

Final Environmental Assessment of Stone Road Widening at Mission Lake Moody Air Force Base, Georgia



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LIST OF ACRONYMS

°F	degree Fahrenheit	HAP	Hazardous Area Pollutant
µg/m ³	micrograms per cubic meter	IICEP	Interagency and Intergovernmental Coordination for Environmental Planning
ACC	Air Combat Command		
AEI	Air Emissions Inventory		
AFB	Air Force Base	INRMP	Integrated Natural Resource Management Plan
AFH	Air Force Handbook		
AFI	Air Force Instruction	MAP	Management Action Plan
AFOSH	Air Force Occupational Safety and Health	MBTA	Migratory Bird Treaty Act
		mg/m ³	milligrams per cubic meter
AOI	Area of Interest	MSA	Metropolitan Statistical Area
ARPA	Archeological Resource Protection Act	NAAQS	National Ambient Air Quality Standards
AST	Aboveground storage tank		
BGEPA	Bald and Golden Eagle Protection Act	NEPA	National Environmental Policy Act
BHPO	Base Historic Preservation Office	NFIP	National Flood Insurance Program
BP	Before present	NHPA	National Historic Preservation Act
BRAC	Base Realignment and Closure	NO ₂	Nitrogen dioxide
C	Celsius	NO _x	Nitrogen oxides
CAA	Clean Air Act	NPDES	National Pollutant Discharge Elimination System
CAP	Criteria Air Pollutant		
CEQ	Council on Environmental Quality	NRHP	National Register of Historic Places
CERCLA	Comprehensive Environmental Response, Compensation and, Liability Act	O ₃	Ozone
		OSHA	Occupational Health and Safety Act
CERFA	Community Environmental Response Facilitation Act	Pb	Lead
		PCBs	Polychlorinated Biphenyls
CFR	Code of Federal Regulations	pCi/L	picocuries per liter
CO	Carbon monoxide	PCN	Preconstruction notification
CWA	Clean Water Act	PM	Particulate matter
dB	Decibel	PM _{2.5}	Particulate matter of diameter less than 2.5 microns
dba	Decibel, A-weighted scale		
DERP	Defense Environmental Restoration Program	PM ₁₀	Particulate matter of diameter less than 10 microns
		ppm	parts per million
DoD	Department of Defense	RCRA	Resource Conservation and Recovery Act
DOPAA	Description of Proposed Action and Alternatives		
EA	Environmental Assessment	ROI	Region of influence
EIAP	Environmental Impact Analysis Process	RP	Regional Permit
EIS	Environmental Impact Statement	SARA	Superfund Amendments and Reauthorization Act
EO	Executive Order	SFHA	Special Flood Hazard Area
EPA	Environmental Protection Agency	SHPO	State Historic Preservation Office
EPD	Environmental Protection Division	SIP	State Implementation Plan
ERP	Environmental Restoration Program	SO ₂	Sulfur dioxide
ESA	Endangered Species Act	SWDA	Solid Waste Disposal Act
FFCA	Federal Facility Compliance Act Rodenticide Act	TO	Technical Order
		TPY	tons per year
FIRM	Flood Insurance Rate Map	U.S.	United States
FONPA	Finding of No Practicable Alternative	USACE	U.S. Army Corps of Engineers
FONSI	Finding of No Significant Impact	USAF	United States Air Force
ft ²	square feet	USC	United States Code
GA DNR	Georgia Department of Natural Resources	USCB	United States Census Bureau
		USDA	United States Department of Agriculture
gals.	gallons		
GEPD	Georgia Environmental Protection Division	USFWS	United States Fish and Wildlife Service
		USGS	United States Geological Survey
GPRA	Grassy Pond Recreation Area	UST	Underground storage tank
		VOC	Volatile organic compound.

FINDING OF NO SIGNIFICANT IMPACT

NAME OF THE PROPOSED ACTION

Environmental Assessment of Stone Road Widening at Mission Lake, Moody Air Force Base (AFB), Georgia.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

The Proposed Action involves widening Stone Road, an existing road at Moody AFB, from the Magnolia Grove Gate to Mission Lake for approximately 1 mile. Under the Preferred Alternative, the existing two-lane configuration of Stone Road at 20 to 22 feet would be widened to 24 feet of pavement with 8 foot shoulders on each side. Additionally, a pedestrian walkway/jogging track would be constructed along the entire length of the roadway on the north side. However, to avoid impacts to wetlands, the roadway corridor would narrow where it crosses the unnamed stream that drains from Mission Lake. In this section, the roadway would taper from 40 to 30 feet with the walkway immediately adjacent to the road. The existing culvert for the stream would need to be extended by 10 feet and a retaining wall constructed for 120 feet along the north side. Under Alternative 1, Stone Road would be widened in the same way as the Preferred Alternative except at the stream crossing, where the roadway corridor would narrow from 40 to 24 feet, consisting of two lanes and no shoulders. Using this design, the culvert would not be extended, although a retaining wall would be constructed for 40 feet along the north side of the road. Before the stream crossing, the pedestrian walkway/jogging track would depart from the roadway corridor and follow the shore of Mission Lake along an existing access road. The track would then cross the stream through wetlands north of the road via a boardwalk and reconnect with the roadside track as before.

Under the No Action Alternative, widening of Stone Road from the Magnolia Grove Gate to Mission Lake would not occur. Therefore, Stone Road would continue to pose a concern for traffic and pedestrian safety and the dam of Mission Lake would not be stabilized.

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Proposed Action and No Action Alternative: The Environmental Assessment (EA) provides an analysis of the potential environmental consequences associated with the Proposed Action and No Action Alternative. Ten resource categories were evaluated fully to identify potential environmental consequences.

Geological Resources: Stone Road widening would not significantly affect geological resources including soils and topography. Most of the land directly affected by the road widening is maintained, open ground along the roadside or is already paved; although the edges of some woodland areas would be cleared. The area is characteristically flat without topographical features of interest.

Water Resources: Stone Road widening would not significantly affect water resources provided the project is permitted and implemented in accordance with Federal, state, and local regulations.

Filling one acre of Mission Lake to widen the road may require a Regional Permit from the U.S. Army Corps of Engineers; otherwise additional impacts to Waters of the U.S. including wetlands would require an Individual Permit. Under the Preferred Alternative, there would be no direct impact to wetlands, whereas Alternative 1 would construct a boardwalk trail through wetlands, which may require a Finding of No Practicable Alternative (FONPA). Sediment control practices would be implemented in accordance with the Georgia Erosion and Sedimentation Control Act, and a General Permit for storm water discharges associated with construction activity for infrastructure construction projects. The area affected by road widening is outside of the 100-year floodplain.

Land Use: Stone Road widening would not significantly affect land use in the proposed project area. Stone Road is an existing perimeter road that passes through a relatively undeveloped area of Moody AFB that is mainly used for recreation. The widening project, which includes constructing a pedestrian walkway/jogging track, will further enhance recreational opportunities in this area the base and increase safety for pedestrians as well.

Infrastructure: Stone Road widening would not significantly affect infrastructural resources other than to improve traffic conditions at Moody AFB. The opening of the new Main Gate in the near future will admit vehicles directly onto Stone Road, consequently traffic is expected to increase in the affected area. The current two-lane design of Stone Road is too narrow and without shoulders poses a safety concern for both vehicles and pedestrians. In order to widen Stone Road at its western end, a series of electric power line poles would need to be relocated or removed and replaced with underground utility lines. In addition, three larger, guyed electrical poles would need to be relocated further back within the easement managed by Georgia Power. A storm sewer system upgrade may be required in a section of the road that is adjacent to an existing concrete if pad.

Hazardous Materials and Wastes: Stone Road widening would not significantly affect hazardous materials and wastes, although a portion and Environmental Restoration Program site would be affected. Site LF-03, a former landfill, has been filled with general refuse from the base and small quantities of solvent and oil waste are suspected at the site, but the area is considered to have minor soil contamination. At least four groundwater monitoring wells occur along the edge of the landfill and may be affected by road widening. These should be tested prior to being abandoned or replaced. Soil testing should also be conducted prior to any construction or excavation associated with the widening.

Cultural Resources: Stone Road widening would not significantly affect cultural resources at Moody AFB. The affected area is approximately one mile from any known cultural resources that are eligible for listing on the National Register of Historic Places. If resources were inadvertently discovered, construction activities associated with the road widening would be halted, the State Historic Preservation Office (SHPO) notified, and procedures outlined in the National Historic Preservation Act would be followed. Consultation with the Georgia SHPO, in compliance with Section 106 of the NHPA, has been completed and they are in agreement with the finding the no historic structures that are listed in or eligible for listing in the NHRP will be affected by the Proposed Action.

Safety and Occupational Health: Stone Road widening would benefit traffic safety at Moody AFB. The opening of the new Main Gate in the near future will admit vehicles directly onto Stone Road, consequently traffic is expected to increase in the affected area. The current two-lane design of Stone Road is too narrow and without shoulders poses a safety concern for both vehicles and pedestrians. Widening Stone Road from the Magnolia Grove gate to Mission Lake would increase vehicle safety on the roadway, and the addition of the pedestrian walkway/jogging track would increase pedestrian and recreational safety. The project would also stabilize the dam of Mission Lake, which has been weakened by erosion, and therefore provide stronger structural support for the Stone Road corridor.

Biological Resources: Stone Road widening would not significantly affect biological resources. Although Moody AFB possesses a wealth of wildlife and plant species, including a number Federal and state-listed threatened and endangered species, none would be placed inordinately at risk from the project. Although the area formerly hosted a colony of gopher tortoises, a species that is currently under review for possible listing by the U.S. Fish and Wildlife Service (USFWS) as well as a state-threatened species, these turtles were relocated to a larger colony so that no gopher tortoises are known to occur along the Stone Road corridor. Coordination with the USFWS and Georgia Department of Natural Resources (DNR), Wildlife Resources Division has been completed concerning potential impacts to listed species. Although both agencies recommended additional surveys for select species, Moody AFB has already completed these surveys as part of their Integrated Natural Resources Management Plan.

Air Quality: Stone Road widening would not significantly affect air quality. Air pollutant emissions during road construction and paving would be temporary. Since the project does not include the establishment of any permanent sources of air emissions, no modifications to the existing air permit would be required. Although the amount of traffic is expected to increase on Stone Road, especially after the opening of the new Main Gate, the number of vehicles occurring daily at Moody AFB would not change. Therefore, even though the traffic pattern at the base may change, there would not be an increase in non-stationary air emissions on the installation. Lowndes County is classified as an attainment area for all federal and state air quality standards.

Socioeconomics and Environmental Justice: Stone Road widening would not significantly affect socioeconomics other than to provide short term benefits from the minor increase in labor, equipment, and materials that would be needed during construction and paving for Stone Road widening. The project would not have disproportionately high or adverse impacts to minority or low-income communities and no disproportionate health and safety risks to children.

No Action Alternative: Under the No Action Alternative, widening of Stone Road from the Magnolia Grove Gate to Mission Lake would not occur.

CONCLUSION

Based on the analysis of the EA, which is hereby incorporated by reference and was conducted in accordance with requirements of the National Environmental Policy Act, Council on Environmental Quality regulations, Air Force Instruction 32-7061, and review of the public and agency comments submitted during the 30-day public comment period, I conclude that

implementation of the Proposed Action or the No Action Alternative would not result in significant impacts to the quality of the human or the natural environment. For these reasons, a finding of no significant impact (FONSI) is made and preparation of an Environmental Impact Statement is not warranted.

B D Z

BILLY D. THOMPSON, Colonel, USAF
Commander, 23rd Wing

20 Jan 12

DATE

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1 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

1.1 BACKGROUND, PURPOSE, AND NEED FOR THE PROPOSED ACTION

Moody Air Force Base (AFB) in south-central, Georgia, is home to the 23rd Wing as part of the 9th Air Force of the Air Combat Command, in addition to several tenant units. The 23rd Wing is comprised of six groups, of which five are located at Moody AFB, and employs approximately 5,500 military and civilian personnel, including geographically separated units in Arizona, Nevada, and Florida. The wing organizes, trains, and employs combat-ready A-10C, HC-130P, HH-60G, para-rescuemen, force protection assets and support personnel. The wing executes worldwide close air support, force protection and rescue forces to include combat search and rescue and personnel recovery in support of humanitarian interests, United States national security and worldwide contingency operations. Following the most recent BRAC order, the population of Moody AFB was estimated to be 11,806, which included military personnel and their families, and civilian personnel (Moody AFB 2007).

Although most personnel at Moody AFB reside in off-base housing in the surrounding area, including the City of Valdosta and Lowndes and Lanier Counties, new Military Housing Privatization Initiatives have increased the number of personnel living in close proximity to the base. A new privatized base housing area was recently constructed along the southwest boundary of the installation in the western section of a 703-acre area of privately owned property. At present, the Magnolia Grove Housing Project consists of 81 houses constructed since December 2010. The number of houses may increase in the future, but there are no plans to do so at present. The housing area is outside of the base's perimeter security fence, and vehicle access to and from the base will be through the Magnolia Grove gate, constructed off of Stone Road. Stone Road is a perimeter road that runs along the southwestern edge of the base. Recently, a half-mile section of Stone Road was affected by an action that widened the road from the Magnolia Grove gate north to its intersection with Burma Road (Moody AFB 2004). This action was in response to projected increases in traffic from the new housing development and concerns for safety and road conditions. Stone Road was widened from 20 to 24 feet and with the addition of paved shoulders, curbing, and a sidewalk for pedestrian safety.

Although traffic safety improved under the previously described action, a new Main Gate will open in the near future that will admit vehicle traffic directly onto Stone Road. With the anticipated increase in traffic, the remaining section of Stone Road extending eastward from the Magnolia Grove gate to Mission Lake remains a potential safety concern. To address this need, Moody AFB proposes widening the roadway corridor over its approximate one mile length. Widening the road in this section would also address a safety issue with Mission Lake. Mission Lake is a large, 30 acre impoundment located north of Stone Road at the road's eastern end. Stone Road crosses the top of the dam as well as an unnamed stream that drains the lake to the southwest. In recent years, the dam has been eroding along its base as flooding and high water conditions have undercut the lakeshore bank. At the very least, future action must be undertaken to stabilize the dam through reconstruction of the shoreline. To address the concern for traffic safety, and to stabilize the Mission Lake dam, Moody AFB proposes to widen the

remaining length of Stone Road from the Magnolia Grove gate eastward to Mission Lake. This would also provide an alternative route for accessing the main base from the new housing area. In addition to the road widening, Moody AFB proposes to enhance pedestrian safety and recreational use of the Stone Road corridor by constructing a walkway/jogging trail along the north side of the road over its length. The trail would extend the better part of a mile and connect to other existing pedestrian walkways at either end. This would also enhance recreational use of the Mission Lake area and reduce risks to runners, cyclists, and other foot traffic.

1.2 LOCATION OF PROPOSED ACTION

Moody AFB is located in south-central Georgia approximately 10 miles northeast of the City of Valdosta (Figure 1-1). The base consists of 11,457 acres of federally owned land within two counties: Lowndes County to the west maintains most of the base facilities, and Lanier County to the east includes mostly forested or undeveloped lands. The installation consists of the main base (5,094 acres), Grand Bay Range (5,874 acres), and the Grassy Pond Recreation Area annex (489 acres), which is located 25 miles southwest of the main base. The project area for the proposed action is along Stone Road, where it extends along the southern boundary of AFB property between Mission Lake to the east and a circular intersection for a newly constructed housing area to the west (Figure 1-2).

1.3 SCOPE OF THE ENVIRONMENTAL REVIEW

The proposed widening of Stone Road at Mission Lake has the potential to affect a number of environmental resources, locally and within the region. In accordance with regulations implementing the Environmental Impact Analysis Process (EIAP; 32 CFR 989) and CEQ guidance, those environmental resources that could potentially be affected by the Proposed Action and alternatives have been identified through scoping, communications with state and federal agencies, and review of past environmental documentation. Based on this review, the environmental resources that will be evaluated in this EA include geological resources, water resources, land use, infrastructure, hazardous materials and waste, cultural resources, safety and occupational health, biological resources, air quality, and socioeconomics and environmental justice.

