

Draft Environmental Assessment

Hill Farm Research Station Poultry Litter Barn

LSU AgCenter
Louisiana Facility Planning and Control

Claiborne Parish, Louisiana
July 2012



FEMA

U.S. Department of Homeland Security
Federal Emergency Management Agency, Region VI
Louisiana Recovery Office
1 Seine Court
New Orleans, Louisiana 70114

<u>SECTION</u>	<u>PAGE</u>
TABLE OF CONTENTS	i
LIST OF ACRONYMS	iii
1.0 INTRODUCTION	1
1.1 Project Authority	1
1.2 Area Description	4
1.3 Project Location	5
2.0 PURPOSE AND NEED FOR THE PROPOSED ACTION	13
3.0 ALTERNATIVES CONSIDERED	14
3.1 Alternative 1 – No Action	14
3.2 Alternative 2 – Reconstruct at an Alternate Location	14
3.3 Alternative 3 – Reconstruct at Original Site	14
4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS	15
4.1 Physical Resources	15
4.1.1 Geology and Soils	15
4.1.2 Air Quality	20
4.2 Water Resources and Water Quality	21
4.2.1 Surface and Groundwater	21
4.2.2 Wetlands and Waters of the United States	23
4.2.3 Floodplains	24
4.3 Coastal Resources	25
4.4 Biological Resources	25
4.4.1 Threatened or Endangered Species and Critical Habitat	25
4.4.2 Migratory Birds	26
4.4.3 Wildlife and Fish	26
4.5 Cultural Resources	27
4.6 Socioeconomic Concerns	28
4.6.1 Environmental Justice	29
4.6.2 Noise	29
4.6.3 Traffic	30
4.6.4 Public Health and Safety	30
4.7 Hazardous Materials and Wastes	30
4.8 Cumulative Impacts	31
5.0 CONDITIONS AND MITIGATION MEASURES	32
6.0 PUBLIC INVOLVEMENT AND AGENCY CONSULTATION	34
7.0 LIST OF PREPARERS	35
8.0 REFERENCES	36

APPENDICES

Appendix A	Site Photographs
Appendix B	Floodplain and Wetland 8-Step Planning Documentation
Appendix C	Public Notice
Appendix D	Site Construction Plans
Appendix E	Agency Correspondence

LIST OF FIGURES

Figure 1	Hill Farm Research Station - Claiborne Parish, Louisiana
Figure 2	Aerial Overview Showing Location of Proposed Poultry Litter Barn and Three Structures to be Demolished
Figure 3	Poultry Litter Barn (Site 1), Building 10706 Demolition (Site 2), and Buildings 10709 and 10710 Demolitions (Site 3) - Locations
Figure 4	Aerial Photograph Layout of Poultry Litter Barn Area (Site 1) - Proposed Location Adjacent to Existing Poultry Houses
Figure 5	Poultry Litter Barn (Site 1) - Proposed Layout
Figure 6	Building 10706 Demolition (Site 2) - Proposed Layout
Figure 7	Buildings 10709 and 10710 Demolition (Site 3) - Site Layout
Figure 8	Structures to be Demolished
Figure 9	Fence Plan
Figure 10	Generalized Geology Map of Louisiana
Figure 11	Ecoregions of Louisiana, South Central Plains Tertiary Uplands of Claiborne Parish

LIST OF ACRONYMS

APE	Area of Potential Effects
BFE	Base Flood Elevation
CAA	Clean Air Act
CBRA	Coastal Barrier Resources Act
CBRS	Coastal Barrier Resources System
CFR	Code of Federal Regulations
cm	Centimeter
CWA	Clean Water Act
CWPPRA	Coastal Wetlands Planning, Protection, and Restoration Act
CZMA	Coastal Zone Management Act
DFIRM	Digital Flood Insurance Rate Map
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GOHSEP	Governor's Office of Homeland Security and Emergency Preparedness
HP	Historic Preservation
LDEQ	Louisiana Department of Environmental Quality
LDNR	Louisiana Department of Natural Resources
LDWF	Louisiana Department of Wildlife and Fisheries
LGS	Louisiana Geological Survey
LSU	Louisiana State University
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NRHP	National Register of Historic Places
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWS	National Weather Service
PA	Programmatic Agreement
RCRA	Resource Conservation and Recovery Act
SF	Square Foot
SFHA	Special Flood Hazard Area
SHPO	State Historic Preservation Office/Officer
USACE	United States Army Corps of Engineers
USC	United States Code
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

1.1 Project Authority

Hurricane Katrina made landfall on August 29, 2005, in southeast Louisiana near Buras-Triumph, Plaquemines Parish as a Category 3 storm. Maximum sustained winds at landfall were estimated at 120 miles per hour and were accompanied by strong and damaging storm surge well above normal high tide. President George W. Bush declared a major disaster for the State of Louisiana and signed a disaster declaration (FEMA-1603-DR-LA) on August 29, 2005, authorizing the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide federal assistance in designated areas of Louisiana.

The State of Louisiana Facility Planning and Control (FP&C) requested through the State of Louisiana Governor's Office of Homeland Security and Emergency Preparedness (GOHSEP) that FEMA provide disaster assistance through the provision of federal grant funding pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), PL 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Public Assistance Program to fund projects to repair, restore, and replace facilities damaged as a result of the declared event.

FP&C was deemed eligible by FEMA for federal disaster public assistance as an eligible applicant serving the needs of the general public. Before Hurricane Katrina, the LSU AgCenter Citrus Research Station in Port Sulphur, Louisiana in Plaquemines Parish provided facilities for research on citrus, fruits, and termites. The facility and its contents were damaged as a result of the declared event and FEMA deemed them eligible for repair and/or replacement. The station has now been renamed the Coastal Area Research Station (CARS) to better reflect the post-storm expanded research emphasis planned.

The damaged CARS is located at 22193 Highway 23, Port Sulphur, Louisiana. The station's initial focus was citrus research; however, it is now investigating coastal plants and the role these plants have in the state's fight against coastal erosion. Station researchers are investigating plant varieties such as smooth cordgrass and are trying to select and breed those plants that have the most beneficial characteristics and traits that will help protect or restore areas of the state that have experienced land loss. Facilities at the CARS included residential buildings, greenhouses, pump houses, a chemical storage building, a shop/storage building, an office, sheds, ponds, and other appurtenant facilities (LSU AgCenter, 2011).

FP&C determined that reconstruction of the facility to its predisaster configuration in its existing location would not best meet the needs of the community. FP&C requested approval and federal



grant funds for an alternate project to replace the eligible facilities with facilities providing similar functions at the LSU AgCenter Hill Farm Research Station in Claiborne Parish, approximately 40 miles northeast of Shreveport, Louisiana (See Inset at Left and Figure 1 Below). The proposed action includes construction of a 2,400 square foot poultry litter barn, repair of site fences, and demolition of three structures (Buildings 10706, 10709, and 10710, See Section 3 for Site Locations).

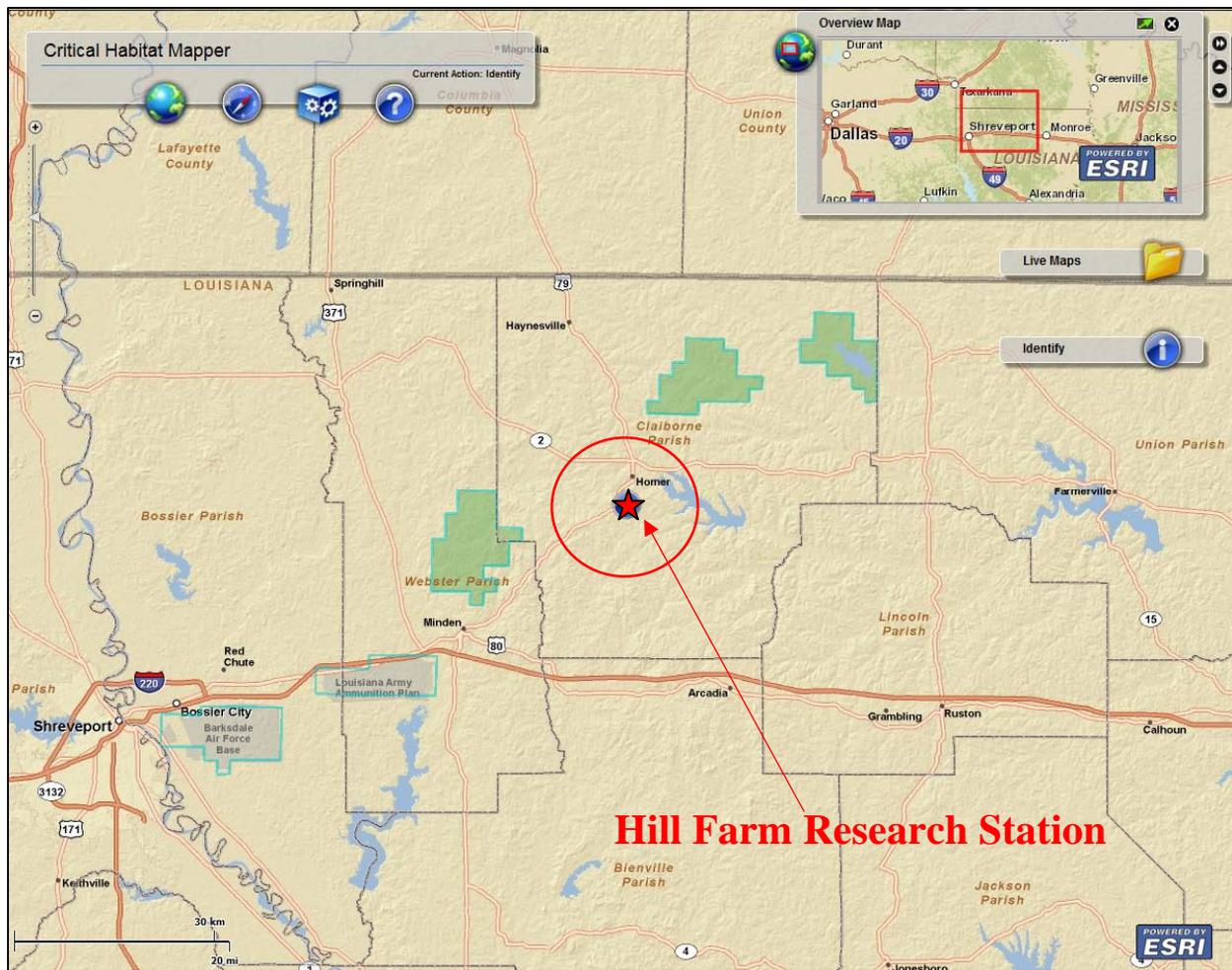


Figure 1 – Hill Farm Research Station - Claiborne Parish, Louisiana

The Hill Farm Research Station is located in central Claiborne Parish in north Louisiana about 4 miles south of the town of Homer. The station is one of 20 LSU AgCenter facilities across the state, which is part of the Louisiana Agriculture Experiment Station. The Hill Farm was established for the purpose of conducting experiments to determine and develop the most economically suitable agricultural, livestock, and tree crop practices for the North Louisiana Hill Farm Section (Hill Farm Research Station, 2011).



