color of 4/6 (dark yellowish-brown), 5/6 (yellowish-brown), on the 10YR chart. Also, there is a soil mottle color of 5/4 (brown), 4/6 (strong brown) on the 7.5YR Munsell soil color chart, and a 3/4 (dark reddish-brown), 4/4 (reddish-brown) on the 5YR Munsell soil color chart.

3.1.3 Current Hydrology

The primary drainage pattern of the Bank Site is via overland flow through open field wetland habitats, previously described. The property is generally split with a portion of the flows conveyed through unnamed tributaries of Spring Bayou and Bayou Dubrock. Spring Bayou and Bayou Dubrock flow generally southeast into

Black Water Bayou and Bayou de Glaises Diversion Channel, located east of the subject property. Bayou de Glaises Diversion Channel is located along the west boundary of the Atchafalaya Basin.

3.1.4 Mapped Soil Types

Soils – As evidenced by the *Soil Survey for Avoyelles Parish Louisiana*, published in September 1986 by the USDA - Soil Conservation Service [now Natural Resources Conservation Service (NRCS)], the soils on the subject property primarily consist of Sharkey clay with other soils present, such as, Tensas silty clay, Dundee silty clay loam, and Gallion silt loam (Figure 10).

Sharkey clay is overwash, gently undulating, occasionally flooded series of gently undulating, poorly drained soil on low ridges and in swales on the Mississippi River alluvial plain. The soil is subject to occasional flooding for brief to very long periods. Slopes are short and choppy and range from 0 to 3 percent.

Based upon coordination efforts with the Avoyelles Parish, Louisiana, U.S.D.A. Natural Resources Conservation Service (NRCS), the property contains soils that would be considered as prime farmland soils. The site, however, has been used for agricultural production purposes for as long as apparent records show. In addition, the significance of the open agricultural fields is considered as “Prior Converted Farmland” (PC). PC is defined by the Soil Conservation Service (Section 512.15 of the National Food Security Act Manual, August 1988) as wetlands which were both manipulated (drained or otherwise physically altered to remove excess water from the land) and cropped before 23 December 1985, to the extent that they no longer exhibit important wetland values.

The normal circumstances for PC Farmlands generally do not support a prevalence of hydrophytic vegetative components and as such are not subject to regulation under Section 404 of the Clean Water Act. In most cases, because of the magnitude of hydrological alterations that have most often occurred on PC Farmlands, such farmland minimally if at all, meets the hydrology requirements as described within the 1987 Corps of Engineers’ **Wetlands Delineation Manual**. Given this, “waters of the U.S.” do not include PC farmland. Notwithstanding the determination of an area’s status as PC farmland by any other Federal Agency, for the purpose of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the Environmental Protection Agency (EPA). [is the last sentence necessary?]

If PC farmland is abandoned (512.17 National Food Security Act Manual as amended, June 1990) and wetland conditions return, then the area will be subject to regulation under Section 404 of the Clean Water Act. An area will be considered abandoned if for five (5) consecutive years there has been no cropping, management or maintenance activities related to agricultural production. In this case, positive indicators of all mandatory wetlands criteria, including hydrophytic vegetation, hydrology and hydric soils must be observed.

3.1.5 Property Encumbrances

The property is free of surface encumbrances.

3.1.6 Zoning and Adjacent Property Development

SBMB and adjacent property is within unincorporated land and is absent of zoning regulations. SBMB is connected to and primarily surrounded by natural tributaries and forested wetland areas, including large forestlands located northwest and southeast of the site and believed to be occupied by Louisiana Black Bears and considerable other wildlife. Spring Bayou and Bayou Dubrock flow in close proximity to the site providing connectivity between the large woodlots. However, fragmentation of these woodlots and drainage basins is evident, caused by the demand for agricultural commodities. The SBMB is positioned within the center of the agricultural fields and its restoration will reduce the current forestland fragmentation potentially restoring and preserving a wildlife corridor. The project will also reduce non-point source pollution through the elimination of agricultural production and the removal of improved drainage features. Further, the position of the mitigation site along Bayou Dubrock and tributaries of Spring Bayou will provide non-point source pollution filtration increasing water quality downstream from the project site.

3.1.7 Preliminary Jurisdictional Determination

The site was delineated in May of 2013 by Headwaters, Inc. Through consultation with the New Orleans District, A preliminary jurisdictional determination was issued on August 26, 2013 referenced as MVN-2013-01250-SR.

3.2 Water Rights and Hydrological Influences

3.2.1 Water Rights

Louisiana Civil Code, Article 490, treats water resources under the theory of absolute ownership and rule of capture, provided capture does not result in harm to neighbors.

3.2.2 Structural Hydrological Management

No culverts will remain after hydrologic improvements are made. However, if the implementation of a culvert for access is deemed necessary after a period of time, appropriate action will be taken with IRT approval for long term management of the site.

3.2.3 General Watershed Characteristics

3.2.3.1 Water Sources and Losses

The sources of water to the project area are currently direct precipitation and surface flow from all adjacent land from the west, south and north. Storm water flows across the site generally via overland flows into a reach of Bayou Dubrock located along the northeast portion of the subject property. A portion of the flows is also believed to flow generally southwest through unnamed tributaries of Spring Bayou. Spring Bayou is located to the south of the site flowing generally southeast into a reach of Bayou de Glaises Diversion Channel.

Avoyelles Parish is located in the east-central part of Louisiana. Marksville, the parish seat, is near the center of the parish and is about 30 miles southeast of Alexandria. The Red River forms part of the northern and eastern boundaries of the parish. It flows into the Atchafalaya River, which serves as the southeastern boundary of the parish. Other important streams are Bayou Choctaw, Bayou de Lac, Bayou Boeuf, Bayou des Glaises, Petite Riviere, La Vieille Riviere, Bayou Natchitoches and West Atchafalaya Diversion Canal. The Spring Bayou complex, Lac aux Perles, and Saline Lake are the largest lakes in the parish. Parishwide, about 52 percent of the land is cultivated cropland and pasture and 34 percent is woodland.

The total annual precipitation is 61.25+/- inches. Of this, 30 inches, or 50 percent, usually falls in April through September which includes the growing season for most crops.

