# FINAL ENVIRONMENTAL ASSESSMENT CONSTRUCT ANTENNA PARTS STORAGE FACILITY, UPGRADE PERIMETER SECURITY FENCE AND DEMOLISH CAMERA SHED RED RIVER AIR FORCE SPACE SURVEILLANCE STATION LEWISVILLE, ARKANSAS

November 2012



Air Force Space Command 20<sup>th</sup> Space Control Squadron

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### FINDING OF NO SIGNIFICANT IMPACT

### Construct Antenna Parts Storage Facility, Upgrade Perimeter Security Fence and Demolish Camera Shed

### Red River Air Force Space Surveillance Station (AFSSS), Arkansas

Pursuant to provisions of the National Environmental Policy Act (NEPA), 42 U.S. Code 4321 et seq, implementing Council on Environmental Quality (CEQ) Regulations, 40 Code of Federal Regulations (CFR) 1500-1508, and 32 CFR Part 989, *Environmental Impact Analysis Process* (EIAP), the U.S. Air Force (Air Force) conducted an assessment of the potential environmental consequences of constructing an antenna parts storage facility, installing a perimeter security fence and demolishing the camera shed. This Environmental Assessment (EA), Construct Antenna Parts Storage Facility, Upgrade Perimeter Fence and Demolish Camera Shed, Red River Air Force Space Surveillance Station (AFSSS), AR, incorporated by reference in this finding, considers the potential impacts of the Proposed Actions on the natural and human environments.

#### **Proposed Actions and Alternatives**

The first Action is to construct a new antenna parts storage facility. Construction of the facility will include site preparation, a concrete foundation, roof system, electrical system, and ventilation. This building will be large enough for the Installation to store all their equipment and antenna parts in one location. Approximately 0.013 acres would be disturbed during construction activities.

The second Action is to upgrade the existing barbed wire perimeter fence with an eight-foot high chain link fence with an outrigger on the top. The fence will be constructed in close proximity to the existing barbed wire fence. Foundations for line posts, constructed of concrete, would be 12 inches in diameter with a minimum depth of 42 inches below grade. Foundations or terminal and gate posts would be 18 inches in diameter. Approximately 2.38 acres would be disturbed for the fence upgrade (this includes a three foot buffer on either side). The existing barbed wire perimeter fence will be maintained until installation of the proposed new fence is complete. The contractor will then remove the existing barbed wire perimeter fence and recycle the materials as applicable.

The third Action is to demolish the camera shed. This shed is undersized and has reached the end of its useful life. Approximately 0.014 acres would be disturbed for this demolition project. All materials would be recycled to the fullest extent possible.

#### **Summary of Findings**

Air Resources: The construction and demolition activities will have an unavoidable short-term impact on air quality. Exhaust emissions from construction equipment and personal vehicles will be generated, and fugitive dust would be generated during the construction. These emissions will be minimal, given the short duration of use, the limited types and quantity of equipment to be used, and the limited area to be disturbed. Air emissions from the Actions are not expected to affect attainment of the immediate or adjacent Air Quality Regions and the action is exempt from conformity analysis.

**Water Resources**: Storm water runoff will negligibly increase around the storage facility and areas of concrete footings for fence posts. Runoff will be localized and will not impact storm water drainage in the area. There will not be any increase in potential storm water contamination from construction of the fence (the fence is not located next to any parking lots or other areas of potentially contaminated runoff). Impacts from storm water runoff will not be significant.

**Geological Resources**: Implementing the Actions will not impact the geology of the Installation but will have minor impacts on topography and soils. Impacts to geological resources will not occur because the soil depths exceed the excavation depth for the storage facility and also the drilling depth along the perimeter of the fence boundary. The projects will disturb soils from boring, grading, and compaction by equipment during demolition and construction activities but will not be significant.

**Biological Resources:** The loss of minimal vegetation and temporary displacement of wildlife during construction activities will be an unavoidable impact, but not significant. The project areas are located on semi-improved lands that are not considered critical habitat. Short-term impacts to vegetative resources during construction activities will not be significant.

**Cultural Resources**: No known cultural resources have been identified in the area for the construction activities. No archaeological artifacts of any significance were located during a 2002 survey for cultural resources and considering the high level of ground disturbance that has occurred on the Installation, no other potential impacts are likely.

As there are no adverse environmental impacts that will result from implementation of the Proposed Actions, no mitigation measures are necessary. The proposed management practices identified in the EA are standard construction management practices that will be implemented by the contractor.

#### **Finding of No Significant Impact**

Pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) of 1969 (42 United States Code 4321-4347), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] 1500-1508), and the Department of the Air Force Environmental Impact Analysis Process (32 CFR 989), the Air Force analyzed the potential environmental effects of the Actions and alternatives in the attached Environmental Assessment (EA). Based on the findings of the EA, I conclude that the environmental effects are not significant and the preparation of an Environmental Impact Statement is not warranted.

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MITCHELL A. KATOSIC, Lt Col, USAF Commander, 20<sup>th</sup> Space Control Squadron

3 JAN 2013

Date

# FINAL ENVIRONMENTAL ASSESSMENT CONSTRUCT ANTENNA PARTS STORAGE FACILITY, UPGRADE PERIMETER SECURITY FENCE AND DEMOLISH CAMERA SHED RED RIVER AIR FORCE SPACE SURVEILLANCE STATION LEWISVILLE, ARKANSAS



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# Acronyms and Abbreviations

AFH	Air Force Handbook
AFI	Air Force Instruction
AFSPC	Air Force Space Command
AFSSS	Air Force Space Surveillance Station
BLDG	Building
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DEQ	Department of Environmental Quality
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
FIRM	Flood Insurance Rate Map
FONSI	Finding of No Significant Impact
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
РСВ	Polychlorinated Biphenyl
PPM	Parts Per Million
PSI	Pounds per square inch
SIP	State Implementation Plan
U.S.	United States
USAF	U.S. Air Force
USBC	United States Bureau of Census
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

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# 1.0 PURPOSE AND NEED

This environmental assessment (EA) evaluates the potential for environmental consequences from three construction/demolition projects planned for Red River Air Force Space Surveillance Station (AFSSS), Arkansas. The Air Force proposes to complete three separate construction / demolition projects, all of which are evaluated in this EA in the interests of efficiency, economy, and cumulative impacts. These projects focus on sustaining the current mission while ensuring the longevity of the Installation through the upgrade and replacement of buildings and infrastructure.

# 1.1 BACKGROUND AND LOCATION

The AFSSS, known as the "space fence" is a radar system that detects and tracks objects in orbit over the United States. The space fence is comprised of nine field stations (three transmitter sites and six receiving sites) across the southern United States from Georgia to California, and is under the command of the 20<sup>th</sup> Space Control Squadron, Detachment 1 of the Air Force Space Command (AFSPC). The Red River AFSSS in Arkansas is one of the receiving sites. When a satellite crosses the fence, one or more of the six receiver stations detects the reflected radio signal. The primary mission of the system is to detect, catalog, and predict the orbital patterns of space objects.

Red River AFSSS is located approximately 30 miles east of Texarkana, Arkansas in Lafayette County (see Figure 1). The Installation is comprised of approximately 79 acres of government-owned land with a central operations building, several support buildings and 12 400-foot long antenna arrays (see Figure 2). The remainder of the property is enclosed with a three strand barb wire fence.

# 1.2 PURPOSE AND NEED

Each of the projects has its own specific purpose; these are discussed in the following paragraphs. These projects are intended to allow the Installation to carry out their assigned responsibilities in ways that fully satisfy mission requirements, foster safe operational practices, and protect human health and the environment. These construction / demolition projects are necessary to support the Installation's mission. The projects are described below.

### 1.2.1 Construct Antenna Parts Storage Facility

A new antenna parts storage facility is needed so the antenna parts can be stored in a separate and enclosed facility. Parts are currently stored in two separate locations, the camera shed and the maintenance building. The camera shed is not large enough to store all the antenna parts and it is badly deteriorated and cannot be repaired.



Figure 1. General Location of Red River AFSSS



Figure 2. Aerial View of Red River AFSSS

### 1.2.2 Upgrade Perimeter Security Fence

In accordance with Department of Defense (DoD) Instruction 2000.16, DoD Combating Terrorism Standards, Air Force Instruction (AFI) 31-101, The Air Force Installation Security Program, and Air Force Handbook (AFH) 32-1084, Facility Requirements, DoD installation are required to implement antiterrorism/force protection construction standards and to develop protective measures for DoD assets. Red River AFSSS has chosen to implement antiterrorism/force protection standards in accordance with AFH 32-1084 and AFI 31-101, by constructing a new perimeter fence around the Installation. AFH 32-1084 states that "a fence serves as a legal and physical demarcation of a boundary. It is an obstruction which must be jumped, climbed, or cut through to gain entry. From a security and law enforcement point of view, such actions would be regarded as unauthorized entry. Signs are displayed at appropriate and regular intervals on the exterior boundary of the fence line describing the type of area and conditions for entry. This combination of fencing and signs is intended to discourage trespass or unauthorized entry to legal entry points."