Situated on the interior coastal plain of north Louisiana, the Hill Farm Research Station is generally considered to serve the parishes of Bienville, Claiborne, Jackson, Lincoln, Union, Webster and Winn as well as portions of several other parishes. Current work at the Station includes beef, forages, forestry, mastitis, poultry, and water quality research programs and in the future, an increased research emphasis on forestry and water quality will be especially beneficial

to the stakeholders in the area served (Hill Farm Research Station, 2011). The addition of the new poultry litter barn is intended to support planned programs.

In accordance with 44 Code of Federal Regulation (CFR) for FEMA, Subpart B – Agency Implementing Procedures, Section 10.9, an Environmental Assessment (EA) is being prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA) of 1969, as implemented by the regulations promulgated by the President’s Council on Environmental Quality (40 CFR Parts 1500-1508). This EA will determine if the proposed alternate project for the CARS facilities will have the potential for significant adverse effects on the quality of the human and natural environment at or near the proposed project. The results of this EA are being used to make a decision whether to initiate preparation of an Environmental Impact Statement (EIS) or to prepare a Finding of No Significant Impact (FONSI).

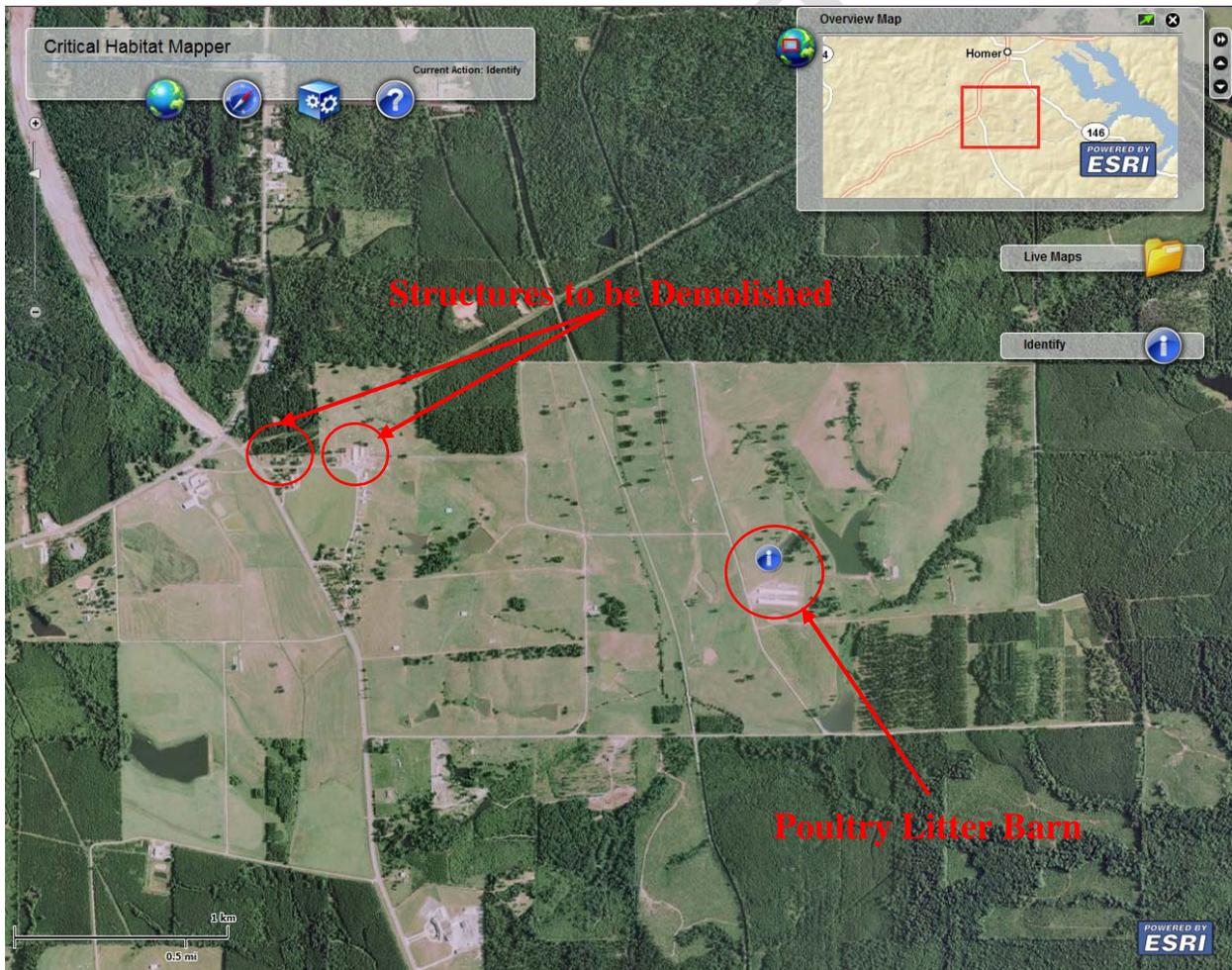


Figure 2 - Aerial Overview Showing Location of Proposed Poultry Litter Barn and Three Structures to be Demolished

1.2 Area Description

Claiborne Parish is in north central Louisiana, about 40 miles northeast of Shreveport (Figure 1). The total area is 491,520 acres, of which 481,123 acres is land and the remainder is water in the form of lakes, reservoirs, and streams (Wikipedia, 2011). Claiborne Parish is bordered on the north by Arkansas, on the east by Union and Lincoln Parishes, on the south by Bienville Parish, and on the west by Webster Parish (NRCS, 1989).

In 2010, the population of Claiborne Parish was 17,195, (U.S. Census Bureau, 2011). Homer, with a population of 3,327, is the parish seat and the largest and nearest incorporated place; Homer has a land area of 4.65 sq. miles; a water area of 0.01 sq. miles; and a population density of 714.87 people per sq. mile according to the U.S. Census Bureau estimate of July 1, 2009. Other cities and communities include Haynesville, Junction City, Athens, and Lisbon. The parish consists of two major physiographic areas: the nearly level flood plains and the very gently sloping to moderately steep uplands. The elevation ranges from about 508 feet above sea level on the uplands west of Athens to about 120 feet above sea level on the floodplains in the northeastern part of the parish. The elevation at the Hill Farm Research Station ranges from approximately 250 to 400 feet above sea level.

The economy of the area is predominantly agricultural and industrial. The principal agricultural products consist of livestock, poultry, and their products. The most common industries include construction, public administration, mining and quarrying, oil and gas extraction, educational services, trucking, and paper.

Louisiana has a relatively constant semitropical climate. Rainfall and humidity decrease, and daily temperature variations increase, with distance from the Gulf of Mexico. Prevailing winds are from the south and southeast. During summer and fall, tropical storms and hurricanes frequently batter the state especially along the coast. In Claiborne Parish the average temperature in winter is 47 degrees F and the average daily minimum temperature is 36 degrees F. In summer the average temperature is 80 degrees and the average daily maximum is 92 degrees F. The total average annual precipitation is 51 inches (National Climatic Data Center, 2012).

1.3 Project Location

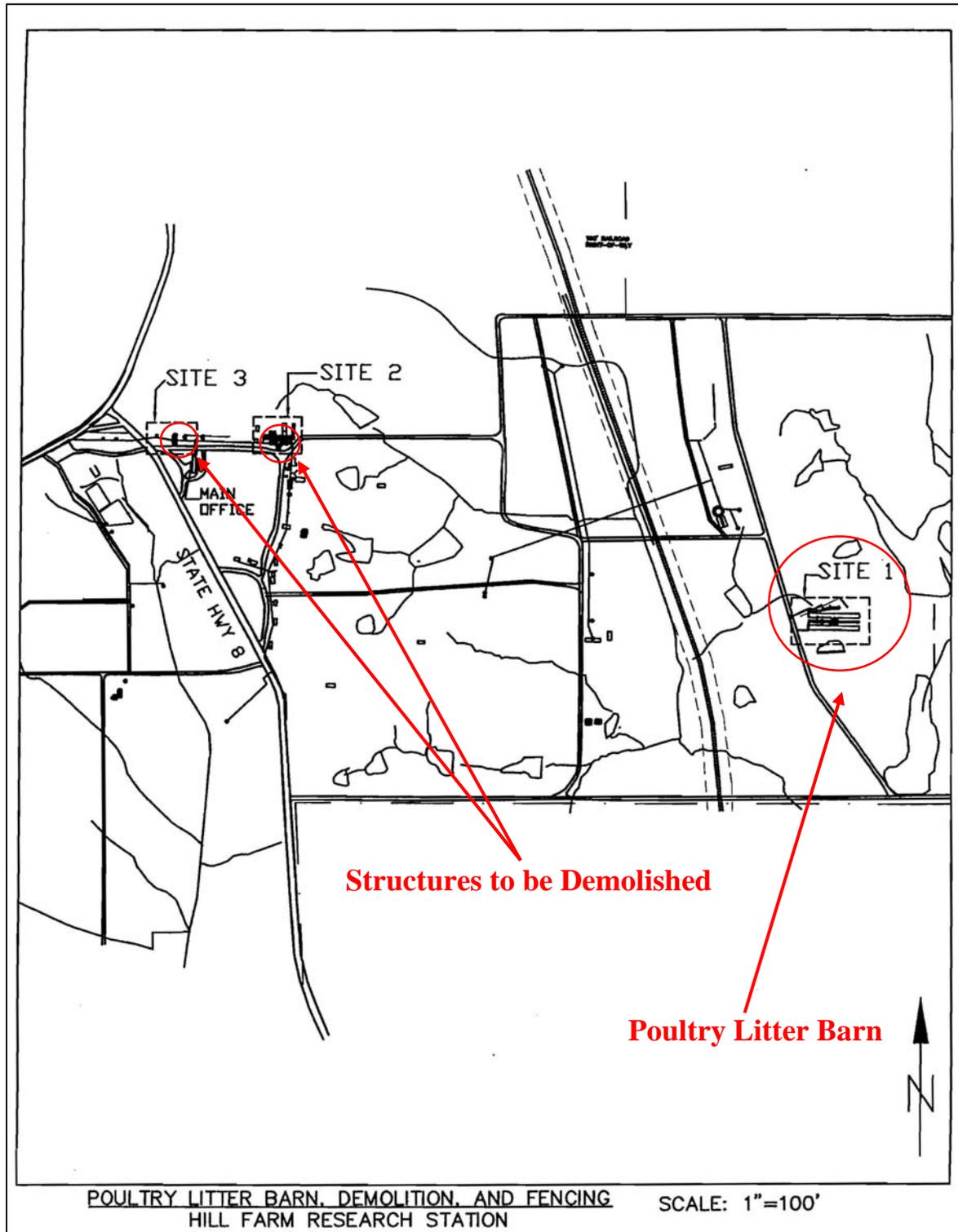


Figure 3 - Poultry Litter Barn (Site 1), Building 10706 Demolition (Site 2), and Buildings 10709 and 10710 Demolitions (Site 3) - Locations (Hill Farm Research Station, 2011)



Figure 4 – Aerial Photograph Layout of Poultry Litter Barn Area (Site 1) - Proposed Location Adjacent to Existing Poultry Houses (USFWS Critical Habitat Mapper®, 2012)

POULTRY LITTER BARN

The poultry litter barn project is proposed to be built adjacent to existing poultry houses at the Hill Farm Research Station (Figure 3). Topography in the area is composed of low flat floodplains and gently sloped undulations of the adjacent uplands. The site vicinity includes maintained agricultural areas interspersed with small patches of woodland and ponds. Two small ponds are located adjacent to the proposed site on the east and north (Figure 4, Site 1 Layout).