3.2.3.2 Hydroperiod

Hydric soils indicate that the site is either currently inundated or saturated in the upper soil profile for at least 14 consecutive days per year or was subject to these conditions prior to conversion of the site to agriculture. This site is comprised primarily of Sharkey clay soils which, in this area, typically have a seasonal high water table between the surface and 24 inches below the surface during the months of December and April.

3.2.3.3 Drainage Area

The drainage area for the site, has been estimated based on topographic maps, aerial photography and LIDAR data. The historic/current drainage area is estimated to be approximately 449.70 acres (Figure 11). Natural ridges exist along Bayou Dubrock, Bayou Bruce and Spring Bayou.

4.0 Conclusion

In summary, the SBMB has the potential to re-establish 102.09 acres of BLH habitat, including 315.85 linear feet of riparian buffer zone along an unnamed tributary of Spring Bayou. These lands will be protected and maintained by Conservation Servitude. More detailed information regarding financial assurances, monitoring provisions, and credit release schedules will be provided in the subsequent draft MBI and will reflect current standards within the New Orleans District.

5.0 References

Code of Federal Regulations, Title 33, Parts 325 and 332 and Title 40, Part 230, as published on pages 19594-19704 in the Federal Register dated 10 April 2008.

United States Department of Agriculture – Natural Resources Conservation Service, Web Soil Survey, Avoyelles Parish, Louisiana.

<http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>

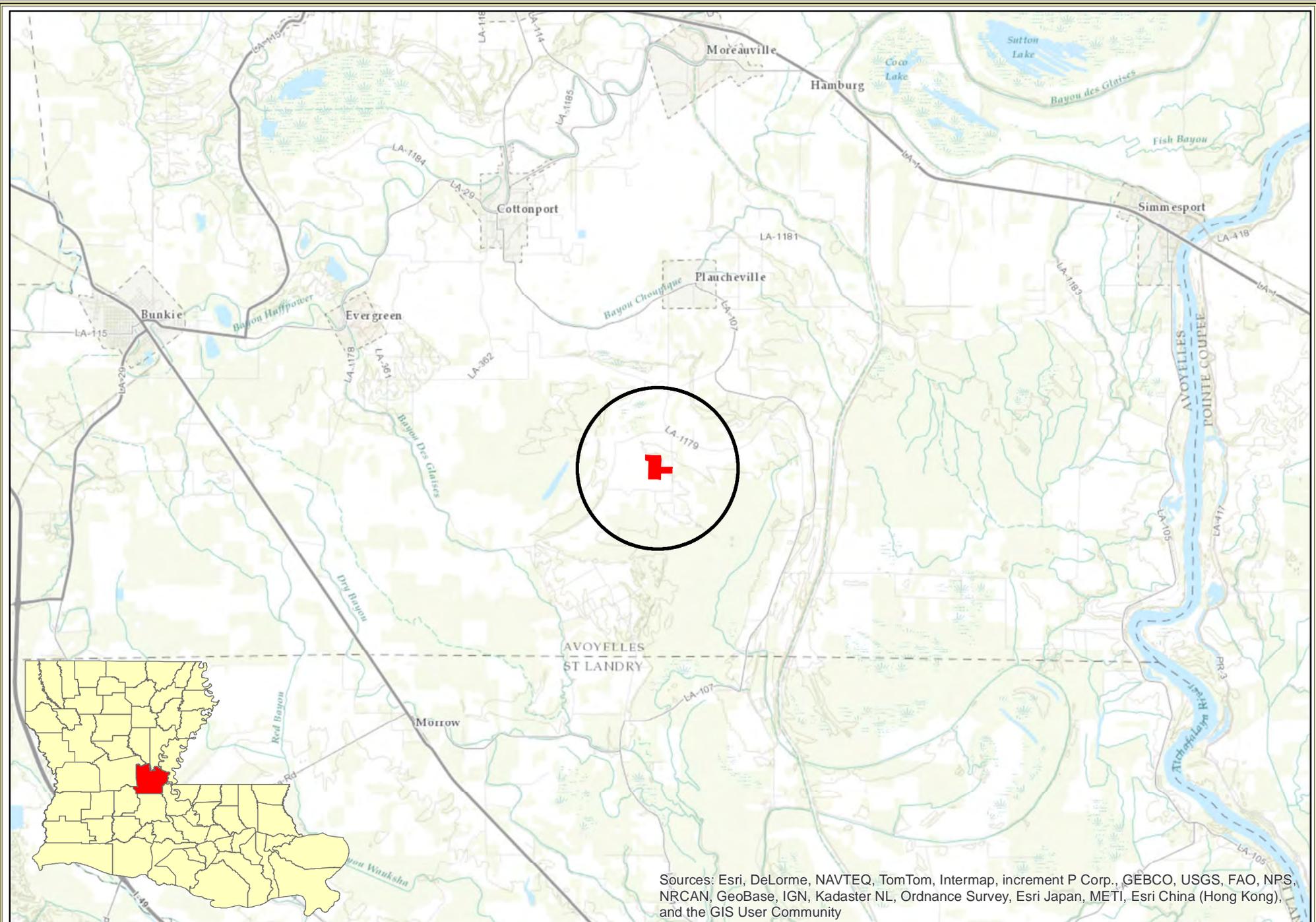
United States Department of Agriculture – Soil Survey of Avoyelles Parish, Louisiana, issued September 1986.

http://soils.usda.gov/survey/online_surveys/louisiana/avoyellesLA1986/Avoyelles.pdf