1.4 SUMMARY OF KEY ENVIRONMENTAL REGULATORY REQUIREMENTS

1.4.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA) of 1969 requires federal agencies to consider the potential environmental consequences of Proposed Actions in their decision-making process. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions. The Council on Environmental Quality (CEQ) was established under NEPA to implement and oversee federal processes. The CEQ issued the Regulations for Implementing

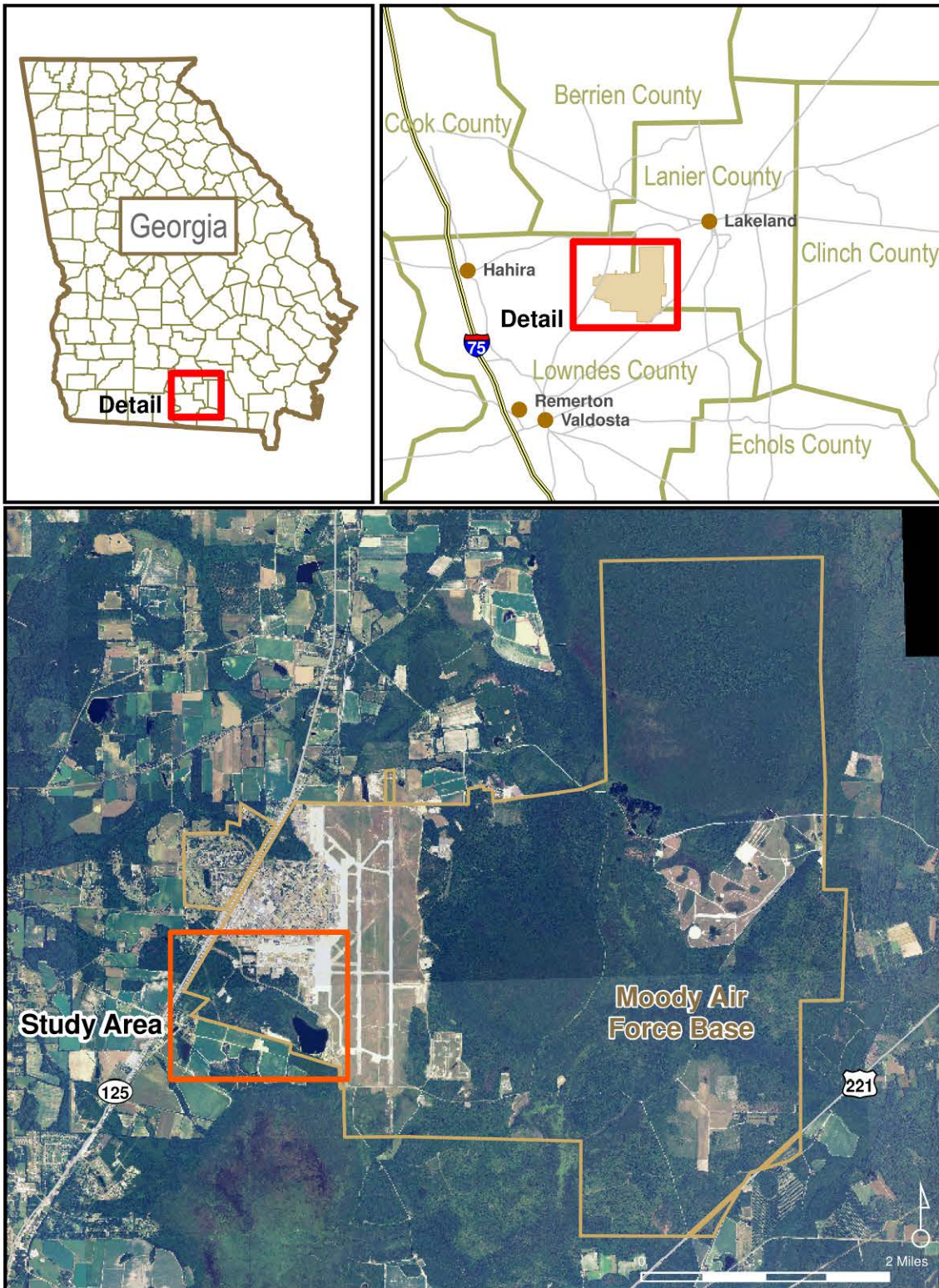


Figure 1-1. Regional location map for Moody AFB



Figure 1-2. Project location map for Stone Road widening at Mission Lake

Procedural Provisions of the National Environmental Policy Act (40 Code of Federal Regulations [CFR] § 1500-1508). These regulations specify that an EA will:

- Briefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI);
 - Aid in an agency's compliance with NEPA when no EIS is necessary; and
- Facilitate the preparation of an EIS when one is necessary.

United States Air Force (USAF) has published procedures for implementing NEPA and CEQ regulations that are established in 32 CFR § 989, *et seq.*, *Environmental Impact Analysis Process* (EIAP; Federal Register 2001). The EIAP provides a framework for complying with NEPA and CEQ requirements for all applicable USAF actions, as well as compliance with other pertinent environmental requirements (e.g., Clean Air Act, Endangered Species Act, National Historic Preservation Act) and assessing potential effects on the environment. The decision-making process for considering a proposed action includes the development of an EA addressing environmental issues. Although the EIAP identifies many kinds of actions that might be categorically excluded from further environmental analysis, an EA is prescribed for proposed actions that may adversely affect areas of critical environmental concern such as wetlands and floodplains.

1.4.2 Water Resources Regulatory Requirements

The Clean Water Act (CWA) of 1977 (33 USC § 1251 *et seq.*) regulates pollutant discharges that could affect aquatic life forms or human health and safety. Section 401 of the CWA addresses water quality certification and authorizes state's to regulate discharges from activities including construction. The current project may result in the disturbance of more than one acre, which would require a National Pollutant Discharge Elimination System (NPDES) Phase II stormwater permit. Section 404 of the CWA and Executive Order (EO) 11990, *Protection of Wetlands*, regulate development activities in or near streams or wetlands. Section 404 also regulates development in streams and wetlands and requires a permit from the United States Army Corps of Engineers (USACE) for dredging and filling in wetlands. EO 11988, *Floodplain Management*, requires federal agencies to take action to reduce the risk of flood damage; minimize the impacts of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains. Federal agencies are directed to consider the proximity of their actions to or within floodplains. Under these regulations, a Finding of No Practicable Alternative (FONPA) would be required if impact to wetlands or floodplains can not be avoided by the Proposed Action.

1.4.3 Cultural Resources Regulatory Requirements

The National Historic Preservation Act (NHPA) of 1966 (16 USC § 470) established the National Register of Historic Places (NRHP) and the Advisory Council on Historic Preservation (ACHP) outlining procedures for the management of cultural resources on federal property.

Cultural resources can include archaeological remains, architectural structures, and traditional cultural properties such as ancestral settlements, historic trails, and places where significant historic events occurred. NHPA requires federal agencies to consider potential impacts to cultural resources that are listed, nominated to, or eligible for listing on the NRHP; designated a National Historic Landmark; or valued by modern Native Americans for maintaining their traditional culture. Section 106 of NHPA requires federal agencies to consult with State Historic Preservation Officers (SHPOs) if their undertakings might affect such resources. *Protection of Historic and Cultural Properties* (36 CFR § 800 [1986]) provided an explicit set of procedures for federal agencies to meet their obligations under the NHPA, which includes inventorying cultural resources and consultation with the SHPO.

The Archeological Resources Protection Act of 1979 (16 USC §§ 470aa-mm) was created to protect archaeological resources and sites on public and Native American lands in addition to encouraging cooperation and exchange of information between governmental authorities, professionals, and private individuals. The act establishes civil and criminal penalties for destruction and alteration of cultural resources.

1.4.4 Clean Air Act

The Clean Air Act (CAA) (42 USC §§ 7401-7671q, as amended) provided the authority for the United States Environmental Protection Agency (USEPA) to establish nationwide air quality standards to protect public health and welfare. Federal standards, designated as the National Ambient Air Quality Standards (NAAQS), were developed for six criteria pollutants: ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), inhalable particulate matter of both fine particles (less than 2.5 microns in diameter as PM_{2.5}) and coarse particles (up to 10 microns in diameter as PM₁₀), and lead (Pb). The CAA also requires that each state prepare a State Implementation Plan (SIP) for maintaining and improving air quality and eliminating violations of the NAAQS. In nonattainment and maintenance areas, the CAA requires federal agencies to determine whether their proposed actions conform with the applicable SIP and demonstrate that their actions will not (1) cause or contribute to a new violation of the NAAQS, (2) increase the frequency or severity of any existing violation, or (3) delay timely attainment of any standard, emission reduction, or milestone contained in the SIP. The CAA (Section 112g) also specifies provisions for controlling the release of Hazardous Air Pollutants (HAPs) from industrial activities.

1.4.5 Endangered Species Act

The Endangered Species Act (ESA) of 1973 (16 USC §§ 1531-1544, as amended) established measures for the protection of plant and animal species that are federally listed as threatened and endangered, and for the conservation of habitats that are critical to the continued existence of those species. Federal agencies must evaluate the effects of their proposed actions through a set of defined procedures, which can include the preparation of a Biological Assessment and can require formal consultation with the United States Fish and Wildlife Service (USFWS) under Section 7 of the ESA.

1.4.6 Other Environmental Requirements

Other environmental requirements that potentially apply to the implementation of this proposal include guidelines promulgated by EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, to ensure that disproportionately high and adverse human health or environmental effects on citizens in these categories are identified and addressed, as appropriate. Additionally, potential health and safety impacts that could disproportionately affect children are considered under the guidelines established by EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.

Air Force Instruction (AFI) 32-7020 executes the *Air Force Environmental Restoration Program* (ERP), referred to as the cleanup program, which implements regulations authorized under the Comprehensive Environmental Response, Compensation and Liability Act (CERLA) and the Resource Conservation and Recovery Act (RCRA) in order to reduce risks to human health and the environment due to contamination from past Air Force activities.

The State of Georgia and Lowndes County also have regulations requiring permits for land disturbance activities. The Georgia Erosion and Sedimentation Control Act is applicable to projects with more than one acre of land disturbance. Lowndes County requires a Land Disturbance Permit along with a Soil Erosion Plan that is submitted at the same time. It should be noted that the requirements under both of these state and local regulations serve to implement those of the CWA under the NPDES Phase II construction stormwater permit (see Section 1.4.2).

1.4.7 Environmental Coordination Requirements

EO 12372, *Intergovernmental Review of Federal Programs*, requires intergovernmental notifications prior to making any detailed statement of environmental impacts. Through the process of Interagency and Intergovernmental Coordination for Environmental Planning (IICEP), the proponent must notify concerned federal, state, and local agencies and allow them sufficient time to evaluate potential environmental impacts of a proposed action. Comments from these agencies are subsequently incorporated into the EIAP. An IICEP list of relevant federal, state, and local agencies is provided in Appendix A.

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2 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 MINIMUM SELECTION CRITERIA

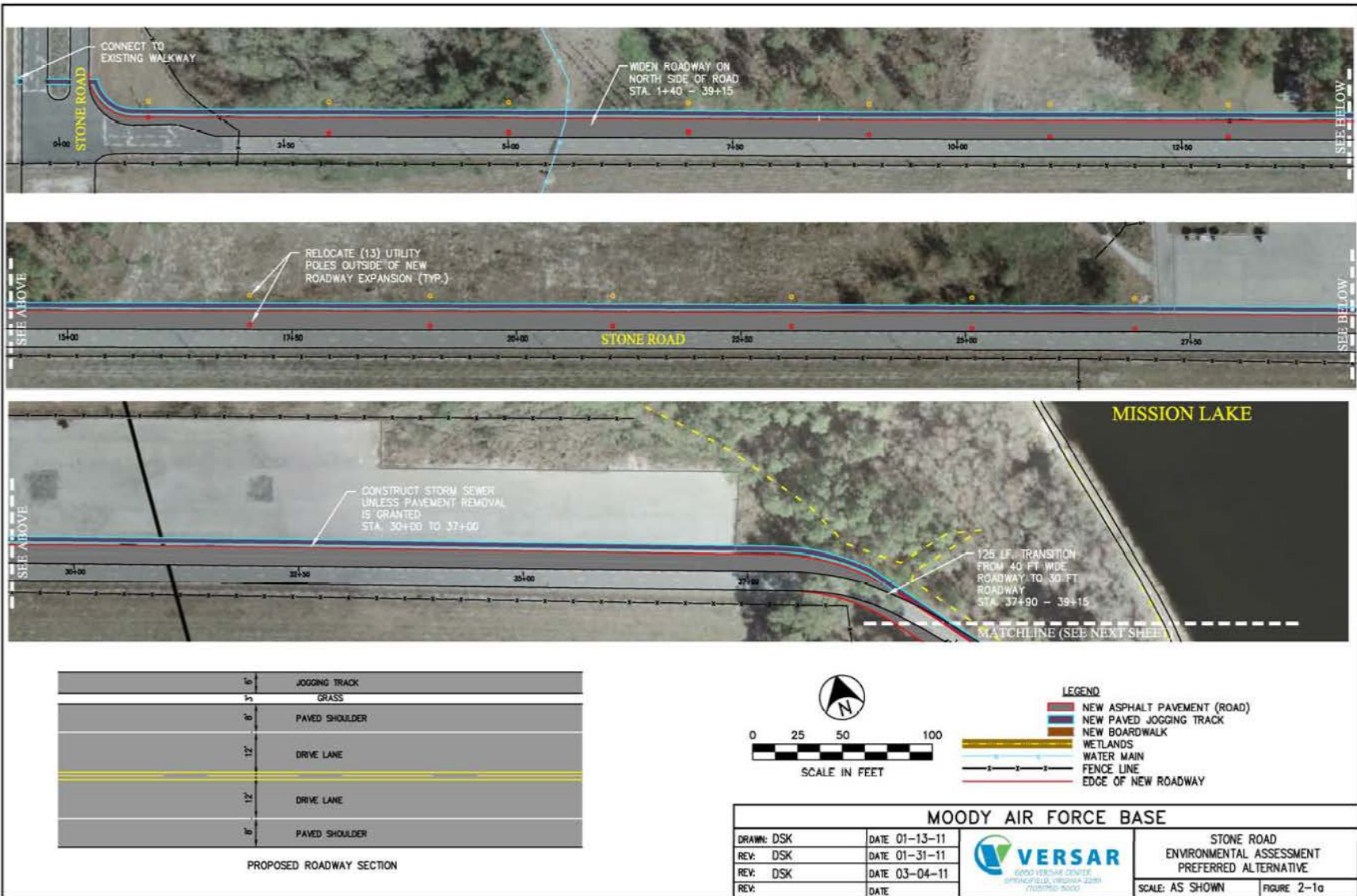
The Air Force considered several alternatives to the Proposed Action. During the initial screening of these alternatives, the Air Force took into consideration minimum selection criteria. Only those alternatives that met these criteria were considered suitable for detailed analysis. The selection criteria were conformance to existing laws, Air Combat Command, Department of the Air Force and Department of Defense policy and regulations, compatibility with the Base General Plan, and the Moody AFB military mission, and satisfactorily meeting the requirements of the installation (e.g., able to sufficiently handle traffic flow patterns associated with the new housing area and access gate, and ensuring the stability of the Mission Lake dam).