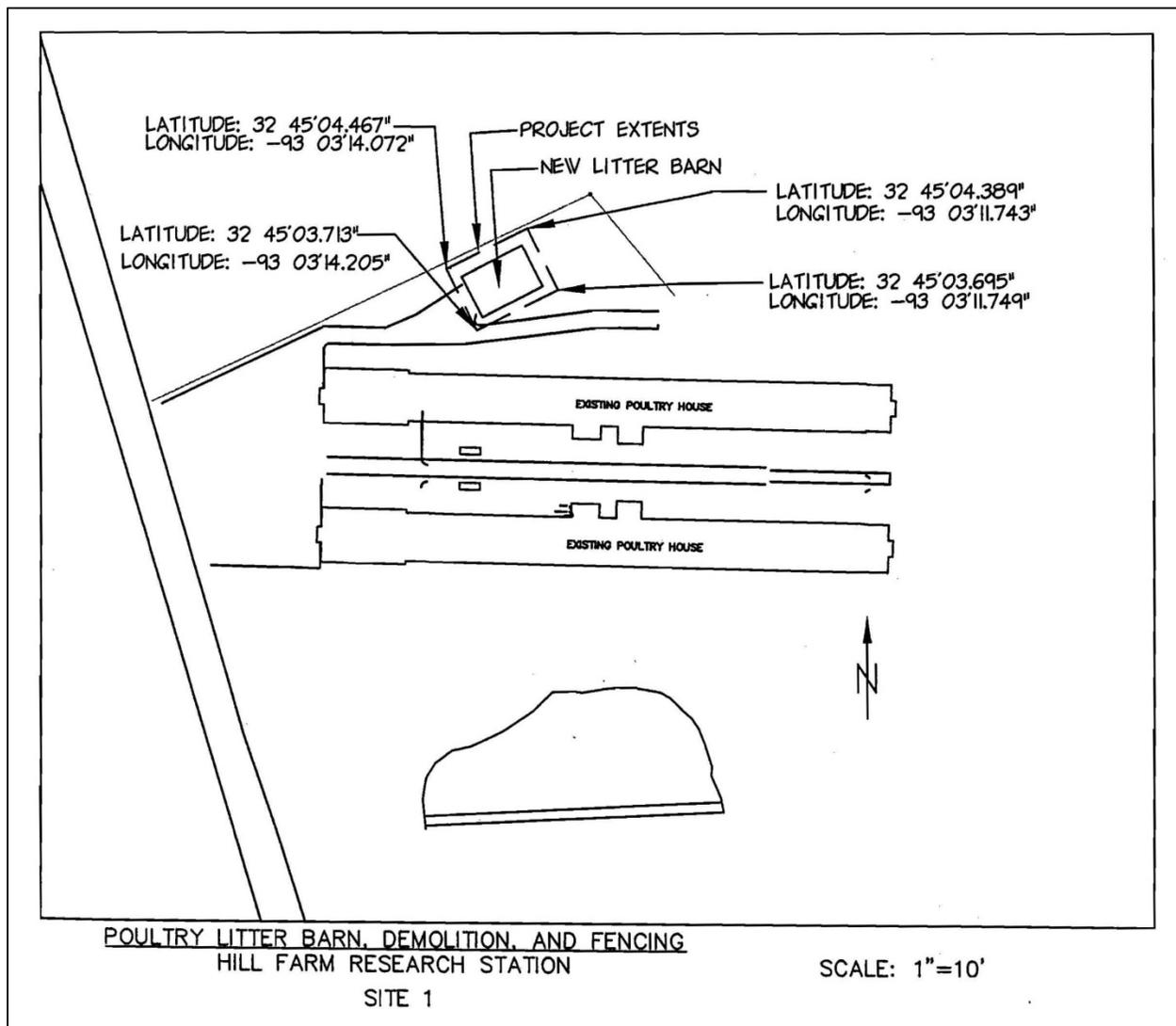


Figure 5 - Poultry Litter Barn (Site 1) - Proposed Layout (Hill Farm Research Station, 2011)

A detailed site layout plan has been provided by Hill Farm Research Station that shows the coordinates for the corners of the proposed poultry litter barn (Figure 5, Hill Farm Research Station 2011). The area is currently maintained grassland accessed by developed transportation infrastructure leading to the poultry houses.

STRUCTURES TO BE DEMOLISHED

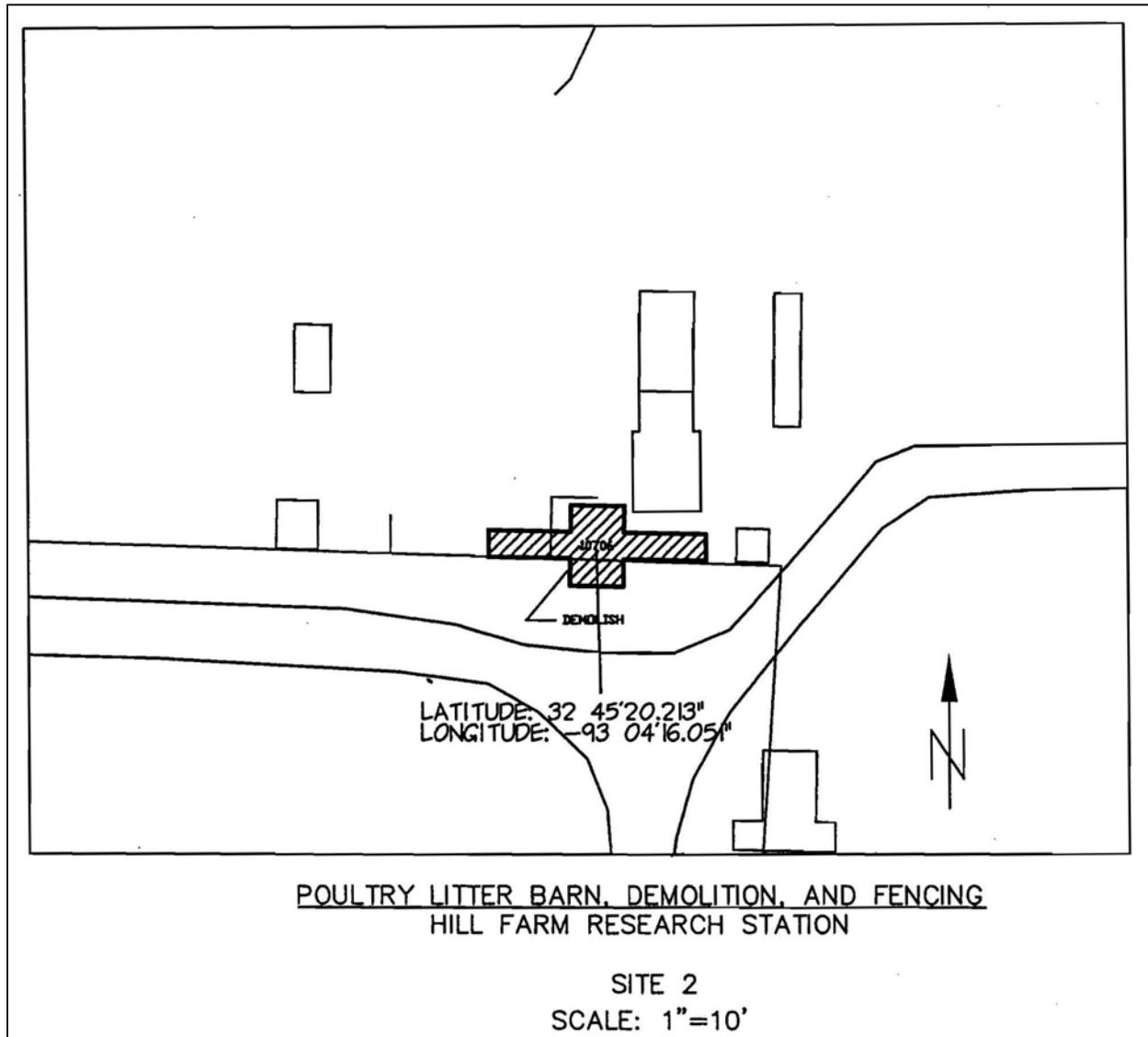


Figure 6 - Building 10706 Demolition (Site 2) - Proposed Layout (Hill Farm Research Station, 2011)

The Hill Farm Research Station plans to perform asbestos abatement and demolish a shop building with side wings, the Machine Shop and Implement Shed Building 10706 (Figure 6, Hill Farm Research Station 2011).

