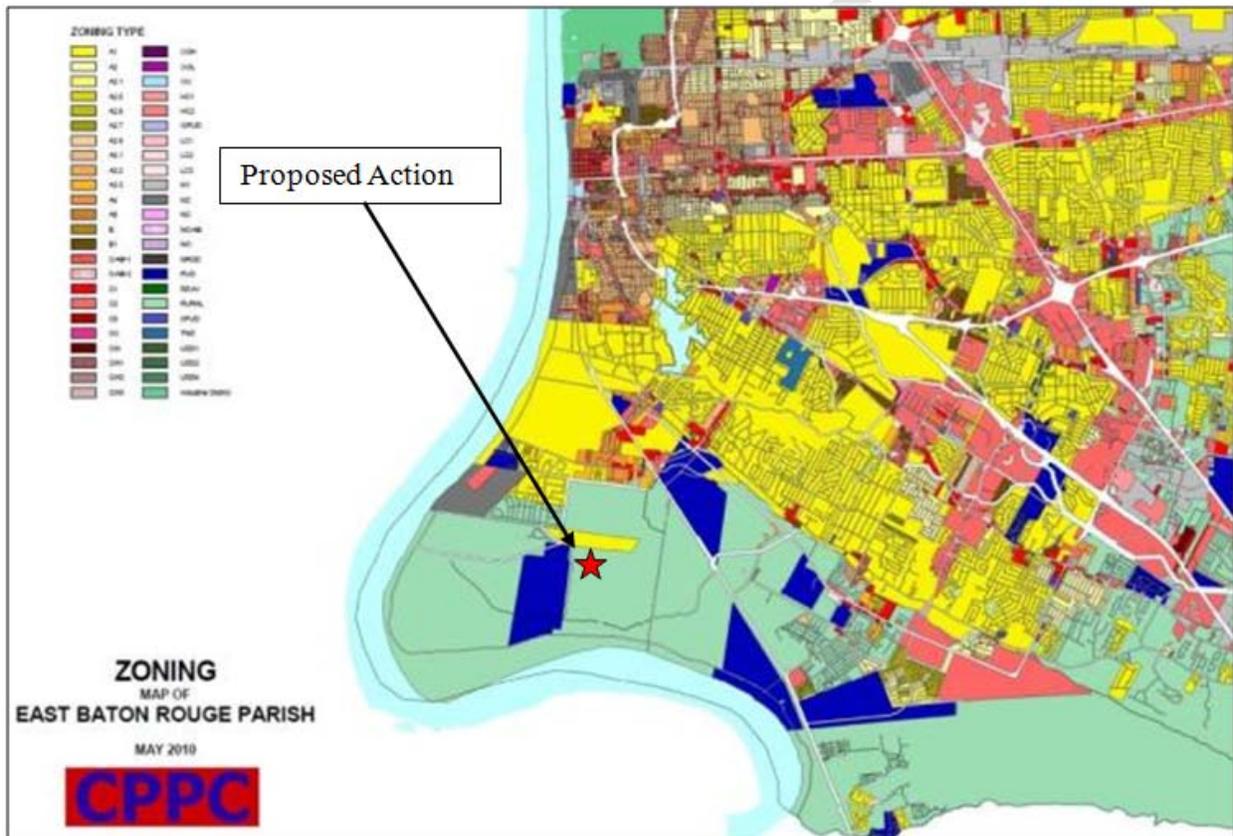


Zoning is permitted within the home-rule power of the City Parish as granted by the State of Louisiana. The land use and development of land are regulated through the classification of the Parish into various districts with permitted uses for each district. Zoning affects several aspects of the proposed action including intensity of development, height and bulk of development, required lot and yard sizes, and parking requirements. Additionally, zoning establishes standards for noise, signage, and landscaping. The Office of the Planning Commission is responsible for zoning and site plan review and maintains maps indicating the current official zoning on each parcel of land (Figure 7). The proposed action area is currently zoned as “rural” as shown in Figure 7; therefore, the proposed action is compatible with the current zoned land use. The project will be required to apply for a building permit and at that time will be required to undergo a Site Plan Review. The project will be required to meet all conditions stipulated within permits.



**Figure 7 - Zoning (City Parish Planning Commission, 2010)**

Alternative 1 – No Action

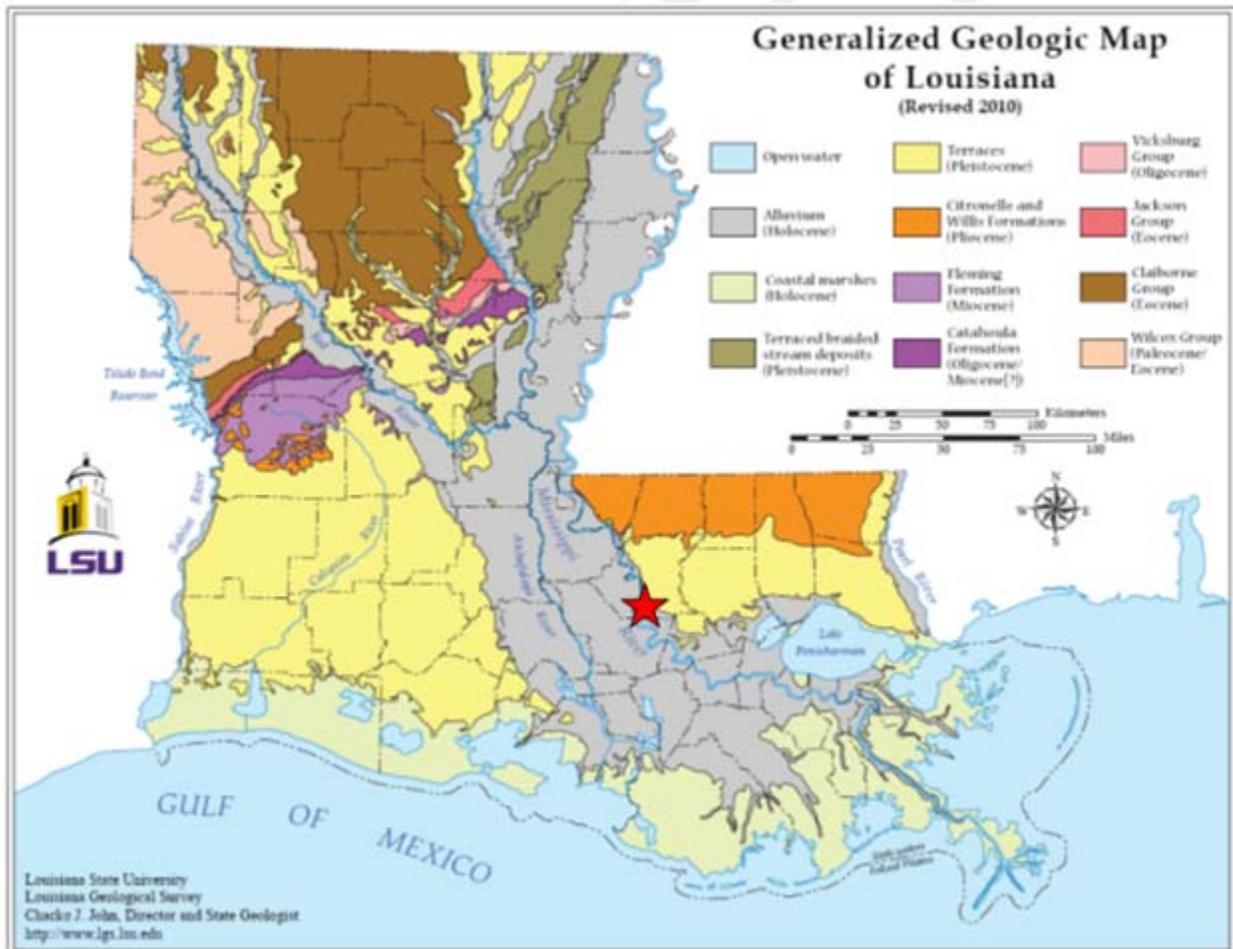
The no action alternative would conform to local land uses and would not adversely impact nearby and adjacent land uses or zoning.

Alternative 2 – Proposed Action: Reconstruct at Alternate Location

The proposed alternative would comply with land use regulatory codes and would not adversely impact nearby or adjacent land uses and zoning or represent an incompatible land use with near and adjacent uses.

**3.2 Geology and Soils**

East Baton Rouge Parish has three major physiographic features: the level and nearly level flood plain of the Mississippi River (Figure 8); the level and nearly level silt-mantled areas of the Prairie Formation; and the gently sloping, silt-mantled areas of the Montgomery formation. The Mississippi River flood plain (including the area of the proposed action) is made up of recent alluvium. It has low natural levees; narrow depressions, which are former channels; and broad, swampy depressions. The area in the southern part of the parish including the proposed site has been protected from flood by man-made levees. Also in this area are low natural levees, shallow swales, and broad back swamps. Some of the large back swamps lack a drainage outlet (NRCS, 1968 and 2007).