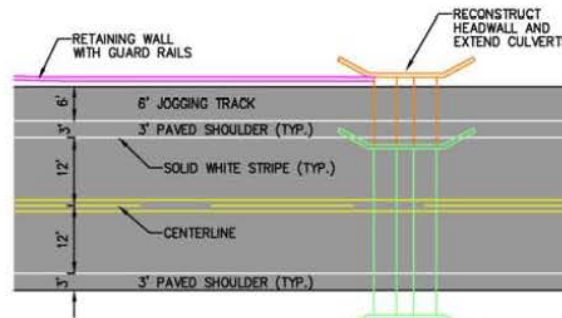
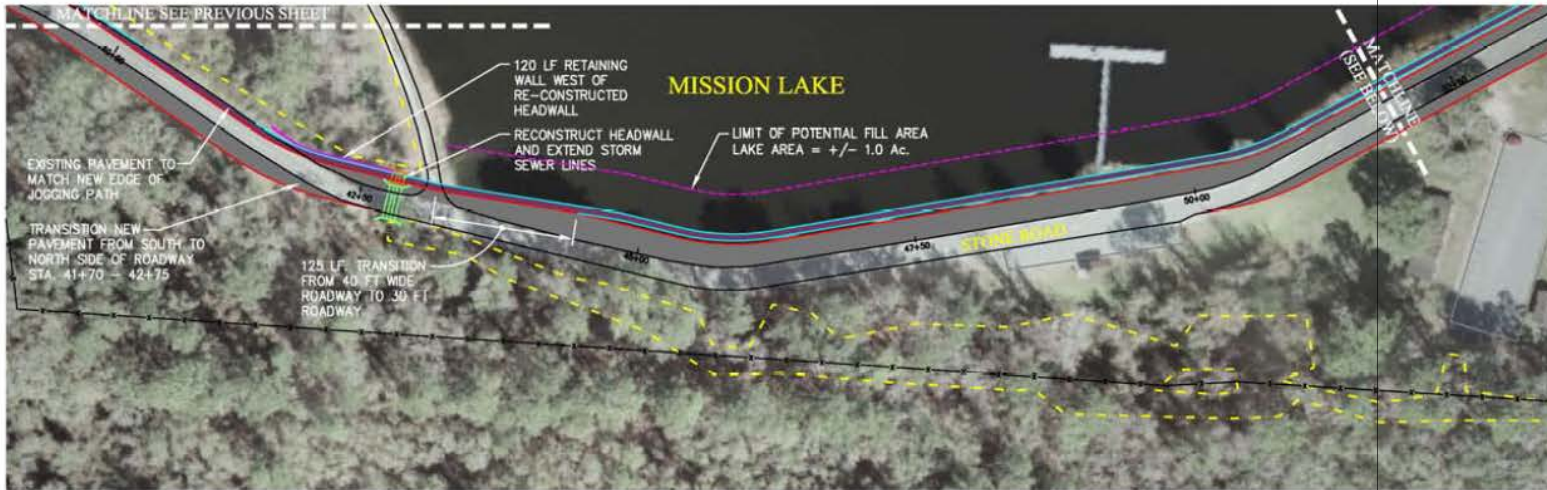
2.2 DETAILED DESCRIPTION OF THE PROPOSED ACTION

Under the Proposed Action, or Preferred Alternative, Stone Road at Moody AFB would be widened to meet two primary objectives. First, Stone Road must be augmented to handle projected traffic increases resulting from the installation of a new commercial gate that opens to Stone Road and the recent development of a new housing facility adjacent to the installation. Second, the dam that impounds Mission Lake, which Stone Road crosses, must be stabilized by reinforcing the shoreline with fill material to offset erosion. To meet both of these objectives, Stone Road would be widened up to 40 feet from the new Magnolia Grove gate eastward to Mission Lake; widening the road as it passes along the south shore of Mission Lake would stabilize the dam that impounds the lake (Figures 2-1a and 2-1b). In addition, to enhance pedestrian safety and recreational use of the area, a sidewalk/jogging track would be constructed along the north side of Stone Road over the length of the widening project.

At present, Stone Road is very narrow with a two-lane configuration of 20 to 22 feet throughout its length and without shoulders. This configuration poses a serious traffic safety concern, especially where it passes on top of the dam that impounds Mission Lake. The width of the road in this section is most severely constrained by the lake to the north, and adjoining wetlands on each side of the road associated with the unnamed stream that drains the lake. The proposed widening would maintain the two-lane configuration of Stone Road, but increase traffic safety by expanding the two lanes from 20 to 24 feet and adding up to 8 feet of shoulder on each side for much of its length (Figure 2-1a). The walkway/jogging track would add another 6 feet and be separated from the road by a grass strip of 3 feet.

To avoid impacts to wetlands where the road crosses the unnamed stream that drains Mission Lake, the roadway corridor would be narrowed only to accommodate the expanded roadbed at 24 feet, shoulders of 3 feet, and the walkway/jogging track of 6 feet without the intervening grass strip (Figure 2-1b). To reconstruct the road in this section, the existing edge of pavement on the south side of Stone Road would be maintained, and all additions from widening would be constructed to the north side of the corridor. The existing culvert in the unnamed stream would have to be extended by approximately 12 feet to accommodate the increased road





ROADWAY NEAR STREAM CROSSING
 EXISTING PAVEMENT = 20' - 22'
 PROPOSED PAVEMENT = 36'



- LEGEND
- NEW ASPHALT PAVEMENT (ROAD)
 - NEW PAVED JOGGING TRACK
 - NEW BOARDWALK
 - WETLANDS
 - WATER MAIN
 - FENCE LINE
 - EDGE OF NEW ROADWAY
 - UTILITY POLE

DRAWN: DSK		DATE 01-13-11				STONE ROAD ENVIRONMENTAL ASSESSMENT PREFERRED ALTERNATIVE	
REV: DSK		DATE 01-31-11				SCALE: AS SHOWN	FIGURE 2-1b
REV: DSK		DATE 03-04-11					
REV:		DATE					

width and walkway/jogging track. To reinforce the north edge of the road, 120 linear feet of retaining wall would be added to the reconstructed headwall.

Widening Stone Road along the south shore of Mission Lake would continue with the expanded corridor of 40 feet and walkway/jogging track. The improvements would impact approximately 1,040 linear feet of shoreline of Mission Lake ranging from 30 to 60 feet wide (1.0 acre). These areas would be filled with a compacted engineered fill material to support the widening project and supply an acceptable slope for safety requirements. For safety purposes, all new construction would limit the side slopes to a gradient of 1:3 (vertical/horizontal). This will provide additional stability for the dam and reduce the possibility of erosion from occurring as witnessed during site inspections. This part of the project would require a permit under Section 404 of the CWA for impacts to waters of the U.S. from filling.

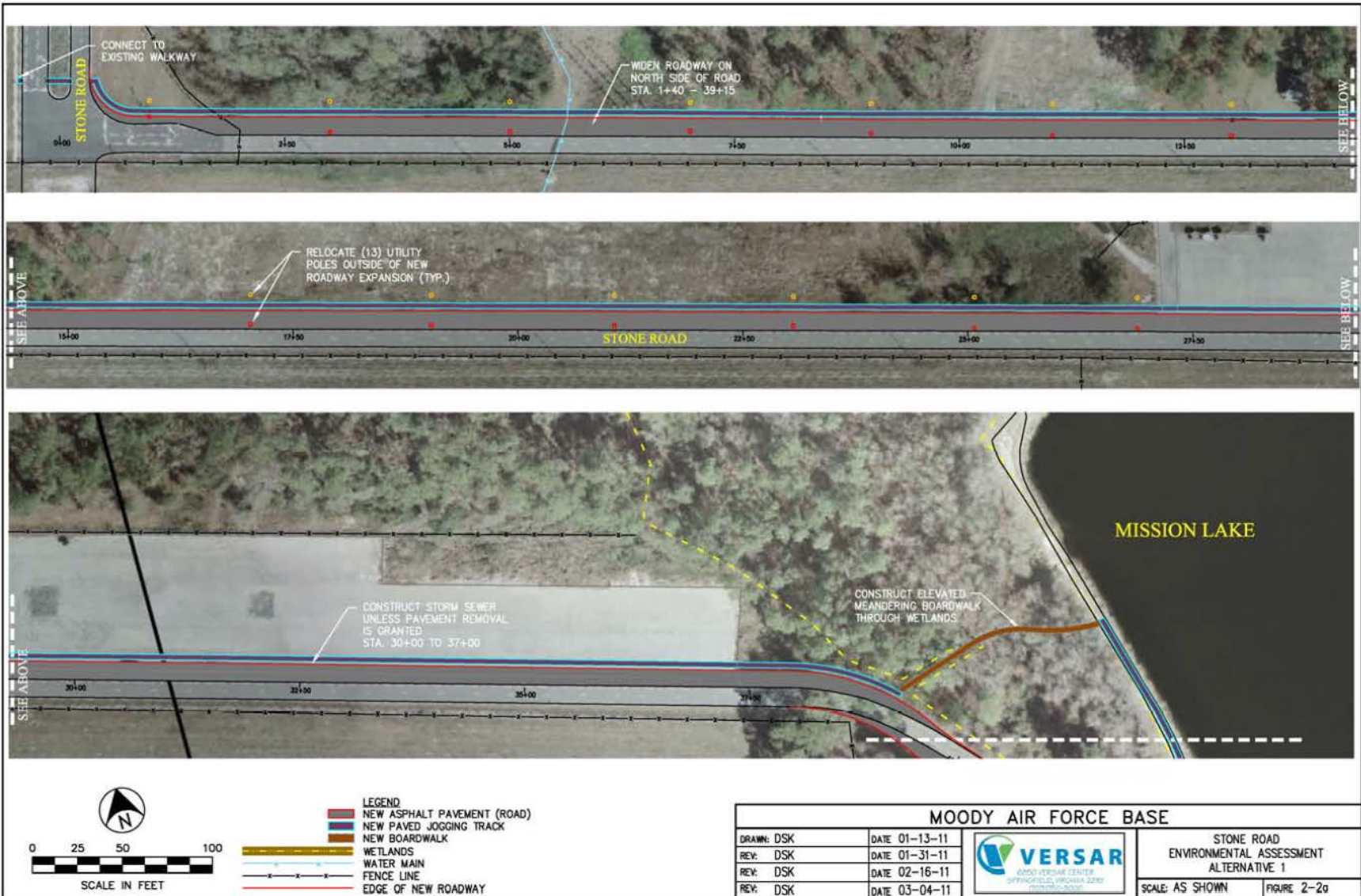
Additional existing structures along Stone Road would need to be modified because of the widening. The Base Recovery After Attack (BRAAT) Strip is an existing concrete pavement section of 1,020 feet by 150 feet located immediately north of the roadway and west of the curved portion of the roadway, which would be affected by Stone Road widening along its edge. This paved area has a narrow greenbelt between it and the existing road, which acts as a swale and supplies positive drainage for the roadway and concrete pad. Expansion of the current roadway would consume the swale and require the installation of storm sewer system or the removal of portion of the concrete pad. West of the paved area and north of the road, for approximately 2,000 feet, Stone Road is immediately adjacent to an ERP site that was historically used as a landfill area (LF-03). Up to four groundwater monitoring wells occur along the edge of the landfill and may be affected by road widening. Additionally, 13 utility poles and their overhead lines would need to be relocated outside of the roadway corridor or replaced with underground electric utility lines within the first 1/2 mile of the widening project.

2.3 ALTERNATIVES

Several alternatives to the Proposed Action were considered during the engineering design phase for the Stone Road widening project. Most of these resulted in varying levels of impacts to wetlands, where Stone Road crosses the unnamed stream that drains Mission Lake. Two alternatives, as described below, illustrate the range of impacts to wetlands from very small to the maximum extent if Stone Road was fully widened throughout its length.

2.3.1 Alternative 1 – Widen Stone Road to 40 Feet, however Cross Stream with 24 Feet and Provide Boardwalk Trail Through Wetland

Under Alternative 1, Stone Road would be widened to 40 feet over most of its length in the same way as described under the Preferred Alternative and a walkway/jogging track would be constructed to the north of the road (Figure 2-2a). However, where Stone Road crosses the unnamed stream that drains Mission Lake, the roadway would narrow to 24 feet and the walkway/jogging track would follow an existing roadway along the western shore of Mission Lake and reconnect to Stone Road via an elevated boardwalk trail routed through an adjoining



- LEGEND**
- NEW ASPHALT PAVEMENT (ROAD)
 - NEW PAVED JOGGING TRACK
 - NEW BOARDWALK
 - WETLANDS
 - WATER MAIN
 - FENCE LINE
 - EDGE OF NEW ROADWAY

MOODY AIR FORCE BASE		STONE ROAD ENVIRONMENTAL ASSESSMENT ALTERNATIVE 1	
DRAWN: DSK	DATE 01-13-11	 VERSAR <small>4000 VICKAR CENTER SPRINGFIELD, VIRGINIA 22151 (703) 430-0000</small>	SCALE: AS SHOWN FIGURE 2-2a
REV: DSK	DATE 01-31-11		
REV: DSK	DATE 02-16-11		
REV: DSK	DATE 03-04-11		

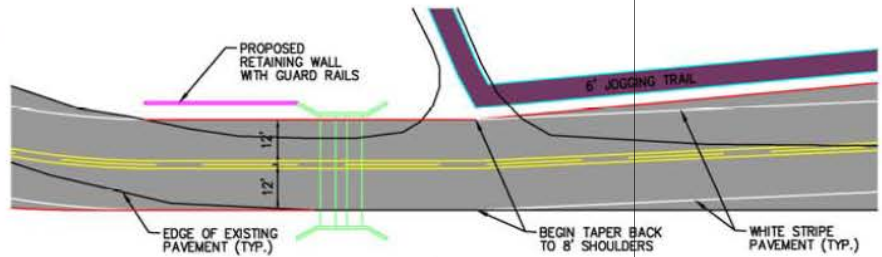
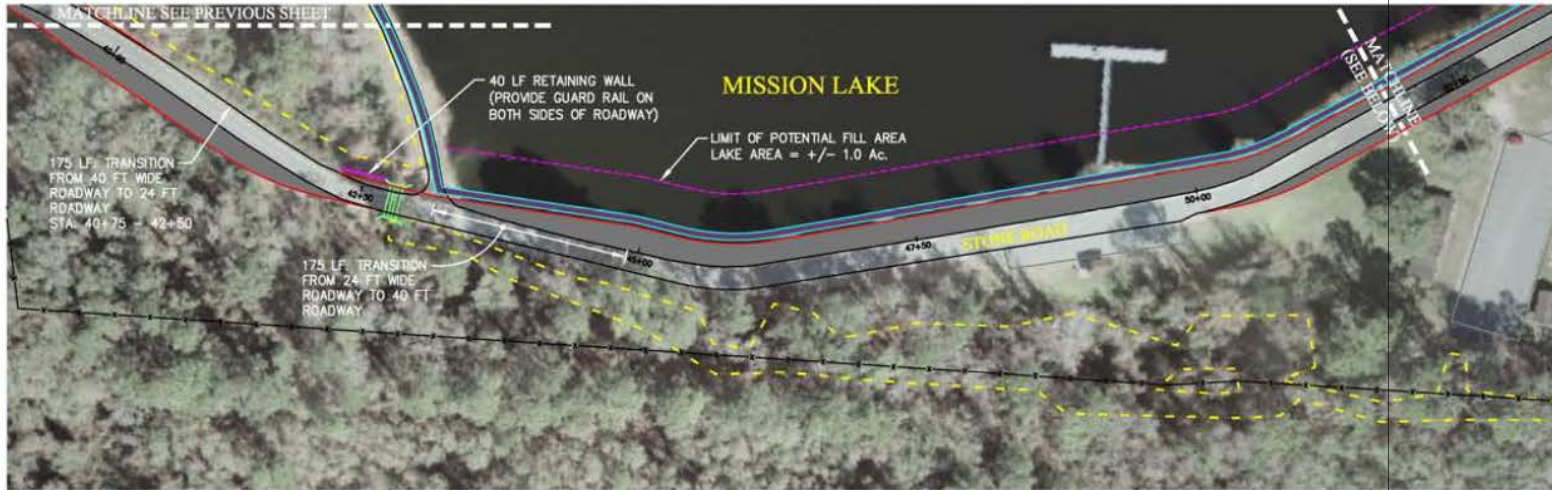
wetland area (Figure 2-2a, lower panel). By narrowing the road at the stream crossing, the culvert would not be extended, however a retaining wall would be needed on the north side of the road and guard rails on both sides (Figure 2-2b). The boardwalk would replace 450 linear feet of paved jogging track, and have a very small impact to wetlands from clearing space for the trail corridor; the trail itself would extend 240 linear feet, and at a minimum, extend 150 linear feet through the wetland. Along with the filling of Mission Lake as described under the Preferred Alternative, the wetland impact under this alternative would require permitting under Section 404 of the CWA. If the total impact is less than 1 acre, the project may qualify for a Regional Permit for the proposed discharge of dredged and fill material incidental to roadway and bridge construction. Additionally, the wetland impact would also require a FONPA. All other roadway widening improvements are identical to the Preferred Alternative including drainage upgrades and utility installation.

2.3.2 Alternative 2 – Widen Stone Road to 40 Feet over its Entire Length

Under Alternative 2, Stone Road would be widened to 40 feet over its entire length, including where it passes along the south shore of Mission Lake and crosses the unnamed stream that drains the lake (Figure 2-3). The configuration of the roadway corridor would include two lanes at 12 feet each, shoulders on both sides at 8 feet, and a walkway/jogging track at 6 feet separated from the roadway by 3 feet of grass. The existing edge of pavement on the south side of Stone Road would be maintained, and all additions from widening would be constructed to the north side of the corridor. The existing culvert in the unnamed creek would have to be extended by approximately 30 feet to accommodate the increased road width and walkway/jogging trail. Construction activities required to upgrade the road corridor would impact approximately 450 linear feet of wetlands with a width of approximately 30 feet (0.27 acres) north and west of the existing stream crossing. In total, implementation of this alternative would result in impacts to 1.27 acres of wetlands and waters of the U.S. This level of impact would require an Individual Permit under Section 404 of the CWA, which would entail additional coordination with the U.S. Army Corps of Engineers. In addition, the wetland impact would also require a FONPA. All other roadway widening improvements are identical to the Preferred Alternative including drainage upgrades and utility installation.