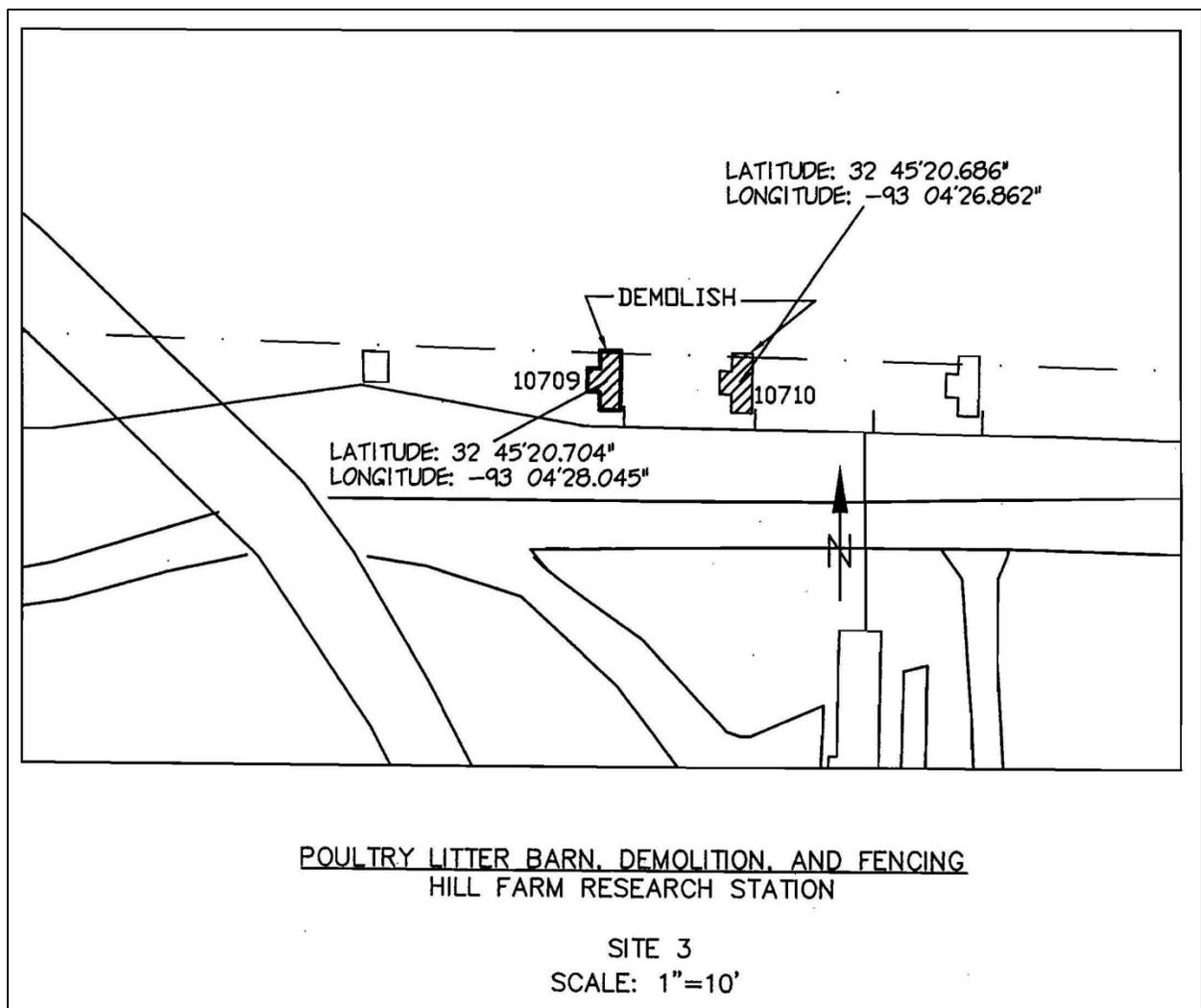


Figure 7 - Buildings 10709 and 10710 Demolition (Site 3) - Site Layout (Hill Farm Research Station, 2011)

In addition, the Hill Farm Research Station plans to perform asbestos abatement and demolish two small residential structures, Laborer House #1 (Building 10709) and Laborer House #2 (Building 10710) (Figure 7, Hill Farm Research Station 2011).

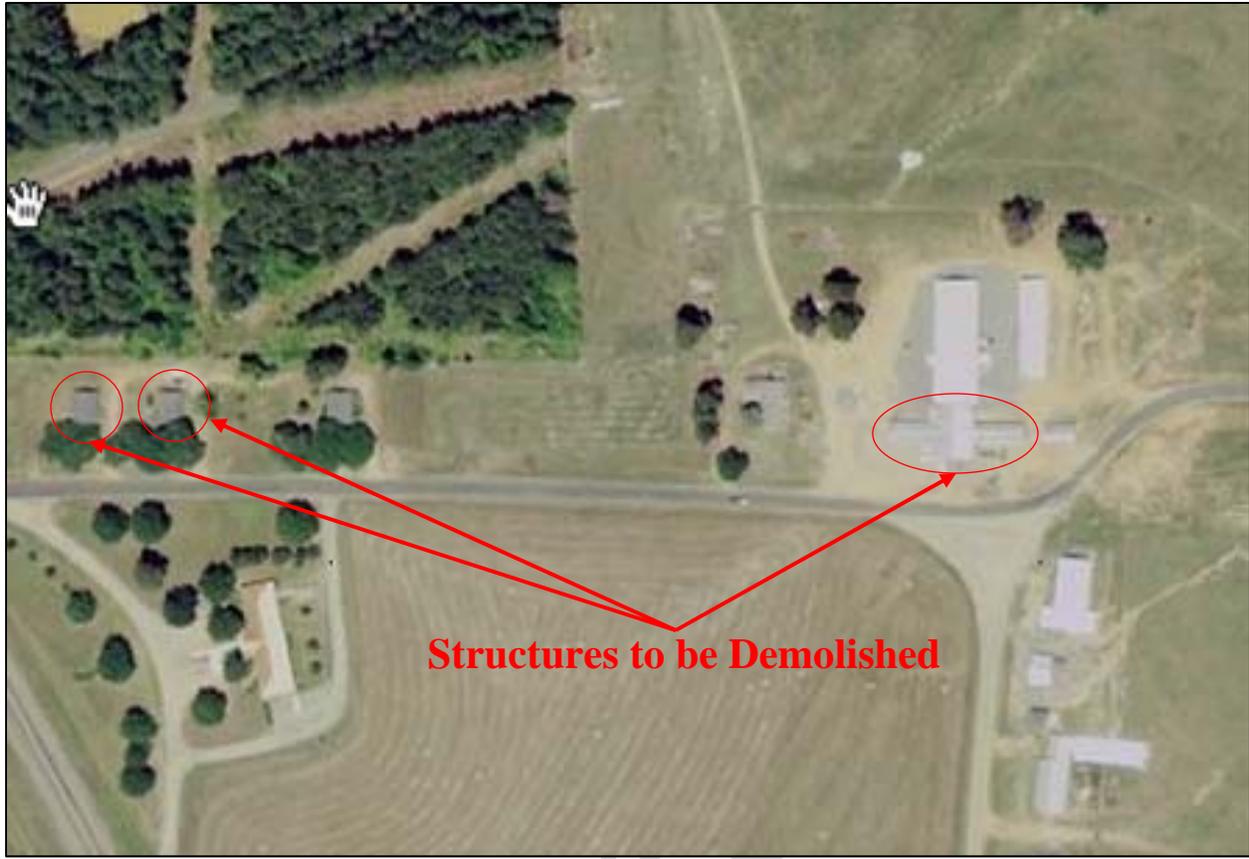


Figure 8 - Structures to be Demolished (USFWS Critical Habitat Mapper[®], 2012)

DR

FENCE DESCRIPTION

In addition to construction of the poultry litter barn and demolition of the three structures, the Hill Farm Research Station proposes to repair or replace numerous site fences, primarily along the west side of State Route LA-9. A partial copy of the Hill Farm property map has been provided by Hill Farm Research Station and GOHSEP, which indicates the proposed locations for fence work. A prioritized listing of the proposed fence projects has been included. Specifically, the following fence segments have been identified (Figure 9, Hill Farm Research Station, 2011):

- 1) 4,200 feet – replace existing fence that is in poor condition;
- 2) 600 feet – replace existing fence that is essentially down;
- 3) 1,600 feet – new fence to help enclose this area of the station to provide additional grazing pasture;
- 4) 1,000 feet – replace “existing” fence that has not been replaced in over 30 years (plans call for the use of a dozer to clear about 15 to 20 feet of brush along the entire length).

DRAFT

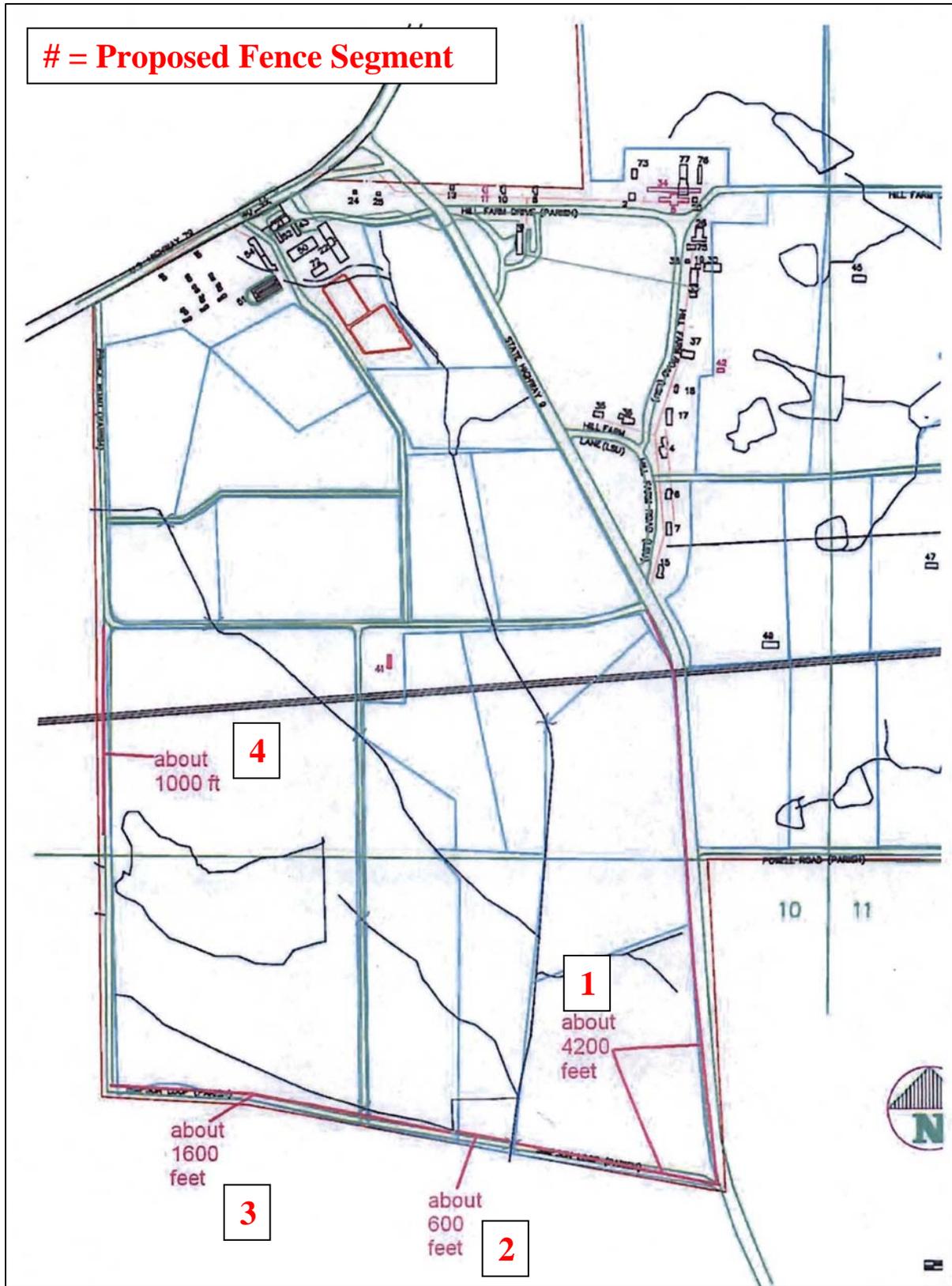


Figure 9 - Fence Plan (Hill Farm Research Station, 2011)

2.0 PURPOSE AND NEED

The objective of the FEMA Public Assistance grant program is to provide assistance to state, tribal, and local governments, and certain types of private nonprofit organizations so that communities can quickly respond to and recover from major disasters or emergencies. In order to restore the lost services, facilities and resources that were destroyed as a result of Hurricane Katrina, FP&C seeks federal grant funds to replace the eligible CARS buildings and facilities including their former contents (all appurtenant equipment, materials, and supplies) with new alternate facilities outside the coastal high hazard area of Plaquemines Parish.