The purpose of the action is to implement antiterrorism/force protection and increase security by constructing an eight-foot high chain link fence around the perimeter of the Installation. Currently, there is a three-strand barbed wire fence along the perimeter of the Installation. The three-strand barbed wire fence makes it easy for unauthorized personnel to access the Installation and it is impossible to control mission security. Type A fencing (the type specified as the Proposed Action) is listed in AFH 32-1084 for areas of high mission value. Type B fences (such as the existing barbed wire fence) is typically used for a perimeter boundary for isolated portions of an Installation or as a livestock barrier. The proposed new fence would increase security for personnel an increase protection of the antennas.

### 1.2.3 Demolish Camera Shed

Once the new Antenna Parts Storage Facility is constructed, the camera shed is no longer needed. The camera shed (see Photo 1 and Figure 3) was constructed in 1965 and is wood frame sheathed with corrugated metal and on a concrete slab. The roof is severely damaged and is separating from the frame on one corner. Since this structure is badly deteriorated, demolition is recommended, warranting a "Condition Code 3" ("Forced Use, Substandard"). Condition Code 3 means this facility cannot be raised to meet Class A standard to house the function for which it is currently designated. However, from necessity it must be continued in use for a short duration or until a suitable facility can be obtained.

# 1.3 SCOPE

The scope of this environmental review is to analyze potential environmental impacts and concerns from proposed construction / demolition activities. An advertisement announcing the availability of the Draft Final EA and Finding of No Significant Impact (FONSI) for public review was published in the Texarkana Gazette on September 7, 2012. A copy of the Draft Final EA was placed in the Lafayette County Library, 219 East 3rd Street, Lewisville, AR and made available on the internet at ftp://ftp.pbainc.com/public. No public comments were received. A copy of the Notice of Availability is included in Appendix A. After reviewing the environmental impact analysis and public and/or agency comments, the Air Force has decided that the environmental effects are not significant. The Air Force will issue a FONSI; an environmental impact statement (EIS) is not necessary based on the limited impacts identified in the EA.

# 1.4 REGULATORY REQUIREMENTS AND GUIDANCE

The National Environmental Policy Act (NEPA) of 1969, as amended, requires Federal agencies to consider environmental consequences in their decision-making process. The President's Council on Environmental Quality (CEQ) issued regulations (40 Code of Federal Regulations [CFR] 1500-1508) to implement NEPA that include provisions for both the content and procedural aspects of the required environmental analysis. The Air Force has prepared this EA through adherence to procedures set forth in the CEQ regulations (Title 40 CFR 1500 et seq.), and Air Force Instruction (AFI) 32-7061, as promulgated at 32 CFR Part 989 (Air Force Environmental Impact Analysis Process). These Federal regulations establish both the administrative process and substantive scope of the environmental impact evaluation, designed to ensure deciding authorities have a proper understanding of the potential environmental consequences of a contemplated course of action. This EA will facilitate decision-makers in making environmentally informed decisions of the potential environmental impacts of selecting the Proposed Action or the No Action Alternative.

Table 1 provides a brief summary of federal laws and executive orders that may be applicable to the Proposed Action.

Title	Citation	Description
Endangered Species Act	16 USC 1531	Requires federal agencies to evaluate the effects of their actions on endangered or threatened species of fish, wildlife, and plants and take steps to conserve and pro- tect these species and their critical habitat.
Migratory Bird Treaty Act	16 USC 703	Provides for the protection of migratory birds and prohibits their unlawful take or possession.
Clean Water Act	33 USC 1251	Establishes limits on the amounts of specif- ic pollutants discharged to surface waters to restore and maintain the chemical, physical, and biological integrity of the water as es- tablished by ambient water quality stand- ards.
Floodplain Management	EO 11988	Requires federal agencies to evaluate the potential effects of actions on floodplains and to consider alternatives to avoid ad- verse effects and incompatible develop- ment wherever possible.

TABLE 1. FEDERAL LAWS AND EXECUTIVE ORDERS (EO)

Title	Citation	Description
Clean Air Act	42 USC 7401	Establishes policy to protect and enhance the quality of the nation's air resources to protect human health and the environment. Federal actions must conform to a State Implementation Plan and cannot cause or contribute to new violations of National Ambient Air Quality Standards.
Federal Noxious Weed Act	7 USC 2801	Requires federal agencies to develop man- agement programs to control undesirable plants on federal lands that have the poten- tial to impact agriculture, wildlife re- sources, or public health.
Invasive Species	EO 13112	Directs federal agencies to make efforts to prevent the introduction and spread of in- vasive plant species.
Protection of Wetlands	EO 11990	Requires federal agencies to take action to avoid, to the extent practicable, the destruc- tion, loss, or degradation of wetlands and to preserve and enhance the natural and bene- ficial values of wetlands.
National Historic Preservation Act	16 USC 470	Requires federal agencies to determine the effect of their actions on cultural resources and take certain steps to ensure these re- sources are located, identified, evaluated, and preserved.
Federal Actions to Address Environmental Justice in Mi- nority Populations and Low- income Populations	EO 12898	Directs federal agencies to identify and address any disproportionately high and adverse human or environmental impacts of federal actions on minority or low-income populations.
Strengthening Federal Envi- ronmental, Energy, and Trans- portation Management	EO 13423	Sets goals in the areas of energy efficiency, acquisition, renewable energy, toxics re- ductions, recycling, renewable energy, sus- tainable buildings, electronics stewardship, fleets, and water conservation.
Federal Leadership in Envi- ronmental, Energy, and Eco- nomic Performance	EO 13514	Expands on EO 13423 and sets sustainabil- ity goals for Federal agencies and focuses on making improvements in their environ- mental, energy and economic performance.

# 1.5 APPLICABLE REGULATIONS AND PERMITS

- Installation contractors would follow safety guidelines of the Occupational Safety and Health Administration as presented in the Code of Federal Regulations. Should any Installation employees participate in the Proposed Actions, they would comply with relevant Air Force occupational safety and health standards.
- All construction projects that disturb one acre or more of land must seek coverage under a NPDES general construction permit. The permit would be for small construction activities that disturb at least one acre, but less than five acres of land. Disturbance includes, but is not limited to soil disturbance, clearing, grading, and excavation. The Arkansas Construction Stormwater General Permit authorizes stormwater discharges from large and small construction activities that result in a total land disturbance of equal to or greater than one acre, where those discharges enter waters of the State or a municipal separate storm sewer system. Arkansas Department of Environmental Quality requires a Notice of Coverage posted at the site prior to commencing the construction. The construction contractor would be required to obtain and prepare these documents prior to construction.

# 1.6 ORGANIZATION

This EA follows the recommended outline in the CEQ and Air Force NEPA-implementing regulations.

Section 1.0—Purpose and Need for the Action provides background information about the Installation; the purpose and need for the Proposed Actions; the scope of the environmental review; applicable regulatory requirements; permits and a brief description of how the document is organized.

Section 2.0—Provides details of the Proposed Actions and the No Action Alternative.

Section 3.0—Affected Environment provides a description of the existing conditions of the areas potentially affected by the Proposed Actions.

Section 4.0—Environmental Consequences provides an analysis of potential direct, indirect, and cumulative impacts to environmental resources that may result from implementing the Proposed Action or Alternatives.

Section 5.0— List of Preparers lists the names, affiliations, and qualifications of the document preparers.

Section 6.0—. References provide a listing of the references used in preparing this EA.

Appendices—Provides a copy of the Notice of Availability.

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# 2.0 PROPOSED ACTIONS AND ALTERNATIVES

This Section describes the Proposed Actions for each project and the No Action Alternative. CEQ regulations require the inclusion of the No Action Alternative. The No Action Alternative serves as a baseline against which the impacts of the Proposed Actions and Alternatives are compared. There are three proposed construction/demolition projects that are described individually in terms of proposed functions, location, and construction/demolition.

# 2.1 SELECTION CRITERIA FOR ALTERNATIVES

In accordance with 32 CFR Part 989.8(c) the development of site-selection criteria is an effective mechanism for the identification, comparison, and evaluation of reasonable alternatives. The following site selection criteria were developed to be consistent with the purpose and need for the action.

- Support the Installation's mission to detect orbital objects passing over America;
- Be protective of facilities, human health and the environment;
- Not violate provisions of the National Historic Preservation Act;
- Meet current Air Force design standards and energy goals;
- Have sufficient space to house all necessary parts and equipment;
- Enhance security for the space surveillance system program;
- Meet antiterrorism force protection standards; and
- Impacts to natural resources such as floodplains, wetlands, water bodies and threatened and endangered species and habitats must be minimized to the maximum extent practicable. Unavoidable impacts must be addressed according to federal, Air Force, state and local regulations.