**Figure 8 - Generalized Geology Map of Louisiana (LSU, 2010)**

The LSU ARS and the proposed project sites are situated in the East Gulf Coastal Plain Physiographic Province of Louisiana, an area underlain by a thick wedge of unconsolidated alluvial and shallow-marine sediments. In this area, terrace deposits form a complex depositional sequence of alluvial deposits originating from ancestral streams and rivers. The main geological landforms present within the project site are interfluves, characterized by a relatively undissected upland or ridges between two adjacent valleys containing streams flowing in the same general direction (NRCS, 2007).

The East Baton Rouge Parish Soil Survey (Figures 9 and 10, NRCS Web Soil Survey, 2011) indicates two soil types within proximity of the project site including the Cancienne silt loam, 0 to 1 percent slopes, and the Schriever-Thibaut clays, gently undulating. The Cancienne silt loam major components include Cancienne and similar soils (88 to 100%) with inclusions of Carville soil with less clay in the subsoil (0 to 12%). This somewhat poorly drained moderately permeable soil is found on natural levees and delta plain landforms from silty alluvium parent materials. The surface layer is typically dark grayish brown silt loam, moderately acidic with very high water capacity and moderate shrink swell potential. The Schriever-Thibaut clays consists of shallow and deep, poorly drained, very slowly permeable soils that formed in clayey alluvium over fine-silty alluvium.



**Figure 9 - Web Soil Survey Mapper (NRCS, 2011)**

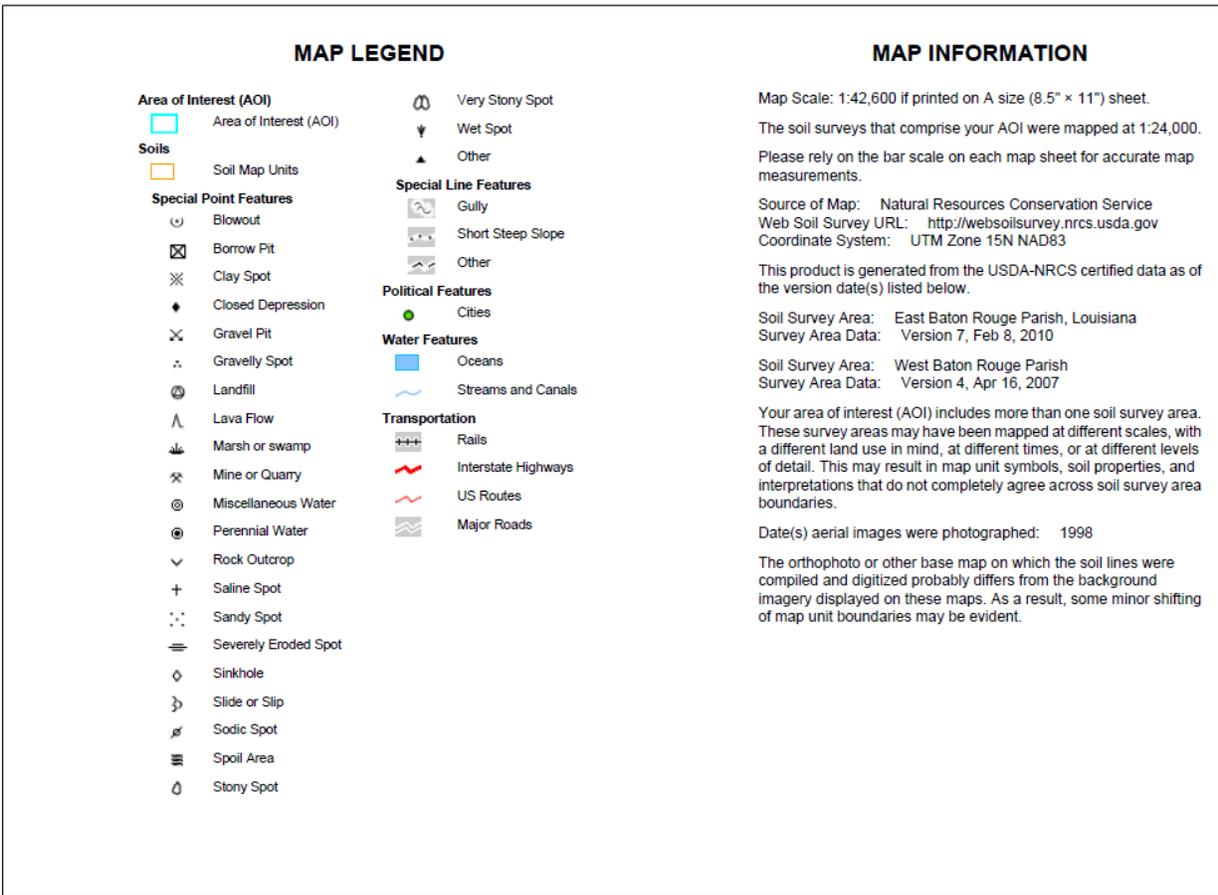


Figure 10 - Web Soil Survey Legend (NRCS, 2011)

The Farmland Protection Policy Act (FPPA: P.L. 97-98, Sec. 1539-1549; 7 U.S.C. 4201, *et. seq.*) was enacted in 1981 to minimize the unnecessary conversion of farmland to non-agricultural uses as a result of federal actions. Programs administered by federal agencies must be compatible with state and local farmland protection policies and programs. The Natural Resources Conservation Service (NRCS) is responsible for protecting significant agricultural lands from irreversible conversions that result in the loss of an essential food or environmental resource. Prime farmland is characterized as land with the best physical and chemical characteristics for the production of food, feed, forage, fiber and oilseed crops (USDA, 1989).

Alternative 1 - No Action

Implementation of the no action alternative would not impact the soils or geologic processes known for the area. The no action alternative would not result in conversion of farmland to non-agricultural uses.

## Alternative 2 – Proposed Action: Reconstruct at Alternate Location

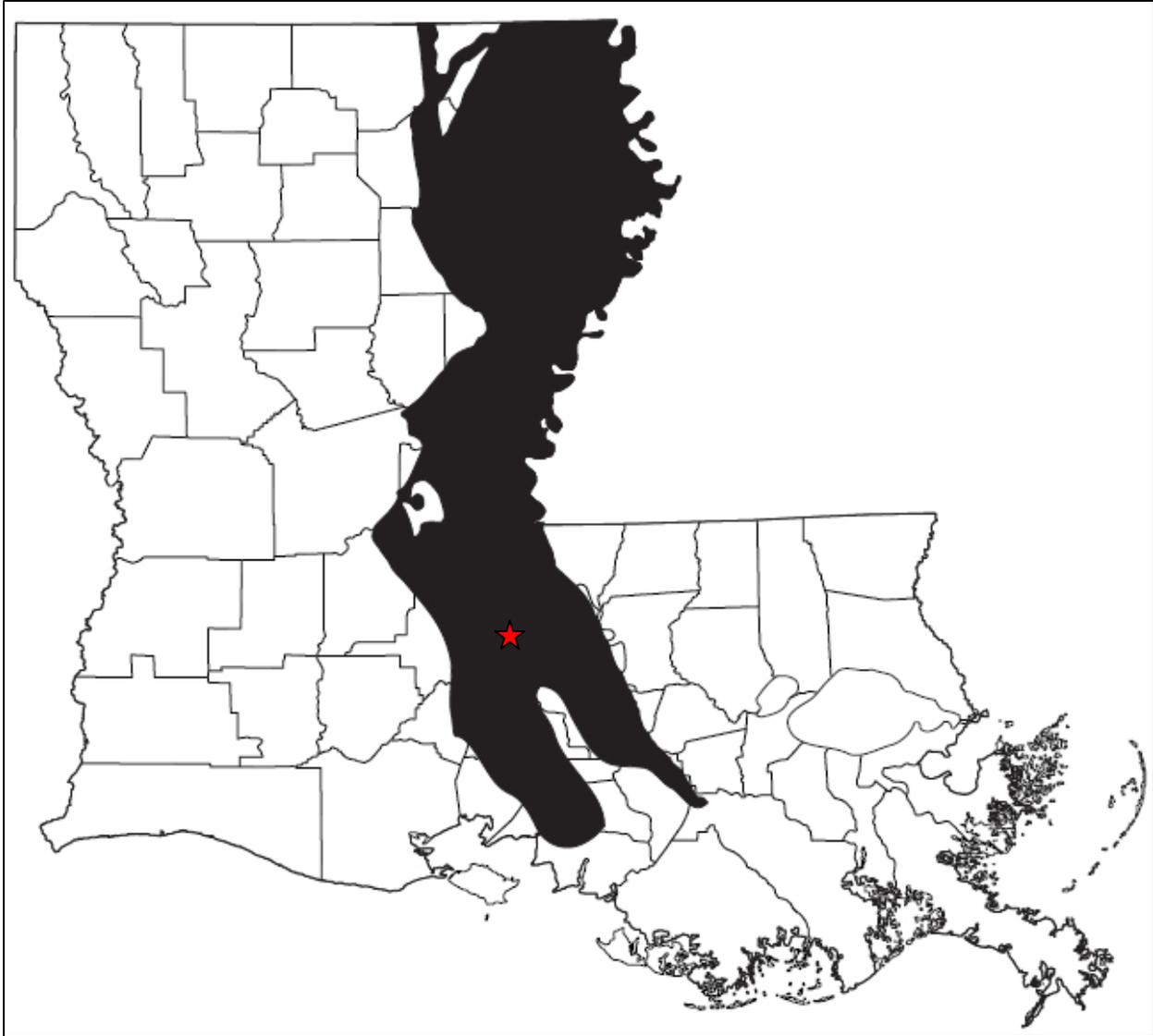
Construction of the new ARS facilities within an area that has already been disturbed, graded, and developed would not adversely impact or cause significant adverse disturbance of geology or soils as part of the site preparation. The project will also not result in conversion to non-agricultural uses of any Prime, or State-wide and locally important farmlands. Project activities will be required by the Louisiana Department of Environmental Quality (LDEQ) to observe precautions to control nonpoint source pollution from construction activities and further, will be required to prepare a Stormwater Pollution Prevention Plan and implement its conditions. The proposed site is generally flat but because of the proposed project's size, soils exposed from construction would be subject to erosion. Thus, silt fence and/or other required storm water quality Best Management Practices will be required by LDEQ during construction.