The devastation to the CARS and surrounding area caused by Hurricane Katrina and the subsequent need to rebuild forced a change in the focus of research and therefore, the Master Plan for the Research Station programs. In response to this change, a committee was formed and a Master Plan for the station was developed that involves rebuilding in the existing CARS location only those facilities necessary in this coastal area and rebuilding other facilities at other LSU AgCenter facilities throughout Louisiana, including the Hill Farm Research Station poultry litter barn and fences. It was decided that in order to mitigate future flood and storm losses, some of the CARS facilities would be reconstructed in less hurricane and storm prone areas.

An alternate project has been requested to construct the poultry litter barn, demolish three structures, and repair/replace/construct fences at the Hill Farm Research Station location at 11959 Highway 9, Homer, Louisiana (Latitude 32.75153, Longitude -93.05320). The proposed action seeks to restore similar functions of the CARS in Port Sulphur, Louisiana and to utilize available grant funding for augmented and new functions including constructing the poultry litter barn and fences that will support activities for beef, forages, forestry, mastitis, poultry, and water quality research programs. The action seeks to develop the Hill Farm Research Station site in accordance with a Master Plan, which meets the goals of FP&C and the LSU AgCenter.

This project is needed to support implementation of the long-term community recovery plans, ensure community viability, and eliminate gaps in the resources available. The proposed alternate project for the Hill Farm Research Station supports efforts to meet the needs of the community served.

As a national leader in plant sciences, the LSU AgCenter, partly through its Hill Farm Research Station, is committed to developing a long-term, cohesive, multi-disciplinary program of plant and animal research. Its mission is to develop innovative plant genetics and applied restoration techniques that provide resource managers and cultivators with the latest science and best available technology, and to provide education and training for future scientists.

3.0 ALTERNATIVES CONSIDERED

3.1 Alternative 1 - No Action

Implementation of the No Action Alternative would entail no repair or replacement of the CARS facilities damaged by Hurricane Katrina. Consequently, the applicant would have diminished capabilities and resources due to the loss of the facility functions. Facilities could remain in a damaged condition, which would represent a risk to the community.

3.2 Alternative 2 – Reconstruct New Facilities at an Alternate Location – Proposed Action

FP&C seeks FEMA Public Assistance federal grant funds for a proposed project to replace eligible facilities lost at the Port Sulphur CARS with alternate facilities at the Hill Farm Research Station, i.e., the poultry litter barn and fences. FP&C determined that reconstruction of the original eligible facilities in their current location is undesirable due to the altered research focus of the CARS. Additionally, practicable alternatives outside the floodplain having lower flood risk were identified that meet goals of the LSU AgCenter and Hill Farm Research Station.

3.3 Alternative 3 – Reconstruct at Original Sites – Alternative Eliminated from Consideration

This alternative would rebuild the damaged CARS facility at the original site to pre-disaster configuration, function, and capacity. The facilities would be constructed within the respective original footprint and would include stringent and costly floodplain construction requirements. Due to the logistics and risks of reconstruction in the coastal high hazard floodplain, community leaders have determined the alternative to replace the facilities at the original sites is not practicable, desirable, or feasible. Therefore, this alternative will not be carried forward for further analysis in this EA.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

4.1 Physical Resources

This section provides a description of the physical setting and information on the existing environment, or baseline conditions, for those resources/areas of concern that may be affected by the proposed action or alternatives. The following environmentally-related resources/areas of concern are discussed: geology and soils, surface water, groundwater and wetlands, floodplains, threatened and endangered species and critical habitat, cultural resources, and environmental justice. Other related resources/areas of concern are addressed where the proposed action and/or alternatives have the potential to affect that resource/area of concern including air quality, noise, traffic, public services and utilities, and hazardous materials and wastes.

4.1.1 Geology and Soil

The surface of Louisiana is underlain by geologically young sedimentary sequences that were deposited in or adjacent to rivers and deltas in a coastal-plain setting. These deposits indicate that a major river system corresponding to the Mississippi has persisted at least since the Gulf of Mexico began to form and, in general, the entire suite of fluvial, deltaic, and coastal deposits has advanced farther into the Gulf through time, and continues now to fill it with sediment. The processes that created the fluvial and deltaic sedimentary sequences that comprise the majority of the surface strata in Louisiana persist to the present time.

Tertiary strata of the Wilcox, Claiborne, and Fleming groups occupy the area of the proposed project and Claiborne group exposures predominate (Figure 10, LSU 2010). Claiborne strata consist of sandstone and mudstone deposited in deltaic and shallow marine settings. The Claiborne Group is divided into two units: Upper Calcareous group, consisting of marls and limestone, white, sometimes indurate, and blue; and Silaceous Claiborne group, consisting of silaceous sandstones and claystones.

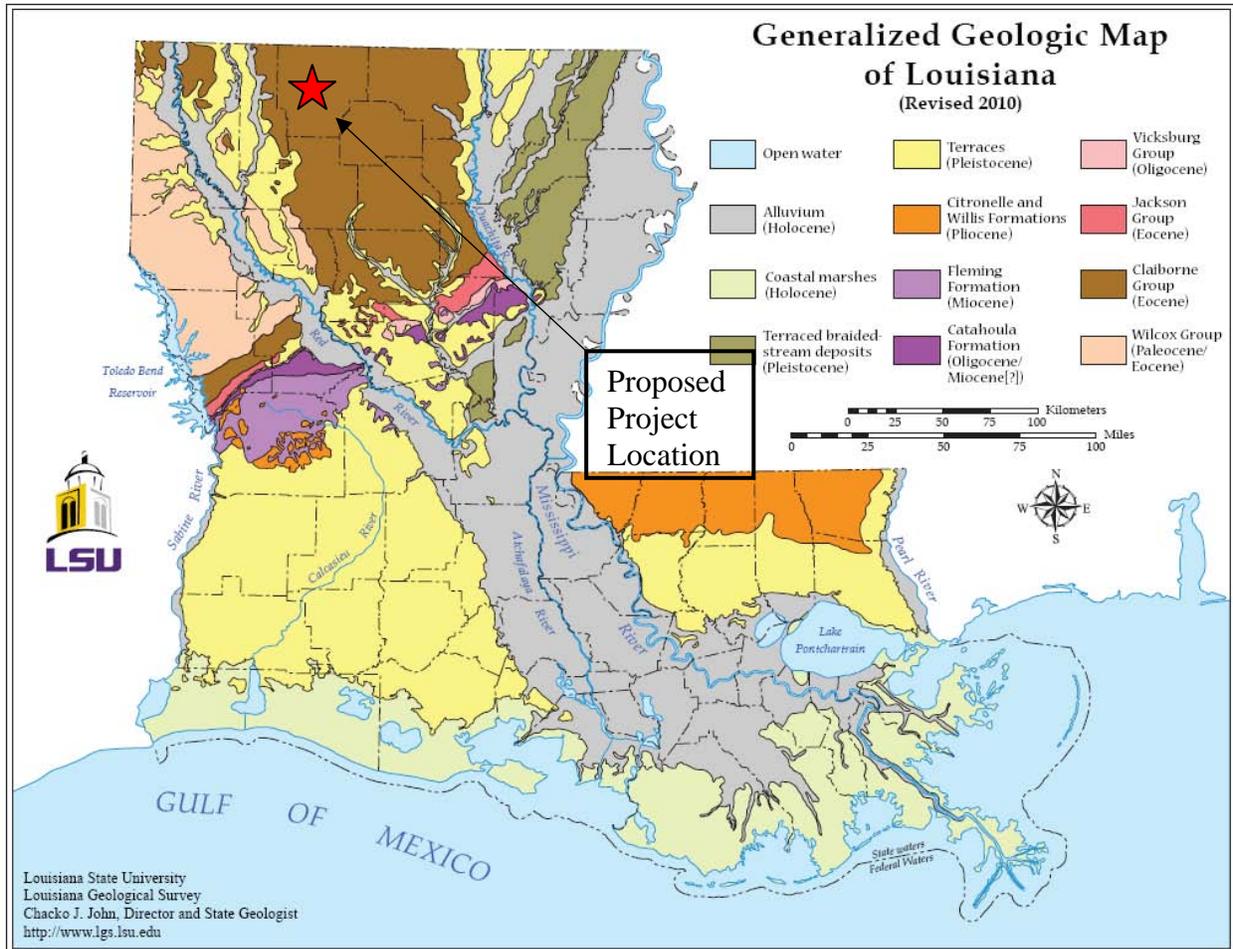


Figure 10 - Generalized Geology Map of Louisiana (LSU, 2010)

The proposed project is located within the South Central Plains ecoregion of Louisiana, which is composed of rolling plains that are broken by nearly flat fluvial terraces, bottomlands, sandy low hills, and low cuestas (Figure 11, Ecoregions of Louisiana, EPA 2006). Its terrain is unlike the flatter, less dissected Mississippi Alluvial Plain or the Western Gulf Coastal Plain. Uplands are underlain mainly by poorly-consolidated Tertiary coastal plain deposits, and soils are mostly acidic sandy loams, silt loams, sands, and sandy clay loams. Bottomlands and terraces are veneered with Quaternary alluvium, terrace deposits, or loess. The lithologic mosaic is complex and distinct from the strictly Quaternary deposits of the Western Gulf Coastal Plain and the Mississippi River Alluvial Plain.