# 2.2 PROPOSED ACTION

The Air Force is proposing three separate construction/demolition projects in support of the mission at Red River AFSSS. The proposed projects would occur at various locations around the Installation. Table 2 presents a list of the three projects.

Number	Project Number (if applicable) and Name
1	UAUH-05-1003, Construct Antenna Parts Storage Facility
2	UAUH-05-1009, Install New Perimeter Security Fence
3	UAUH-05-1003, Demolish Camera Shed

### TABLE 2. CONSTRUCTION / DEMOLITION PROJECTS

### 2.2.1 Construct Antenna Parts Storage Facility

### 2.2.1.1 Proposed Action

The Proposed Action is to construct a new antenna parts storage facility. The facility would be a minimum of 325 square feet with a facility length of 25 feet. A facility length of 25 feet is needed to accommodate the largest radar part. The proposed location and an alternative location of the facility are shown in Figure 3.

Construction of the facility would include site preparation, a concrete foundation, roof system, electrical system, and ventilation. This building would be large enough for the Installation to store all their equipment and antenna parts in one location. The area disturbed for construction would be approximately 681 square feet (includes a three foot buffer around the site).

### 2.2.1.2 No Action Alternative

The No Action Alternative is not to construct the antenna parts storage facility.

### 2.2.2 Upgrade Perimeter Security Fence

### 2.2.2.1 Proposed Action

The Proposed Action is to upgrade the existing barbed-wire fence with an eight-foot high chain link fence with an outrigger on the top. It is estimated that 2.12 acres of soil may be disturbed when upgrading the new perimeter security fence (assumes a four foot buffer on the outside perimeter and a three foot buffer on the inside perimeter). A new fence and access gate would be installed around a triangle area of Air Force land east of the Installation (see Figure 4). The area of disturbance for the new fence would be 0.247 acres (assumes a three foot buffer). The total area disturbed for upgrading the existing fence and installing a new section of fence would be 2.37 acres. Woods have encroached on the boundary of the Installation. It is estimated that the fence contractor would have to clear approximately four feet next to the existing fence before installing the new fence. An estimated 40 trees would have to be removed along with smaller saplings and brush.

The fence would be a seven-foot high, nine gauge steel wire fabric, chain-link fence with one outrigger (facing outward) with three strands of barbed wire. The overall height of the fence with outrigger would be eight feet. The fence would be constructed in the same location as the existing barbed wire fence (see Figure 4). Foundations for line posts, constructed of concrete, would be 12 inches in diameter with a minimum depth of 42 inches below grade. Foundations or terminal and gate posts would be 18 inches in diameter. The existing barbed wire perimeter fence would be maintained until installation of the proposed new security fence is complete. The contractor would remove the existing barbed wire perimeter fence and recycle the materials as applicable.

### 2.2.2.2 No Action Alternative

The No Action Alternative would be not to install a new perimeter security fence. The existing barbed wire fence would be left in place. Not constructing the new fence would be in non-compliance with current antiterrorism/ force protection measures to protect the assets at Red River AFSSS.

### 2.2.3 Demolish Camera Shed

### 2.2.3.1 Proposed Action

The camera shed (Photo 1 and Figure 3) was constructed in 1965 and is wood frame sheathed with corrugated metal and on a concrete slab. Demolition of this small shed used to store antenna parts is recommended, warranting a "Condition Code 3" (see definition in Section 1.2.1). Approximately 245 square feet of land would be disturbed during demolition of the Camera Shed. Once the new Antenna Parts Storage Facility is constructed, this shed will no longer be needed. All demolition materials would be properly disposed of, off Site. All materials would be recycled to the fullest extent possible and all trucks used to haul materials would be covered to prevent materials from littering roadways and surrounding areas. Debris not reused, recycled, or considered as inert waste would be disposed of in the local landfill. Any utilities to these structures would be disconnected prior to demolition. After demolition, the land would be graded and restored to natural vegetation.

### 2.2.3.2 No Action Alternative

The No Action Alternative would be not to demolish the existing camera shed. The Installation would continue to use this old and outdated storage shed or the shed would not be used and continue to deteriorate.

# 2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

Alternatives to constructing the Antenna Parts Storage Facility and Constructing the Perimeter Security Fence were considered but eliminated from further analysis. The alternatives considered and reasons for their eliminations are discussed below.

### 2.3.1 Rent Storage Space Off-Site

An alternative to constructing a new storage facility is to rent storage space off-site. This alternative was considered to be more expensive in the long-term and time consuming to travel off-site each time a part was needed. Also due to the rural proximity of the Installation this alternative was eliminated from further consideration.

### 2.3.2 Install Security Cameras Along the Perimeter of the Installation

An alternative to constructing a security fence is to install security cameras on poles every 200 feet around the perimeter of the Installation. Monitored security cameras can detect intruders crossing a particular boundary or entering a protected zone. These cameras would have to withstand outdoor weather conditions such as extreme heat, cold, dust and rain. The cameras would require power supply cables to be installed to all of the cameras. A backup power system would also be required in the event of a power loss or in the event an intruder would try to "cut" the power to the cameras. Although an allowable alternative under DoD Instruction 2000.16, this alternative was eliminated from further consideration due to the requirements for power supply cables to be installed over the area and the need for a backup power supply system.



Figure 3. Site Location Map, Red River AFSSS



Figure 4. Location of Perimeter Fence, Red River AFSSS







# **3.0 AFFECTED ENVIRONMENT**

This Section describes the environment at Red River AFSSS (as appropriate), providing baseline information to allow the evaluation of potential environmental impacts that could result from the Proposed Action and the No Action Alternative. As stated in 40 CFR Sec. 1508.14, the human environment includes natural and physical resources and the relationship of people to those resources. The environmental baseline resource areas described in this section were selected after identifying the potential issues and concerns of the proposed actions.

Only relevant resource areas are described. In accordance with 40 CFR Sec. 1502.15, the resource areas that would not be impacted are not carried forward for further analysis. Several environmental resources were reviewed but not analyzed in detail in the EA because the resources are either not present at or adjacent to the project area or because implementation of accepted engineering or design techniques would ensure no significant impacts. These resource areas are listed in Table 3 below, with a brief explanation for their omission from the analysis.

Environmental Resource	Reason(s) for Not Including in EA Analysis
Airspace	The Proposed Action does not involve a flying mission, and airspace would not be affected.
Wetlands	Wetlands in Arkansas are commonly referred to as swamps, sloughs, shallow lakes, ponds and river-overflow lands. Within the Red River Basin below Fulton, a total of 100,800 acres of wetlands, including river-overflow lands and permanently flooded sloughs and swamps, are estimated to exist (Arkansas State Water Plan, 1987). Red River AFSSS is in the Arkansas Coastal Plain Wetland Planning Region. Current, geospatially referenced wetlands data for the project area was not available from the U.S. Fish and Wildlife Service (USFWS). Existing planimetric and topographic maps from the U.S. Geological Survey (USGS) were reviewed to determine if a commonly-referenced surface feature (e.g., swamp, slough), which could be related to and/or subsequently mapped as wetlands feature, were present in the project area. It was determined that there were no fresh-water emergent wetlands-like features near the Project Areas.
Environmental Justice	Local communities, including low-income or minority populations, would not be affected by the construction / demolition activities. No properties are located within a mile of the Installation. According to the 2000 Census, 49.3 percent of Lafayette residents were white and 49.3 percent were black. Hispanics, who can be identified as either white or black in the Census data, made up 2.1 per- cent of the county's population. There would be no disproportionately high and adverse human health or environmental effects on minority populations or low- income populations. There would be no disproportionate increase in environ- mental health and safety risks to children because children would not be pre- sent in the area of construction /demolition.
Environmental Restoration Pro- gram Sites	The Navy conducted an environmental baseline survey of the property in De- cember 2003 and concluded that no Environmental Restoration Program sites exist (NAVFAC, 2003).