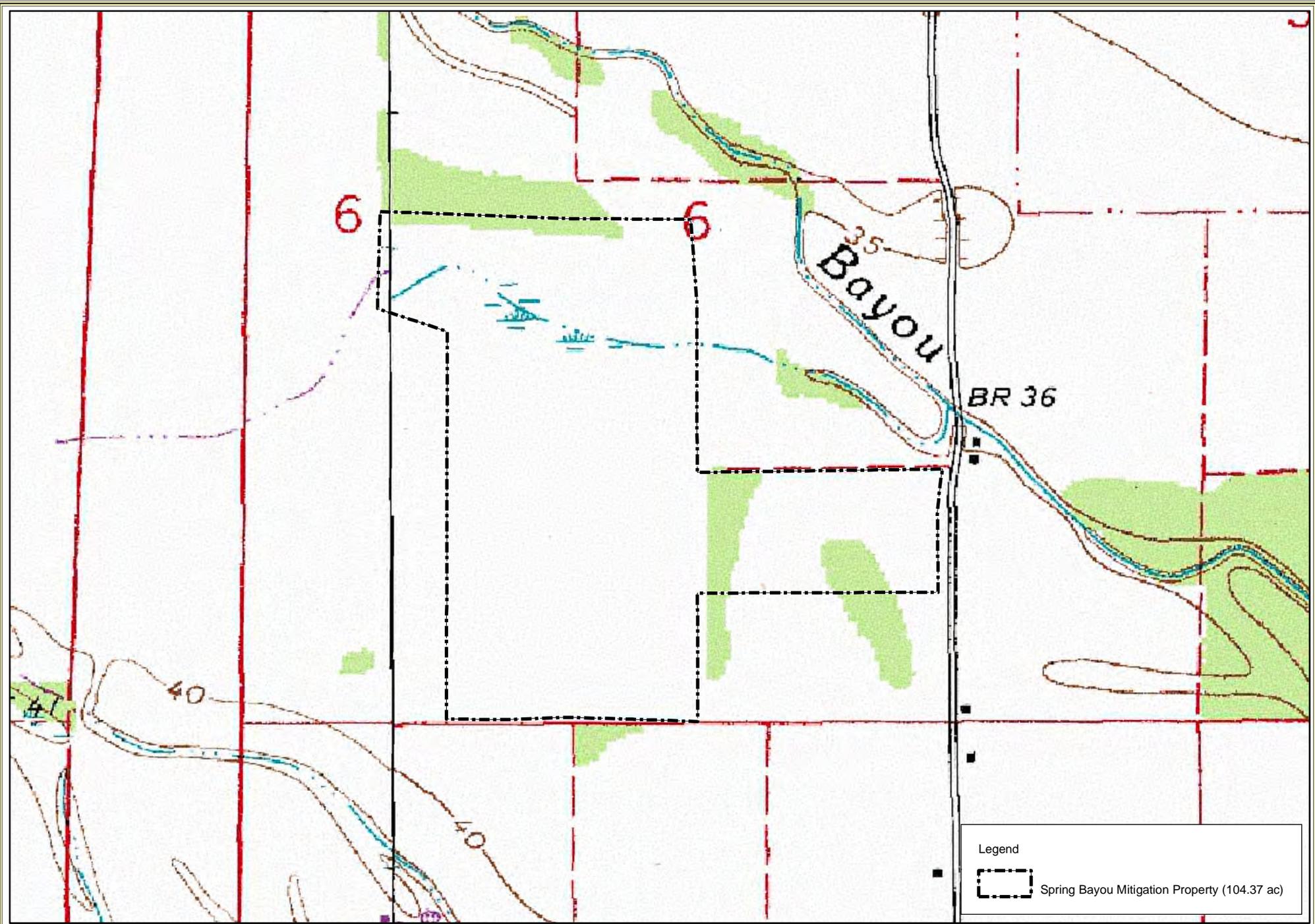
Louisiana Department of Environmental Quality, Louisiana Water Quality Inventory: Integrated Report (305(b)/303(d)).

<http://www.deq.louisiana.gov/portal/DIVISIONS/WaterPermits/WaterQualityStandardsAssesment/WaterQualityInventorySection305b/2012IntegratedReport.aspx>