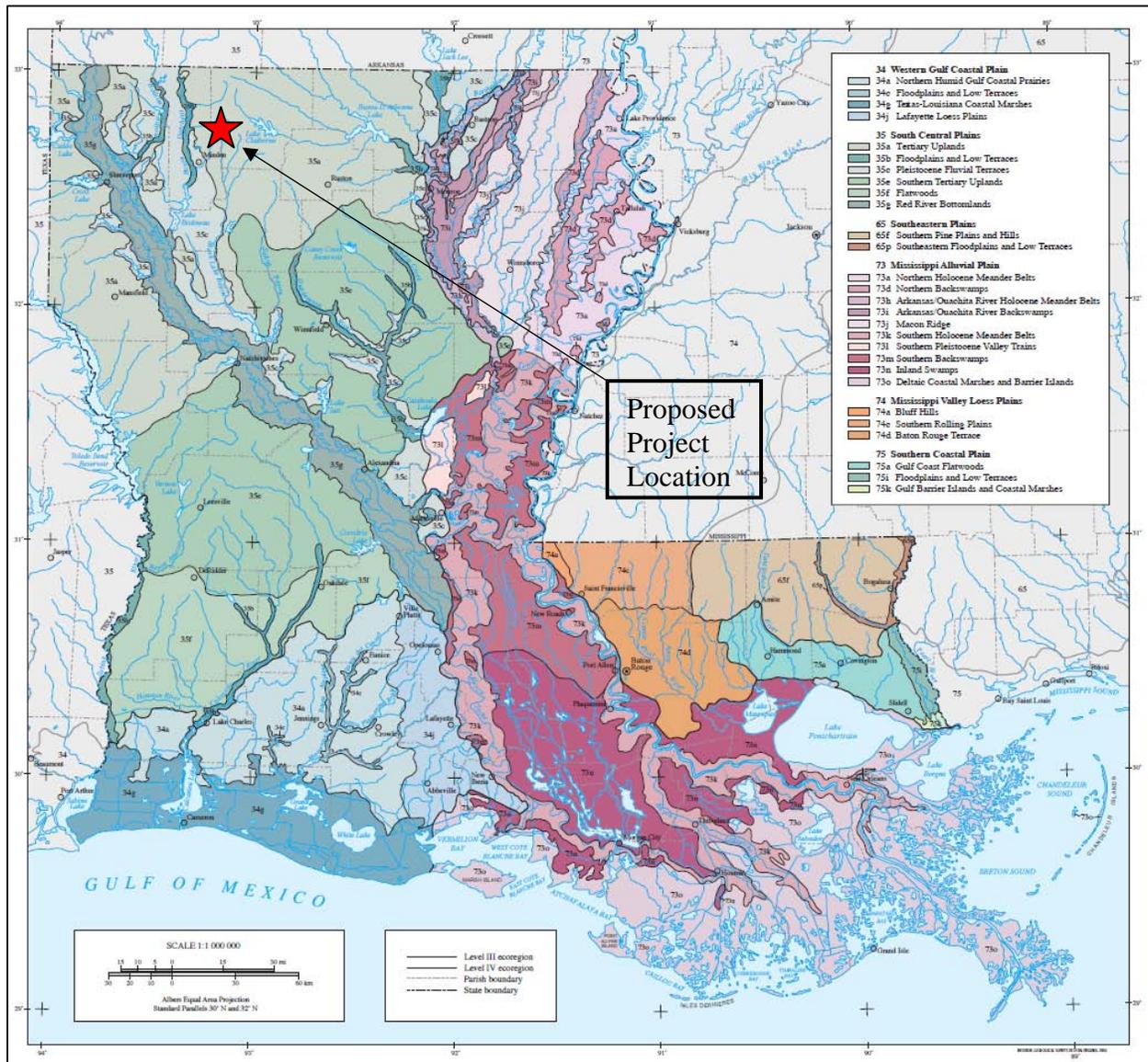


Figure 11 - Ecoregions of Louisiana, South Central Plains Tertiary Uplands of Claiborne Parish (EPA, 2006)

Natural vegetation of uplands was historically dominated by longleaf pine woodlands and savannas in the south, and shortleaf pine/hardwood forests in the north (including the area of the proposed action). Southern floodplain forest of hardwoods and bald cypress typified bottomlands. Covering parts of Louisiana, Arkansas, east Texas, and Oklahoma, the South Central Plain is mostly covered in forests or woodland, with less than 20% in cropland. Commercial pine plantations are extensive. Timber production, livestock grazing, and oil and gas production are major land uses. Cropland dominates the leveed bottomlands/floodplains of the Red River (Figure 10, Generalized Geology of Louisiana, Louisiana State University 2010).

The uplands, which are throughout the project area, make up about 84 percent of the land area of the parish. The soils on uplands are gravelly, sandy, or loamy and range from poorly drained to somewhat excessively-drained. They are generally low in natural fertility. The well drained soils are at higher elevations along natural levees along abandoned stream channels. Several smaller areas are used as pastureland and cropland. The soils on floodplains are loamy and range from poorly drained to well-drained. The hazard of erosion is generally the main concern in soil management. The specific soil units mapped in the project vicinity include the following soil units (NRCS, 2012).

Bw - Bowie fine sandy loam, 1 to 5 percent slope

This soil is gently sloping and moderately well drained. It is on narrow or broad, convex ridgetops on uplands. The areas of this soil range from about 20 to 200 acres. Typically, the Bowie soil has a brown, strongly acidic fine sandy loam surface layer about 7 inches thick. The subsurface layer to a depth of about 13 inches is light yellowish brown, strongly acidic fine sandy loam. The subsoil to a depth of about 25 inches is strongly acidic sandy clay loam (NRCS, 2012).

Dy - Darley-Sacul complex, 12 to 30 percent slope

These soils are moderately steep and are on side slopes on uplands. Slopes are short and irregular. This Darley soil is mainly on the upper parts of slopes and is well drained. This Sacul soils is on the lower parts of slopes and is moderately well drained. The areas of these soils range from 40 to 300 acres. They are about 45 percent Darley soil and 40 percent Sacul soil. Typically, this Darley soil has a reddish brown, strongly acidic gravelly fine sandy loam surface layer about 4 inches thick. The subsurface layer to a depth of about 8 inches is yellowish red, strongly acidic gravelly fine sandy loam. The subsurface to a depth of about 60 inches is yellowish red, very strongly acid sandy clay and sandy clay loam in the upper part; alternating layers of ironstone and yellowish red, very strongly acid sandy clay in the middle part; and strong brown, very strongly acid fine sandy loam in the lower part (NRCS, 2012).

The Clean Water Act and associated federal regulations (Title 40 of the Code of Federal Regulations 123.25 (a)(9), 122.26(a), 122.26(b)(14)(x), and 122.26(b)(15)) require nearly all construction site operators engaged in clearing, grading, and excavating activities that disturb one acre or more, including smaller sites in a larger common plan of development or sale, to obtain coverage under a National Pollutant Discharge Elimination System (NPDES) permit for their stormwater discharges (EPA, 2007). Louisiana has been authorized by the EPA to

implement the federal requirements and have issued their own permits for stormwater discharges associated with construction activities (LDEQ, 2012). It is anticipated that the proposed project including the construction of the poultry litter barn and fences will require a permit from the Louisiana Department of Environmental Quality. The provision of the federal grant to complete this proposed project will be conditioned to obtain necessary permits and remain in compliance with the permit requirements.

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). For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forest land, pastureland, cropland, or other land, but not water or urban built-up land.

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 poultry litter barn and fences and the proposed demolitions would not adversely impact or cause significant adverse disturbance of geology or soil. The project will 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 obtain required permits and implement the required conditions.

4.1.2 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 EPA 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 Louisiana Department of Environmental Quality 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, Claiborne Parish has been identified as an attainment area for criteria pollutants (LDEQ, 2012).

Air emissions from animal feeding operations can be odorous. Odor emissions from animal production systems originate from three primary sources: manure storage facilities, animal housing, and land application of manure. Furthermore, volatilized ammonia can be re-deposited on the earth and contribute to eutrophication of surface waters. Animal wastes include manure (feces and urine), spilled feed and water, bedding materials (e.g., straw, sunflower hulls, wood shaving), wash water, and other wastes. This highly organic mixture includes carbohydrates, fats, proteins, and other nutrients that are readily degradable by microorganisms under a wide variety of suitable environments. Moisture content and temperature also affect the rate of microbial decomposition.

With larger, more concentrated animal production operations, odors and other airborne emissions are important issues for agricultural producers. Particulate emissions from animal feeding operations include dried manure, feed, epithelial cells, hair, and feathers. This airborne "organic dust" can include endotoxins (the toxic protoplasm liberated when a microorganism dies and disintegrates), adsorbed gases, and possibly steroids. Dust is very difficult to eliminate from animal production units. It is typically more of a problem in buildings that have solid floors and use bedding as opposed to slotted floors and liquid manure. The main impact downwind appears to be respiratory irritation due to the inhalation of organic dusts (USEPA, 2007).

Pathogens, and flies from animal operations are also airborne emission concerns. Although pathogens are present in buildings and manure storage units, they typically do not survive aerosolization well, but some may be transported by dust particles (USEPA, 2007). Flies are an additional concern from certain types of poultry and livestock operations. The housefly completes a cycle from egg to adult in 6 to 7 days when temperatures are 80 to 90°F. Females can produce 600 to 800 eggs, larvae can survive burial at depths up to 4 feet, and adults can fly up to 20 miles. Large populations of flies can be produced relatively quickly if the correct environment is provided. Flies tend to proliferate in moist animal production areas with low animal traffic (USEPA, 2007).

The movement or dispersion of airborne emissions from animal production facilities is difficult to predict and is affected by many factors including topography, prevailing winds, and building orientation. Prevailing winds must be considered to minimize odor transport to close or sensitive neighbors.

Most states and local units of government deal with agricultural air quality issues through zoning or land use ordinances. Setback distances may be required for a given size operation or for land application of manure. A few states have an ambient gas concentration (e.g., H₂S) standard at the property line. Gas and odor standards are difficult to enforce since on-site measurements of gases and especially odor are hard to do with any high degree of accuracy. Producers must be aware of odor- or dust-related emissions regulations applicable to their livestock operation.

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 poultry litter barn, demolition of the three structures, and fence work. Best management practices are required to lessen the impact of the emissions from operations, maintenance, and waste management. 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 and by obtaining permits for operations and waste management activities and complying with the permit conditions.