TABLE 3. ENVIRONMENTAL RESOURCES NOT EXAMINED FURTHER IN THIS EA

<b>Environmental Resource</b>	Reason(s) for Not Including in EA Analysis	
Land Use	The current use of the property surrounding the Red River AFSSS includes vacant, undeveloped land. No significant changes to land use would take place as a result of the Proposed Action.	
Noise	There are no current noise issues on the Installation. Noise would temporarily increase during construction/renovation activities; however, there are no nearby inhabitants that would be affected. The nearest residence is .6 miles south of the Installation. The temporary increase in noise would be minimal.	
Polychlorinated biphenyls (PCBs)	There are no transformers containing PCBs present within the Red River AFSSS (NAVFAC, 2003).	
Radon	Radon testing was performed in April 1999 and results indicate radon levels below the threshold of 4.0 picocuries per liter, as set forth by the U.S. Envi- ronmental Protection Agency (USEPA) (NAVFAC, 2003).	
Asbestos	A 2005 survey did not identify any buildings, other than the Operations Build- ings, that contained asbestos (USAF, 2010a). Therefore, no impacts would re- sult from demolition of the camera shed.	
Lead-Based Paint	A 2005 survey did not identify lead in amounts greater than or equal to 1.0 mg/cm <sup>2</sup> on any building components (USAF, 2010b). Therefore, no impacts would result from demolition of the camera shed.	
Solid Waste	Demolition of the camera shed and existing barbed-wire fence would temporar- ily increase solid waste generation. This short-term increase in demolition de- bris would not have a significant impact. Materials would be recycled to the fullest extent possible. There would be no long-term impacts to solid waste generation.	
Socioeconomics	No significant changes to local economy, workforce, or demographics would result from the Proposed Action. Minor, short-term beneficial economic im- pacts would occur during construction/demolition, but the action would not support substantial increases to the local construction economy. The workers would be hired from the local area. No influxes of personnel or housing would occur.	
Transportation	Transportation patterns and traffic volumes would not change from existing conditions. Only a small number of worker vehicles and equipment would be required to support the construction/demolition projects. Activities associated with this project are considered to be minor with only a small number of contracted personnel required.	
Utilities	The Proposed Action would not increase utility requirements or usage in the long-term. Short-term utility increases during construction / demolition would not result in significant impacts to utility providers and electrical and water distribution systems are adequate.	
Visual Resources	The proposed construction is consistent with existing facility layout and appearance. There would be no change in visual conditions on the installation.	
Energy Usage	The use of vehicles and other energy-consuming equipment is monitored by the Air Force for abuse and unnecessary use beyond that needed to maintain the mission. Engines would be turned off when vehicles and equipment are parked unless maintenance operations require the engine to be running. Generators would only be used when necessary and turned off when not in use. Energy	

Environmental Resource	Reason(s) for Not Including in EA Analysis	
	sive for the action. No significant impacts are anticipated. To minimize ener- gy consumption and greenhouse gas emissions, when materials are required for the proposed actions they would be procured from within or close to the project area as practicable to reduce fuel use from transporting materials. Contractors would be requested to use appropriately-sized equipment for the construc- tion/demolition projects and maintain construction equipment and haul trucks in good working order so fuel efficiency is maximized.	
Occupational Safety and Health	Contractor personnel would be responsible for ensuring ground safety and compliance with all applicable occupational health and safety regulations and worker compensation programs. Contractors would also be required to conduct construction activities in a manner that would not pose any risks to personnel in the project areas. The contractor would also be responsible for managing ex- posure to hazardous materials, use of personal protective equipment, and avail- ability of Material Safety Data Sheets.	

# 3.1 AIR QUALITY

The U.S. Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS) for criteria pollutants, which are those compounds that cause or contribute to air pollution which could endanger public health and the environment. These pollutants may directly or indirectly originate from diverse mobile and stationary sources such as vehicles, maintenance activities, fuel storage tanks, prescribed burns and wildfires and clearing and grading ground surfaces. Air quality is determined by comparing ambient air levels with the upper concentration limits of the NAAQS for each criteria pollutant. Geographic areas that exceed NAAQS are designated as non-attainment for the specific pollutant that is in violation of the standard, whereas areas that meet NAAQS are designated as being in attainment for the criteria pollutant.

Lafayette County is located in the Shreveport-Texarkana-Tyler Interstate Air Quality Control Region. Red River AFSSS is in a region that is in attainment for NAAQS. The primary source of air emissions at Red River AFSSS is an 80 kilowatt emergency generator with 300 gallon diesel tank. The generator is powered once a month for less than an hour for testing and maintenance. Because the generator operates less than 500 hours per year it is not required to obtain an air permit in Arkansas.

The General Conformity Rule, promulgated by the USEPA at 40 CFR Parts 51 and 93, requires that the federal government may not engage, support or provide financial assistance for permit or license, or approve any activity that fails to conform to the State Implementation Plan (SIP). A General Conformity Evaluation is a review process designed to ensure that federal plans, programs, and projects are consistent with the SIP and the local clean air plan, and that they do not contribute to air quality degradation that would adversely affect State efforts to attain or maintain the NAAQS. The General Conformity Rule applies to all federal actions that are taken in nonattainment and maintenance areas. Since the proposed projects are located in an attainment area, a general conformity evaluation is not required.

The climate of Lafayette County is characterized by warm summers, mild winters and fairly abundant rainfall. The annual precipitation is 42 to 59 inches. The coldest month is typically January with an average temperature of 49 degrees and the warmest month is July with an average temperature of 92 degrees. Annual snowfall is approximately 5.2 inches and the average wind speed is 7.8 miles per hour.

# 3.2 WATER RESOURCES

The Red River Basin (which includes Lafayette County) consists of nearly 1.5 million acres of level to gently rolling land located in the southwest part of the state. Water is available from surface and ground-water sources. The Red River and Sulphur River are the principal streams, and the Quaternary and Sparta Sand Aquifers provide 80 percent of the groundwater withdrawn in the basin (USDA, 1987).

Red River AFSSS is located on the east side of Red River between the tributaries of Steel and Bodcau Creeks (see Figure 5). The Tatum-Branch-Bodcau Creek and Steel Creek Subwatersheds intersect the Installation. The project area is in a Class D Hydrologic Group, meaning very slow infiltration rates, soils are clayey, have a high water table, or are shallow to an impervious layer. The nearest surface water feature associated with the Steel Creek subwatershed is an intermittent stream located approximately 600 feet southeast of the southern Installation boundary. This subwatershed crosses the Installation boundary on the southern border. The nearest surface water features associated with the Tatum Branch-Bodcau Creek subwatershed is a small pond located 225 feet north of the Installation boundary.

Arkansas's Department of Environmental Quality (DEQ), Water Division is responsible for administering the state's storm water management program. State storm water requirements are mirrored after the federal National Pollution Discharge Elimination System (NPDES) program, requiring that storm water be treated to the maximum extent practicable. At the state level, Arkansas's NPDES program requires all construction sites disturbing more than one-acre to obtain permit coverage.

A 100-year flood is calculated to be the level of flood water expected to be equaled or exceeded every 100 years on average. The 100-year flood is more accurately referred to as the one percent annual exceedance probability flood, since it is a flood that has a one percent chance of being equaled or exceeded ed in any single year. The nearest, known 100-year floodplain is located two miles northwest of the project area in Lewisville on Battle Creek and the north arm of Steel Creek (see Figure 6). Floodplain data for the project area is zoned as ANI or "An area that is located within a community or county that is not mapped on any published Flood Insurance Rate Map (FIRM)." Steel Creek is located about 0.8 miles west of the project area. No, known floodplains are present within the construction area for the Proposed Actions.

# 3.3 BIOLOGICAL RESOURCES

Biological resources include the native and introduced plants and animals that make up natural communities. The natural communities are closely linked to the climate and topography of the area. Biological resources discussed below include vegetation, invasive species and noxious weeds, wildlife, and threatened or endangered and protected species.



Figure 5. Water Resources in Project Area



Figure 6. Location of 100-Year Floodplain

### 3.3.1 Vegetation

Prior to construction of the Installation, the land supported a hardwood forest. The forest was cleared and root plowed for construction of the Installation. Now the Installation consists mostly of short grasses which are routinely mowed. Woods border the site on the north, east and west. Plant species found at Red River AFSSS are shown in Table 4.

Scientific Name	Common Name	
Andropogon virginicus	broomsedge bluestem	
Aristida spp.	threeawn	
Cynodon dactylon*	Bermuda grass	
Digitaria spp.	crabgrass	
Echinochloa crus-galli*	barnyard grass	
Hydrolea ovata	hairy hydrolea	
Paspalum dilatatum	dallis grass	
Paspalum notatum	bahiagrass	
Plantago aristata*	bracted plantain	
Rumex crispus*	curly dock	
Setaria parviflora	yellow bristlegrass	
Solanum carolinense*	Carolina horse nettle	
Sorghum halepense*	Johnson grass	
Tridens albescens	white tridens	
Tridens flavus	purpletop	
*invasive species Source: USAF, 2007		

TABLE 4. PLANT SPECIES FOUND AT RED RIVER AFSSS

Invasive species can be non-native plants, insects, crustaceans, birds, etc. that are usually destructive, difficult to control or eradicate, and generally cause ecological and economic harm; whereas, a noxious weed is any non-native plant designated by a government agency as injurious to public health, agriculture, recreation, wildlife, or property. Invasive plant species and noxious weeds are generally found in disturbed soil conditions.

### 3.3.2 Wildlife

Wildlife occurrences at the Red River AFSSS have not been formally documented; however, typical wildlife found in the county are mink, armadillo, white-tailed deer, and eastern chipmunk.
## 3.3.3 Threatened or Endangered Species

The Endangered Species Act requires that any action authorized by a Federal agency shall not jeopardize the continued existence of a threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat of such species. A listed species provided protection under the Endangered Species Act is so designated because of danger of its extinction as a consequence of economic growth and development without adequate concern and conservation. Most birds are protected by the Migratory Bird Treaty Act (MBTA). The MBTA provides protection of nearly all species of birds from harm by prohibiting the destruction of active nesting habitat.