Figures



Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community





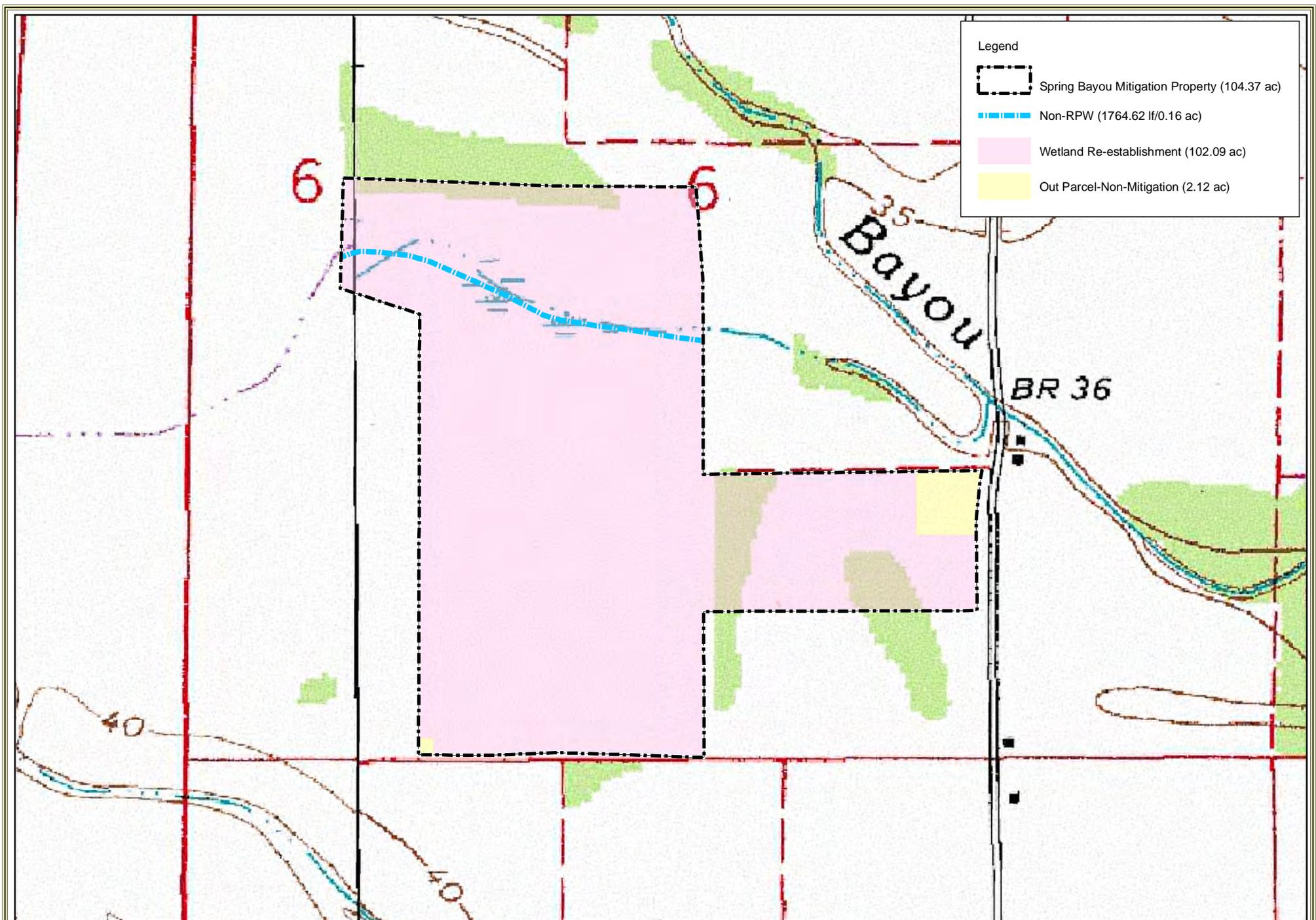
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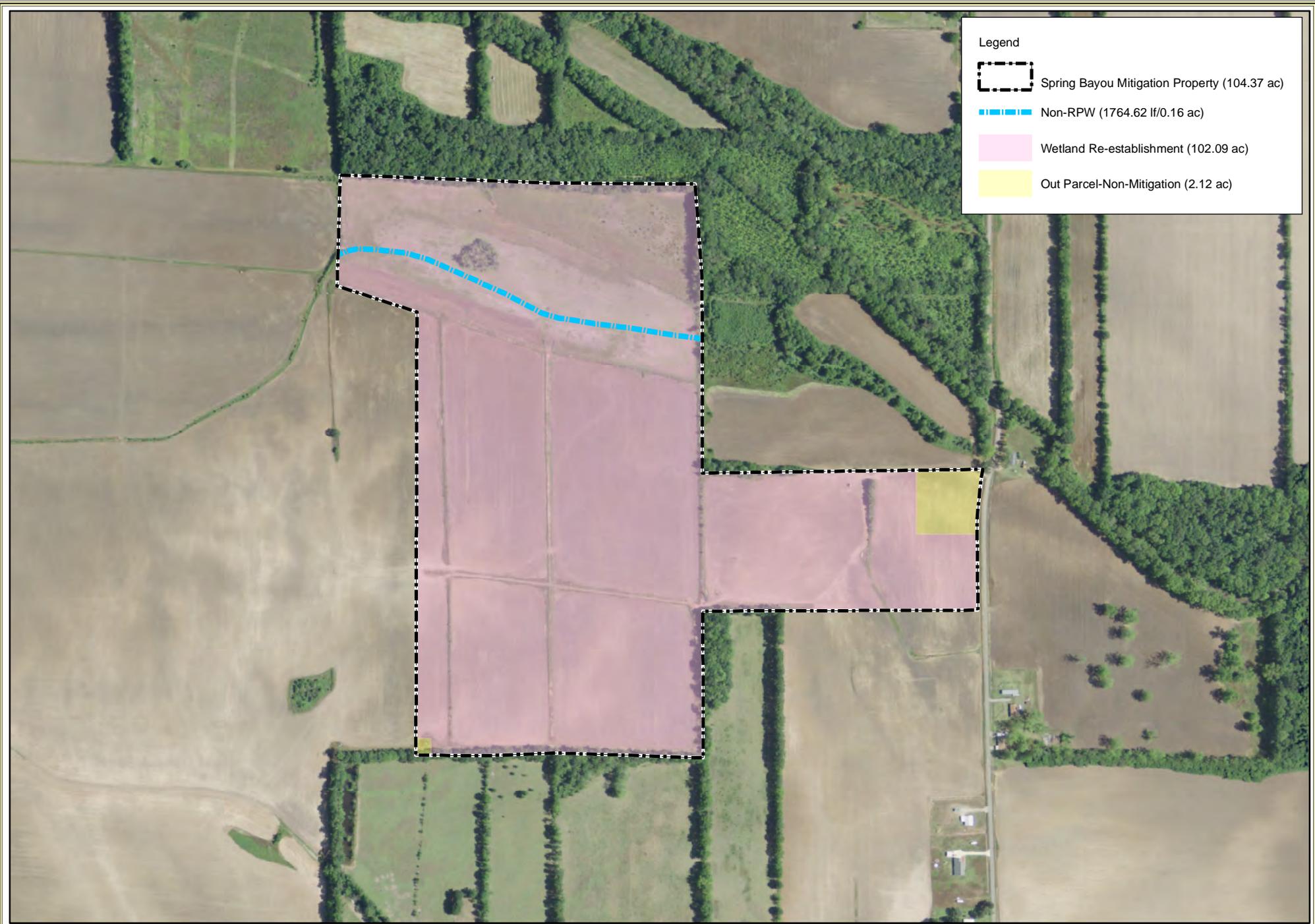
 Spring Bayou Mitigation Property (104.37 ac)