4.2 Water Resources and Water Quality

4.2.1 Surface and Groundwater

Surface Water

Claiborne Parish is part of three watersheds including the Loggy Bayou, Black Lake Bayou, and Bayou D'Arbonne. The Hill Farm Research Station is located entirely within the Bayou D'Arbonne watershed.

Surface water on the site includes small isolated ponds interspersed with intermittent and perennial streams and creeks flowing south and east toward Allen Creek and onward downstream approximately three miles east to Lake Claiborne. Lake Claiborne is an approximately 6,400 acre man-made lake formed by damming Bayou D'Arbonne and fully supported uses include extensive primary and secondary contact recreational activities, fish and wildlife propagation, an adjoining state park with cabins, irrigation, and drinking water supply (Claiborne Parish, 2012).

The USEPA 1998 National Water Quality Inventory indicates that agricultural operations, including poultry feeding operations, are a significant source of water pollution in the U.S. (USEPA, 2009). In many watersheds, animal manures represent a significant portion of the total fertilizer nutrients added. In a few counties, with heavy concentrations of livestock and poultry, nutrients from confined animals exceed the uptake potential of non-legume harvested cropland

and hayland. Oxygen-demanding substances, ammonia, nutrients (particularly nitrogen and phosphorus), solids, pathogens, and odorous compounds are the pollutants most commonly associated with manure. Manure is also a potential source of salts and trace metals, and to a lesser extent, antibiotics, pesticides and hormones. This problem has been magnified as poultry and livestock production has become more concentrated (USEPA, 2009).

Animal feed operation pollutants can impact surface water, groundwater, air, and soil. In surface water, manure's oxygen demand and ammonia content can result in fish kills and reduced biodiversity. Solids can increase turbidity and smother benthic organisms. Nitrogen and phosphorus can contribute to eutrophication and associated algae blooms which can produce negative aesthetic impacts and increase drinking water treatment costs. Turbidity from the blooms can reduce penetration of sunlight in the water column and thereby limit growth of seagrass beds and other submerged aquatic vegetation, which serve as critical habitat for fish, crabs, and other aquatic organisms. Decay of the algae (as well as night-time algal respiration) can lead to depressed oxygen levels, which can result in fish kills and reduced biodiversity. Eutrophication is also a factor in blooms of toxic algae and other toxic estuarine microorganisms, such as *Pfiesteria piscicida*. These organisms can impact human health as well as animal health. Human and animal health can also be impacted by pathogens and nitrogen in animal manure. Nitrogen is easily transformed into the nitrate form and if transported to drinking water sources can result in potentially fatal health risks to infants. Trace elements in manure may also present human and ecological risks. Salts can contribute to salinization and disruption of the ecosystem. Antibiotics, pesticides, and hormones may have low-level, long-term ecosystem effects.

The NPDES program regulates the discharge of pollutants from point sources to waters of the United States. Concentrated Animal Feeding Operations (CAFOs) are point sources, as defined by the CWA [Section 502(14)]. To be considered a CAFO, a facility must first be defined as an Animal Feeding Operation (AFO). AFOs are agricultural operations where animals are kept and raised in confined situations. AFOs generally congregate animals, feed, manure, dead animals, and production operations on a small land area. Feed is brought to the animals rather than the animals grazing or otherwise seeking feed in pastures. Animal waste and wastewater can enter water bodies from spills or breaks of waste storage structures (due to accidents or excessive rain), and non-agricultural application of manure to crop land (USEPA, 2012).

An AFO is a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

- Animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and
- Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility (USEPA, 2012).

Ground Water

The Sparta aquifer in northwest Louisiana is one of four primary aquifer systems found in the state and is the primary aquifer beneath the Hill Farm Research Station. The Sparta aquifer is the major groundwater source for North Louisiana and provides for significant supplies in Claiborne Parish. The Sparta Aquifer is one hydrogeologic unit in a series of alternating aquifers and

confining units within the Mississippi Embayment. The Sparta Aquifer is situated between the massive marine clay layers of the overlying Cook Mountain and underlying Cane River confining units. The lithology of the Sparta Aquifer is highly varied both laterally and vertically. The aquifer consists of very fine to medium sand, silty clay, lignite, and clay. The aquifer has beds of fine to medium sand in the lower half and beds of sand, clay and lignite in the upper half.

Near the proposed project site, the altitude of the top of the Sparta aquifer ranges from approximately 100 feet below sea level northeast of the project area near Lake Claiborne to approximately 150 feet below sea level near the southwestern end of the site. The top of the aquifer dips east and southeast at a rate of 25 to 50 feet per mile. In the area of the proposed project the base of the aquifer ranges from approximately 150 feet below sea level northeast of the site near Lake Claiborne to approximately 200 feet below sea level southwest of the site. The potentiometric surface near the site was reported by USGS in 1996 between approximately 100 and 120 feet below sea level (USGS, 1996). Ground surface elevations in the vicinity of the Hill Farm Research Station range from 250 to 400 feet above sea level (USGS, 2009).

Water levels in the Sparta aquifer have steadily declined since the early 1920's when pumpage began. In 2000, the USGS reports that the Sparta aquifer served as the principal source of groundwater for Claiborne Parish and provided for public supply, livestock, irrigation, and aquaculture.

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

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.

4.2.2 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 that the area of the proposed site has not been classified as wetlands (USFWS, 2012). A request for a Jurisdictional Determination for the proposed demolition sites and for construction of a new poultry litter barn and fence located at the Hill Farm Research Station was submitted to the U.S. Army Corps of Engineers, Vicksburg District. Based upon the information provided, the Army has determined that a Department of Army Section 404 Permit will not be required for any work on the subject properties, since there are no jurisdictional wetlands or other waters of the United States located on the sites (USACE, 2012). A copy of the basis of this determination has been included in Appendix E, Agency Correspondence.

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

Construction of the poultry litter barn and fences as proposed including stipulated mitigating conditions would not adversely impact waters of the U.S through dredge/fill activities. The project would not adversely modify wetlands per review of the USFWS NWI (USFWS NWI Mapper, 2012), aerial photographs, and a site reconnaissance.

4.2.3 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*”, within 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) to determine the flood hazard zone for the proposed project location.

In compliance with FEMA policy implementing EO 11988, the proposed project was reviewed for possible impacts associated with occupancy or modification of a floodplain. Claiborne Parish enrolled in the NFIP on July 18, 1985. According to the NFIP Flood Hazard Boundary Map panel number 22 0362 0110 A, dated July 18, 1985 and as converted by letter effective January 1, 1992, the proposed project site lies outside special flood hazard areas (1% annual chance flood area, 100-year floodplain).

Alternative 1 – No Action

The no action alternative would not result in adverse 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 damaged CARS facilities to the proposed site outside a special flood hazard area. This would result in relocation of facilities from a base floodplain area within the coastal high hazard area and would rebuild similar facilities outside the base floodplain resulting in a reduction of investment at risk in the floodplain. No adverse impacts from the floodplain or reduction in beneficial values of floodplains will result from this action.

4.3 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 Louisiana Department of Natural Resources Office of Coastal Management was consulted and it found the Hill Farm Research Station in Claiborne Parish to be outside the regulated Louisiana Coastal Zone and therefore, pursuant to provisions of LA R.S. 49:214.25.E, a coastal use permit will not be required (LDNR, 2011).

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 (Coastal Barrier System Unit Map, 2012).

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 outside the coastal zone jurisdiction therefore, the project will not require a Coastal Use Permit. In addition, the proposed action is not located in a regulated CBRS unit and will have no adverse effects on any CBRS unit.

4.4 Biological Resources

4.4.1 Threatened and Endangered Species and Critical Habitat

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).

The USFWS has indicated that the project has been reviewed for effects to federal trust resources under their jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed on the current plans, is not likely to adversely affect those resources. This finding fulfills the requirements under Section 7(a)(2) of the Act (USFWS, 2012).

The Magnuson-Stevens Fishery Conservation and Management Act (as amended), also known as the Sustainable Fisheries Act, requires all federal agencies to consult with the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) on activities or proposed activities authorized, funded, or undertaken by that agency that may adversely affect Essential Fish Habitat (EFH). The EFH provisions of the Sustainable Fisheries Act are designed to protect fisheries habitat from being lost due to disturbance and degradation. NOAA reviewed the proposed scope of work for impacts to regulated marine fisheries resources and essential habitat. The project has been found to be outside areas supportive of marine fisheries resources and areas categorized as essential habitat (NMFS, 2011).

4.4.2 Migratory Birds

The Migratory Bird Treaty Act (MBTA) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandoning eggs or young) may be considered a take and is potentially punishable by fines and/or imprisonment. If an action is determined to cause a potential take of migratory birds, as described above, then a consultation process with the USFWS needs to be initiated to determine measures to minimize or avoid these impacts. This consultation, when required, starts as an informal process.

4.4.3 Wildlife and Fish

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

Careful review of the proposed project by the LDNR and USFWS indicates the proposed plan has little potential for adverse effects and that the project is unlikely to impact protected resources. Based upon the NMFS review of the proposed project and their knowledge of protected resources, the proposed action is not located in an area with a potential for adverse impacts.

4.5 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 effect. 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 and amended on July 22, 2011 between 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 (2009 Statewide PA as amended). The 2009 Statewide PA as amended was created to streamline the Section 106 review process.

Existing Conditions

The archaeological Area of Potential Effects (APE) consist of the areas immediately surrounding the buildings proposed for demolition, the proposed location for the new Poultry Litter Barn, and the proposed location of the new fencing. The standing structures APE includes ten (10) agricultural and residential structures within the viewshed of the proposed undertaking. On April 19, 2012, FEMA Historic Preservation Staff consulted the NRHP Database and the Louisiana Cultural Resources Map and determined that Hill Farm Research Station is not within a listed or eligible National Register Historic District nor was it located within view-shed of an individually listed National Register Property. Six (6) of these structures are aged fifty years or older and four (4) structures are less than fifty years of age. The current undertaking is located predominantly on Bowie fine sandy loam, Darley gravely loamy fine sand, and Darley gravely fine sandy loam, all well drained soils found on interfluves.

Alternative 1 – No Action Alternative

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

Alternative 2 – Proposed Action Alternative

This alternative would involve the construction of one building (poultry litter barn), demolition of three buildings (two residences and a shop building), and repair, replacement and construction of new fencing at the LSU Hill Farm Research Station in Homer, LA. In order to fulfill obligations under Section 106 of the NHPA, and in accordance with the 2009 Statewide PA as amended, a cultural resources review was conducted at the Hill Farm Research Station in order to identify and evaluate potential historic properties if present within the APE that could be affected by the proposed demolition and construction activities. The standing structures evaluation and archaeological review were conducted by FEMA Historic Preservation Specialists and Archaeologists on February 29, 2012. None of the structures were found to be eligible for inclusion on the NRHP.