### **3.3 Water Resources and Water Quality**

#### **3.3.1 Surface and Groundwater**

East Baton Rouge Parish covers an area of approximately 293,000 acres between the Mississippi River and the Amite River. The parish has an extensive levee system along the Mississippi River; therefore, no substantial drainage occurs from East Baton Rouge Parish into the Mississippi River. Most of the parish is within the watershed of the Amite River. The Amite River flows generally to the southeast to Lake Maurepas, Lake Pontchartrain, and the Gulf of Mexico. Local site drainage occurs through well-defined swales and ditches. Discharge from the site ultimately flows south and east to merge with nearby surface water runoff (Figure 11).





**Figure 12 - Mississippi River Alluvial Aquifer (USGS, 2000)**

System	Series	Stratigraphic unit		Aquifer <sup>1</sup> or confining unit
Quaternary	Holocene ?	Mississippi River and other alluvial deposits		Mississippi River alluvial aquifer
	Pleistocene	Unnamed Pleistocene deposits		Shallow sands
				Upland terrace aquifer
Tertiary	Pliocene ?	Fleming Formation	Blounts Creek Member	“800-foot” sand
				“1,000-foot” sand
				“1,200-foot” sand
				“1,500-foot” sand
				“1,700-foot” sand
	Miocene		Castor Creek Member	Unnamed confining unit
			Williamson Creek Member Dough Hills Member Carnahan Bayou Member	“2,000-foot” sand
				“2,400-foot” sand
				“2,800-foot” sand
	?		Lena Member	Unnamed confining unit
Oligocene	Catahoula Formation	Catahoula aquifer		

<sup>1</sup>Clay units separating aquifers in the Baton Rouge area are discontinuous and unnamed.

**Figure 13 - Hydrogeologic Units in the Baton Rouge Area (USGS, 2007)**

The “1,200 Foot” Sand Aquifer of the Baton Rouge area is a major source of fresh ground water in a five-parish area, which includes East and West Baton Rouge, East and West Feliciana, and Point Coupee Parishes. In 2001, the “1,200 foot” sand was the fourth most heavily pumped of the 14 aquifers in the area. In 2001, about 20.8 million gallons per day was withdrawn from the “1,200 foot” sand and of this amount, approximately 55 percent was used for public supply, about 6 percent for power generation, and about 38 percent for industrial purposes. Pumpage from the “1,200 foot” sand has caused water-level declines in the Baton Rouge area. Also, previous studies have indicated the possibility that saltwater encroachment (horizontal movement) into freshwater areas has occurred (USGS, 2001a).

The “1,500 Foot” sand aquifer of the Baton Rouge area is a major source of fresh ground water in a five-parish area, which includes the same parishes of the “1,200 foot” sand. In 2001, the “1,500 Foot” sand was the fifth most heavily pumped aquifer of the 14 aquifers underlying the area. In 2001, about 17.8 million gallons per day was withdrawn from the “1,500 Foot” sand in the Baton Rouge area. Most of the water, about 14.5 million gallons per day was withdrawn in East Baton Rouge. Pumpage from the “1,500 Foot” sand has caused water level declines in the Baton Rouge area. Also, previous studies have shown that saltwater encroachment (horizontal

movement) into freshwater areas has occurred in response to pumpage. A prominent hydrogeologic feature in the vicinity of the site is the Baton Rouge fault, which extends from an area northeast of the proposed action through East and West Baton Rouge Parishes to west of the project area (the fault passes approximately three miles to the north). The southern limit of freshwater in the “1,500 Foot” sand generally is considered to be at or near the Baton Rouge Fault (USGS, 2001b).

#### Alternative 1 – No Action

Implementation of the no action alternative would not adversely impact the surface or groundwater resources of the region.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

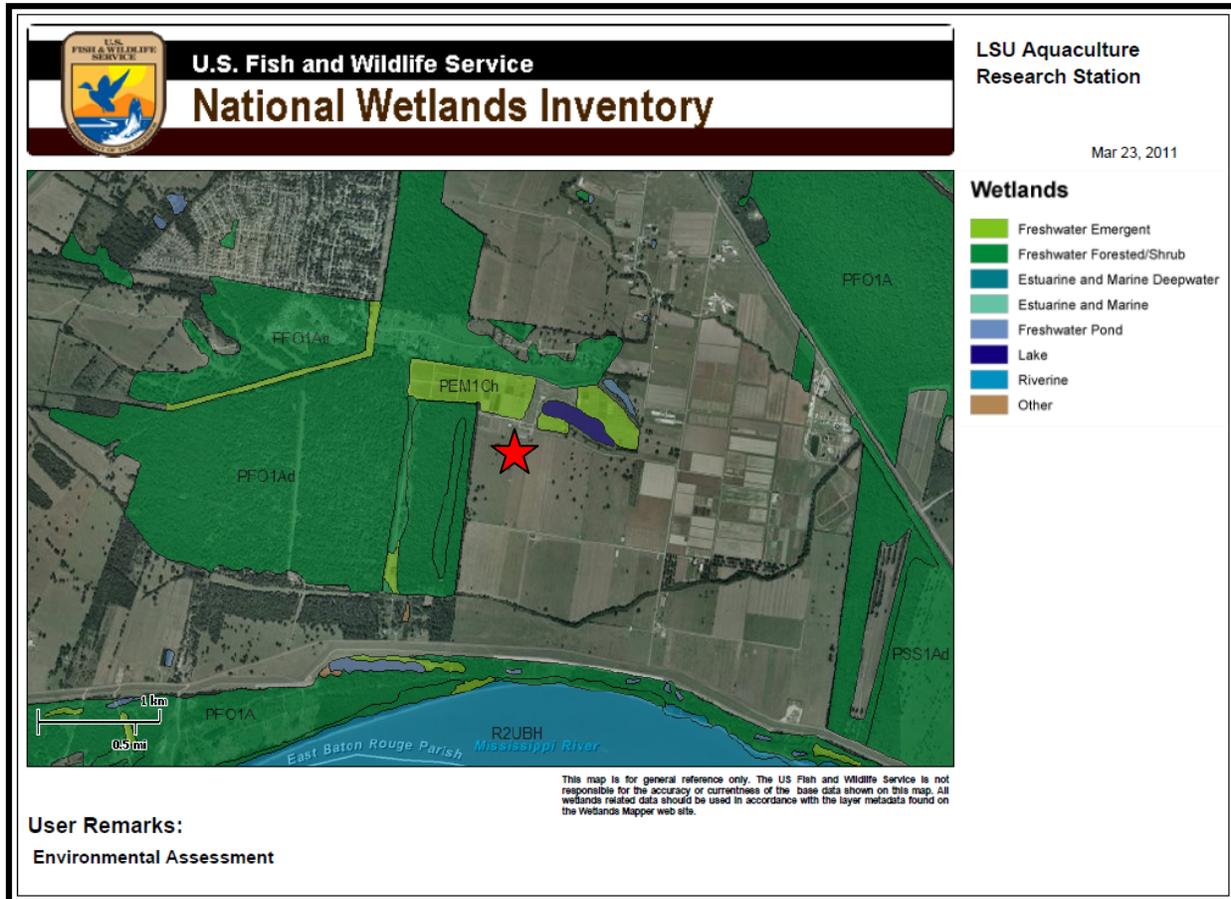
ARS estimates that their existing onsite groundwater well is capable of producing more than 184,000 gallons per day. The process water requirements of the proposed project would be approximately 19,000 gallons per day; therefore, the use of this well to obtain process water would represent approximately 10 percent of the well’s capacity. In general, groundwater levels have shown declines since 1990 in the Chicot Equivalent Aquifer system; however, the onsite well production rate indicates that adequate water would be available locally to support the proposed facilities. Thus, only minor impacts on groundwater levels would be expected.