The USFWS lists two species as endangered in Lafayette County, the Red-cockaded Woodpecker (*Picoides borealis*) and the Interior Least Tern (*Sterna antillarum athalassos*). These species are not known to exist on Red River AFSSS.

## 3.4 GEOLOGY, TOPOGRAPHY AND SOILS

Red River AFSSS appears on the Lewisville Quadrangle Topographic map at an elevation of approximately 265 feet above sea level. It is relatively flat with a gently sloping landscape. The Installation is located in the Gulf Coastal Plain physiographic province. The bedrock geology of the area is composed of Eocene sandstones, mudstones and lignite of the Wilcox and Claiborne Groups. The stratigraphic unit consists of Tertiary rocks of the Cenozoic Era.

The Natural Resource Conservation Service (USDA, 1981) identifies Arcadia silt loam and Wrightsville silt loam soils in the project areas (see Figure 7). Both soils are in hydrologic group D. Group D soils are clay loam, silty clay loam, sandy clay, silty clay or clay. Group D has the highest runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface and shallow soils over nearly impervious material.

The Acadia Series consists of deep, somewhat poorly drained, level to nearly level soils on low terraces in the Coastal Plains. Permeability is very slow and runoff is medium. These soils formed in clayey alluvium. The native vegetation was mixed hardwoods and pine. Slopes range from 0 to 2 percent.

The Wrightsville Series consists of deep, poorly drained soils that formed in silty and clayey alluvium. Permeability is very slow. These soils are on broad upland flats on terraces. The native vegetation is mixed pine and hardwoods. Slopes are dominantly less than 1 percent.

Table 5 shows the building limitations for the Acadia and Wrightsville soils. Shrink-swell is defined as the changes in soil volume due to dryness or wetness.

## 3.5 CULTURAL RESOURCES

Cultural resources are the physical remains of past human activity and include prehistoric and historic sites, structures, features, or locations considered important to a culture or a community for scientific, traditional, religious, or other reasons. AFI 32-7065, Cultural Resource Management, provides the Air



Figure 7. Soils in Project Area

shrink	-swell s	Severe: wetness, shrink-swell Severe: wetness, shrink-swell	Severe: wetness, shrink-swell Severe: wetness, shrink-swell	Severe: low strength, wet- ness, shrink- swell Severe: low strength, wet-
vetness Severe	e: wetness,	Severe: wetness,	Severe: wetness,	ness, shrink- swell Severe: low
	-		· · · · · · · · · · · · · · · · · · ·	swell Severe: low
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shrink	-swell s	shrink-swell	shrink-swell	strength, wet-
				strongen, wet
				ness, shrink-
				swell
soil properties are	generally favora	able for building or	limitations are minor a	nd easily overcome;
ot favorable and spe	ecial planning, d	design, and mainten	ance are needed; and s	evere if soil proper-
		-		, and possibly in-
	ot favorable and spe It to overcome that	t favorable and special planning, It to overcome that special design	ot favorable and special planning, design, and mainten It to overcome that special design, significant increase	soil properties are generally favorable for building or limitations are minor a t favorable and special planning, design, and maintenance are needed; and s t to overcome that special design, significant increases in construction costs Feasibility studies could be required where limitations are severe.

## TABLE 5. BUILDING LIMITATIONS

Force with guidance on compliance with the National Historic Preservation Act, and applicable federal, state and local regulations.

In 2002, a Cultural Resources Survey and Assessment was conducted in compliance with Section 110 of the National Historic Preservation Act of 1966, as amended (U.S. Navy, 2002). Prior to construction of the Installation, the land was covered with a hardwood forest. The land was cleared and root plowed during construction of the Installation. Earthen platforms were constructed to support the 12 antennae, each platform approximately three feet above the landscape. According to Installation personnel, Native American mound sites are quite common in the vicinity, particularly near the Red River. However, they are not aware of any archaeological sites or artifacts on the grounds of the Installation and no artifacts were discovered during the walk over of the grounds. Based on the age of the landform, there is no potential for buried cultural materials or archaeological sites at the Red River AFSSS. The amount of disturbance and landscape modifications during construction of the facility in 1965 also limits the potential for the presence of any intact archaeological sites on the surface. Based on these factors and observations, there is virtually no chance for National Register of Historic Places (NRHP) eligible sites to be present (US Navy, 2002). The survey determined that an archaeological survey was not warranted.

In the same survey, the Navy determined that the Operations Building, Antenna Arrays and Preamp Houses are eligible for the NRHP based on their association with the history of the Cold War. The Navy determined that all other historic resources on the site do not meet the criteria for listing on the NRHP (U.S. Navy, 2002).

# 4.0 ENVIRONMENTAL CONSEQUENCES

This chapter discusses the potential for impacts to the environment as a result of implementing the Proposed Actions and alternatives. The potential direct and indirect, adverse or beneficial, and long-term and short-term impacts of the Proposed Actions and Alternative location are evaluated by resource and compared to the environmental consequences of the No Action Alternative. Potential impacts are quantified wherever possible and discussed at a level of detail necessary to determine the significance of the impacts. Best management practices are included as necessary to minimize potential adverse consequences of the federal action. No significant impacts were identified; therefore, no mitigation measures are required.

This Section is organized by resource element in the same order as introduced in Section 3. The Section concludes with a discussion of cumulative impacts.

## 4.1 AIR QUALITY

Impacts to air quality are based on federal, state and local pollution regulations or standards. The analysis was based on a review of existing air quality in the region, information of Red River AFSSS air emission sources, and projections of emissions from proposed construction and demolition activities.

## 4.1.1 Potential Site-Specific Project Impacts

The three projects are evaluated for project specific impacts in the following subsections.

## 4.1.1.1 Potential Impacts of Constructing Antenna Parts Storage Facility

## 4.1.1.1.1 Proposed Action

Construction activities for the storage facility would generate emissions of criteria pollutants from grading and excavating, operation of construction equipment, trucks driving on paved and unpaved roads, and worker vehicles. Each type of equipment would be used very briefly and would consequently generate a very small amount of emissions. The impacts on air quality due to construction are expected to be localized and very short-term. Therefore, the minimal emissions of criteria pollutants from construction activities would have a negligible impact on air quality. The proposed storage facility would be connected to public utilities and would not have any stationary air emissions sources or require a permit to operate.

Because of the small quantity of potential emissions generated during construction and the generally dispersive meteorological conditions (an average of 7.8 mile per hour winds) the activities would not exceed or contribute to an exceedance of air quality standards. Because the Installation is located in an air quality control region designated as attainment with federal and state ambient air quality standards, a Clean Air Act (CAA) Section 176(c) General Conformity evaluation is not required. This action is exempt from further conformity analysis pursuant to 40 CFR 93 subpart B 93.153.

During construction, air quality impacts could occur from dust carried offsite and combustive emissions from construction equipment. The primary risks from blowing dust particles relate to human health and

human nuisance values. Fugitive dust can contribute to respiratory health problems and create an inhospitable working environment. Deposition on surfaces can be a nuisance to those living or working downwind of the construction site. Measures that would be implemented to reduce or eliminate fugitive dust emissions would include:

- *Watering/Irrigation.* Watering the ground surface until it is moist is an effective dust control method for haul roads and other traffic routes. This practice can be applied to almost any site. When suppression methods involving water are used, care would be exercised to minimize overwatering that could cause the transport of mud onto adjoining roadways, ultimately increasing the dust problem.
- *Vegetative Cover*. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetation provides coverage to surface soils and decreases wind velocity at the ground surface, thus reducing the potential for dust to become airborne.
- *Mulch*. Mulching can be a quick and effective means of dust control for recently disturbed areas.

The Proposed Action would have short-term, but not significant, impacts on air quality generated by construction activities. There would be no long-term impacts from operation of the storage facility.

## 4.1.1.1.2 Alternative Location

Impacts of this alternative would be similar to the Proposed Action.

## 4.1.1.1.3 No Action Alternative

There would be no impact to air resources under the No Action Alternative. Existing Installation operations and maintenance would continue.

## 4.1.1.2 Potential Impacts of Upgrading Perimeter Security Fence

## 4.1.1.2.1 Proposed Action

Construction activities for the perimeter fence would generate emissions of criteria pollutants from grading and excavating, operation of construction equipment, trucks driving on paved and unpaved roads, and worker vehicles. Each type of equipment would be used very briefly and would consequently generate a very small amount of emissions. The impacts on air quality due to construction are expected to be localized and very short-term. Therefore, the minimal emissions of criteria pollutants from construction activities would have a negligible impact on air quality.