Legend

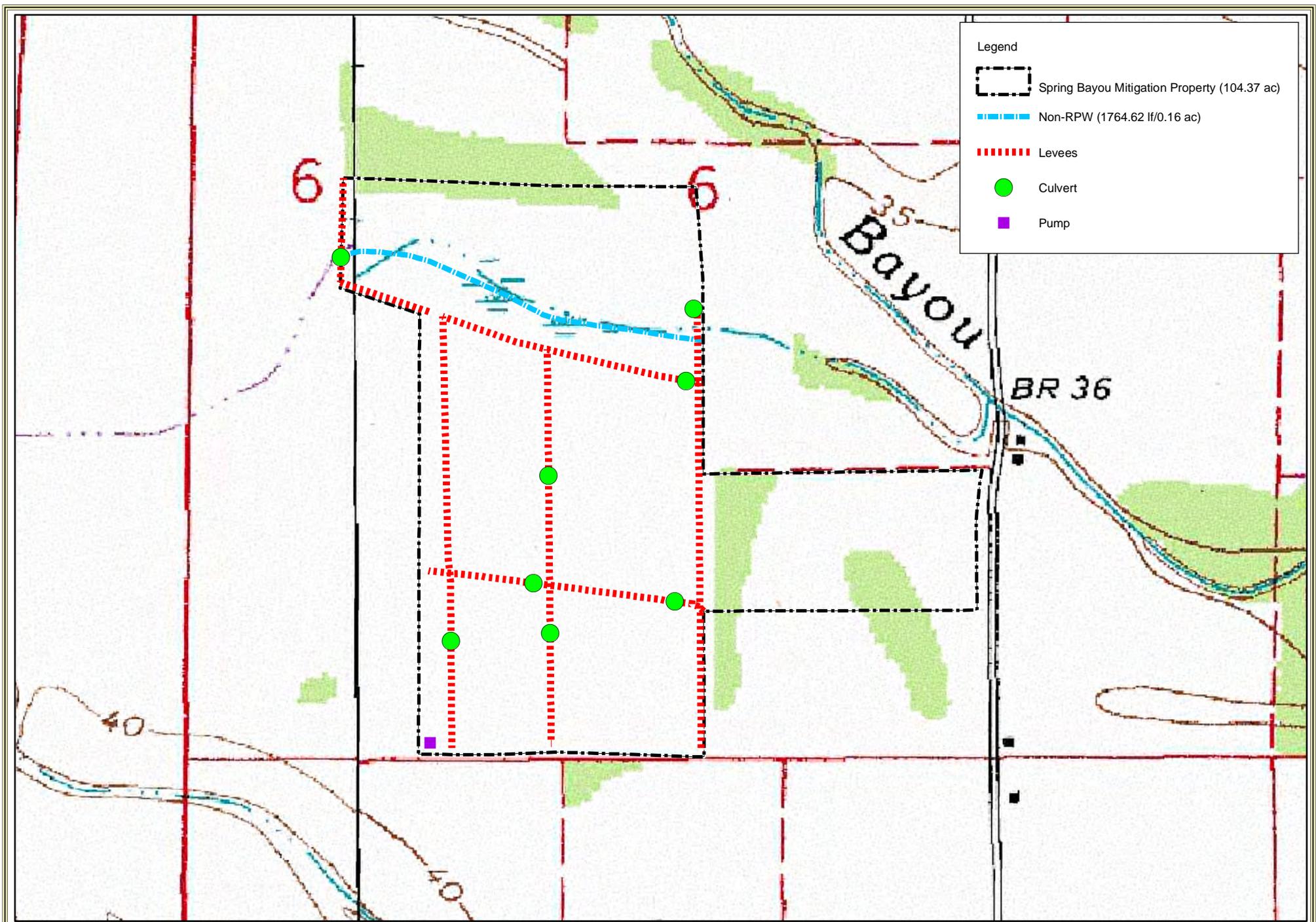
-  Spring Bayou Mitigation Property (104.37 ac)
-  Non-RPW (1764.62 lf/0.16 ac)
-  PC Farmland (104.21 ac)