To minimize spills and leaks of hazardous materials from the maintenance of construction equipment, safe handling procedures per local, state, and federal regulations must be used to reduce impacts to surface and groundwater resources. Sound building techniques and the use of best management practices would mitigate minor potential effects that might otherwise result from runoff infiltration to groundwater during construction.

### **3.3.2 Wetlands and Waters of the United States**

The United States Army Corps of Engineers (USACE) regulates the discharge of dredged or fill materials into waters of the U.S. including wetlands, pursuant to Section 404 of the CWA. Jurisdictional wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Jurisdictional wetland determinations are regulated by the USACE pursuant to the CWA. Executive Order 11990, Protection of Wetlands, also directs federal agencies to take actions to minimize the destruction, loss, or degradation of wetlands.

Review of United States Fish & Wildlife Service (USFWS) National Wetlands Inventory (NWI, Figure 14) identified no wetlands at the project site (USFWS NWI, 2011). However, the NWI identifies wetland forests to the west and southwest adjacent to the proposed action (Figure 14). Construction activities have the potential to alter and affect stormwater runoff and infiltration to groundwater. Stormwater runoff could potentially contribute sediment and other site materials to discharges into the adjacent wetlands and tributaries. Site activities may increase the volume of waste being discharged into the onsite wastewater treatment system and ultimately to site runoff.



**Figure 14 - U.S. Fish and Wildlife Wetlands Inventory (FWS, 2011)**

Alternative 1 – No Action

Implementation of the no action alternative would not impact wetlands or other waters of the U.S. and would not require a CWA Section 404 permit.

Alternative 2 – Proposed Action: Reconstruct at Alternate Location

The LDEQ requires a Louisiana Pollution Discharge Elimination System permit for discharges to waters of the state. Changes to the addition of wastewater to the onsite treatment plant may require a modification to an existing permit. Project activities will be required by the LDEQ to observe precautions to control nonpoint source pollution from construction activities and further will be required to prepare a Stormwater Pollution Prevention Plan and implement its conditions.

Construction of the ARS facilities as proposed including stipulated mitigating conditions would not adversely impact waters of the U.S. or modify wetlands per review of USFWS NWI (USFWS NWI Mapper, 2011) and USACE jurisdictional determination letter dated January 18, 2011 (Appendix B).

### 3.3.3 Floodplains

Executive Order (EO) 11988, Floodplain Management, requires federal agencies to avoid direct or indirect support or development within or affecting the 1% annual chance special flood hazard area (SFHA) (i.e., 100-year floodplain) whenever there is a practicable alternative (for “Critical Actions”, outside the 0.2% annual chance SFHA, i.e., the 500-year floodplain). FEMA’s regulations for complying with EO 11988 are found in 44 CFR Part 9, Floodplain Management and Protection of Wetlands. FEMA used the National Flood Insurance Program (NFIP) effective Flood Insurance Rate Maps (FIRM) (Figure 15) and the Digital Flood Insurance Rate Map products (DFIRM) (Figure 16) to determine the flood hazard zone for the proposed project location (FEMA, 2008b).

In compliance with FEMA policy implementing EO 11988, the proposed project was reviewed for possible impacts associated with occupancy or modification to a floodplain. East Baton Rouge Parish enrolled in the NFIP on September 9, 1970. According to the NFIP effective FIRM panel number 22 033C 0310 E (Figure 15 and Figure 16), dated May 02, 2008, parts of the LSU ARS site lies within a special flood hazard area zone AE (EL 21) (1% annual chance flood area, 100-year floodplain, base flood elevation [BFE] determined).

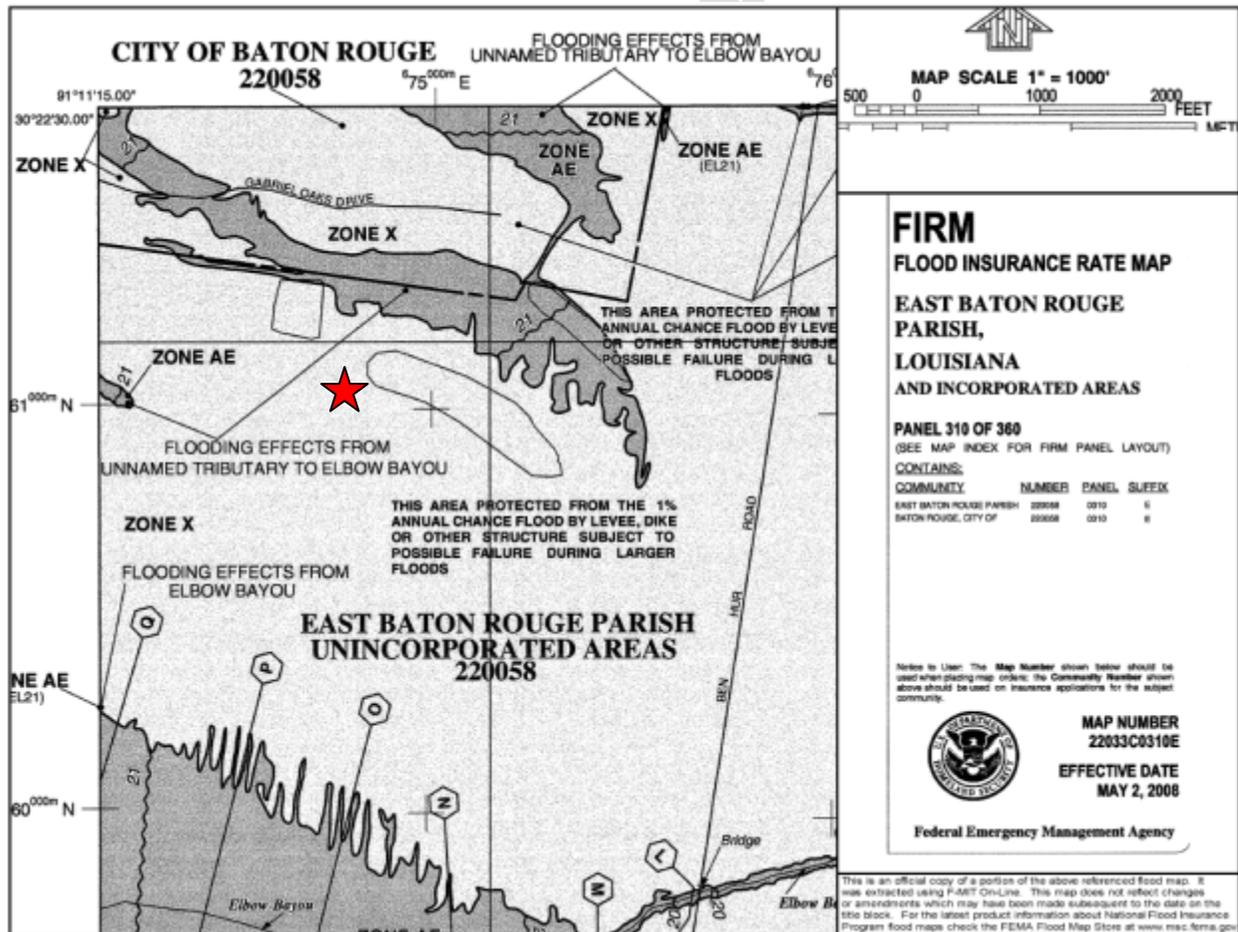
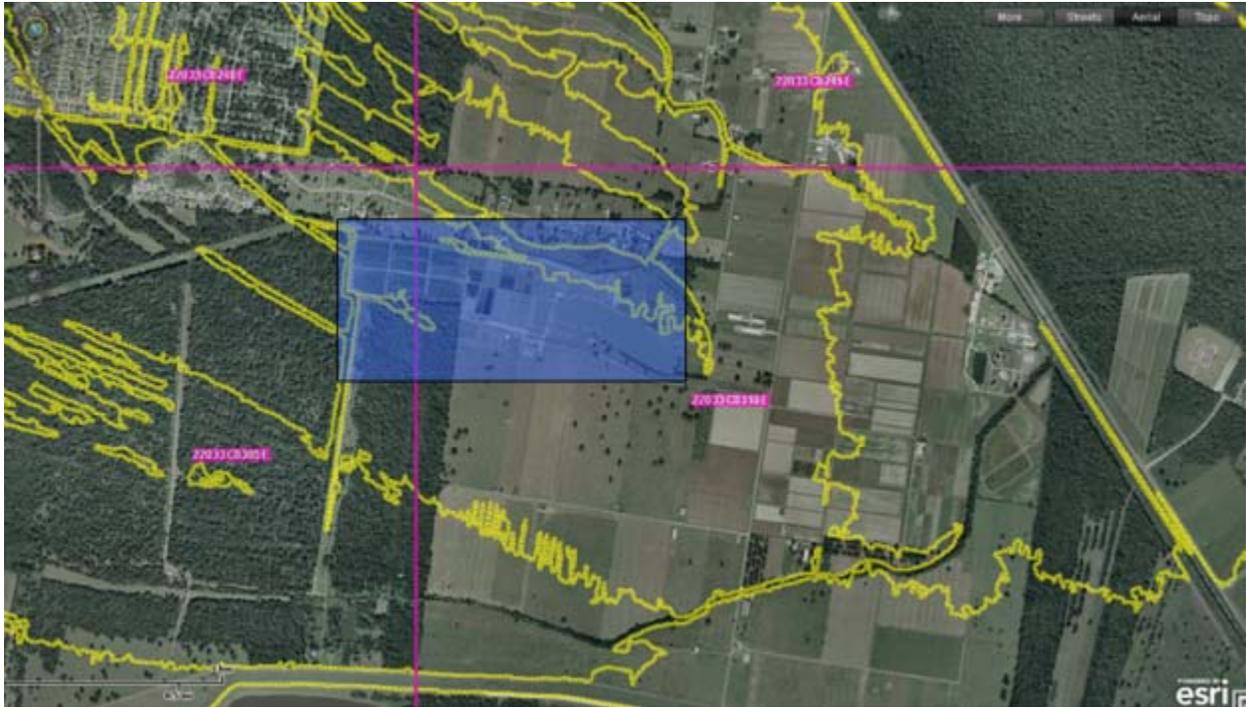