Because of the small quantity of potential emissions generated during construction and the generally dispersive meteorological conditions (an average of 7.8 mile per hour winds) the activities would not exceed or contribute to an exceedance of air quality standards. Because the Installation is located in an air quality control region designated as attainment with federal and state ambient air quality standards, a CAA Section 176(c) General Conformity evaluation is not required. This action is exempt from further conformity analysis pursuant to 40 CFR 93 subpart B 93.153.

During construction, air quality impacts could occur from dust carried offsite and combustive emissions from construction equipment. The primary risks from blowing dust particles relate to human health and

human nuisance values. Fugitive dust can contribute to respiratory health problems and create an inhospitable working environment. Deposition on surfaces can be a nuisance to those living or working downwind of the construction site. Measures that would be implemented to reduce or eliminate fugitive dust emissions would include:

- *Watering/Irrigation.* Watering the ground surface until it is moist is an effective dust control method for haul roads and other traffic routes. This practice can be applied to almost any site. When suppression methods involving water are used, care would be exercised to minimize overwatering that could cause the transport of mud onto adjoining roadways, ultimately increasing the dust problem.
- *Vegetative Cover*. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetation provides coverage to surface soils and decreases wind velocity at the ground surface, thus reducing the potential for dust to become airborne.
- *Mulch*. Mulching can be a quick and effective means of dust control for recently disturbed areas.

The Proposed Action would have short-term, but not significant, impacts on air quality generated by construction activities. There would be no long-term impacts.

## 4.1.1.3 Potential Impacts of Demolishing the Camera Shed

## 4.1.1.3.1 Proposed Action

Demolition activities for the shed would generate emissions of criteria pollutants from grading and excavating, operation of construction equipment, trucks driving on paved and unpaved roads, and worker vehicles. Each type of equipment would be used very briefly and would consequently generate a very small amount of emissions. The impacts on air quality due to demolition are expected to be localized and very short-term. Therefore, the minimal emissions of criteria pollutants from demolition activities would have a negligible impact on air quality.

Because of the small quantity of potential emissions generated during demolition and the generally dispersive meteorological conditions (an average of 7.8 mile per hour winds) the activities would not exceed or contribute to an exceedance of air quality standards. Because the Installation is located in an air quality control region designated as attainment with federal and state ambient air quality standards, a CAA Section 176(c) General Conformity evaluation is not required. This action is exempt from further conformity analysis pursuant to 40 CFR 93 subpart B 93.153.

During demolition, air quality impacts could occur from dust carried offsite and combustive emissions from construction equipment. The primary risks from blowing dust particles relate to human health and human nuisance values. Fugitive dust can contribute to respiratory health problems and create an inhospitable working environment. Deposition on surfaces can be a nuisance to those living or working downwind of the construction site. Measures that would be implemented to reduce or eliminate fugitive dust emissions would include:

• *Watering/Irrigation.* Watering the ground surface until it is moist is an effective dust control method for haul roads and other traffic routes. This practice can be applied to almost any site.

When suppression methods involving water are used, care would be exercised to minimize overwatering that could cause the transport of mud onto adjoining roadways, ultimately increasing the dust problem.

- *Vegetative Cover*. In areas not expected to handle vehicle traffic, vegetative stabilization of disturbed soil is often desirable. Vegetation provides coverage to surface soils and decreases wind velocity at the ground surface, thus reducing the potential for dust to become airborne.
- *Mulch*. Mulching can be a quick and effective means of dust control for recently disturbed areas.

The Proposed Action would have short-term, but not significant, impacts on air quality generated by demolition activities. There would be no long-term impacts.

## 4.1.1.3.2 No Action Alternative

There would be no impact to air resources under the No Action Alternative. Existing Installation operations and maintenance would continue.

## 4.2 WATER RESOURCES

The analysis focused on the proximity of the construction and demolition activities in relation to surface waters, hydrogeology at the sites and water quality in the local area. Maps showing topography, water-sheds and drainage were reviewed.

## 4.2.1 Potential Site-Specific Project Impacts

The three projects are evaluated for project specific impacts in the following subsections.

## 4.2.1.1 Potential Impacts of Constructing Antenna Parts Storage Facility

## 4.2.1.1.1 Proposed Action

Direct impacts to water resources would result primarily from disturbing the ground during construction activities and from altering surface hydrology. A spill or leak of fuel or lubricants is not likely during construction of the storage facility, but if one occurs, it would be cleaned up immediately to prevent contamination of the groundwater. Given the small amount of oil and fluids used by construction equipment, impacts to the water quality of aquifer underlying the Installation would not be significant.

Soils at the site are somewhat poorly drained. The closest surface water is an intermittent stream located approximately 600 feet southeast of the Installation and is a tributary to Bodcau Creek. Any runoff would be short-term and would depend on the amount of rainfall in an event. Any erosion occurring from stock-piled soil would not likely reach surface water and impacts would not be significant. Best management practices employed during construction would minimize potential temporary infiltration. Best management practices such as sediment barriers, sediment traps, replacement of ground cover in disturbed areas as soon as possible, and watering stockpiled soil would reduce the potential for impacting surface waters. Revegetating areas of exposed soil with natural vegetation or grasses after construction and demolition would minimize soil erosion.

A storm water discharge permit would not be required since the construction activities would not exceed one acre. Runoff would be localized and short-term and would not impact storm water drainage in the area. Impacts from storm water runoff would not be significant.

A minimal amount of water would be used during construction for concrete, equipment washing and other construction-related purposes. This Action would not result in a change in personnel authorizations nor an increased need for water for the storage facility. There would be no impact on water demand. There would be no impacts to water quality and long-term water use would remain at existing levels. There would be no impacts to floodplains.

## 4.2.1.1.2 Alternative Location

Impacts of this alternative would be similar to the Proposed Action.

## 4.2.1.1.3 No Action Alternative

Under the No Action Alternative, there would be no change to the water resources at Red River AFSSS.

## 4.2.1.2 Potential Impacts of Upgrading the Perimeter Fence

## 4.2.1.2.1 Proposed Action

Direct impacts to water resources would result primarily from disturbing the ground during construction activities and from altering surface hydrology. Borings for placing fence posts for the proposed security fence would reach a depth of about 4 feet and would not impact groundwater. A spill or leak of fuel or lubricants is not likely during excavation for the fence, but if one occurs, it would be cleaned up immediately to prevent contamination of the groundwater. Given the small amount of oil and fluids used by construction equipment, impacts to the water quality of aquifer underlying the Installation would not be significant.

Soils at the site are somewhat poorly drained. The closest surface water is an intermittent stream located approximately 600 feet southeast of the construction area that is a tributary to Bodcau Creek. Any runoff would be short-term and would depend on the amount of rainfall in an event. Any erosion occurring from stockpiled soil would not likely reach surface water and impacts would not be significant. Best management practices employed during construction would minimize potential temporary infiltration. Best management practices such as sediment barriers, sediment traps, replacement of ground cover in disturbed areas as soon as possible, and watering stockpiled soil would reduce the potential for impacting surface waters. Revegetating areas of exposed soil with natural vegetation or grasses after construction and demolition would minimize soil erosion.

A storm water discharge permit would be required since the construction activities would exceed one acre. Storm water runoff would negligibly increase around the areas of concrete footings for fence posts. Runoff would be localized and would not impact storm water drainage in the area. There would not be any increase in potential storm water contamination from construction of the fence (the fence is not located next to any parking lots or other areas of potentially contaminated runoff). Impacts from storm water runoff would not be significant.

A minimal amount of water would be used during construction for concrete, equipment washing and other construction-related purposes. There would be no impacts to water quality and long-term water use would remain at existing levels. There would be no impacts to floodplains.

## 4.2.1.2.2 No Action Alternative

There would be no impacts to water resources from the No Action Alternative.

4.2.1.3 Potential Impacts of Demolishing the Camera Shed

## 4.2.1.3.1 Proposed Action

Direct impacts to water resources would result primarily from disturbing the ground during demolition activities and from altering surface hydrology. A spill or leak of fuel or lubricants is not likely during excavation to remove the camera shed, but if one occurs, it would be cleaned up immediately to prevent contamination of the groundwater. Given the small amount of oil and fluids used by construction equipment, impacts to the water quality of aquifer underlying the Installation would not be significant.

Soils at the site are somewhat poorly drained. The closest surface water is an intermittent stream located 600 feet southeast of the Installation that is a tributary to Bodcau Creek. Any runoff would be short-term and would depend on the amount of rainfall in an event. Any erosion occurring from stockpiled soil would not likely reach surface water and impacts would not be significant. Best management practices employed during demolition would minimize potential temporary infiltration. Best management practices such as sediment barriers, sediment traps, replacement of ground cover in disturbed areas as soon as possible, and watering stockpiled soil would reduce the potential for impacting surface waters. Revegetating areas of exposed soil with natural vegetation or grasses after construction and demolition would minimize soil erosion.

A storm water discharge permit would not be required since the demolition activities would not exceed one acre. Impacts from storm water runoff would not be significant.