2.3.3 No-action Alternative

The CEQ regulation 40 CFR § 1502.14(d) specifically requires analysis of the “No-action” alternative in all NEPA documents. Under the No-action Alternative, Stone Road at Mission Lake would not be widened. The existing roadway with only 20 feet of pavement would continue to serve Moody AFB personnel including expected increases in traffic resulting from a new installation gate to the west and expanded privatized base housing to the south. The existing roadway would also continue to pose a traffic safety concern owing to erosion occurring along the base of the Mission Lake dam. At the very least, future action will be needed to stabilize the dam to avoid undercutting Stone Road and eliminate the potential for catastrophic failure of the dam. Under the No-action Alternative, recreational enhancements would not be provided with the addition of a jogging trail along Mission Lake and Stone Road; joggers, cyclists, and

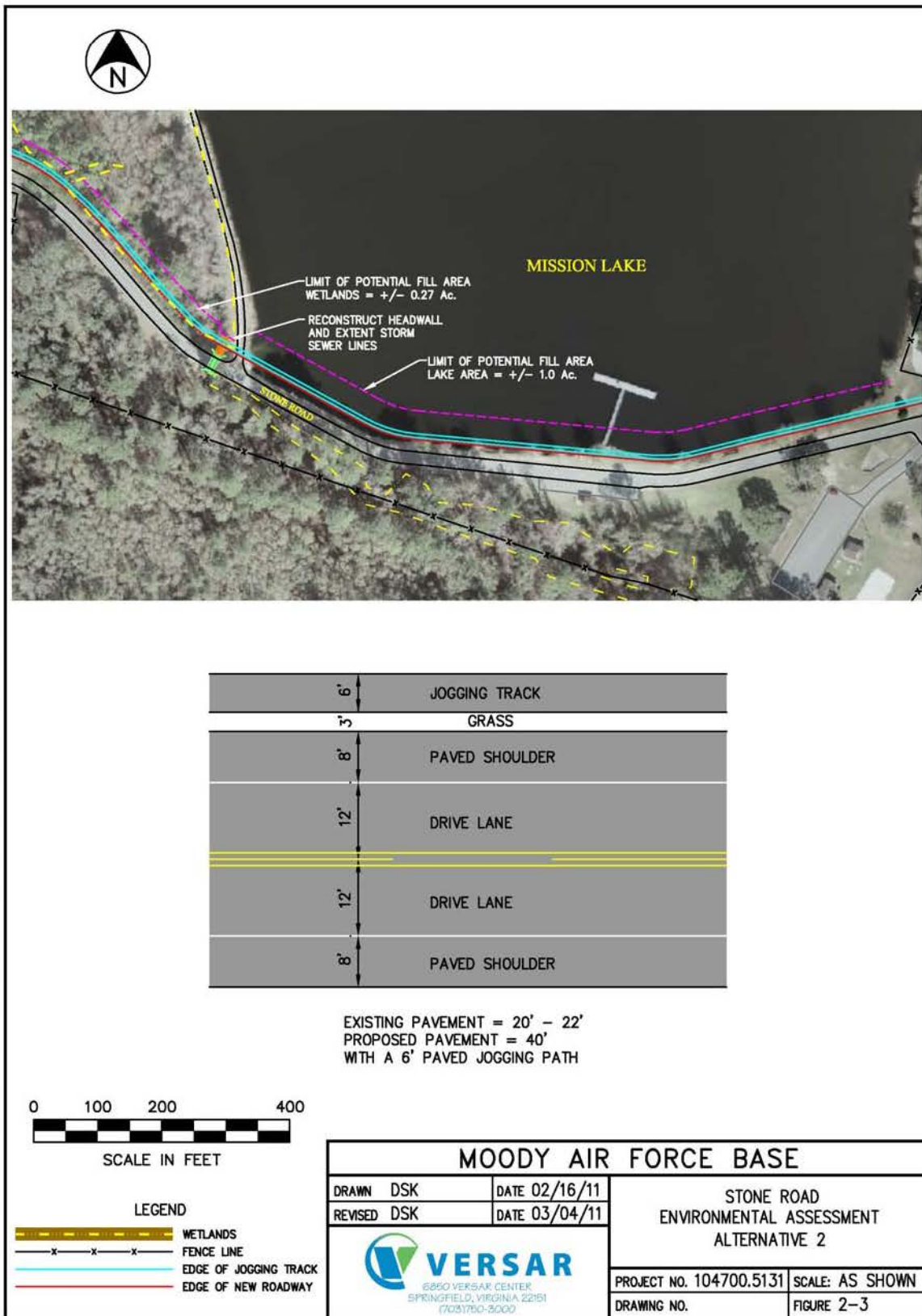


ROADWAY NEAR STREAM CROSSING
 EXISTING PAVEMENT = 20' - 22'
 PROPOSED PAVEMENT = 24'
 AT THE STREAM CROSSING



- LEGEND
- NEW ASPHALT PAVEMENT (ROAD)
 - NEW PAVED JOGGING TRACK
 - NEW BOARDWALK
 - WETLANDS
 - WATER MAIN
 - FENCE LINE
 - EDGE OF NEW ROADWAY
 - UTILITY POLE

MOODY AIR FORCE BASE		STONE ROAD ENVIRONMENTAL ASSESSMENT ALTERNATIVE 1
DRAWN: DSK	DATE: 01-13-11	
REV: DSK	DATE: 01-31-11	
REV: DSK	DATE: 03-04-11	
REV:	DATE:	
SCALE: AS SHOWN		FIGURE 2-2b



pedestrians would continue to use the roadway with greater risk due to the narrowness of the road.

2.4 EVALUATED ALTERNATIVES

The alternatives considered for the Proposed Action differed primarily according to their level of impacts to wetlands. Table 2-1 provides a summary of these impacts and the permitting that would be required for implementation of each. Based on this initial review and consideration for the Stone Road widening project, the following alternatives were determined to be feasible and are therefore carried forward for analysis under this environmental assessment:

- Preferred Alternative – Widen Stone Road to 40 feet; however narrow the road corridor at the stream crossing to 36 feet.
- Alternative 1 – Widen Stone Road to 40 feet; however narrow the road corridor at the stream crossing to 24 feet and provide a boardwalk trail through the wetland.
- No-action Alternative.

It is Federal policy to avoid wetland impacts where there is a practicable alternative, thus Alternative 2 was not carried forward for analysis. As indicated in Table 2-1, proceeding under Alternative 2 would require an Individual Permit from the USACE, which would entail more extensive coordination with that agency.

Table 2-1. Summary of impacts due to Stone Road widening under Proposed Action and alternatives considered.			
Impacts and Constructed Features	Proposed Action	Alternative 1	Alternative 2
Wetlands	None	< 0.05 acre	0.27 acre
Waters of the U.S.	1.0 acre	1.0 acre	1.27 acres
Section 404 Permitting	Regional Permit	Regional Permit	Individual Permit
FONPA Required	No	Yes	Yes
Culvert extension due to widening	12 feet	None	30 feet
Retaining wall	120 feet	40 feet	None due to wetland impacts

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3 AFFECTED ENVIRONMENT AND CONSEQUENCES OF THE PROPOSED ACTION

3.1 GEOLOGICAL RESOURCES

3.1.1 Definition of the Resource

Geological resources comprise the geology, soils, and topography of an area. Geology refers to the kinds of bedrock materials underlying an area, as well as mineral deposits and fossil remains that are likely to be found in the area. The principal geologic factors influencing the stability of structures are soil stability and regional seismic properties. Soils refer to unconsolidated earthen materials overlying bedrock or other parent material and are characterized by structure, elasticity, strength, shrink-swell potential, and erodability. With respect to development, soils typically are described in terms of their type, slope, physical characteristics, and relative compatibility with construction activities and kinds of land use. Long-term geological, erosional, and depositional processes typically influence the topographic relief of an area. Topography incorporates the physiographic or surface features of an area and is usually described with respect to elevation, slope aspect, and landforms.

3.1.2 Affected Environment

Geology. Moody AFB is located within the Georgia Lower Coastal Plain. The predominant landform in this area consists of moderately dissected, irregular plains of marine origin formed by deposition of continental sediments onto the submerged shallow continental shelf, which was later exposed when the sea receded from this area (Moody AFB 2008). Rock units formed during the Mesozoic and Cenozoic Eras consist of Cretaceous marine sediments (sands and clays) and Tertiary marine deposits (siliceous strata with lignitic, sandy, and argillaceous deposits). The most important stratigraphic unit is the Suwannee Limestone, which contains the upper portions of the Floridan Aquifer. This layer ranges in thickness from approximately 200 to 250 feet and is usually less than 200 feet below ground surface. There is a moderate density of small to medium perennial streams and associated rivers; this dendritic drainage pattern has developed on this moderately dissected plain, largely without bedrock structural control because of the preponderance of undifferentiated sediments (Moody AFB 2008).

Soils. The proposed project area is underlain by soils classified as loamy sands or sands (Figure 3-1). From east to west, Stone Road passes through areas with soils described as Pelham loamy sand, Olustee Sand, Leefield loamy sand, Stilson loamy sand, Tifton loamy sand, and Clarendon loamy sand. Characteristics of these soils are described in the *Soil Survey of Lowndes County, Georgia* (USDA 1979):

- Pelham loamy sand (Pe) occurs along the south shore of Mission Lake. These soil is poorly drained and nearly level. The topsoil is about eight inches thick and consists of black loamy sand. The subsurface layer is gray loamy sand about 17 inches thick. The subsoil extends to depth of 65 inches or more. This soil has low natural fertility and

Map Unit Legend

Lowndes County, Georgia (GA185)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cn	Clarendon loamy sand	25.0	4.2%
Gr	Grady sandy loam	2.5	0.4%
Le	Leefield loamy sand	44.8	7.5%
Oa	Olustee sand	58.5	9.8%
Pe	Pelham loamy sand	98.1	16.4%
Se	Stilson loamy sand	48.5	8.1%
TfA	Tifton loamy sand, 0 to 2 percent slopes	9.6	1.6%
TfB	Tifton loamy sand, 2 to 5 percent slopes	97.5	16.3%
TuB	Tifton-Urban land complex, 0 to 5 percent slopes	180.5	30.1%
W	Water	34.0	5.7%
Totals for Area of Interest		598.8	100.0%

3-3

Figure 3-1. (Continued)

- moderate organic matter content, but has high potential for slash pine and loblolly pine.
- Olustee sand (Oa) occurs as a narrow strip along the western edge of Mission Lake and extends south of Stone Road. This soil is poorly drained, nearly level, and comprised primarily of sand. The topsoil consists of a very dark gray sand about seven inches thick. This is underlain by weakly cemented, very dark grayish brown sand that extends to a depth of about 12 inches. Below this to about 65 inches are soils of light gray sand with yellow and brown mottles over gray sandy clay loam mottled with brown. This soil is low in fertility and organic matter and has moderate permeability; it has low potential for most nonfarm uses due to wetness.
 - Leefield loamy sand (Le) occurs as a narrow strip that spans Stone Road west of Mission Lake. This soil is somewhat poorly drained and nearly level throughout. The surface layer is very dark gray loamy sand about 8 inches thick. Subsurface layers extending to 65 inches are light gray loamy sand and yellowish brown sandy clay loam. This soil is low in natural fertility and organic matter content and has low potential for most nonfarm uses due to wetness.
 - Stilson loamy sand (Se) occurs in a broad area that is crossed by Stone Road to the west of Mission Lake. This soil is moderately well drained and nearly level. The surface layer is dark gray loamy sand about 7 inches thick. The subsurface layer is light yellowish brown loamy sand with yellow mottles extending to 19 inches; thereafter, sandy clay loam extends to 65 inches. The soil has high potential for hay and pasture, but medium potential for most nonfarm uses due to wetness and seepage.
 - Tifton loamy sand, 2 to 5 percent slopes, (TfB) occurs broadly over most of the project area to the west, where Stone Road turns back to the northeast. This soil is well drained and very gently sloping. The surface layer is brown loamy sand about 8 inches thick. The subsoil is sand clay loam that extends to a depth of 60 inches or more. The soil is moderate in natural fertility and low in organic matter content, but has high potential for row crops, hay, and pasture. The soil has high potential for most nonfarm uses.
 - Clarendon loamy sand (Cn) occurs over the remainder of the project area, where Stone Road extends northeast toward Burma Road. This soil is moderately well drained and nearly level. The surface layer is dark gray loamy sand about 8 inches thick. The subsoil is dominantly sandy clay loam that extends to a depth of 65 inches or more. The soil has high potential for row crops, but is limited because of seasonal wetness. As such, the soil has low potential for most nonfarm uses.

Topography. Moody AFB is located at the westernmost edge of the South Atlantic Coastal Plain ecoregion within the Suwannee River Basin and lies within the Tifton Upland District of the East Gulf Coastal Plain Section of Georgia (Moody AFB 2008). The area is characterized by flat to sloping plateaus separated by shallow river valleys, broad wetland

depressions, and karst topography. Within this region, Moody AFB is located on a level plateau between the Withlacoochee River on the west and the Alapaha River on the east. Land surface elevations on Moody AFB vary from its lowest point on the eastern portion at approximately 190 feet MSL to about 240 feet MSL near the center of the base. Slopes range from 0 to 5 percent.

3.1.3 Environmental Consequences

3.1.3.1 Preferred Alternative

Under the Preferred Alternative, widening Stone Road from the Magnolia Grove gate to Mission Lake would not significantly affect geological resources including underlying geology, soils, and topography. Widening Stone Road would affect areas adjacent to the existing roadway, which mainly include maintained grass buffers, an area that is already paved, and a portion of Mission Lake; although wooded edges would be encroached upon in some areas. No unique geological features or geological hazards are known to occur within the project area. Soils that would be affected are generally occurring and found broadly within the region. Topography of the project area is characteristically flat, and without distinctive landforms.

3.1.3.2 Alternative 1

Alternative 1 includes most of the same design elements as the Preferred Action, differing only where Stone Road crosses the unnamed stream that drains Mission Lake and the location of pedestrian walkway/jogging trail. Thus, Alternative 1 would not significantly affect geological resources for the same reasons given under the Preferred Alternative.

3.1.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Therefore, there would be no impacts to geological resources at Moody AFB.

3.2 WATER RESOURCES

3.2.1 Definition of the Resource

Water resources analyzed in this EA include groundwater, surface water, wetlands and floodplains.

Groundwater. Groundwater resources occur below ground in areas of permeable rock or soil where water saturates the interstitial spaces between particles, and is typically recharged during precipitation events. Groundwater can be a safe and reliable source of fresh water for the general population and is also withdrawn for domestic, agricultural, and industrial purposes. Groundwater also plays an important part in the overall hydrologic cycle. Its properties are described in terms of depth to aquifer or potentiometric surface, water quality, and surrounding

geologic composition. An aquifer is a formation, group of formations, or part of a formation that contains sufficient saturated, permeable material to yield significant quantities of water to wells and springs. Groundwater in Georgia is regulated under the Federal Safe Drinking Water Act, and rules and regulations administered by the Georgia DNR, Environment Protection Division, Watershed Protection Branch, which includes the Georgia Groundwater Use Act.

Surface Water. Surface water resources include lakes, ponds, rivers, and streams, which are important for a variety of reasons including irrigation, power generation, recreation, flood control, and human health. The Clean Water Act (CWA) of 1972 is the primary federal law that protects the nation's waters; the goal of which to restore and maintain the chemical, physical, and biological integrity of the nation's waters so they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water." Under the CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the U.S. must obtain certification from the state in which the discharge would originate, or if appropriate, from the interstate water pollution control agency with jurisdiction over affected water at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality must also comply with the CWA Section 401. Under the CWA Section 402, it is illegal to discharge any point and/or nonpoint pollution sources into any surface water without a National Pollutant Discharge Elimination System (NPDES) permit. CWA Section 404 regulates the discharge of dredged and fill materials into waters of the U.S., including wetlands (also see discussion of wetlands below). Responsibility for administering and enforcing Section 404 is shared by the USACE and USEPA. The Georgia DNR, Environment Protection Division, Watershed Protection Branch administers rules and regulations affecting surface water quality within the state.

Wetlands. Wetlands are considered sensitive habitats, which are subject to federal regulatory authority under Section 404 of the CWA and Executive Order (EO) 11990, *Protection of Wetlands*. Section 404 defines wetlands as "areas that are inundated or saturated by surface or groundwater 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. Areas meeting the federal wetland definition are under the jurisdiction of the USACE. Wetlands generally include swamp, marshes, bogs, and similar areas." As indicated, the USACE enforces the provisions of Section 404 and conducts or verifies jurisdictional determinations of wetlands. EO 11990 requires federal agencies to avoid, to the extent possible, the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Floodplains. Floodplains are defined by EO 11988, *Floodplain Management*, as "the lowland and relatively flat areas adjoining inland and coastal waters including flood-prone areas of offshore islands, including at a minimum, the area subject to a one percent or greater chance of flooding in any given year" (that area inundated by a 100-year flood). Floodplains and riparian habitat are biologically unique and highly diverse ecosystems that provide a rich diversity of aquatic and terrestrial species, promote the stability of stream banks, and regulate water

temperatures. EO 11988 requires federal agencies to avoid, to the extent possible, the long-term and short-term adverse effects associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development whenever a practicable alternative is available.