Figure 15 - Effective Flood Insurance Rate Map Panel 22 033C 0310 E (FEMA, 2008)



**Figure 16 - Digital Flood Insurance Rate Map Panels and Flood Zone Boundaries Superimposed on Site Aerial Photograph with Proposed Action Highlighted in Blue (ESRI, 2011)**

Alternative 1 – No Action

The no action alternative would not result in impacts to the 100-year floodplain.

Alternative 2 Proposed Action: Reconstruct at Alternate Location

The Proposed Action Alternative would involve the relocation and reconstruction of the functions of the CARS to the proposed site. The ground at the project site is at an approximate elevation between 21.0 and 24.0 feet above mean sea level (msl, North American Vertical Datum 1988). Buildings and appurtenances within the base floodplain must be elevated so that the top of lowest floor is at or above the established BFE or the design flood elevation, whichever is higher, per the IBC of 2006, EO 11988, and FEMA’s implementing regulations.

This EA forms part of the Eight Step Planning Process outlined in 44 CFR Part 9 (See Appendix B, Floodplain and Wetland 8-Step Planning Document). Mitigation of potential adverse impacts, if any, must be accomplished by incorporation of mitigation and minimization measures including compliance with relevant codes and standards and elevation or flood proofing of the proposed building and appurtenances to or above the BFE. These projects must be conducted in accordance with conditions for federal actions in the floodplain as set forth in EO 11988, Floodplain Management, and EO 11990, Protection of Wetlands, and the implementing regulation found at 44 CFR Part 9, Floodplain Management and Protection of Wetlands. These regulations apply to Agency actions which have the potential to affect floodplains or wetlands or their occupants, or which are subject to potential harm by location in floodplains or wetlands.

Additionally, FEMA PA grant funded projects carried out in the base floodplain or affecting the base floodplain must be coordinated with the relevant floodplain administrator for a floodplain development permit and the action must be undertaken in compliance with relevant, applicable, and required local codes and standards. This will reduce the risk of future flood loss, minimize the impacts of floods on safety, health, and welfare, and preserve and possibly restore beneficial floodplain values as required by Executive Order 11988.

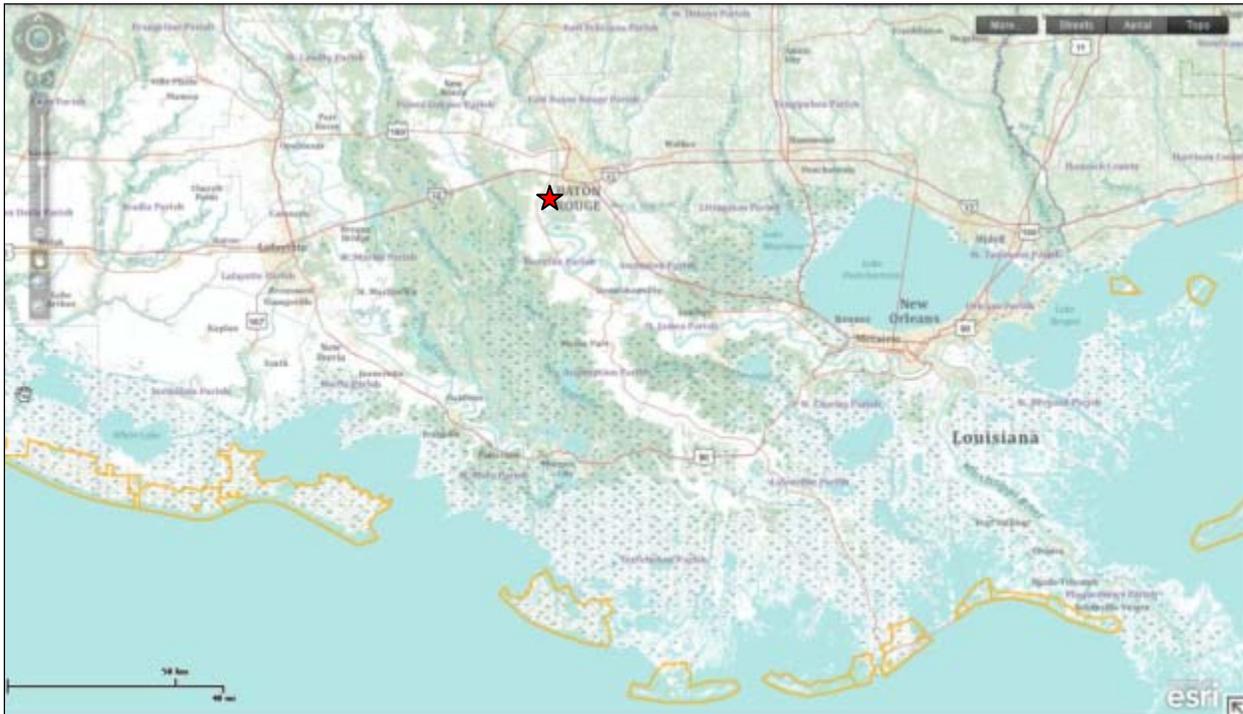
### 3.4 Coastal Resources

The Coastal Zone Management Act of 1972 (CZMA) requires federal agency actions to be consistent with the policies of the state coastal zone management program when conducting or supporting activities that affect a designated coastal zone. The Louisiana Department of Natural Resources (LDNR) regulates development in Louisiana's coastal zone through the Coastal Use Permit Program. The LSU ARS facility in East Baton Rouge is outside the regulated Louisiana Coastal Zone and would, therefore, not be required to obtain a Coastal Use Permit or undergo a federal-state consistency review (Figure 17).



**Figure 17 - LSU Aquaculture Research Station Site Location outside the Highlighted Coastal Zone**

The USFWS regulates federal funding in Coastal Barrier Resource System (CBRS) units under the Coastal Barrier Resources Act (CBRA). This Act protects undeveloped coastal barriers and related areas (i.e., Otherwise Protected Areas) by prohibiting direct or indirect federal funding of projects that support development in these areas. This promotes the appropriate use and conservation of coastal barriers along the Gulf of Mexico. The proposed project site is not located within a regulated CBRS unit (nearest units shown in Figure 18, see yellow bordered areas in photo inset below).



**Figure 18 - LSU Aquaculture Research Station nearest Coastal Barrier Resource System Units as Shown Highlighted in Yellow**

Alternative 1 – No Action

Implementation of the no action alternative would not impact Coastal Barrier Resources or the Louisiana Coastal Zones.

Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Review of Louisiana’s Coastal Zone Boundary Map identified that the construction of the proposed action is not within the coastal zone jurisdiction therefore, the project would not require a Coastal Use Permit to ensure enforcement of applicable construction standards in implementing the proposed action. In addition, the proposed action is not located in a regulated CBRS unit and will have no adverse effects on any CBRS unit.

### 3.5 Air Quality

The Clean Air Act (CAA) requires the State of Louisiana to adopt ambient air quality standards to protect the public from potentially harmful amounts of pollutants. Six common air pollutants (also known as "criteria pollutants") are regulated by the U.S. Environmental Protection Agency (USEPA) and the states under the CAA. They are particle pollution (often referred to as particulate matter), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. The LDEQ has designated areas meeting the state's ambient air quality standards by their monitoring and modeling program efforts, (i.e., attainment areas). Louisiana has no carbon monoxide, nitrogen oxides, sulfur oxides, particulate or lead nonattainment areas.