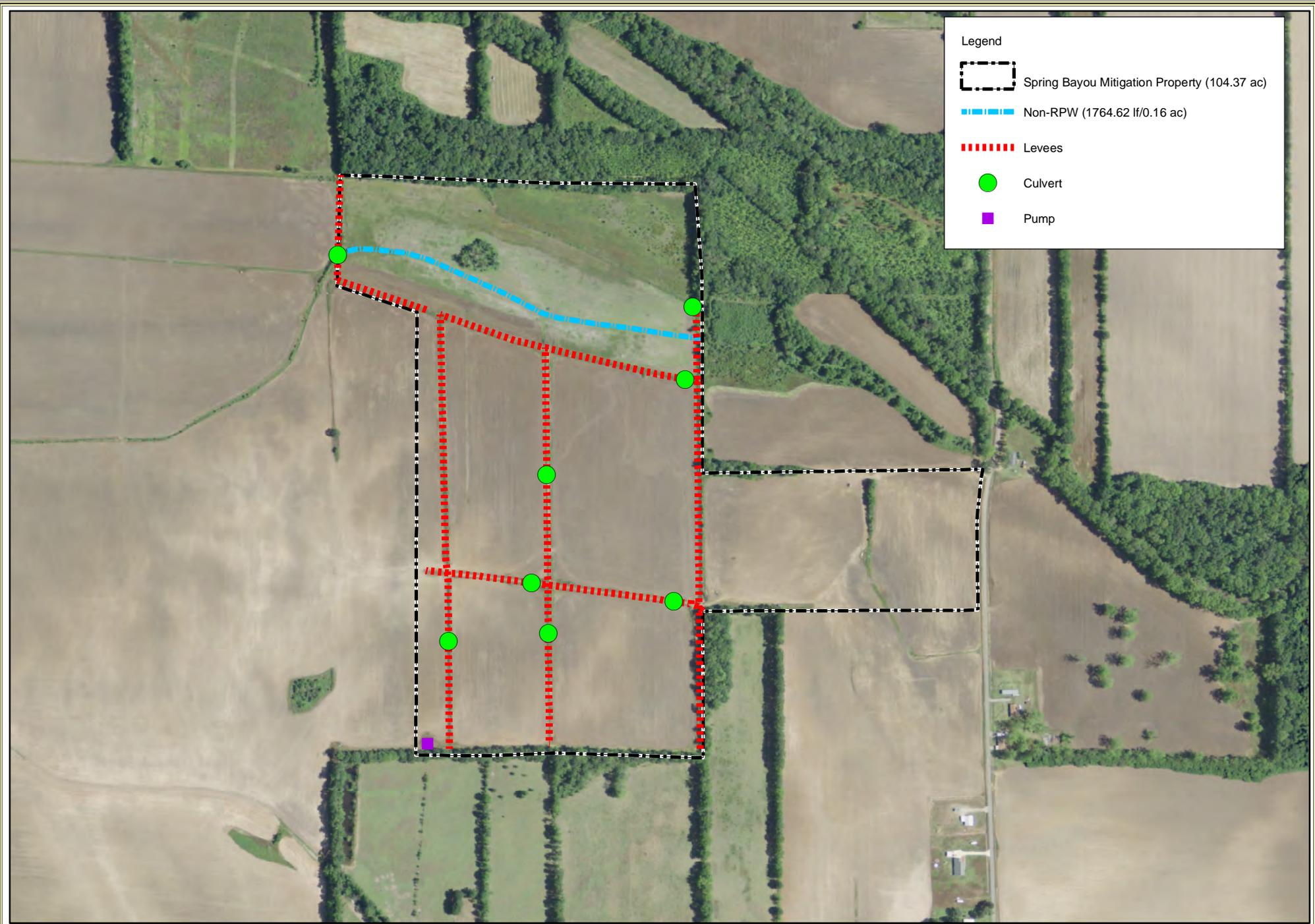


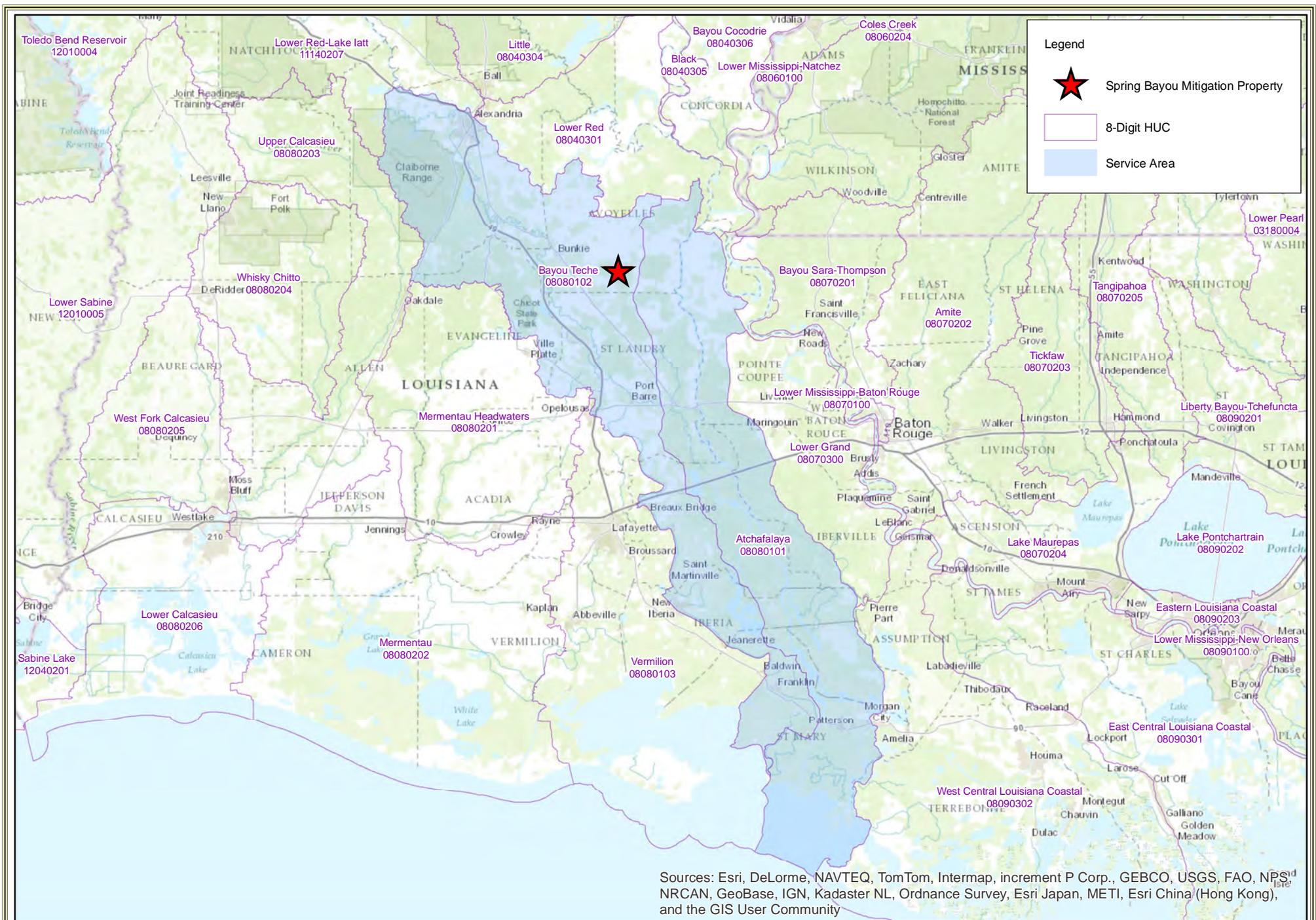


Legend

-  Spring Bayou Mitigation Property (104.37 ac)
-  Non-RPW (1764.62 lf/0.16 ac)
-  Wetland Re-establishment (102.09 ac)
-  Out Parcel-Non-Mitigation (2.12 ac)