3.2.2 Affected Environment

Groundwater. Groundwater resources in south-central Georgia are comprised mainly of the surficial aquifer system and Upper and Lower Floridan aquifers (USGS 2009). Although groundwater is generally 10 to 20 feet below the ground surface, the main water-bearing formation underlying Moody AFB is an artesian aquifer (Moody AFB 2008). The aquifer contains naturally high concentrations of sulfate, hydrogen sulfide, and iron, which are attributable to the presence of the sulfate minerals gypsum and celestite in the host rock (Moody AFB 2008). The surficial aquifer is composed of unconsolidated sediments consisting of coarse sands, gravels, silt, clayey silts, and clays. Water quality is generally good, and yields are usually less than 50 gallons per minute (Moody AFB 2008). The Upper Floridan aquifer is the primary water-bearing unit in the area, one of the most productive in the United States (USGS 2009). Water quality is generally good and yields are plentiful (Moody AFB 2008). The Floridan aquifer furnishes almost all the local water for commercial, industrial, domestic, irrigation, and municipal use; the aquifer is typically encountered at a depth of 150 feet and is usually under artesian conditions (Moody AFB 2008). Background groundwater analyses have confirmed that several metals occur naturally in the area of Moody AFB; recordable levels of barium, cadmium, copper, iron, manganese, and zinc occur in the groundwater (Moody AFB 2008).

Moody AFB operates an internal water system that includes three wells located near the water treatment plant. The three wells (Numbers 3, 16, and 17), have a combined annual average withdrawal rate of 0.80 million gallons per day and supply the main cantonment and family housing areas. In addition, there are seven wells located throughout the remainder of Moody AFB that are non-operational and considered temporarily abandoned.

Surface Water. Moody AFB is located within the watershed of the Alapaha River, which covers an area of approximately 1.2 million acres. The Alapaha River, to the east of Moody AFB, drains to the southwest into the Upper Suwannee River. The Suwannee River flows south into Florida and eventually enters the Gulf of Mexico. Surface water from the southern part of the main base, including the area around Stone Road, flows into Mission Lake. Unnamed streams feed into Mission Lake principally from the northeast and to a lesser amount from the north. The lake drains through another unnamed stream along its western shore, which passes under Stone Road through a culvert, and flows southeast and off of installation property. Thereafter, the unnamed stream flows into Grand Bay, which in turn drains to the southeast into the Alapaha River. Mission Lake is an impoundment encompassing approximately 35 acres (Moody AFB 2007). The lake was created during the development of Moody AFB, when material was excavated to build up the airfield runways adjoining the lake; at most the lake approximately a dozen feet deep (Greg Lee, personal communication). Mission Lake is the primary location for recreational fishing in the main base area, used by both military and civilian anglers (Moody AFB 2007).

Wetlands. Moody AFB is located to the west of the Grand Bay-Banks Lake wetland complex, although a portion of the wetlands complex is on installation property. At more than 12,000 acres, the wetland complex, is second only to the Okefenokee Swamp in size of freshwater lake/swamp system on the coastal plain of Georgia. The wetland complex is composed of several broad Carolina bays (1 to 4 miles across) and shallow lakes, interconnected by cypress-black gum swamp (Moody AFB 2008). Wetlands at Moody AFB were investigated recently, which resulted in the delineation of more than 1,800 acres of wetlands in the western part of the installation (Moody AFB 2007). Of this, approximately 140 acres were described for a series of five wetlands associated with Mission Lake (Figure 3-2). The majority of wetlands were classified as palustrine forested (103 acres), with emergent (1 acre), riverine (0.23 acre) accounting lesser amounts (open water included Mission Lake at 35 acres and a small palustrine open water with scrub-shrub fringe at 0.23 acres); a small wetland was also delineated south of Stone Road (1 acre) comprised of palustrine forested and riverine wetland types (Moody AFB 2007). The nearest wetlands to the affected project area are those immediately north and south of Stone Road as it passes along the south shore of Mission Lake (Figure 3-2).

Floodplains. Stone Road at Mission Lake is located outside of any of the Special Flood Hazard Areas (SFHAs) designated for Lowndes County by the National Flood Insurance Program; the nearest SFHA, shown as Zone A, is associated with Grand Bay to the east of installation's airfield runways, whereas Zone X is an area of minimal flood hazard (FEMA 2008; Figure 3-3).

3.2.3 Environmental Consequences

3.2.3.1 Preferred Alternative

Groundwater. Under the Preferred Alternative, groundwater resources would not be significantly affected at Moody AFB. The widening of Stone Road, from the Magnolia Grove Gate to Mission Lake does not involve extensive construction and excavation to any significant depth that could disrupt groundwater resources.

Surface Water. Under the Preferred Alternative, up to 1 acre of Mission Lake would be filled as a result of widening Stone Road along the southern shore of the lake. The improvements would impact approximately 1,040 linear feet of shoreline of Mission Lake ranging from widths of 30 to 60 feet. These areas would be filled with a compacted engineered fill material to support the widening project and supply an acceptable slope for safety requirements. For safety purposes, all new construction would limit the side slopes to a gradient of 1:3 (vertical/horizontal). This would provide additional stability for the dam and reduce the possibility of erosion from occurring as witnessed during site inspections. As Mission Lake is considered Waters of the U.S., this part of the project would require a permit under Section 404 of the CWA for the addition of fill material, in which the Savannah District USACE would act as the permitting agency. Subject to conditions, the impact to Mission Lake under the Preferred Alternative may qualify for a *Regional Permit (RP) for Minor Discharges for the Construction of Roads and Bridges*, which provides for a more streamlined permitting process. Under USACE guidance, "to



Figure 3-2. Wetlands and streams in the vicinity of the Proposed Action at Moody AFB

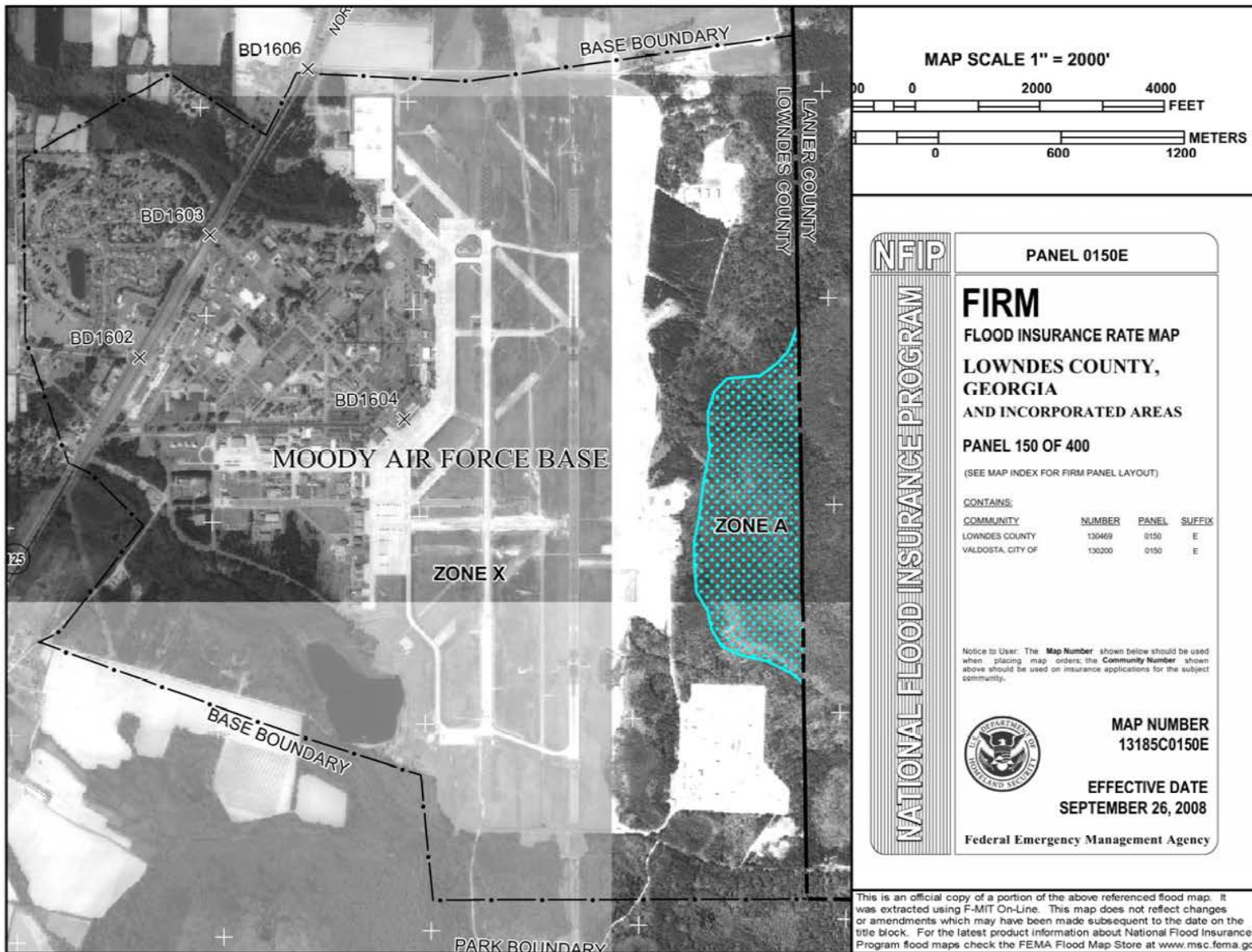


Figure 3-3. Floodplain areas in the vicinity of the Proposed Action at Moody AFB; Zone X is an area of minimal flood hazard

potentially qualify for this RP, the proposed discharge of dredged and fill material incidental to roadway and bridge construction must result in the loss of not more than 1 acre of Waters of the U.S. and/or 300 feet of ephemeral, intermittent, or perennial stream, per crossing, within the geographic limits of the State of Georgia.”

Wetlands. Under the Preferred Alternative, there would be no direct or indirect impacts to wetlands from Stone Road widening. As detailed in Section 2.0 –*Description of the Proposed Action and Alternatives*, where Stone Road crosses the unnamed stream that drains Mission Lake, wetlands occur closely on both sides of the road. Under the Preferred Alternative, the configuration of the roadway corridor has been designed to narrow so that construction impacts to wetlands would be avoided, and there would be no need to obtain a FONPA. This configuration would also maintain the hydrology of the existing roadway corridor, thus there would be no indirect impacts to wetlands as well.

Floodplains. Under the Preferred Alternative, there would be no impact to floodplains. As indicated above, the proposed project area is outside of SFHA. Therefore, under the Preferred Alternative, there would be no need to obtain a FONPA.

3.2.3.2 Alternative 1

Alternative 1 has most of the same design elements as the Preferred Action, differing only where Stone Road crosses the unnamed stream that drains Mission Lake and the location of pedestrian walkway/jogging trail. Thus, Alternative 1 would not significantly affect groundwater and floodplain areas, but would be significant for surface water and require a permit from the USACE for filling an area of Mission Lake. Alternative 1 would also entail a small but potentially significant impact to wetlands because of the routing of the pedestrian walkway/jogging trail through a wetland north of Stone Road. Although the size of the wetland impact may be minimal (<0.05 acre), the total impact to wetlands and Waters of the U.S. will determine whether a Regional Permit or Individual Permit is required from the USACE. In addition, the wetland impact would also require a FONPA.

3.2.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Therefore, there would be no impacts to water resources that include surface water, groundwater, wetlands, and floodplain areas. However, under present circumstances, the Mission Lake dam would remain a safety hazard owing to the erosion that is occurring along the base of the dam. At the very least, future action would be needed to stabilize the dam to avoid undercutting Stone Road and eliminate the potential for catastrophic failure of the dam.

3.3 LAND USE

3.3.1 Definition of the Resource

Land use refers to the natural conditions or human activities occurring at a particular location. Human-modified land use categories include residential, commercial, industrial, transportation, communications and utilities, agricultural, institutional, recreational, and other developed areas. Management plans and zoning regulations determine the kinds and extents of land use allowed in specific areas and often are intended to protect specially designated or environmentally sensitive areas. Visual resources are the natural and manufactured features that constitute the aesthetic qualities of an area. These features form the overall impressions that an observer receives of an area or its landscape character. Landforms, water surfaces, vegetation, and manufactured features are considered characteristic of an area if they are inherent to the structure and function of a landscape.

3.3.2 Affected Environment

Moody AFB occupies 11,457 acres of federally owned land in Lowndes and Lanier Counties in south-central Georgia. Base operations are concentrated in the western section of the installation including administrative, base support, aircraft operations, and maintenance areas, as well as the airfield with its two parallel north/south runways at 8,000 (36L/18R) and 9,300 (36R/18L) feet in length. Grand Bay Range forms a larger section to the east, which is mostly undeveloped land. A family housing area (Quiet Pines Housing Area), golf course, trailer area, and wastewater treatment plant facility are located west of State Highway 125 (Bemiss Road), and a new privatized housing area, Magnolia Grove, has been constructed south of the installation and proximate to the area affected under the proposed action (see Figures 1-1 and 1-2). Predominant land use adjacent to the main base includes agriculture and rural residential; other military training areas also occur in the vicinity.

Lowndes County has designated the Moody Activity Zoning (MAZ) District to provide for uses and unique design requirements for lands adjacent to and within runway protection zones, airspace zones, and noise zones for Moody AFB. The MAZ District incorporates site design and other standards necessary to protect Moody AFB's combat ready and navigable airspace, which include, but are not be limited to, height limitations, smoke limitations, lighting limitations, and other standards necessary to ensure protection of the airspace. Three districts are described covering areas of the installation: MAZ I, MAZ II, and MAZ III. MAZ I consists of all Moody AFB property including the proposed project area, the Clear Zones, and Accident Potential Zone I. MAZ II dominantly includes Accident Potential Zones II and areas between the outer boundaries of MAZ I and the inner boundaries of MAZ III. MAZ III dominantly includes areas between the outer boundary of MAZ II and the outer boundary of the MAZ (Lowndes County 2010).

The visual character of the area is predominated by Moody AFB. State Highway 125 (Bemiss Road), which bisects the western portion of the base, is heavily developed with installation infrastructure that includes buildings, entrance gates, and housing areas, as well as

other developments that include businesses and private residences. However, much of the remaining area surrounding the base is undeveloped and includes extensive forested areas and wetlands associated with Grand Bay. Agriculture is prominent within the region, which adds to the rural character of the area. The landform in the surrounding area is mostly flat which limits the viewshed for broad vistas. Along the Stone Road corridor, the land north of the road is mostly wooded, but also supports several areas used for base operations. The Base Recovery After Attack (BRAAT) Strip military training area consists of a paved area immediately adjacent to the road and the 820th BDG Obstacle Course is situated in the woods. In addition, a historical landfill (ERP Site LF-03) is located north of Stone Road between the new entry gate and the BRAAT Strip. Other areas along the Stone Road corridor are maintained for recreation including fishing at Mission Lake, an archery range, and playground.

3.3.3 Environmental Consequences

3.3.3.1 Preferred Alternative

Under the Preferred Alternative, widening Stone Road from the Magnolia Grove gate to Mission Lake would not significantly affect land use and visual resources. Widening Stone Road would affect areas adjacent to the existing roadway, which mainly include maintained grass buffers, an area along the edge of the BRAAT Strip that is already paved, and a portion of Mission Lake; although edges of woodlands would also be encroached upon in some areas. Land use and the visual character of the area would remain much the same after implementation of the Preferred Alternative; although recreational use of the area would be enhanced by the addition of a walkway/running trail.

3.3.3.2 Alternative 1

Alternative 1 is the same as the Preferred Alternative, except for a small section of the project where the Stone Road corridor crosses an unnamed stream. Therefore, the potential affects to land use and visual resources are likely to be the same as those described under the Preferred Alternative.

3.3.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Consequently, there would be no effects on land use and visual resources at Moody AFB.

3.4 INFRASTRUCTURE

3.4.1 Definition of the Resource

Infrastructure refers to the system of public works, such as utilities and transportation that provide the underlying framework for a community. Utilities include such amenities as water, power supply, and waste management. Transportation and circulation refer to roadway and street

systems, the movement of vehicles, pedestrian and bicycle traffic, and mass transit. Stormwater drainage systems are networks of structures, channels and underground pipes that carry stormwater runoff to ponds, lakes, streams and rivers. Because of the limited scope of the project involving the widening of a roadway, the infrastructural resources to be evaluated in this section include transportation, an electric utility, and stormwater drainage.