According to results from the state's air quality monitoring, East Baton Rouge Parish has been identified as an ozone-attainment parish with a maintenance plan as required by the CAA (LDEQ, 2012). Therefore, federal activities proposed in East Baton Rouge Parish may be subject to the State's general conformity regulations as promulgated under LAC 33:III, Chapter 14, Subchapter A, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*.

The proposed activities and the construction plans were reviewed to determine if the action would be in compliance with the Louisiana State Implementation Plan. LSU AgCenter submitted a CAA Conformity Analysis to LDEQ prepared by their consultant, C-K Associates, stating, "The construction emissions and the operating emissions associated with this project are negligible and/or de minimus, additionally, C-K believes that the construction and operations conform to the Louisiana State Implementation Plan (C-K Associates, 2012, attached)." A response from LDEQ to the Conformity Analysis indicated that, "since your General Conformity Determination shows that the proposed volatile organic carbon and nitrogen oxide emissions will be less than the de minimus levels, the Department (i.e., LDEQ) has no objections to the implementation of this project."

The East Baton Rouge Parish area is in attainment of the criteria pollutant particulate matter (solid and liquid particles suspended in air) per the CAA. These particles can be directly emitted from a source or formed in the atmosphere as part of a chemical reaction and/or when fuel is combusted. Any renovation and remodeling must comply with the LAC 33:III, Chapter 28, Lead-Based Paint Activities; LAC 33:III, Chapter 27, Asbestos-Containing Materials in Schools and State Buildings (includes training and accreditation); and LAC 33:III.5151, Emission Standards for Asbestos for any renovations or demolitions.

#### Alternative 1 – No Action

Implementation of the no action alternative would not adversely impact ambient air quality for the area.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Negligible impacts would be anticipated from vehicle exhaust emissions and increased dust during construction of the ARS facilities. During construction activities site soils associated with

staging areas and roads may contribute to nuisance dust. Best management practices are required to lessen the impact of the dust. The proposed action would not significantly affect the ambient air quality by following these best management practices for reducing the amount of particulate matter (dust & vehicle emissions) from construction work occurring on the site.

### **3.6 Noise**

The Code of Ordinances of the City of Baton Rouge/East Baton Rouge Parish Title 12, Nuisances, Chapter 2, Noise, provides regulation of noises interfering with enjoyment of property or public peace and comfort. Specifically, Section 12:101(9), prohibits the creation of loud and raucous noise by construction work in or adjacent to a residential area other than between the hours of 7:00 am and sunset on weekdays and Saturdays, except in the case of emergencies. The nearest residential neighborhood and residences are located approximately 1,250 feet to the north in the Laurel Lakes Subdivision. Activities during construction will contribute to temporary increases in noise levels experienced in the vicinity of the project. Subsequent to construction of the proposed action, no significant noise sources are anticipated at the site adversely affecting these nearby residents.

#### Alternative 1 – No Action

Implementation of the no action alternative would not impact ambient noise levels of the ARS surroundings.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Noise levels would increase within the proposed project site due to project construction activities and equipment, therefore, during the construction period of the proposed action, businesses and residents traveling near the project site would experience an increase in noise levels. This noise increase and impact would be expected to be temporary and after the project completion, noise levels would return to normal, i.e., those related to typical current ARS operations.

### **3.7 Biological Resources**

The purpose of this biological assessment is to evaluate the possible effects of the proposed construction and operation of the ARS project on threatened and endangered and proposed threatened and endangered species and their habitats. Under provisions of the Endangered Species Act, federal agencies shall use their authorities to carry out programs for the conservation of listed species, and shall ensure any action authorized, funded or implemented by the agency is not likely to: (1) adversely affect listed species or designated critical habitats; (2) jeopardize the continued existence of proposed species; or (3) adversely modify proposed critical habitat (16 USC 1536).

Remarkable habitats for migratory waterfowls (e.g., the Mississippi Flyway), neotropical songbirds and shorebirds (warbler, thrushes, red-tailed hawks, Mississippi kites, red-winged blackbirds, dabbling ducks, and cardinals) as well as mink, muskrat, armadillos, nutria and alligators are located in the vicinity of the LSU ARS (LSU, 2011).

### **3.7.1 Plant Communities**

Historically, East Baton Rouge Parish had three main vegetation communities: (1) the longleaf pine community; (2) the upland hardwoods; and (3) the bottomland hardwoods/cypress communities. Plant communities in the vicinity of the LSU ARS include bottomland hardwood forests, bald cypress-tupelo gum swamps, aquatics in canals and ponds, and disturbed and maintained areas. The land slopes from near the Mississippi River with elevations of 15 feet msl to approximately 24 feet at the proposed site. The proposed construction site consists of previously disturbed rural land utilized as pastureland and other agricultural uses.

### **3.7.2 Essential Fish Habitat**

Detailed information on federally managed fisheries and their EFH is provided in the 1998 generic amendment of the Fishery Management Plans for the Gulf of Mexico prepared by the Gulf of Mexico Fishery Management Council. That generic amendment was prepared as required by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA). The proposed project is not located within 1,000 feet of an area identified as Essential Fish Habitat (EFH) (NMFS, 2011).

No existing natural fish and shellfish habitat is anticipated to be adversely impacted by the proposed action. A site reconnaissance and analysis of the potential for significant adverse effects resulting from the proposed site activities indicates there is little possibility for reconstruction and operation of the LSU ARS to adversely affect EFH.

### **3.7.3 Wildlife Habitat**

The majority of the project area occurs on previously disturbed rural and agricultural land and consists primary of mowed and maintained lawn with little habitat value and diversity.

### **3.7.4 Threatened and Endangered Species**

The Louisiana Natural Heritage Program has compiled data on rare, endangered, or otherwise significant plant and animal species, plant communities, and other natural features throughout the State of Louisiana. Heritage reports summarize the existing information known at the time of a request regarding a location in question. Personnel of the Habitat Section of the Coastal & Nongame Resources Division have reviewed the preliminary data for the proposed project. After careful review of the database, no impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at or in the vicinity of the specified site within Louisiana's boundaries (LDWF, 2011).

#### Alternative 1 – No Action

Implementation of the no action alternative would not adversely affect endangered, threatened, or proposed listed species as well as listed critical habitats since there are no reports identifying the presence of these resources.

## Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Relocation of the LSU ARS facilities would not impact or modify endangered, threatened, as well as proposed listed species, or federally listed critical habitat per State of Louisiana Department of Wildlife and Fisheries letter dated April 15, 2011 (Appendix B).