Archaeological field investigations consisted of surface inspection and shovel probes. No cultural features, intact soils, intact cultural deposits, or discrete cultural components were identified during the field investigations. In accordance with Stipulation VIII.E of the 2009 Statewide PA as amended, FEMA determined that there are No Historic Properties Affected as a result of the proposed undertaking and provided the SHPO and Tribes (Caddo Nation, Choctaw Nation of Oklahoma, Coushatta Tribe of Louisiana, Jena Band of Choctaw Indians, Mississippi Band of Choctaw Indians, Quapaw Tribe of Oklahoma, and the Tunica-Biloxi Tribe of Texas) the opportunity to review and comment. SHPO concurrence with FEMA's determination was received in a letter dated June 6, 2012. The Tribes did not object within the regulatory timeframes.

4.6 Socioeconomic Concerns

As of the census of 2010 (U.S. Census, 2012), there were 17,195 people, 5,890 households, and 4,338 families residing in the parish. The population density was 22 people per square mile. There were 7,761 housing units at an average density of 10 per square mile. The racial makeup of the parish was 47.5% White, 50.8% Black or African American, and 1.0% of the population was Hispanic or Latino of any race.

In the parish the population was spread out with 19.7% under the age of 18, 8.0% from 18 to 24, 26.9% from 25 to 44, 22.3% from 45 to 64, and 16.0% who were 65 years of age or older. The median age was 38 years. For every 100 females there were 99.80 males. For every 100 females age 18 and over, there were 98.40 males.

The median income for a household in the parish was \$32,292. The per capita income for the parish was \$16,925. About 21.4% of families and 26.8% of the population were below the poverty line, including 36.3% of those under age 18.

4.6.1 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 U.S. Environmental Protection Agency's (USEPA) Environmental Justice Assessment Mapper identifies that the population of Claiborne Parish is diverse in its ethnic composition (USEPA Environmental Justice Geographic Mapper, 2012). 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 eliminate the function, benefit, and remuneration of the lost facilities.

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 equally restore and enhance lost functions to serve all citizens.

4.6.2 Noise

The poultry litter barn, demolition, and fences project is anticipated to have ephemeral noise increases during construction that include operation of construction heavy equipment and increased traffic flow of site workers and delivery of materials. Long term noise increases can be anticipated from poultry litter barn operations from housing animal feed operations and operation of standard site equipment and vehicles.

A field survey was conducted in combination with an aerial photography survey to identify sensitive receptors and possible receptors were evaluated to satisfy the typical NEPA EA requirements for addressing noise impacts due to the proposed project. The proposed location for construction and operation of the poultry litter barn is surrounded by a buffer of Hill Farm Research Station lands. Most adjacent land in the vicinity of the proposed project is agricultural or undeveloped. No sensitive receptors, nearby residents, or businesses have been identified within areas anticipated to be adversely affected by noise from site activities. It was concluded that while there are anticipated to be temporary increases in noise during construction, no receptors would experience a permanent discernable increase in noise as a result of this project.

4.6.3 Traffic

The Hill Farm Research Station poultry litter barn area and three buildings to be demolished are accessed via multiple entrances from State Route LA-9 on the west and via multiple entrances from State Route LA-146 on the east. Traffic to the site then travels from these access points over parish roads including Hill Farm Road, Gladney Farm Road, and Lyons Hill Road. While there will be short term increases of onsite workers during construction, no significant permanent changes to onsite personnel are anticipated from the proposed project. The action is not anticipated to significantly affect existing traffic flow or volume. The proposed project does not require changes to the existing road network and this infrastructure has been determined adequate to provide for the poultry litter barn construction and operation.

4.6.4 Public Health and Safety

It is widely recognized that animal feeding operations can pose a number of risks to water quality and public health, mainly because of the amount of animal manure and wastewater they generate. Manure and wastewater from these operations have the potential to contribute pollutants such as nutrients (e.g., nitrogen, phosphorus), organic matter, sediments, pathogens, heavy metals, hormones, antibiotics, and ammonia to the environment. Excess nutrients in water can result in or contribute to eutrophication, anoxia (i.e., low levels of dissolved oxygen), toxic algal blooms which may be harmful to human health and, in combination with other circumstances, have been associated with outbreaks of microbes such as *Pfiesteria piscicida*. Decomposing organic matter can reduce oxygen levels and cause fish kills (USDA/EPA, 1999). Improperly managed dead animals can result in public health threats to onsite workers and exposed residents.

Pathogens, such as *Cryptosporidium*, have been linked to impairments in drinking water supplies and threats to human health. Pathogens in manure can also create a food safety concern if manure is applied directly to crops at inappropriate times. Nitrogen, in the form of nitrate, can contaminate drinking water supplies drawn from ground water. USDA and EPA recognize that there are other potential environmental impacts associated with animal feeding operations. For example improperly managed or sited facilities may produce odors that nearby residents find objectionable. Odor concerns may be minimized through local mechanisms, such as zoning and the implementation of best management practices (USDA/EPA, 1999).

4.7 Hazardous Materials and Wastes

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 Hill Farm Research Station has no record or indication of past or present hazardous waste activities including notification as a hazardous waste generator or other regulated activity. 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 E). No adverse records were identified and comments were incorporated into the EA analysis and documentation (EPA, 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 poultry litter barn and fences would not disturb any hazardous materials or create increased potential hazards to human health. 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.

4.8 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 impacts to the natural resources and socio-economics from the proposed action are unknown at this time. The proposed reconstruction may reduce

environmental risk since the goal of the facility is to trap sediment and re-establish wetlands that could provide increased coastal flood defense.

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.

- The applicant must follow all applicable local, state, and federal laws, regulations and requirements and obtain and comply with all required permits and approvals prior to initiating work.
- FEMA Public Assistance grant funded projects carried out in the base floodplain or affecting the base 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 during the course of work, archaeological artifacts (prehistoric or historic) or human remains 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. In addition, if unmarked graves are present, 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. Failure to comply with these stipulations may jeopardize receipt of FEMA funding.
- To minimize air quality impacts, FP&C 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 and its contractors must ensure 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.

DRAFT

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.

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 state newspaper, The Advocate, announcing the availability of this EA for review at the Main Library, Homer, Louisiana and at the FEMA Louisiana Recovery Office in New Orleans, LA. A copy of the Public Notice is attached in Appendix C.

7.0 LIST OF PREPARERS

John Darren Renne – Environmental Specialist
NISTAC/URS – Contractor Support to FEMA
Louisiana Recovery Office

Tiffany R. Spann-Winfield – Deputy Environmental Liaison Officer
Environmental Section – FEMA Louisiana Recovery Office

Jerame Cramer – Deputy Environmental Liaison Officer
Historic Preservation Section – FEMA Louisiana Recovery Office

Hanan Browning – Historical Preservation Specialist/Archaeologist
Louisiana Recovery Office

Annette Carroll – Historical Preservation Specialist
FLUOR/Golder & Assoc. – Contractor Support to FEMA
Louisiana Recovery Office

DRAFT

8.0 REFERENCES

- Cowardin, L. M., V. Carter, F. C. Golet, E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center Home Page. <http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.htm> (Version 04DEC98).
- Daigle, J.J., Griffith, G.E., Omernik, J.M., Faulkner, P.L., McCulloh, R.P., Handley, L.R., Smith, L.M., and Chapman, S.S., 2006, Ecoregions of Louisiana (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,000,000).
- Federal Register. 1980. Council on Environmental Quality: National Environmental Policy Act. 40 C.F.R. 57488-57514: pp1500-1508. 28 August 1980.
- Federal Emergency Management Agency. 1992. Flood Hazard Boundary Map: Panel Number 22 0362 0110 A. January 1, 1992.
- International Code Council. 2006. Uniform Building Code. Published by International Conference of Building Officials, 500 New Jersey Ave NW, 6th Floor, Washington D.C. 20001.
- Louisiana Department of Natural Resources Coastal Management Division. 2007. Louisiana Coastal Zone Map.
- Louisiana Department of Environmental Quality. 2008. Air Quality Assessment: Air Monitoring Program of National Ambient Air Quality Standards. Accessed February 29, 2012. <http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2630>.
- Louisiana Department of Environmental Quality. 2011. Memo from Beth Altazan-Dixon to Tiffany Spann, DEQ SOV 111110/3150 LSU CARS Hill Farm Research Station.
- Louisiana State University. 2010. Generalized Geology Map of Louisiana.
- State of Louisiana Department of Wildlife and Fisheries Office of Wildlife. 2011. Letter from Amity Bass, Natural Heritage Program, FP&C LSU AgCenter CARS Project, ID 11111720.
- U.S. Census Bureau. 2012. QuickFacts Publication for Claiborne Parish, Louisiana.
- U.S. Department of Agriculture Natural Resources Conservation Service. September 2012. Soil Map – Claiborne Parish Louisiana.
- U.S. Department of Agriculture. 2012. Natural Resources Conservation Service. Web Soil Survey - Soil Survey of Claiborne Parish. Accessed February 29, 2012. <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>.

U.S. Department of Agriculture. 2012. Plant Database-Louisiana. Access February 29, 2012. <http://plants.usda.gov/java/links>.

U.S. Department of Agriculture Soil. 1989. Soil Conservation Service, Soil Survey of Claiborne Parish Louisiana.

U.S. Department of Commerce National Marine Fisheries Service. 2011. Email from Lisa Abernathy, Response to Solicitation of Views.

U.S. Department of Commerce National Oceanic and Atmospheric Administration. 2012. National Climatic Data Center, Climate Data Online Integrated Map Application. Data Query #15259, 2/29/2012.

U.S. Environmental Protection Agency. Environmental Justice Geographic Assessment. Access February 29, 2012. <http://www.epa.gov/enviro/ej/>.

U.S. Environmental Protection Agency. April 5, 2012, Email Memo Received from Mick Tamara, NEPA Environmental Assessment Solicitation of Views for FP&C LSU AgCenter CARS Project – FEMA Federal Assistance Grant Project.

U.S. Fish and Wildlife Service. 2012. Coastal Barrier Resources System Map Units.

U.S. Fish and Wildlife Service. 2011. Memo response to SOV, Deborah Fuller, Acting Supervisor.

U.S. Fish and Wildlife Service. National Wetlands Inventory Mapper. Access February 29, 2012. <http://www.fws.gov/wetlands/Data/Mapper.html>.

U.S. Geological Survey. 2009. Athens Quadrangle Louisiana 7.5-Minute Series Topographic Map. LA 3293-414.

U.S. Geological Survey. 1986. Homer Quadrangle Louisiana 7.5-Minute Series Topographic Map. 32093-G1-TF-024.