3.4.2 Affected Environment

Transportation. The roadway network at Moody AFB is developed mainly in the cantonment area located in the western part of the installation. Roads radiate outward from the center of the cantonment area formed by Bradley Circle and Austin Ellipse. Streets are classified as arterials that carry the majority of traffic (e.g., Mitchell Road and Robbins Road), and collectors that distribute traffic to local streets or directly to intended destinations. Access to Moody AFB is primarily through two gates, both of which provide entry to the cantonment area off State Highway 125. The North Gate provides access via Mitchell Road, and the South Gate, or Main Gate, via Robbins Road. There are also two gates off Hightower Road on the north side of the base, although these are not used on a regular basis. Stone Road, which runs along the southwest perimeter of the installation, is relatively remote and receives minimal traffic. However this is expected to change when a new Main Gate to the installation opens in the near future. The new Main Gate will admit vehicles from Davidson Road, a county road, directly onto the section of Stone Road north of the proposed project area. Thus in the future, traffic entering the installation will either follow Stone Road north to Burma Road and then into the cantonment area, or follow Stone Road to the south and then east towards Mission Lake and the eastern part of the installation. At present, there is no mass transit system on the base.

Electrical Utility. Georgia Power maintains a power line easement that intersects with Stone Road near the western end of the project. The right-of-way for the power line ends north of the road, and is marked by three large, guyed electrical poles. In addition there is a series of 13 power line poles north and adjacent to Stone Road along its western end; although according to Moody AFB, this power line is inactive. Figure 3-4 shows the western end of Stone Road with the Georgia Power guyed, electric poles and the inactive power line that are adjacent to the roadway.

Stormwater. Moody AFB manages its stormwater under the requirements of two permits issued by the Georgia Environmental Protection Division (GEPD), which regulate stormwater discharges from industrial activities and construction activities. The GEPD requirements contain all the provisions of the federal NPDES program. Moody AFB discharges stormwater collected on the base to surrounding surface water bodies through a number of outfalls, several of which flow directly into Mission Lake. To address potential stormwater pollution resulting from future construction activities, Moody AFB has prepared a guidance document, *Base-wide Construction Storm Water Management Action Plan, Moody Air Force Base, Georgia*, to be used by contractors involved with construction at the installation (Moody AFB 2010). This base-wide Management Action Plan (MAP) establishes procedures for reducing the potential of stormwater pollution from construction activities. In effect, stormwater runoff would be mitigated by implementing erosion and sedimentation control practices around construction sites in

accordance with the Georgia Erosion and Sediment Control Act. For any construction activities that will disturb one acre or more of soil, an Erosion, Sedimentation, and Pollution Control Plan is required, which defines the actions that will be taken during the project to reduce erosion and limit the transport of sediment off the project site.



Figure 3-4 View of western end of Stone Road showing inactive power line adjacent to the roadway and larger, guyed poles associated with the Georgia Power easement, which would need to be relocated under the Proposed Action. Also shown is a groundwater monitoring well surrounded by four stakes.

3.4.3 Environmental Consequences

3.4.3.1 Preferred Alternative

Transportation. Under the Preferred Alternative, transportation safety would improve significantly within the Stone Road corridor. With the new roadway configuration, vehicles would have additional lane space as well as fully paved shoulders on both sides for much of the road's length. Although the roadway corridor would narrow as it crosses the unnamed stream that drains Mission Lake, the paved surface of the roadway would remain the same throughout at 24 feet, while the shoulders taper to 3 feet on each side. Safety would be further enhanced by

adding a pedestrian walkway/ running track along the north side of the road, which would eliminate vehicle/pedestrian interactions.

Electric Utility. Under the Preferred Alternative, the guyed, power line poles on the Georgia Power easement would need to be relocated further away from the roadway corridor. This would entail installing new poles further north on the right-of-way and restringing the power line. The relocation of these power line poles would not significantly affect electric utilities at Moody AFB. In addition, the 13 power line poles running along the north side of Stone Road would need to be removed, relocated, or buried underground to provide room for the expanded roadway corridor. As this power line is inactive, no significant effects to electric utilities would occur from the relocation or removal. At most, the replacement of this line with an underground electrical line would require trenching along the roadway corridor for approximately a half mile. Excavation activities related to relocating power line poles or replacement with an underground line would be temporary and would not have significant effects on other environmental resources.

Stormwater. Under the Preferred Alternative, construction activities for widening Stone Road would be undertaken in accordance with the Georgia Erosion and Sediment Control Act, which include preparing an Erosion, Sedimentation, and Pollution Control Plan. As indicated in the DOPAA (Section 2.2), the BRAAT Strip, an existing concrete pavement section of 1,020 feet by 150 feet located immediately north of the roadway, would be affected by the widening. This paved area has a narrow greenbelt between it and the existing road, which acts as a swale and provides positive storm water drainage for the roadway and concrete pad. Widening Stone Road in this area would consume the swale and require the installation of a storm sewer system or the removal of a portion of the concrete pad. Additionally, where Stone Road crosses the unnamed stream that drains Mission Lake, widening the road would require an extension of the existing culvert on the north side and reconstruction of the headwall. Because this section of the road closely borders a wetland area to the north and west of the culvert, a retaining wall with guard rails would be installed west of the reconstructed headwall for 120 feet. By implementing this design for the project, widening Stone Road under the Preferred Alternative would not result in significant effects related to stormwater management at Moody AFB.

3.4.3.2 Alternative 1

Under Alternative 1, Stone Road widening would follow the same design as the Preferred Alternative with the exception of where the road crosses the unnamed stream that drains Mission Lake; thus effects on transportation and electric utilities would be exactly the same. Because the pedestrian walkway/running trail would follow the pull-off road along the southwest shore of Mission Lake and cross the unnamed stream via a boardwalk trail, Stone Road widening would be minimized at the stream crossing to two lanes. Although the culvert would not need to be extended, a retaining wall with guard rails would be installed to the west of the culvert for a length of 40 feet. By implementing this design for the project, widening Stone Road under the Alternative 1 would not result in significant effects related to stormwater management at Moody AFB.

3.4.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Consequently, there would be no infrastructural changes at Moody AFB. However under the No Action Alternative, driving conditions on Stone Road would remain unsafe and likely worsen after the new Main Gate is opened and there is an increase of traffic on the road. At the very least, the Mission Lake dam would need to be stabilized to counter the erosion that has been occurring along the shoreline.

3.5 HAZARDOUS MATERIALS AND WASTE

3.5.1 Definition of the Resource

The terms “hazardous materials” and “hazardous waste” refer to substances defined as hazardous by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA). In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes that are regulated under RCRA are defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261, *Identification and Listing of Hazardous Waste*. Issues associated with hazardous material and waste commonly involve waste streams, underground storage tanks (USTs), aboveground storage tanks (ASTs), and the storage, transport, use, and disposal of fuels, lubricants, and other industrial substances. When such materials are improperly used in any way, they can threaten the health and well-being of wildlife species, habitats, and soil and water systems, as well as humans. Moody AFB has developed programs to comply with applicable federal, state, and local laws governing hazardous waste management (Moody AFB 2005b). The *23rd Wing Waste Management Plan* for Moody AFB defines responsibilities and prescribes procedures for the proper management of hazardous waste, non-hazardous waste, universal waste, and used oil, from its generation through ultimate disposal.

Established under the Defense Environmental Restoration Program (DERP), the Air Force Environmental Restoration Program (ERP) is designed to identify, investigate, and cleanup contamination associated with past Air Force activities. ERP sites on active installations can be contaminated with toxic and hazardous substances, low-level radioactive materials, petroleum, oils, lubricants, and other pollutants and contaminants. AFI 32-7020 emphasizes that on-site or in-situ corrective actions are preferred over cleanup options that require off-site disposal of contaminants. Because of the limited scope of the Proposed Action that involves widening an existing road (i.e., no construction or demolition of other structures), the analysis in this section will focus on potential environmental effects on ERP sites proximate to Stone Road.

3.5.2 Affected Environment

The ERP has been initiated at Moody AFB to address contamination at a number of sites from past Air Force activities, which have included fuel storage and disposal, dichlorodiphenyl-trichloroethane disposal, EOD, fire-training exercises and landfill operations. In total 42 ERP sites have been identified at the base with two located in the southwest area of the base and proximate to Stone Road. The Unnamed Creek Debris Site (LF-36), located south of the unnamed creek that drains into Mission Lake to the east, is a small area near the center of the tract bounded by Stone Road and Burma Road, and approximately 1,000 feet north of Stone Road. The Southwest Landfill (LF-03) covers an extensive area up to and north of Stone Road and encroaches upon LF-36 (Figure 3-5). The LF-03 site operated as a landfill from 1955 to 1972, when the area was reported to consist of trenches 14 feet deep that were filled with general refuse from the base. The disposal of large quantities of hazardous wastes has not been reported, although small quantities of solvent and oil waste is suspected at the site; the area is considered to have minor soil contamination. At least four groundwater monitoring wells occur along the edge of the landfill and may be affected by road widening (see Figure 3-4).

3.5.3 Environmental Consequences

3.5.3.1 Preferred Alternative

Under the Preferred Alternative, a narrow strip of ERP site LF-03 would be affected by Stone Road widening, where the site is immediately adjacent to the road. Even then, adverse environmental affects would not result from implementation the project. Previous environmental studies at the site concluded that chemical contaminants detected in the soil do not pose significant risk to human receptors evaluated. The groundwater contaminant plume was determined to be located entirely on Moody AFB property, and restrictions on excavation and installation of wells that could result in exposure to contaminated groundwater have been established. Even then, precautionary soil testing likely would be recommended prior to construction or excavation activities, which would incur an additional cost to project construction associated with road widening. Safety observers currently certified with OSHA 1910.120 Hazardous Waste Operations and Emergency Response (HAZWOPER) training must be present during excavation activities. The contractor must ensure that the proper Personal Protective Equipment (PPE) is worn during the excavation. By following these precautions, ERP sites and worker health and safety would not be significantly affected by Stone Road widening under the Preferred Alternative.

As a consequence of Stone Road widening, up to four groundwater monitoring wells located along the edge of LF-03 would be disturbed. If affected, the wells should be tested prior to being abandoned. A determination would need to be made whether or not the abandoned groundwater monitoring wells should be replaced by new ones. The installation of new wells would require excavation of materials from drilling. Previous estimates for the cost of drilling, surveying, waste disposal, and oversight by ERP personnel was \$35,688 for replacing six abandoned groundwater monitoring wells (Moody AFB 2004a). In addition, if underground utilities are to be installed as part of, or a result of, the construction project, a soil gas survey

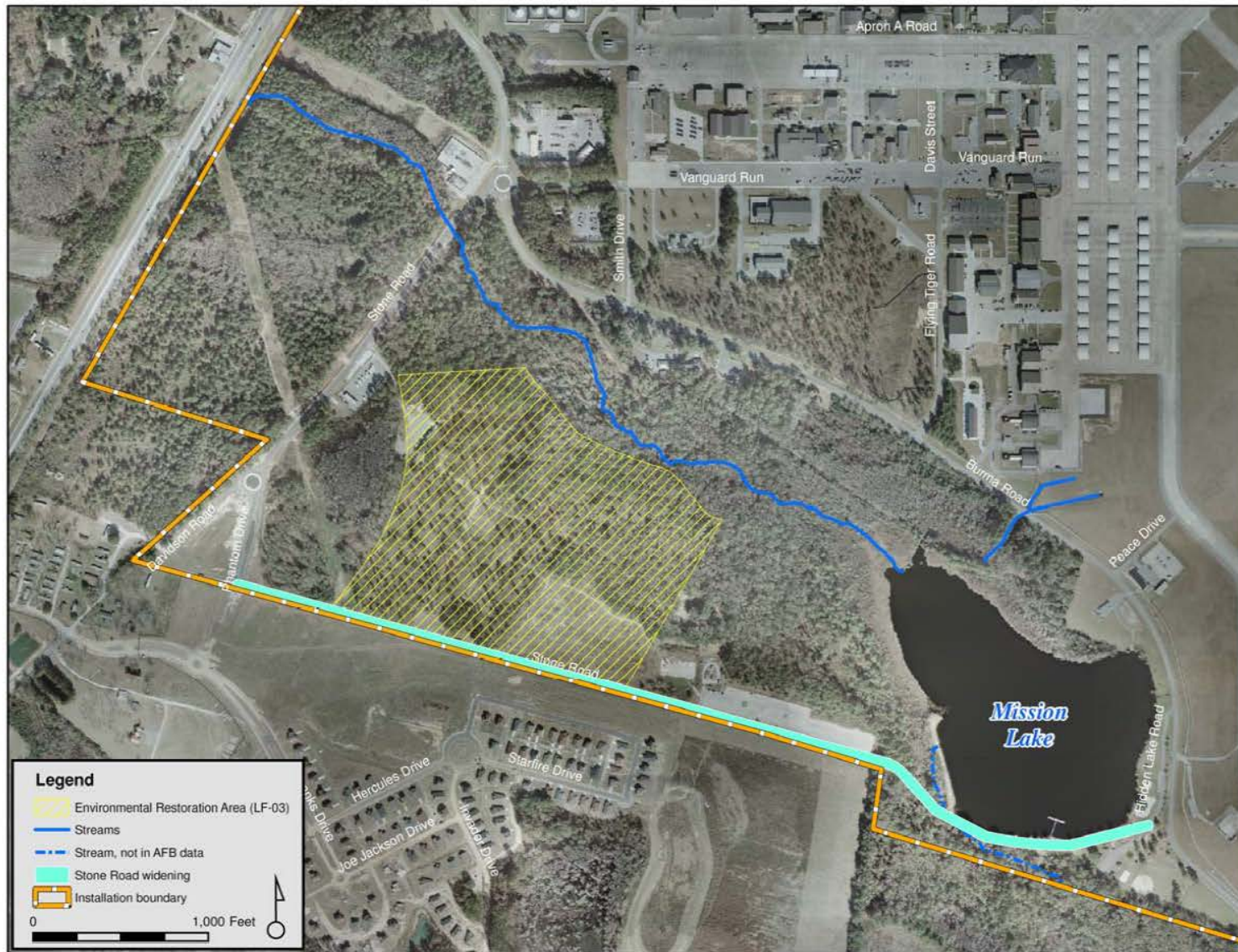


Figure 3-5. Environmental Restoration Program site LF-03 adjacent to the area affected under the Proposed Action at Moody AFB

should be conducted to ensure that vapor intrusion into the utility corridors is not a concern. Provided applicable regulatory requirements are followed for the handling and disposal of excavated materials, there would not be significant impacts due to hazardous materials and wastes from the Preferred Alternative.

3.5.3.2 Alternative 1

Under Alternative 1, Stone Road widening adjacent to ERP site LF-03 would be identical to that described under the Preferred Alternative. Therefore, no significant environmental effects resulting from hazardous materials and wastes would occur under Alternative 1.

3.5.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Consequently, there would be no effects on hazardous materials and wastes at Moody AFB. The groundwater monitoring wells associated with ERP site LF-03 would remain unaffected under this alternative.

3.6 CULTURAL RESOURCES

3.6.1 Definition of the Resource

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. Cultural resources can be divided into three major categories: archaeological resources (prehistoric and historic), architectural resources, and traditional cultural resources.

Archaeological resources are associated with locations where human activity measurably altered the earth or left deposits of physical remains (e.g., tools, arrowheads, or bottles). “Prehistoric” refers to resources that predate the advent of written records in a region. These resources can range from a scatter composed of a few artifacts to village sites and rock art. “Historic” refer to resources that postdate the advent of written records for a region. Archaeological resources can include campsites, roads, fences, trails, dumps, battlegrounds, mines, and a variety of other features.

Architectural resources include standing buildings, dams, canals, bridges, and other structures of historic or aesthetic significance. Architectural resources generally must be more than 50 years old to be considered for protection under existing cultural resource laws. More recent structures, such as Cold War era military buildings, may warrant protection if they have exceptional characteristics and the potential to be historically significant structures. Architectural resources must also possess integrity (i.e., important historic features must be present and recognizable).

Traditional cultural resources can include archaeological resources, buildings, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that Native Americans or other groups consider essential for the continuance of traditional cultures.

Only significant cultural resources, known or unknown, warrant consideration with regard to the potential adverse effects of a Proposed Action. To be considered significant, archaeological or architectural resources must meet one or more criteria for inclusion in the National Register of Historic Places (NRHP) as defined in 36 CFR 60.4. Other Federal laws and regulations have been established to manage and protect cultural resources, including those that occur on DoD lands. The National Historic Preservation Act (NHPA), the Archaeological and Historic Preservation Act, the American Indian Religious Freedom Act, the Archeological Resource Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act all carry provisions to protect cultural resources. In addition, coordination with federally recognized Native American tribes must occur in accordance with EO 13084, *Consultation and Coordination with Indian Tribal Governments*.