### **3.8 Cultural Resources**

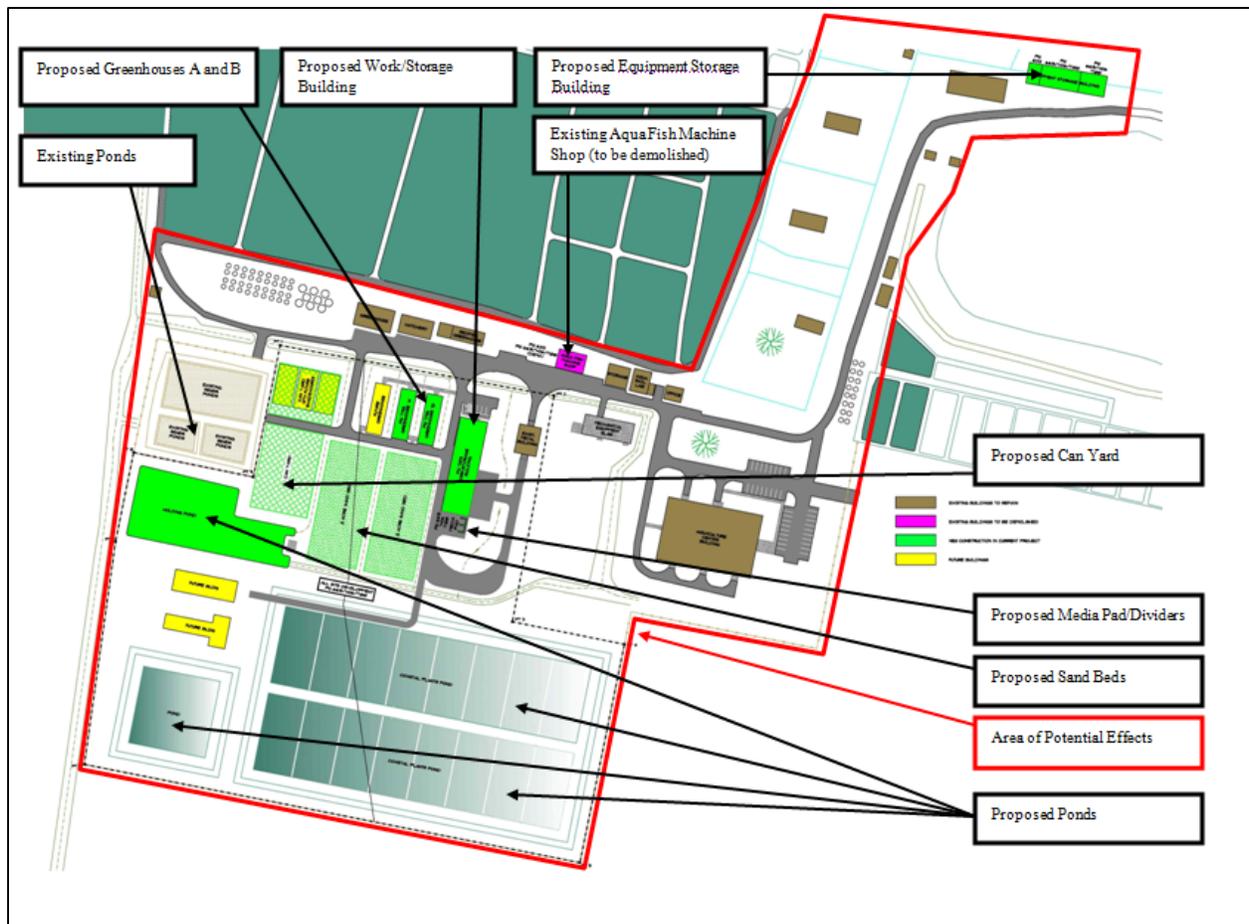
#### **Regulatory Setting**

The consideration of impacts to cultural resources is mandated under Section 106 of the National Historic Preservation Act (NHPA) as implemented by 36 CFR Part 800. Requirements include the identification of significant historic properties that may be impacted by the proposed action or alternatives within the project's Area of Potential Effects (APE). Historic properties are defined as archaeological sites, standing structures, or other historic resources listed in or determined eligible for listing in the National Register of Historic Places (NRHP). If adverse effects on historic, archaeological, or cultural properties are identified, agencies must consider effects of their activities and attempt to avoid, minimize, or mitigate the impacts to these resources.

FEMA has reviewed this project in accordance with the Statewide Programmatic Agreement dated August 17, 2009 (2009 Statewide Programmatic Agreement) among FEMA, the Louisiana State Historic Preservation Officer (SHPO), the Louisiana GOHSEP, the Alabama-Coushatta Tribe of Texas, the Caddo Nation, the Chitimacha Tribe of Louisiana, the Choctaw Nation of Oklahoma, the Coushatta Tribe of Louisiana, the Jena Band of Choctaw Indians, the Mississippi Band of Choctaw Indians, the Quapaw Tribe of Oklahoma, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, the Tunica-Biloxi Tribe of Louisiana, and the Advisory Council on Historic Preservation. The Programmatic Agreement was created to streamline the Section 106 review process.

#### **Existing Conditions**

This consideration reviews the LSU ARS situated on 178 acres located approximately three miles south of the LSU Main Campus, at 2410 Ben Hur Road in Baton Rouge, Louisiana. In accordance with Stipulation VII.A of the 2009 Statewide Programmatic Agreement, the APE was developed in coordination with the SHPO and includes the portions of the ARS property that could be directly or indirectly affected by the Undertaking. The APE includes approximately 20 acres, encompassing all areas of proposed ground disturbance associated with the Undertaking. The standing structures and archaeological APE are the same. It should be noted that while the APE for this Undertaking encompasses the 20 acre area in which ground disturbance will take place, it does not mean that ground disturbance will take place across the entire APE. Figure 19 provides a more exact indication of the actual area of ground disturbance within the APE, approximately 9.5 acres.



**Figure 19 - LSU Master Plan Showing Area of Potential Effect with Standing Structures and Archaeological Area of Potential Effects (APE) Outlined in Red. (Note that buildings shaded in yellow are not part of the currently proposed scope of work (Undertaking). Buildings shaded in brown will remain, buildings shaded in pink will be demolished, and facilities shaded in green are proposed.)**

Identification and Evaluation of Historic Properties within the Standing Structures APE

FEMA Historic Preservation Staff consulted the National Register of Historic Places Database and the Louisiana Cultural Resources Map and have determined that the standing structures APE is not located within a listed or eligible NRHP Historic District. The buildings within the standing structures APE are not 50 years of age or older and do not exhibit exceptional significance to qualify for listing in the NRHP under Criterion Consideration G. The ARS site began developing in the 1960s, and extant buildings appear to have been constructed in the late twentieth and early twenty-first centuries.

## Identification and Evaluation of Historic Properties within the Archaeological APE

Upon review of data provided by the SHPO, there are no known archaeological sites within 0.5 miles of the project APE. Additionally, the 1883 Mississippi River Commission Map shows the project area to be undeveloped backswamp. The natural soils include the Shriever-Thibaut clay, a poorly drained soil found on meander scars of the Mississippi River. Based on careful examination of the topographic contours, as well as consultation with Roger T. Saucier's *Geomorphology and Quaternary Geologic History of the Lower Mississippi Valley, Volume 1* (1994), it appears that the project area lies in a low trough created during a "neck cutoff" event.

This occurs when the river path is diverted rather quickly (in geological terms), leaving a lake, which later becomes a swamp after many years of alluviation and lack of a constant water supply. This explains the representation of the APE as backswamp on the 1883 Mississippi River Commission Map, and indicates a low probability for historic or prehistoric settlement. However, due to the lack of any previous surveys within or adjacent to the project area and the proposed new ground disturbance, a site visit to the project area was conducted on December 7, 2010, by FEMA Archaeologist Hanan Browning and FEMA Environmental Specialist Adam Stephenson. No cultural resources were noted at that time and soil cores, in addition to a soil profile evident in a recently excavated borrow pit, revealed that soils within the APE are deflated due to erosion and intensive agriculture.

### Alternative 1 – No Action

This alternative does not include any FEMA undertaking; therefore, FEMA has no further responsibilities under Section 106 of the NHPA.

### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Given the lack of historic development, the location of the APE in former backswamp, and the deflated/disturbed nature of soils within the APE (as noted in the site visit), intact archaeological deposits will not likely be encountered in the APE during the project activities. In addition, no historic architectural resources are located within the APE.

Therefore, FEMA determined in a letter dated April 27, 2011, that the Undertaking will result in No Historic Properties Affected. SHPO concurrence with this determination was received May 24, 2011. Additionally, on April 28, 2011, consultation with affected tribes (Alabama-Coushatta Tribe of Texas, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Tunica-Biloxi Tribe of Louisiana) was conducted in accordance with the 2009 Statewide Programmatic Agreement and pursuant to 36 CFR §800.2(c)(2)(i)(B). The Jena Band of Choctaw Indians also submitted written concurrence with the determination. FEMA has not received responses from other Tribes within the timeframes in the Programmatic Agreement and the Section 106 regulations. No impacts to cultural resources are anticipated by the proposed action. The applicant must comply with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) and the Inadvertent Discovery Clause, which can be found within the Conditions Section 5.0 of this EA.

### **3.9 Public Service and Utilities**

East Baton Rouge Parish Department of Public Works is responsible for a wide variety of activities within the Parish including maintenance of streets and roads, maintenance and operation of drainage facilities, sewer collection lines, maintenance and operation of sewer treatment facilities, coordination of environmental activities, building code enforcement, construction inspection and approval, maintenance of public buildings, operation of a central garage, engineering services for construction projects including design and supervision, traffic control device maintenance, and traffic control engineering.

All general remodeling, structural remodeling, construction additions to existing structures, or detached accessory structures require a building permit. Permits for electrical, plumbing and mechanical work are typically required, depending on the scope of work. It is anticipated that changes and additions to the required on site utilities including electrical, sewer, water, and roadways will be reviewed and approved by East Baton Rouge Parish and the Department of Public Works during the permitting process prior to construction, thereby ensuring the proposed action complies with local requirements and codes and standards.

#### Alternative 1 – No Action

Implementation of the no action alternative would not affect the existing utilities infrastructure.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Construction of the proposed ARS facilities would not adversely affect the existing utilities and/or public health/safety services of parish residents.

### **3.10 Traffic and Safety**

The site is accessed via the two lane roadway, Ben Hur Road, on the east side of the facility. While there is anticipated to be an increase in construction related traffic during building of the facilities, there is not anticipated to be a permanent increase in vehicular traffic to the site as a result of the proposed action. The existing transportation infrastructure is sufficient to accommodate these increases without adversely impacting local traffic.

#### Alternative 1 – No Action

Implementation of the no action alternative would not adversely affect the site traffic patterns.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Site

During construction the contractor must place fencing around the site perimeter or take other reasonable precautions to protect on site workers from accidental ingress or trespassing. The contractor must post appropriate signage and fencing to minimize foreseeable potential adverse public safety concerns. Appropriate signage and barriers must be in place prior to construction activities in order to alert pedestrians and motorists of project activities and traffic pattern

changes (detours/lanes dedicated for construction equipment egress). Upon completion of the proposed action, there would be minimal effect on the current traffic patterns.