A minimal amount of water would be used during demolition for equipment washing and other construction-related purposes. There would be no impact on water demand. There would be no impacts to water quality and long-term water use would remain at existing levels. There would be no impacts to floodplains.

## 4.2.1.3.2 No Action Alternative

There would be no impacts to water resources from the No Action Alternative.

## 4.3 GEOLOGY, TOPOGRAPHY AND SOILS

The geological resources within the proposed project areas were studied to determine the potential impacts from implementing the Proposed Actions and No Action Alternative. Geological studies, the soil survey for the Lafayette County, and topographic contours were reviewed to characterize the existing environment. Construction activities that could influence resources were evaluated to predict the type and magnitude of impacts.

## 4.3.1 Potential Site-Specific Project Impacts

The three projects are evaluated for project specific impacts in the following subsections.

## 4.3.1.1 Potential Impacts of Constructing Antenna Parts Storage Facility

## 4.3.1.1.1 Proposed Action

Constructing the antenna parts storage facility would not impact the geology or topography of the Installation but would have minor impacts on soils. Impacts to geological resources would not occur because the soil depths exceed the excavation depth for the facility foundation. Construction would disturb approximately 581 square feet of Arcadia soils from boring, grading, and compaction by equipment during construction activities. Impacts to soil would be short-term and insignificant. All construction projects that disturb one acre or more of land must seek coverage under a NPDES general construction permit. This action would disturb less than one acre so a NPDES permit would not be required.

Best management practices include limiting grading and ground disturbing activities to the frequency and the areas necessary to complete the proposed activities. Daily watering, stabilization, and maintaining existing vegetation and/or revegetating sites by planting low-growing native ground cover would reduce wind and water erosion in the disturbed area. Grading and construction activity should be curtailed during strong wind conditions to minimize soil erosion from wind.

## 4.3.1.1.2 Alternative Location

Impacts from this Alternative would be the same as the Proposed Action.

## 4.3.1.1.3 No Action Alternative

If the No Action Alternative is implemented there would be no disturbance to topography, geology or soils.

## 4.3.1.2 Potential Impacts of Upgrading the Perimeter Fence

## 4.3.1.2.1 Proposed Action

Upgrading the perimeter fence would not impact the geology of the Installation but would have minor impacts on topography and soils. Impacts to geological resources would not occur because the soil depths exceed the drilling depth along the entire perimeter of the fence boundary. Replacing the existing perimeter fence would disturb approximately 2.37 acres of Arcadia and Wrightsville soils from boring, grading, and compaction by equipment during construction activities. Impacts to soils would be short term and insignificant.

All construction projects that disturb one acre or more of land must seek coverage under a NPDES general construction permit. The permit would be for small construction activities that disturb at least one acre, but less than five acres of land. Disturbance includes, but is not limited to soil disturbance, clearing, grading, and excavation. The Arkansas Construction Stormwater General Permit authorizes stormwater discharges from large and small construction activities that result in a total land disturbance of equal to or greater than one acre, where those discharges enter waters of the State or a municipal separate storm sewer system. Arkansas Department of Environmental Quality requires a Notice of Coverage posted at the site prior to commencing the construction and a Stormwater Pollution Prevention Plan at the site prior to commencing construction. The construction contractor would be required to obtain and prepare these documents prior to construction. Since this project disturbs more than one acre of land a NPDES permit would be required.

Best management practices include limiting grading and ground disturbing activities to the frequency and the areas necessary to complete the proposed activities. Daily watering, stabilization, and maintaining existing vegetation and/or revegetating sites by planting low-growing native ground cover would reduce wind and water erosion in the disturbed area. Grading and construction activity should be curtailed during strong wind conditions to minimize soil erosion from wind.

## 4.3.1.2.2 No Action Alternative

If the No Action Alternative is implemented there would be no disturbance to topography, geology or soils.

## 4.3.1.3 Potential Impacts of Demolishing the Camera Shed

## 4.3.1.3.1 Proposed Action

Demolition of the camera shed would not impact the geology or topography of the Installation but would have minor impacts on soils. Impacts to geological resources would not occur because the soil depths exceed the excavation depth for removing the shed foundation. Demolition of the camera shed would disturb approximately 244 square feet of soil. Impacts to soil would be temporary and insignificant.

All construction projects that disturb one acre or more of land must seek coverage under a NPDES general construction permit. Since these demolition activities would disturb less than one acre of land a permit would not be required.

Best management practices include limiting grading and ground disturbing activities to the frequency and the areas necessary to complete the proposed activities. Daily watering, stabilization, and maintaining existing vegetation and/or revegetating sites by planting low-growing native ground cover would reduce wind and water erosion in the disturbed area. Grading and demolition activity should be curtailed during strong wind conditions to minimize soil erosion from wind.

## 4.3.1.3.2 No Action Alternative

If the No Action Alternative is implemented there would be no disturbance to topography, geology or soils.

## 4.4 BIOLOGICAL RESOURCES

The analysis focused on the proposed construction and demolition locations relative to various habitats on Red River AFSSS.

## 4.4.1 Potential Site-Specific Project Impacts

The three projects are evaluated for project specific impacts in the following subsections.

## 4.4.1.1 Potential Impacts of Constructing Antenna Parts Storage Facility

## 4.4.1.1.1 Proposed Action

The loss of minimal vegetation and temporary displacement of wildlife during construction activities would be an unavoidable impact, but not significant. Less than one acre of land would be cleared and graded for construction of the storage facility. The project area is located on semi-improved lands that are not considered critical habitat. Short-term impacts to vegetative resources during construction activities would not be significant.

The amount of vegetation disturbed by construction would be kept to the minimum amount required to complete the activities. Disturbed areas could be re-established with competitive and native species as identified in the Invasive Species Control Plan (USAF, 2007). Additional measures proposed to minimize adverse effects could include using straw bales, silt fences, silt traps, and covering stockpiles during grading activities to contain waterborne erosion and reduce or prevent it from reaching storm sewers and ditches. After construction is complete and the area is revegetated, no long-term impacts to vegetation would occur.

The following practices are identified in the Invasive Species Control Plan and would further reduce the impact from invasive species during and after construction and demolition.

- Require contractors or departments to clean equipment and vehicles with high pressure air or water prior to use in the area. Cleaning should concentrate on the undercarriage, axles, frames, cross members, on and under steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs should be swept and refuse disposed of in waste receptacles. Care should be taken that wash water be retained on site to prevent weed material transport.
- Use certified invasive weed-free imported materials (e.g., straw bales, fill material, erosion control seed) when and where needed during construction, reclamation, maintenance, and operations.
- Reseed disturbed sites with competitive and native species. In areas where applicable grasses are recommended, use species that will be tolerant of broadleaf herbicides, which can later be used to spot treat any broadleaf weeds.
- After an area is seeded, establish a maintenance schedule to continue to water and fertilize seeded areas to promote establishment. The maintenance activities should continue through a minimum of one growing season; however, it is preferable to complete the monitoring through two growing seasons.

## 4.4.1.1.2 Alternative Location

Impacts from this Alternative would be the same as the Proposed Action.

## 4.4.1.1.3 No Action Alternative

There would be no impacts to biological resources if the storage facility is not constructed.

## 4.4.1.2 Potential Impacts of Upgrading the Perimeter Fence

## 4.4.1.2.1 Proposed Action

The loss of minimal vegetation and temporary displacement of wildlife during construction activities would be an unavoidable impact, but not significant. Less than three acres of land would be cleared and

graded for construction and demolition. The project areas are located on semi-improved lands and the project areas are not considered critical habitat. Short-term impacts to vegetative resources during construction activities would not be significant. An estimated 40 trees would need to be cleared for construction of the fence. Trees and vegetative material cleared would be recycled through shredding and mulching to the extent feasible. None of the trees are considered critical habitat. Most of the bird species are common and widely distributed throughout the area and loss of some trees would not have a significant impact on the species populations.

Significant impacts to wildlife from the construction of the fence are not expected to occur since habitat alteration would be minor. The Installation has an existing fence around the perimeter so replacing the fence would not impact small mammals as they would have adequate forage within the fenced area, or be able to manipulate an exit from the fenced area without harm. Medium to large mammals would continue to be excluded from accessing the Installation.

The amount of vegetation disturbed by construction for the Proposed Actions would be kept to the minimum amount required to complete the activities. Disturbed areas could be re-established with competitive and native species as identified in the Invasive Species Control Plan (USAF, 2007). Additional measures proposed to minimize adverse effects could include using straw bales, silt fences, silt traps, and covering stockpiles during grading activities to contain waterborne erosion and reduce or prevent it from reaching storm sewers and ditches. After construction is complete and the area is revegetated, no long-term impacts to vegetation would occur.

The following practices are identified in the Invasive Species Control Plan and would further reduce the impact from invasive species during and after construction and demolition.