In 1999, the DoD promulgated its (Annotated) American Indian and Alaska Native Policy, which lays out principles for interacting and working with federally recognized American Indian and Alaska Native governments. This policy emphasizes the importance of respecting and consulting with tribal governments on a government-to-government basis. It also requires an assessment, through consultation, of the effect of DoD's Proposed Actions that might significantly affect protected tribal resources, tribal rights, and Indian lands before the respective services make decisions.

3.6.2 Affected Environment

The Georgia Coastal Plain region that encompasses Moody AFB presents a varied prehistoric cultural sequence. Previous American Indian cultures in this region are thought to be derived from the Pre-Paleo-Indian (>11,000 years before present [B.P.]) through Paleo-Indian (11,000–9,000 B.P.) periods, the Archaic Period (9,800–2,500 B.P.), the Woodland Period (2,500 B.P.–A.D. 1000), and the Mississippian Period (A.D. 1000– 1540). Numerous archaeological surveys have been conducted at Moody AFB, which have identified many sites of the Woodland and Mississippian Periods (Moody AFB 2006). One site (9LW71) recommended as eligible for listing in the National Register, is located approximately 1 mile east of the proposed project area. Site 9LW71 is a multi-component site with Late Paleo-Indian, Early Archaic, and Woodland scatters. To date, Moody AFB does not have any Traditional Cultural Resources and/or Sacred sites identified within its boundaries (Moody AFB 2006). However, there have not been any surveys conducted that have specifically sought Traditional Cultural Resources or Sacred sites. Should any be uncovered in the future, these are subject to the same rules and regulations as all cultural resources; furthermore, an eligibility determination would need to be made for the National Register.

Architectural resources at Moody AFB include one historic structure that is listed as eligible for the National Register. Building 618 is a water tower located approximately 1 mile north of the proposed project area. The 200,000-gallon-capacity steel water tower with an

elevated tank was built in 1941. The water tower is one of the few remaining recognizable structures that have remained constant on Moody AFB since World War II mobilization (Moody AFB 2006). Although Cold War Era sites are known to exist in the region, none have been determined to be eligible for listing on the National Register. Federal agencies must consider historic properties during the planning and execution of any Federal undertaking that has the potential to affect them. Research has not identified any historic cemeteries within the boundaries of Moody AFB for listing on the National Register.

3.6.3 Environmental Consequences

3.6.3.1 Preferred Alternative

Under the Preferred Alternative, there would be no significant effects on cultural resources. The proposed project area for Stone Road widening is located approximately 1 mile away from known cultural resources at Moody AFB. As part the environmental review for this EA, a letter describing the Proposed Action was sent to the GDNR Historic Preservation Division. A response letter from this agency (dated February 3rd, 2011) determined that no historic properties or archeological resources that are listed or eligible for listing in the NRHP will be affected by the undertaking (see Appendix A). However, should any discoveries of potential cultural resources be made during construction and excavation, work on the project should cease until the Base Historic Preservation Office (BHPO) and GDNR Historic Preservation Division are notified and a determination is made.

3.6.3.2 Alternative 1

Under Alternative 1, the potential effects on cultural resources would be the same as under the Preferred Alternative. Therefore, no significant affects to cultural resources would occur under Alternative 1.

3.6.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Consequently, there would be no effects on cultural resources at Moody AFB.

3.7 SAFETY AND OCCUPATIONAL HEALTH

3.7.1 Definition of the Resource

Federal regulations mandate that occupational safety and health must be considered during the EIAP (32 CFR 989.27). The direct and indirect effects of Proposed Actions on the safety and health of Air Force employees and others at a work site must be assessed. Although health and safety compliance procedures do not need to be specified, effects that require a change in work practices to achieve an adequate level of health and safety should be discussed.

3.7.1.1 Affected Environment

Moody AFB performs day-to-day operations and maintenance in accordance with applicable Air Force safety regulations, published Air Force Technical Orders (TOs), and standards prescribed by Air Force Occupational Safety and Health (AFOSH) requirements. Many of the kinds of operations that are conducted at Moody AFB involve intensive safety procedures (e.g., flight operations and range safety); however these are considered beyond the scope of the Proposed Action and are not given further consideration. Stone Road is a narrow, two-lane road along the southwest perimeter of Moody AFB. At present, the road hosts minimal traffic as there is little development along the corridor and the area is mainly used for recreational purposes especially around Mission Lake. This is expected to change when the new Main Gate is opened in the near future. The gate will admit vehicles onto a section of Stone Road that is west of the proposed project area. Traffic is expected to increase along the section of Stone Road between the new gate and Mission Lake as personnel entering the base head to destinations in the eastern part of the cantonment area.

3.7.2 Environmental Consequences

3.7.2.1 Preferred Alternative

Under the Preferred Alternative, there would be significant beneficial effects to the safety of Moody AFB personnel. Widening Stone Road from the Magnolia Grove gate to Mission Lake would increase vehicle safety on the roadway especially in light of the expected increase in traffic that will follow the opening of the new Main Gate west of the project area on Stone Road. In addition, the Stone Road corridor will be much safer for those using the area for recreational purposes as the pedestrian walkway/jogging trail will eliminate vehicle/pedestrian encounters. Although the pedestrian walkway/jogging trail would pass adjacent to an existing archery range, target direction is away from Stone Road, thus there should be no danger to recreational users of the trail. The project would also stabilize the dam of Mission Lake, which has been weakened by erosion, and therefore provide stronger structural support for the Stone Road corridor.

3.7.2.2 Alternative 1

Under Alternative 1, the potential effects on safety would be the same as under the Preferred Alternative. Therefore, significant beneficial effects to safety would occur under Alternative 1.

3.7.2.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove gate to Mission Lake. Consequently, there would be no changes with respect to safety and occupational health at Moody AFB. However, when the new Main Gate opens in the near future, traffic safety along Stone Road likely will worsen as more vehicles use it as an alternative route for reaching the cantonment area.

3.8 BIOLOGICAL RESOURCES

3.8.1 Definition of the Resource

Biological resources include all living plants and animals that inhabit an area as well as the habitats they occupy. Some animals, such as birds and bats, are capable of broader movements during migration and may only be present seasonally. Plant species are collectively referred to as vegetation, whereas wildlife is comprised of animals including birds, mammals, reptiles, and amphibians. Habitat refers to the resources and environmental conditions present in an area that enable a species to persist in that area. Although the existence and preservation of biological resources are intrinsically valuable, biological resources also provide aesthetic, recreational, and socioeconomic values to society. This analysis focuses on species or kinds of vegetation that are important to the function of the ecosystem, of special societal importance, or are protected under federal or state regulations. The Federal Endangered Species Act protects federally listed threatened and endangered plant and animal species, and is administered by the U.S. Fish and Wildlife Service (USFWS). Federal species of concern are not protected by law; however, those species could become listed and, therefore, protected at any time. State-listed rare, threatened, and endangered species are protected under the Georgia Endangered Wildlife Act of 1973 and the Georgia Wildflower Preservation Act of 1973; the state list of species is maintained by the Georgia Department of Natural Resources.

3.8.2 Affected Environment

Vegetation. Moody AFB has extensive vegetation resources with nearly 700 plant species reported as occurring at the installation (Moody AFB 2008). Thousands of acres of forested and wetland habitats occur at Moody AFB, although much of this is found east of the runways and on the Grand Bay Range (GBR). Most of these areas are regarded as unimproved grounds consisting of military training areas and those with natural vegetation. Other areas of the installation consist of improved and semi-improved grounds that require regular maintenance, such as areas around base buildings, the family housing area, and recreational areas in the vicinity of Mission Lake (Moody AFB 2008). The Stone Road corridor follows the southwest boundary of the installation, adjacent to a new privatized housing facility to the south. For the most part, road-side vegetation consists of maintained areas of grass, but in some places the road is narrowly bordered by forest and wetland habitats, especially along Mission Lake.

Forested resources in the vicinity of Stone Road at Mission Lake include approximately 150 acres comprised of stands of bottomland hardwood forest, loblolly pine/slash pine, and water oak/loblolly pine/slash pine forest types (Moody AFB 2008). The largest of these, the bottomland hardwood at 71.4 acres, occurs along the lowlands adjacent to the unnamed stream that drains to Mission Lake. Vegetation of this forested wetland is characterized by red maple (*Acer rubrum*), swamp tupelo (*Nyssa biflora*), slash pine (*Pinus elliottii*), loblolly pine (*Pinus taeda*), sweet bay magnolia (*Magnolia virginiana*), and water oak (*Quercus nigra*) in the overstory, sweet pepperbush (*Clethra alnifolia*), inkberry (*Ilex glabra*), wax myrtle (*Myrica cerifera*), odorless bayberry (*Myrica inodora*), wild azalea (*Rhododendron canescens*) in the

understory, and cinnamon fern (*Osmunda cinnamomea*) and netted chain fern (*Woodwardia areolata*) in the herbaceous layer (Moody AFB 2007)

Historically, the upland areas of Moody AFB were once dominated by longleaf pine (*Pinus palustris*) forests, with mesic longleaf pine savannas located in the main base area (Moody AFB 2008). Currently, pine species including loblolly (*Pinus taeda*) and slash pine (*Pinus elliottii*) are dominant in forested areas, established either through natural community succession or through artificial regeneration (i.e., pine plantations). Where periodic fires have been suppressed, hardwoods such as water oak (*Quercus nigra*) and sweetgum (*Liquidambar styraciflua*) encroach upon the landscape to form a mixed forest community (Moody AFB 2008).

Wildlife. Moody AFB supports a broad array of wildlife occurring in the various habitats present at the installation, including upland and wetland communities, ecotonal or edge habitats, and aquatic habitats including the open waters of Mission Lake. Thirty-four species of mammals have been reported occurring at the installation by Moody AFB (2008). Among these are common and generally distributed species such as opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), gray fox (*Urocyon cinereoargenteus*), gray squirrel (*Sciurus carolinensis*), fox squirrel (*S. niger*), eastern cottontail rabbit (*Sylvilagus floridanus*), white-tailed deer (*Odocoileus virginianus*), and various small rodents. A survey for bats was conducted at Moody AFB including two locations proximate to Stone Road at Mission Lake (Moody AFB 2001). Three species of bats were captured using mist-nets, Seminole bat (*Lasiurus seminolus*), evening bat (*Nycticeius humeralis*), and southeastern bat (*Myotis austroriparius*), the latter a species of concern in Georgia. Mist-net surveys at other locations on the installation captured four more species, little brown bat (*Myotis lucifugus*), red bat (*Lasiurus borealis*), eastern pipistrelle or tri-colored bat (*Pipistrellus subflavus*), and northern yellow bat (*Lasiurus intermedius*), the latter also a species of concern in Georgia. Another survey focusing on species of concern at Mission Lake confirmed southeastern myotis foraging and roosting in the area around the lake (Moody AFB 2004b).

A total of 169 species of birds has been reported occurring at the installation by Moody AFB (2008). Species common to the region and therefore likely to occur in the vicinity of Mission Lake include northern bobwhite (*Colinus virginianus*), red-shouldered hawk (*Buteo lineatus*), downy woodpecker (*Picoides pubescens*), red-bellied woodpecker (*Melanerpes carolinus*), flicker (*Colaptes auratus*), American crow (*Corvus brachyrhynchos*), Carolina chickadee (*Poecile carolinensis*), tufted titmouse (*Baeolophus bicolor*), blue-gray gnatcatcher (*Polioptila caerulea*), brown-headed nuthatch (*Sitta pusilla*), white-eyed vireo (*Vireo griseus*), Carolina wren (*Thryothorus ludovicianus*), common grackle (*Quiscalus quiscula*), and eastern towhee (*Pipilo erythrophthalmus*); other species occurring seasonally include yellow-billed cuckoo (*Coccyzus americanus*), ruby-throated hummingbird (*Archilochus colubris*), ruby-crowned kinglet (*Regulus calendula*), red-eyed vireo (*Vireo olivaceus*), northern parula (*Parula americana*), summer tanager (*Piranga rubra*), and white-throated sparrow (*Zonotrichia albicollis*). Bald eagles are observed occasionally at Moody AFB, foraging in wetlands of the installation, and are known to nest at the Grassy Pond Recreation Annex (GPRA). Bald eagles were recently delisted by the USFWS from protection under the ESA, but continue to receive special protection under the Bald and Golden Eagle Protection Act (BGEPA), as well as the

Migratory Bird Treaty Act (MBTA). Management of bald eagles has been primarily focused on the protection of the single nest tree at GPRA and improvement of foraging resources in Grassy Pond (Moody AFB 2008).

Thirty-eight reptiles and 24 amphibians have been reported occurring at the installation by Moody AFB (2008). Among these include species such as eastern box turtle (*Terrapene carolina carolina*), eastern fence lizard (*Sceloporus undulatus*), southeastern five-lined skink (*Eumeces inexpectatus*), canebrake (timber) rattlesnake (*Crotalus horridus atricaudatus*), black racer (*Coluber constrictor*), eastern indigo snake (*Drymarchon couperi*), little grass frog (*Pseudacris ocularis*), squirrel tree frog (*Hyla squirella*), eastern spadefoot toad (*Scaphiopus holbrooki*), gopher tortoise (*Gopherus polyphemus*), and an assortment of other lizards, frogs, and toads (Moody AFB 2008). In addition, Mission Lake supports wildlife species with more aquatic habits including American alligator (*Alligator mississippiensis*), bullfrog (*Rana catesbeiana*), and snapping turtle (*Chelydra serpentina*).

Threatened and Endangered Species. In a letter dated February 2nd, 2011, the USFWS noted a record of a gopher tortoise (*Gopherus polyphemus*) burrow near the archery range north of Stone Road and close to the project area (see Appendix A). The eastern population of gopher tortoise is currently under review for listing by the USFWS, and is state-listed threatened in Georgia. A small colony of tortoises once existed in the area of the archery range along Stone Road consisting of 8 burrows, of which 5 were active. However, the colony was relocated to facilitate the construction of a boundary fence for the installation. Three adult and two subadult tortoises were captured and relocated to a larger colony and their burrows destroyed (Moody AFB 2004). Subsequently, no gopher tortoises are known to occur along the Stone Road corridor.

The USFWS advised further that pedestrian surveys be conducted in suitable habitat during the appropriate season. As part of their Integrated Natural Resource Management Plan (INRMP), Moody AFB conducts pedestrian surveys annually to identify gopher tortoise burrows, and records the locations in a GIS database (Moody AFB 2008). Based on these surveys, specific management plans have been developed to enhance and improve the habitat for gopher tortoise populations, and are included in Appendix 3 of the installation's INRMP. In fact, most of the management for rare, threatened, and endangered species at Moody AFB is primarily directed towards the gopher tortoise population (Moody AFB 2008).

Eastern indigo snake (*Drymarchon couperi*) is both a federal and state-listed threatened species. Because of their close association with gopher tortoises and their burrows, eastern indigo snakes are often found in the same kinds of habitats. Eastern indigo snakes are known to occur at Moody AFB, but confirmed observations have mainly been within southern portion of the Grand Bay Range (Moody AFB 2008). A survey for this species was conducted in known gopher tortoise habitat throughout the installation during 2002, but no eastern indigo snakes were observed or collected (Moody AFB 2002). Management consideration for this species at Moody AFB is largely based on enhancing and improving habitat for the gopher tortoise (Moody AFB 2008).

The USFWS also referred to their on-line resource for listed species of Lowndes County for additional information. Table 3-1 summarizes species that are federally-listed or under review for listing by the USFWS known to occur in Lowndes County, Georgia.

Table 3-1. Federally-listed species occurring in Lowndes County, Georgia		
Species	Status	Notes on Occurrence at Moody AFB
Bald eagle <i>Haliaeetus leucocephalus</i>	Delisted	Nesting occurs at GPRA and occasionally observed at Moody AFB; protected under BGEPA and MBTA.
Red-cockaded woodpecker <i>Picoides borealis</i>	FE	Surveys did not identify this species at Moody AFB; no suitable habitat present.
Wood stork <i>Mycteria americana</i>	FE	Known to utilize the area during migration including Grand Bay.
Alligator snapping turtle <i>Marcrolemys temminckii</i>	Under Review	Known to occur at Moody AFB; surveys at Mission Lake did not observe or capture any turtles
Eastern indigo snake <i>Drymarchon couperi</i>	FT	Known to occur at Moody AFB, but unreported at Mission Lake
Gopher tortoise <i>Gopherus polyphemus</i>	Under Review	Known to occur at Moody AFB; colony relocated from archery range area.
FE – federally endangered; FT – federally threatened Source: http://www.fws.gov/athens/endangered/counties/lowndes_county.html Note: Online list last updated May 2004; subsequently, bald eagle has been delisted by the USFWS.		