### **3.11 Environmental Justice**

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, mandates that federal agencies identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs on minority and low-income populations.

Review of the USEPA Environmental Justice Assessment Mapper identifies that the population of East Baton Rouge Parish is diverse in its ethnic composition (USEPA Environmental Justice Geographic Mapper, 2009). Hence, there were no identified areas showing a high concentration of a specific ethnic background or affluence within and surrounding the affected community.

#### Alternative 1 – No Action

Implementation of the no action alternative would have no disproportionately high impact on minority and low-income populations.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

The proposed action will not pose disproportionately high and adverse public health or environmental effects on minority and low-income populations. The reconstruction project would restore and enhance lost services to all citizens in a central location. Therefore, the action to reconstruct the facility contributes to ensuring public safety, enhances the ARS services, and adds to the overall quality of life standards envisioned by LSU ARS and East Baton Rouge Parish for all citizens of the State of Louisiana.

### **3.12 Hazardous Materials and Waste**

Hazardous wastes, as defined by the Resource Conservation and Recovery Act (RCRA), are defined as “a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may:

- 1) Cause, or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness, or
- 2) Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of or otherwise managed.

A review of data sources (e.g., USEPA EnviroMapper and Electronic Document Management System) revealed that the proposed project site is not on federal and/or state agency’s lists concerning Volunteer Remedial Program, Brownfield Program, underground storage tank decommission, waste/debris disposal facilities, and oil/gas wells sites. According to historical aerial photographs from 1989 to 2008 and the topographic map dated July 1, 1983, there were no

obvious structures on the proposed site and no obvious sites of concern detected in the vicinity of proposed project area.

The ARS has no record or indication of past or present hazardous waste activities, including notification as a generator or other regulated activity. According to the ARS, very minimal, limited chemical storage commonly found in laboratories for research is used in operations and further, there is no hazardous materials use or storage (ARS, 2011). The Environmental Protection Agency reviewed the site and proposed action and performed a database search for records associated with the site and provided comment on the proposed action (Appendix B). No adverse records were identified and comments were incorporated into the EA analysis and documentation (USEPA, 2011).

#### Alternative 1 – No Action

Implementation of the no action alternative would not disturb any hazardous materials or create potential hazards to human health.

#### Alternative 2 – Proposed Action: Reconstruct at Alternate Location

Construction of the ARS facilities would not disturb any hazardous materials or create increased potential hazards to human health. With the exception of the onsite wastewater treatment plant, the proposed site is not adjacent to hazardous or solid waste facilities. If hazardous materials are unexpectedly encountered in the project area during the construction activities, appropriate measures for the proper assessment, remediation, management and disposal of the contamination must be initiated in accordance with applicable federal, state, and local regulations. The contractor is required to take appropriate actions to prevent, minimize, and control the spill of hazardous materials at the proposed site.

### **4.0 CUMULATIVE IMPACTS**

Cumulative impacts are those effects on the environment that result from the incremental effect of the action when added to past, present, and reasonably foreseeable future actions, regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

The impact of Hurricane Katrina's storm surge devastated the southeastern coastal region of Louisiana. There are numerous other projects to repair buildings, roads, recreational facilities, and public utilities to pre-disaster conditions that include upgrades to codes and standards surrounding the contributing projects site. The area is also undergoing restorations and/or repairs using non-FEMA funding. Nonetheless, the cumulative impact to the natural resources and socio-economics from the proposed action would be minimal and would not have significant cumulative effects to the environment. The proposed reconstruction may reduce environmental risk since relocation eliminates structures in a coastal high hazard area and reconstructs to higher flood resistant building standards.

## 5.0 CONDITIONS AND MITIGATION MEASURES

Based upon the studies, reviews and consultations undertaken in this environmental assessment, several conditions and mitigation measures must be taken by the applicant prior to and during proposed project implementation.

- In accordance with applicable local, state, and federal regulations, the applicant is responsible for acquiring any necessary permits and/or clearances prior to the commencement of any construction related activities.
- FEMA Public Assistance grant funded projects carried out in the floodplain or affecting the floodplain must be coordinated with the local floodplain administrator for a floodplain development permit and the action must be undertaken in compliance with relevant, applicable and required local codes and standards and thereby, will reduce the risk of future flood loss, minimize the impacts of floods on safety, health, and welfare, and preserve and possibly restore beneficial floodplain values as required by Executive Order 11988.
- If human bone or unmarked grave(s) are present with the project area, compliance with the Louisiana Unmarked Human Burial Sites Preservation Act (R.S. 8:671 et seq.) is required. The applicant shall notify the law enforcement agency of the jurisdiction where the remains are located within twenty-four hours of the discovery. The applicant shall also notify FEMA and the Louisiana Division of Archaeology at 225-342-8170 within seventy-two hours of the discovery.
- If during the course of work, archaeological artifacts (prehistoric or historic) are discovered, the applicant shall stop work in the vicinity of the discovery and take all reasonable measures to avoid or minimize harm to the finds. The applicant shall inform their Public Assistance (PA) contacts at FEMA, who will in turn contact FEMA Historic Preservation (HP) staff. The applicant will not proceed with work until FEMA HP completes consultation with the SHPO.
- To minimize air quality impacts, FP&C, LSU AgCenter, and its contractors must implement BMPs to limit air emissions, fugitive dust and exhaust. BMPs would include maintaining and covering spoil piles, covering the loads of haul vehicles and keeping construction equipment properly tuned.
- FP&C, LSU AgCenter, and its contractors must ensure all project activities are conducted in a safe manner and in compliance with all state and federal occupational safety regulations, including OSHA, to protect workers and the general public.
- Project construction would involve the use of potentially hazardous materials (e.g., petroleum products, cement, caustics, acids, solvents, paint, electronic components, pesticides, herbicides, fertilizers, treated timber) and may result in the generation of small volumes of hazardous wastes. Appropriate measures to prevent, minimize, and control

spills of hazardous materials must be taken and generated hazardous and non-hazardous wastes are required to be disposed in accordance with applicable federal, state and local regulations.

- If any solid or hazardous wastes, or soils and/or groundwater contaminated with hazardous constituents are encountered during the project, notification to LDEQ's Single-Point-of-Contact at (225) 219-3640 is required. Additionally, precautions should be taken to protect workers from these hazardous conditions.

## **6.0 PUBLIC INVOLVEMENT AND AGENCY CONSULTATIONS**

FEMA is the lead federal agency for conducting the NEPA compliance process for this Environmental Assessment and FEMA Public Assistance grant funded project. It is the responsibility of the lead agency to conduct the preparation and review of NEPA documents in a way that is responsive to the needs of the Parish communities while meeting the spirit and intent of NEPA and complying with mandated provisions. As part of the development of early interagency coordination related to the proposed action, state and federal resource protection agencies were contacted and FEMA distributed an informal scoping notification through a Solicitation of Views.

These agencies include the State Historical Preservation Officer, U. S. Fish and Wildlife Service, the U.S. Department of Agriculture Natural Resources Conservation Service, the Governor's Office of Homeland Security and Emergency Preparedness, Louisiana Department of Environmental Quality, U. S. Environmental Protection Agency, Louisiana Department of Natural Resources, U. S. Army Corps of Engineers, and National Oceanic & Atmospheric Administration National Marine Fisheries Service. FEMA has received no objections to the project as proposed subsequent to these notifications and comments and conditions received have been incorporated into this NEPA document.

Restoration of the Coastal Area Research Station facilities and services by reconstructing the structures at a new location at the LSU ARS was analyzed based on the studies, consultations, and reviews undertaken in this environmental assessment. Additional consideration was given to mitigating measures that are required for construction of the new facilities at the LSU ARS. Given the constraints of the natural and manmade environment at the former site, this location does not meet the purpose and need for FP&C or LSU ARS. Restoration by reconstructing the facilities at an alternate site is practicable and will likely have minimal adverse impacts to the environment while meeting the needs of FP&C, the LSU ARS, and the citizens of Louisiana.

In accordance with applicable local, state, and federal regulations, the applicant would be responsible for acquiring any necessary permits prior to commencing construction at the proposed project site. FEMA is inviting the public to comment on the proposed action during a fifteen (15) day comment period. A public notice will be published for 5 days in the local newspaper, The Advocate, announcing the availability of this EA for review at the LSU Middleton Library, Baton Rouge, Louisiana and at the FEMA Louisiana Recovery Office in New Orleans, LA. A copy of the Public Notice is attached in Appendix C.

The findings of this Environmental Assessment conclude that the proposed reconstruction of the Coastal Area Research Station facilities at the LSU Aquaculture Research Station in the proposed East Baton Rouge Parish, Louisiana location would result in no significant environmental impacts to humans and/or the environment, therefore, the proposed action meets the requirements for a Finding of No Significant Impacts under NEPA and the preparation of an Environmental Impact Statement will not be required.

## **7.0 LIST OF PREPARERS**

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