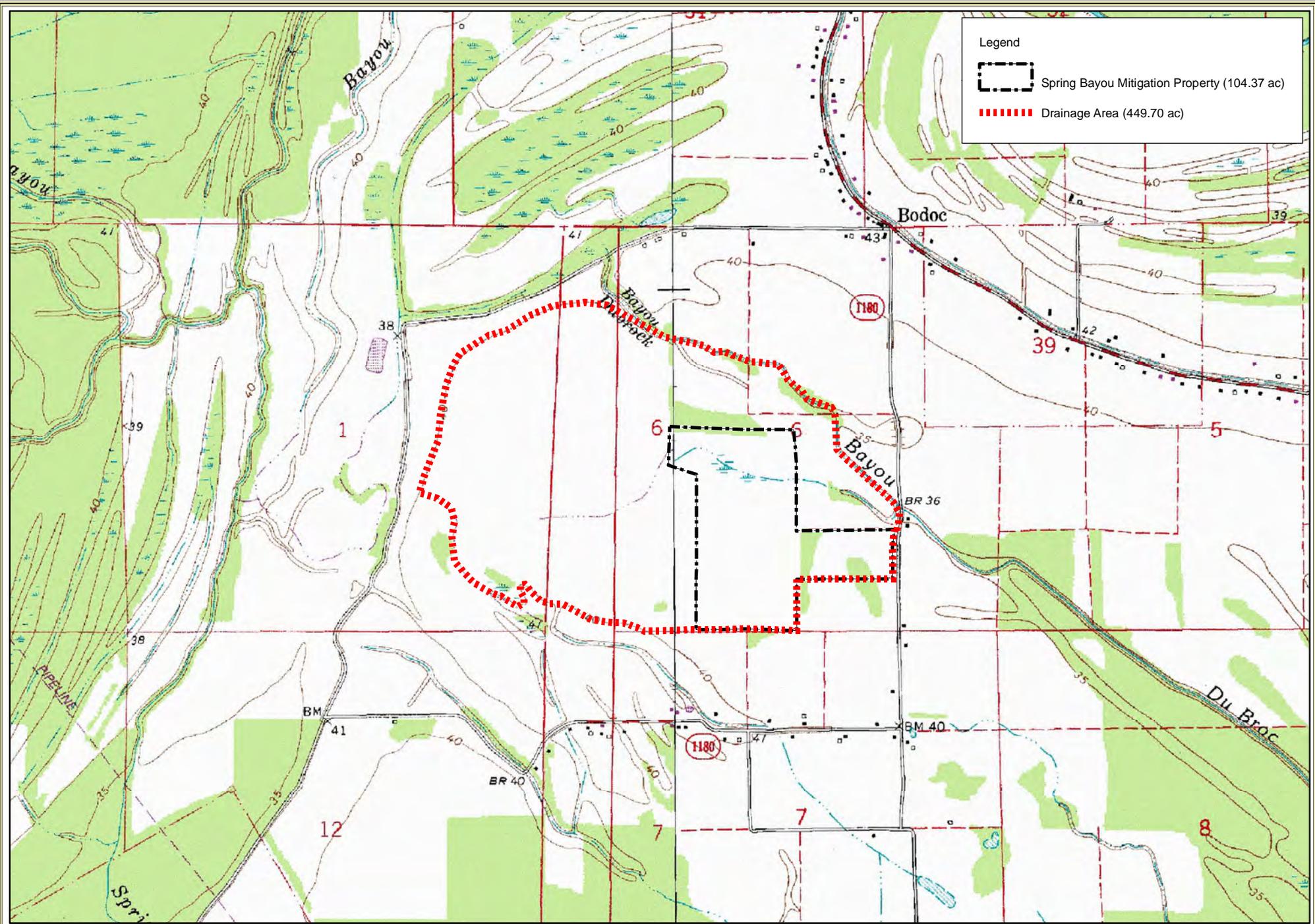


Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community



Legend

-  Spring Bayou Mitigation Property (104.37 ac)
-  De - Dundee silty clay loam
-  Ga - Gallion silt loam
-  Sa - Sharkey clay
-  Ta - Tensas silty clay

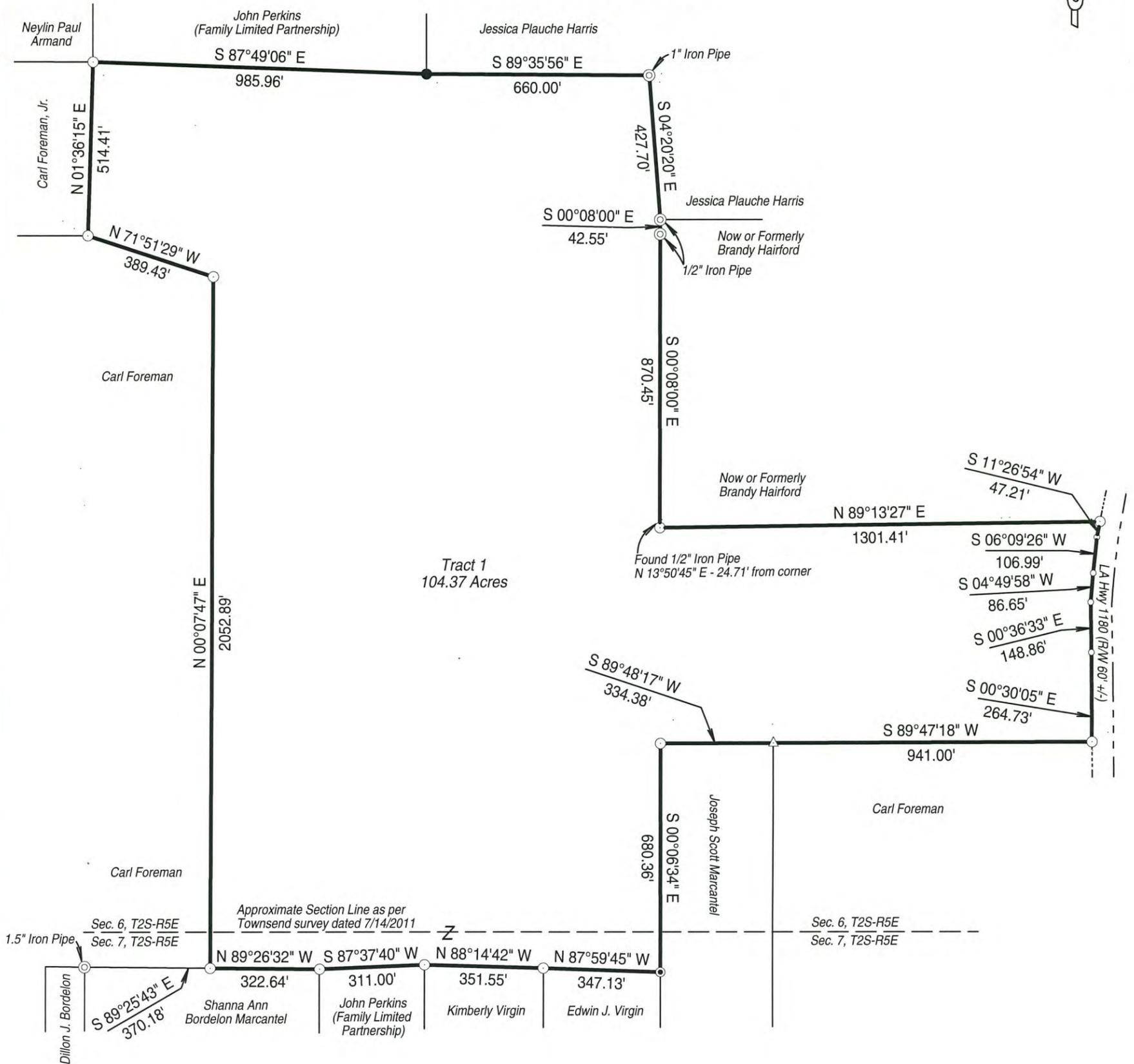


Appendices

Plat of Survey

Sec. 6 & 7, T2S - R5E

Avoyelles Parish



Legend:

- ⊙ Denotes Found Iron Pipe.
- Denotes Found 1/2" Iron Rod.
- ⊙ Denotes Found 5/8" Iron Rod.
- △ Denotes Found Axle.
- Denotes Set 5/8" Iron Rod.
- Denotes Calculated Corner.