- Require contractors or departments to clean equipment and vehicles with high pressure air or water prior to use in the area. Cleaning should concentrate on the undercarriage, axles, frames, cross members, on and under steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs should be swept and refuse disposed of in waste receptacles. Care should be taken that wash water be retained on site to prevent weed material transport.
- Use certified invasive weed-free imported materials (e.g., straw bales, fill material, erosion control seed) when and where needed during construction, reclamation, maintenance, and operations.
- Reseed disturbed sites with competitive and native species. In areas where applicable grasses are recommended, use species that will be tolerant of broadleaf herbicides, which can later be used to spot treat any broadleaf weeds.
- After an area is seeded, establish a maintenance schedule to continue to water and fertilize seeded areas to promote establishment. The maintenance activities should continue through a minimum of one growing season; however, it is preferable to complete the monitoring through two growing seasons.

## 4.4.1.2.2 No Action Alternative

There would be no impacts to biological resources if the fence is not upgraded.

## 4.4.1.3 Potential Impacts of Demolishing the Camera Shed

## 4.4.1.3.1 Proposed Action

The loss of minimal vegetation and temporary displacement of wildlife during demolition activities would be an unavoidable impact, but not significant. Approximately 0.014 acres of land would be disturbed for demolition of the shed. The shed is located on semi-improved lands that are not considered critical habitat. Short-term impacts to vegetative resources during demolition activities would not be significant.

The amount of vegetation disturbed by demolition of the shed would be kept to the minimum amount required to complete the activities. Disturbed areas would be re-established with competitive and native species as identified in the Invasive Species Control Plan (USAF, 2007). Additional measures proposed to minimize adverse effects could include using straw bales, silt fences, silt traps, and covering stockpiles during grading activities to contain waterborne erosion and reduce or prevent it from reaching storm sewers and ditches. After construction is complete and the area is revegetated, no long-term impacts to vegetation would occur.

The following practices are identified in the Invasive Species Control Plan and would further reduce the impact from invasive species during and after construction and demolition.

- Require contractors or departments to clean equipment and vehicles with high pressure air or water prior to use in the area. Cleaning should concentrate on the undercarriage, axles, frames, cross members, on and under steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs should be swept and refuse disposed of in waste receptacles. Care should be taken that wash water be retained on site to prevent weed material transport.
- Use certified invasive weed-free imported materials (e.g., straw bales, fill material, erosion control seed) when and where needed during construction, reclamation, maintenance, and operations.
- Reseed disturbed sites with competitive and native species. In areas where applicable grasses are recommended, use species that will be tolerant of broadleaf herbicides, which can later be used to spot treat any broadleaf weeds.
- After an area is seeded, establish a maintenance schedule to continue to water and fertilize seeded areas to promote establishment. The maintenance activities should continue through a minimum of one growing season; however, it is preferable to complete the monitoring through two growing seasons.

## 4.4.1.3.2 Potential Impacts of the No Action Alternative

There would be no impacts to biological resources if the fence is not upgraded.

## 4.5 CULTURAL RESOURCES

The analysis focused on the proposed location for the construction and demolition in relation to any historic buildings or archaeological resources. The historic resources survey and archaeological status report were reviewed.

## 4.5.1 Potential Site-Specific Project Impacts

The three projects are evaluated for project specific impacts in the following subsections.

## 4.5.1.1 Potential Impacts of Constructing Antenna Parts Storage Facility

## 4.5.1.1.1 Proposed Action

No known cultural resources have been identified in the area for the proposed storage facility. No archaeological artifacts of any significance were located during a 2002 survey for cultural resources and considering the high level of ground disturbance that has occurred on the Installation, no other potential impacts are likely.

Should any unknown archaeological resources be uncovered during construction activities, the Installation would follow procedures described in AFI-32-7065, Cultural Resource Management, and consult with the Arkansas State Historic Preservation Office.

## 4.5.1.1.2 Alternate Location

Impacts from this Alternative would be the same as the Proposed Action.

## 4.5.1.1.3 No Action Alternative

Under the No Action alternative, no changes would occur. There would be no effect to historic properties or archaeological resources from the No Action Alternative.

## 4.5.1.2 Potential Impacts of Upgrading the Perimeter Fence

## 4.5.1.2.1 Proposed Action

No known cultural resources have been identified in the area for the proposed fence construction. No archaeological artifacts of any significance were located during a 2002 survey for cultural resources and considering the high level of ground disturbance that has occurred on the Installation, no other potential impacts are likely.

Should any unknown archaeological resources be uncovered during construction activities, the Installation would follow procedures described in AFI-32-7065, Cultural Resource Management, and consult with the Arkansas State Historic Preservation Office.

## 4.5.1.2.2 No Action Alternative

Under the No Action alternative, no changes would occur. There would be no effect to historic properties or archaeological resources from the No Action Alternative.

## 4.5.1.3 Potential Impacts of Demolishing the Camera Shed

## 4.5.1.3.1 Proposed Action

No known cultural resources have been identified near the camera shed. No archaeological artifacts of any significance were located during a 2002 survey for cultural resources and considering the high level of ground disturbance that has occurred on the Installation, no other potential impacts are likely.

Should any unknown archaeological resources be uncovered during construction activities, the Installation would follow procedures described in AFI-32-7065, Cultural Resource Management, and consult with the Arkansas State Historic Preservation Office.

## 4.5.1.3.2 No Action Alternative

Under the No Action alternative, no changes would occur. There would be no effect to historic properties or archaeological resources from the No Action Alternative.

## 4.6 CUMULATIVE IMPACTS

Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action, when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor, but collectively substantial actions undertaken over a period of time by various agencies or individuals. In order to review the potential cumulative effects, the on-base and off-base actions were reviewed to determine if any actions had the potential, when combined with the effects of the Proposed Action, to affect environmental resources in the region.

## 4.6.1 On-Base Actions

Prior to construction of the military installation, Red River AFSSS lands consisted of agricultural fields. During original construction of the radar site, the agricultural and limited natural areas on the property were disturbed. The small installation does not contain sensitive resources, such as threatened or endangered species, surface waters, or any known archaeological sites (NAVFAC, 2003 and USAF, 2008). Other than renovation of the Operations Building, the Proposed Actions are the only reasonably foreseeable project planned for the Red River AFSSS, and direct and indirect effects of the Proposed Actions are analyzed in this EA. Routine maintenance and operation activities would continue at the installation, and the USAF would continue to manage environmental issues in accordance with applicable laws and regulations.

## 4.6.2 Off-Base Actions

Over the past 30 years, Lafayette County has remained one of the more rural and sparsely populated counties within the southern Arkansas region. The population for Lafayette County has decreased by 12 percent over the past 8 years, while the population in Lewisville has grown by 13 percent over the past 8 years (USCB, 2010). The demographics of the area show very little growth into the future. The area surrounding Red River AFSSS includes vacant, undeveloped land (NAVFAC, 2003). There are no construction projects planned or land use changes proposed for the area, and no residential building permits have been obtained for the area surrounding Red River AFSSS (U.S. Housing and Urban Development, 2012). There is a highway project planned to construct passing lanes on seven miles of U.S. Highway 29 between Hope and Lewisville and bridge work is planned on five bridges on U.S. Highway 67 between Hope and Emmet.

## 4.6.3 Cumulative Impacts

Because there are minimal foreseeable projects planned on or off the installation, the impacts of the Proposed Action would be limited to the direct effects analyzed in this EA and determined to be minor. The continued operation of Red River AFSSS by the USAF and the continued limited uses of the lands surrounding the installation do not have significant cumulative effects on the environment, and the combination of effects of these properties also is not significant.

## 4.7 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irreversible and irretrievable commitment of resources would most likely involve the commitment of concrete, energy, fuel, labor, and fencing and building materials. The irretrievable resources to be committed are typical for the scale of the proposed projects. Implementation of best construction management practices, standard equipment maintenance schedules, and use of energy conservation and recycling measures during the fence construction would minimize the use of irretrievable resources. None of these materials are considered rare and the long-term commitment of these resources would not have a substantial effect on their future availability.

## 4.8 SHORT-TERM USE AND LONG-TERM PRODUCTIVITY

The definitions of short-term and long-term are based on the scope of the Proposed Actions. Short-term use of the environment, as it relates to the Proposed Actions would encompass the construction and demolition period. Long-term productivity would occur after the construction and demolition has ended. During construction soil would be excavated and there would be associated dust emissions. Excavation and construction would not have a significant effect and impacts would be minimized through best management practices. The fence and storage facility would have a long useful life and therefore, high long-term productivity.

## **5.0 LIST OF PREPARERS**

This Environmental Assessment has been prepared for the U.S. Air Force Space Command with contractual assistance from PB&A, Inc. The following personnel were involved in the preparation and review of this EA:

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Appendix A – Notice of Availability

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Cassandra Cooper

September 7, 2012

Legal Secretary

Subscribed and sworn to before me, this 12th day of September, 2012.

Notary Public Bowie County, Texas

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