This survey does not constitute:

1. Un-encumbered ownership.
2. Wetlands determination.
3. Environmental site assessment.
4. Sub-surface investigation.
5. All recorded and unrecorded rights of way and easements.

A plat of survey showing Tract 1 containing 104.37 Acres. The property is located in Sections 6 & 7, T2S-R5E, Avoyelles Parish, Louisiana.

There were no visible encroachments shown. This survey meets the "Minimum Standards for Property Boundary Surveys" for a Class "C" Survey as adopted by the Louisiana State Board of Professional Engineers & Land Surveyors, August, 2011.

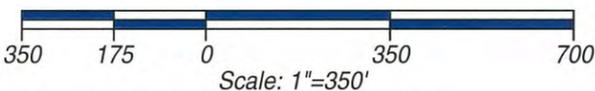
Survey For: Andrew Harrison
Requested By: Andrew Harrison

Basis of Bearings: Bearings are based on NAD 83 LA North Zone and were measured by GPS observation.

- Reference:
1. No title search was made or requested for this survey.
 2. Plats of Survey by Jessie P. Lachney dated December 15, 1988 and October 19, 2006.
 3. Plats of Survey by James W. Townsend dated May 2, 2009; July 14, 2011; and June 11, 2012.
 4. Plat of Survey by Carl Juneau dated January 28, 2003.
 5. Plat of Survey by Jared A. Couvillion dated September 24, 2012.

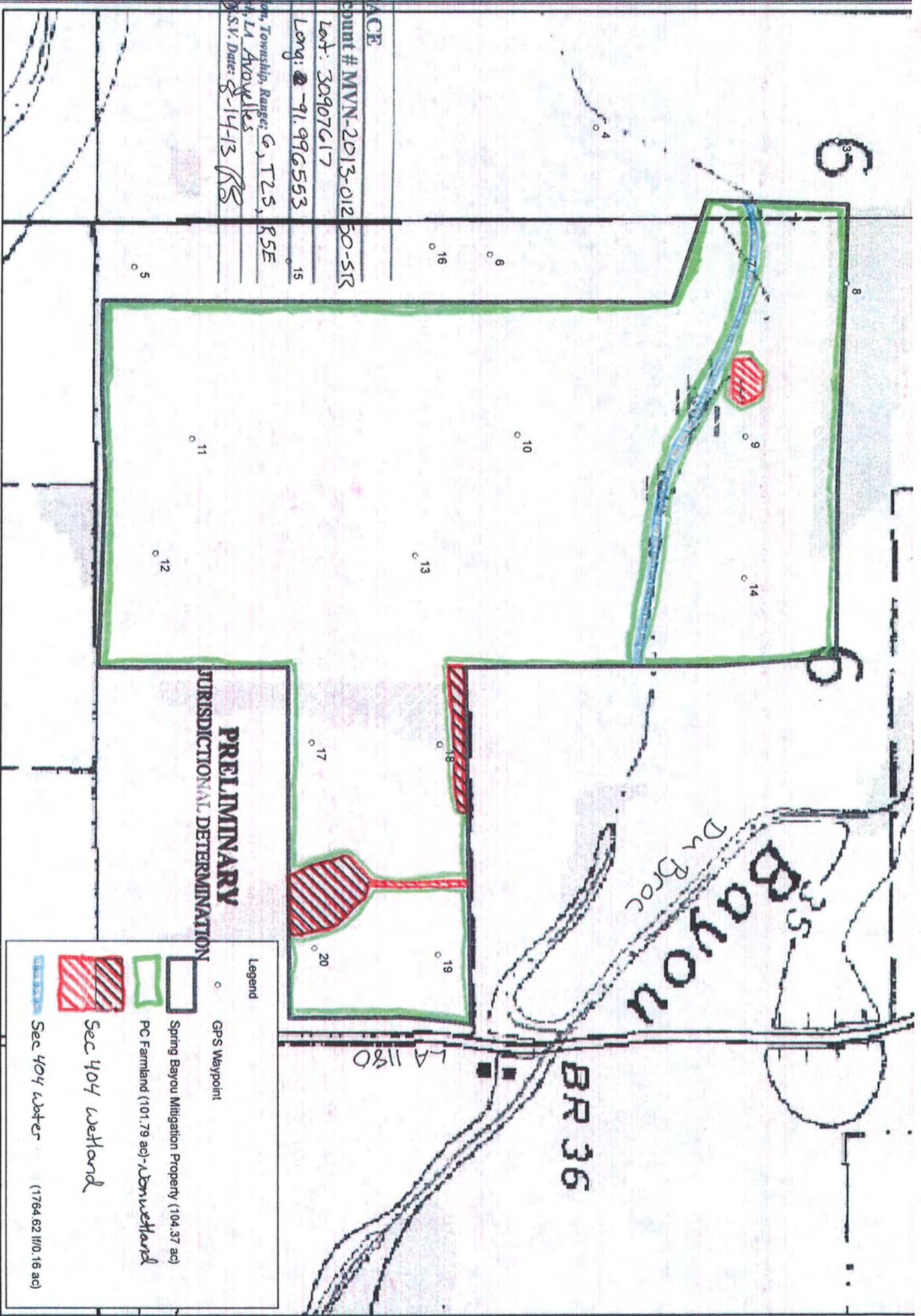


Surveyed By:
Jared A. Couvillion
Jared A. Couvillion, P.L.S.
La. Reg. No. 4931
Date: November 26, 2012



Jared A. Couvillion
Professional Land Surveyor
216 East Mark Street
Marksville, LA 71351
Phone: 318-253-7388

SACE
 Account # MVN-2013-01250-5R
 Lat: 30.907617
 Long: -91.996553
 Section, Township, Range: 6, T2S, R5E
 Parish, LA Avoyelles
 D.S.V. Date: 8-14-13 RS



**PRELIMINARY
 JURISDICTIONAL DETERMINATION**

Legend

- GPS Waypoint
- Spring Bayou Mitigation Property (104.37 ac)
- PC Farmland (101.79 ac)-Wetland
- Sec 404 wetland
- Sec 404 water (1764.62 ft/0.16 ac)