In a letter dated February 3, 2011, the Georgia DNR, Wildlife Resources Division provided a review of known occurrences of natural communities, plants, and animals of highest priority conservation status in the vicinity of the proposed project area (see Appendix A). Table 3-2 provides a summary of the state-listed species identified the agency. The review indicated there were no records of high priority species or habitats within the project area. Gopher tortoise was identified as occurring very near the project corridor, and frosted flatwoods salamander and eastern indigo snake within 3 miles of the project. Additional surveys for these and other species of concern were recommended. As indicated above, Moody AFB has conducted surveys for gopher tortoise and eastern indigo snake and actively manages habitat for their enhancement and protection. From 2002 to 2005, surveys were conducted for the frosted flatwoods salamander as well as for striped newt (*Notophthalmus perstriatus*), but neither species was identified in wetlands of the installation (Moody AFB 2005c). In addition, GA DNR identified important conservation areas nearby including a wading bird nesting colony 1.0 mile to the east and Grand Bay Wildlife Management Area 0.5 mile to the south.

Table 3-2. State-listed species identified by GA DNR that are known to occur in the vicinity of Stone Road at Mission Lake			
Species	State Status	State Rank	Approximate Location from Proposed Action
Savanna Cowbane <i>Oxypolis ternata</i>		S2	1.5 mi. southeast
Bluff White Oak <i>Quercus austrina</i>		S3?	2.5 mi. east
Yellow Flytrap <i>Sarracenia flava</i>	SU	S3S4	1.5 mi. northeast
Hooded Pitcherplant <i>Sarracenia minor var. minor</i>	SU	S4	1.5 mi. southeast
Three-birds Orchid <i>Triphora trianthophora</i>		S2?	2.5 mi. east
Greenfly Orchid <i>Epidendrum magnoliae</i>	SU	S3	2.0 mi. east
Eastern Mudminnow <i>Umbra pygmaea</i>		S2S3	2.5 mi. east
Broad-striped Dwarf Siren <i>Pseudobranchius striatus striatus</i>		S3	2.0 mi. east
Frosted Flatwoods Salamander <i>Ambystoma cingulatum</i>	ST	S2	2.0 mi. west
Gopher Tortoise <i>Gopherus polyphemus</i>	ST	S2	0.4 mi. southeast and 1.5 mi. northeast
Eastern Indigo Snake <i>Drymarchon couperi</i>	ST	S3	1.5 and 2.5 mi. east
Striped Crayfish Snake <i>Regina alleni</i>		S2	0.5 and 1.5 mi. southeast
Florida Sandhill Crane <i>Grus canadensis pratensis</i>		S1	1.0 mi. north and 1.5 mi. southwest
Glossy Ibis <i>Plegadis falcinellus</i>		S2	1.5 mi. south
American Bittern <i>Botaurus lentiginosus</i>		S3?	0.5 and 1.5 mi. south
Yellow-crowned Night-heron <i>Nyctanassa violacea</i>		S3S4	1.5 mi. south and 2.5 mi. northeast
Migrant Loggerhead Shrike <i>Lanius ludovicianus migrans</i>		S3	2.0 mi. northeast and 0.5 mi. north
ST – state threatened; SU – status uncertain; S1 – state critically imperiled; S2 – state imperiled; S3 – state rare; S4 – apparently secure in state; ? – denotes questionable rank Source: http://www.georgiawildlife.com/conservation/species-of-concern?cat=conservation			

3.8.3 Environmental Consequences

3.8.3.1 Preferred Alternative

Under the Preferred Alternative, there would be no significant effects on biological resources that include wildlife and vegetation, and rare, threatened, and endangered species and their habitats at Moody AFB. The widening of Stone Road from the Magnolia Grove Gate to Mission Lake would affect primarily areas adjacent to an existing roadway, which do not have value for wildlife or important vegetation resources. The edges of several wooded areas would be affected and a portion of Mission Lake along its southern shore; however the dam of the lake would be stabilized from the effects of erosion. Gopher tortoises formerly inhabited the area, but are no longer known to occur within the Stone Road corridor.

3.8.3.2 Alternative 1

Under Alternative 1, the potential effects on biological resources would be the same as for the Preferred Alternative and therefore not significant.

3.8.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove Gate to Mission Lake. Consequently, there would be no effects on biological resources at Moody AFB.

3.9 AIR QUALITY

3.9.1 Definition of the Resource

The EPA sets the National Ambient Air Quality Standards (NAAQS) as required by the Clean Air Act (CAA), last amended in 1990 (40 CFR part 50; Table 3-3). NAAQS for pollutants are defined at two levels. Primary standards are defined to protect public health, especially the health of sensitive individuals, including people with asthma, children, and the elderly. Secondary standards are defined to protect public welfare, which includes guarding against decreased visibility, harm to animals and plants, and damage to buildings.

As shown in Table 3-3, NAAQS have been set for seven principal or “criteria” pollutants: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), particulate matter (PM; coarse particles as PM₁₀ and fine particles as PM_{2.5}), ozone (O₃), and sulfur dioxide (SO₂). The NAAQS for pollutants are defined as maximum levels based on volume and are quantified over a specified averaging time (e.g., 8-hour, annual mean). Areas that exceed NAAQS are referred to as nonattainment areas for that pollutant and are subject to federal oversight.

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon monoxide (CO)	9 ppm (10 mg/m ³)	8-hour ^(a)	None	
	35 ppm (40 mg/m ³)	1-hour ^(a)		
Lead (Pb)	0.15 µg/m ³ ^(b)	Rolling 3-Month Average	Same as Primary	
		Quarterly Average	Same as Primary	
Nitrogen dioxide (NO ₂)	0.053 ppb ^(c)	Annual (Arithmetic Average)	Same as Primary	
		100 ppb	1-hour ^(d)	None
Particulate matter (PM ₁₀)	150 µg/m ³	24-hour ^(e)	Same as Primary	
Particulate matter (PM _{2.5})	15.0 µg/m ³	Annual ^(f) (Arithmetic Average)	Same as Primary	
		35 µg/m ³	24-hour ^(g)	Same as Primary
Ozone (O ₃)	0.075 ppm (2008 std)	8-hour ^(h)	Same as Primary	
	0.08 ppm (1997 std)	8-hour ⁽ⁱ⁾	Same as Primary	
	0.12 ppm	1-hour ^(j)	Same as Primary	
Sulfur dioxide (SO ₂)	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour ^(a)
		0.14 ppm	24-hour ^(a)	
	75 ppb ^(k)	1-hour	None	

^(a) Not to be exceeded more than once per year.
^(b) Final rule signed October 15, 2008.
^(c) The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard.
^(d) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).
^(e) Not to be exceeded more than once per year on average over 3 years.
^(f) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.
^(g) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).
^(h) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm (effective May 27, 2008).
⁽ⁱ⁾ (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
(b) The 1997 standard – and the implementation rules for that standard – will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
(c) EPA is in the process of reconsidering these standards (set in March 2008)[please move below (b)].
^(j) (a) EPA revoked the 1-hour standard in all areas, although some areas have continuing obligations under that standard (“anti-backsliding”).
(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1.
^(k) (a) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

Source: <http://epa.gov/air/criteria.html> (accessed January 12, 2011)

3.9.2 Affected Environment

Moody AFB is under the jurisdiction of the GA DNR, Environmental Protection Division (EPD), Air Protection Branch, and EPA Region IV. In general, areas of the state where air pollution levels persistently exceed the national ambient air quality standards (NAAQS) for criteria pollutants may be designated “nonattainment,” while areas meeting the NAAQS may be designated “attainment.” Moody AFB is in Lowndes County, which is classified as an attainment area for all criteria pollutants. Thus, the state has no unique/geographical restrictions on sources of air pollution in the Moody/Valdosta area, although state-wide regulations apply (Moody AFB 2009). Because Moody AFB is in an area that is in attainment for all criteria pollutants, no conformity determination is required.

In accordance with the CAA, as administered by the State of Georgia and U.S. Air Force policies, Moody AFB operates under Synthetic Minor Permit No. 9711-185-0029-S-02-0 issued July 2004 by the EPD. The air permit sets limits on criteria air pollutant (CAP) and hazardous air pollutant (HAP) emissions from the stationary sources of air pollution at the base to keep those emissions below “Title V” air permit thresholds (typically 100 tons/year). The term “Synthetic Minor” refers to the fact that Moody would be a major source of air pollution if all equipment were permitted to operate at maximum capacity; however, Moody AFB has agreed to restricted use of some equipment to artificially remain below the major source threshold (Moody AFB 2009). Moody AFB (2009) conducted recently an air emissions inventory, which indicated the installation was within all limitations of its air permit (Table 3-4).

Table 3-4. Air Summary of Base-wide Air Pollution Emissions (Moody AFB 2009)		
Pollutant	Annual Emissions (tpy)	
	Actual	Permit
Carbon monoxide (CO)	52.5	98
Nitrogen oxides (NO _x)	10.4	95
Particulate matter (PM)	7.7	100 *
Sulfur dioxide (SO ₂)	0.2	98
Volatile organic compounds (VOCs)	37.9	66
Lead (Pb)	0.0	10 *
Hazardous air pollutants (HAPs)	3.9	15
Ozone depleting substances (ODS)	0.1	98

* The permit does not explicitly limit tons/year for these pollutants. These values are the thresholds to remain a synthetic minor (i.e., avoid a major source/Title V permit).

3.9.3 Environmental Consequences

3.9.3.1 Preferred Alternative

Under the Preferred Alternative, there would not be significant effects to air quality at Moody AFB. Although, the widening of Stone Road would result in releases of air pollutants during road construction and asphalt paving, these would be temporary and of limited duration daily. Since the project does not include the establishment of any permanent sources of air emissions, no modifications to the existing air permit would be required. Although the amount of traffic is expected to increase on Stone Road, especially after the opening of the new Main Gate, the number of vehicles occurring daily at Moody AFB would not change. Therefore, even though the traffic pattern at the base may change, there would not be an increase in non-stationary air emission on the installation.

3.9.3.2 Alternative 1

Under Alternative 1, the potential effects on air quality would be the same as for the Preferred Alternative; therefore no significant impacts to air quality would occur at Moody AFB.

3.9.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove Gate to Mission Lake. Consequently, there would be no effects on air quality at Moody AFB.

3.10 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.10.1 Definition of the Resource

Socioeconomics comprises the basic attributes and resources associated with the human environment, particularly population and economic activity within a region of influence (ROI). Economic activity typically encompasses employment, personal income, and economic growth. Impacts on these fundamental socioeconomic components also influence other issues such as housing availability and the provision of public services. To illustrate local baseline conditions, socioeconomic data provided in this section consist primarily of county-level and city-level data for the areas surrounding Moody AFB.

In 1994, EO 12898, *Federal Actions to Address Environmental Justice in Minority and Low- Income Populations* (Environmental Justice), was issued to focus the attention of federal agencies on human health and environmental conditions in minority and low-income communities. EO 12898 aims to ensure that disproportionately great and adverse effects on human health or the environment in these communities are identified and addressed. The environmental justice analysis focuses on the distribution of race and poverty status in areas that could be affected by implementing the Proposed Action.

For the purpose of this analysis, minority and low-income populations are defined as:

- *Minority Populations:* All categories of non-white population groups as defined in the U.S. Census, including African American, Hispanic, American Indian and Alaska Native, Asian or Pacific Islander, and other groups.
- *Low-Income Populations:* Persons living below the poverty level, as defined by the 2000 Census.

Children may suffer disproportionately from environmental health risks and safety risks; therefore, EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, was introduced in 1997 to prioritize the identification and assessment of environmental health risks and safety risks that may affect children and to ensure that federal agency policy, programs, activities, and standards address environmental risks and safety risks to children. This section identifies the distribution of children and locations where the number of children in the affected area may be proportionately high (e.g., schools, childcare centers).

3.10.2 Affected Environment

The ROIs for socioeconomics in the area surrounding Moody AFB are the City of Valdosta and Lowndes County. The populations of Lowndes County and City of Valdosta have steadily increased over the past two decades at approximately 1.25% per year (Table 3-5). Over this time, the population of Valdosta has accounted for roughly half of the population of the surrounding Lowndes County. Although part of Moody AFB extends into Lanier County to the east, the populations of Lowndes County and its principal city of Lakeland were considerably lower (estimated at 8,423 and 2,671, respectively during 2009).

Area	1990 Census	2000 Census	2009 est.
Lowndes County	75,981	92,115	106,814
City of Valdosta	39,806	43,724	52,169
Source: USCB 2011			

According to estimates by the U.S. Census Bureau (USCB) over the 5 year period between 2005 and 2009, the City of Valdosta had 22,623 housing units of which 89.6% were occupied either by owner or renter. The median home value was \$119,300 and the average household size was 2.35. Similar estimates for Lowndes County were 44,380 housing units of which 90.5 % were occupied and a somewhat higher median home value at \$124,700; the average household size was 2.44. The most recent Economic Impact Statement from Moody AFB for FY2008 reported 5,272 military personnel, 653 civilians, and 5,858 dependents for a total of 11,781 personnel at the base (<http://www.moody.af.mil/>).

3.10.3 Environmental Consequences

3.10.3.1 Preferred Alternative

Under the Preferred Alternative, small but temporary beneficial effects would occur to socioeconomic conditions in the Moody AFB region, owing to the minor increase in labor, equipment, and materials that would be needed during construction and paving for Stone Road widening. Following completion of the project, socioeconomic conditions would return to their current level. Implementation of the Preferred Alternative would have no significant bearing on circumstances relating to environmental justice in the region. The proposed project would have no adverse effects on minority or low-income communities; nor would it pose any additional environmental risk to the health and safety of children of children in the vicinity of the installation.

3.10.3.2 Alternative 1

Under Alternative 1, the potential effects on socioeconomics and environmental justice would be the same as for the Preferred Alternative; therefore no significant effects would occur to these resources at Moody AFB under this alternative.

3.10.3.3 No Action Alternative

Under the No Action Alternative, Stone Road would not be widened where it extends from the Magnolia Grove Gate to Mission Lake. Consequently, there would be no effects on socioeconomics and environmental justice at Moody AFB.

4 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

4.1 CUMULATIVE IMPACTS

Cumulative impacts to environmental resources result from incremental effects of proposed actions when combined with other past, present, and reasonably foreseeable future projects in the region of influence (ROI), which in this case refers to Moody AFB and the surrounding area of Lowndes County. Cumulative impacts can result from individually minor, but collectively substantial actions undertaken over a period of time by various agencies (Federal, State, and Local) or individuals. In accordance with NEPA, a discussion of cumulative impacts resulting from projects that are proposed, or anticipated over the foreseeable future, is required.

4.1.1 Past, Present, and Reasonably Foreseeable Action in the ROI

On occasion, Moody AFB undertakes projects involving the construction of new facilities, improvements to facilities, and infrastructural upgrades, of the sort that regularly occur at military installations. Only a few projects in recent past have entailed major construction activities at Moody AFB. Recent construction activities have included the Consolidated Base Support Center, Child Development Center, and Housing Privatization including the Magnolia Grove housing area immediately south of the proposed project area. Other recent past and current construction projects have been at a similar scale with these kinds of projects, thus having a similar level of impact to environmental resources. An upcoming event that will have a significant effect on Stone Road will be the opening of the new Main Gate. This new entryway to the base will bring vehicle traffic directly onto Stone Road.

A previous action widened the remaining part of Stone Road, to the west of the proposed project area, and connecting to Burma Road to the north. Similar to the Proposed Action, the project widened this part of Stone Road from 20 feet to 24 feet and added shoulders and a sidewalk. The project was undertaken mainly to meet increased traffic use of this section of Stone Road from the new Magnolia Grove housing facility to the south. Another recent action, similar in context to the Proposed Action, was the widening of Bemiss Road (State Route 125), which is the main highway to the west that accesses Moody AFB and its surroundings. For this project, an 8.8 mile section of the highway was widened from Valdosta to just north of Moody AFB. The project consisted of separating the existing four lane road with a 20-foot wide, concrete median. Left turn lanes were constructed in the median, including lanes providing access to the base.

A foreseeable action scheduled for development in the near future affects Burma Road in close proximity to the current project. Burma Road would be realigned southeast of Stone Road at Mission Lake, where it extends south of the runways. The project would affect approximately 7,200 linear feet of Burma Road and construct a new roadway that extends off Moody AFB property in order to avoid a landfill monitoring well area. The project would also construct a jogging track along the roadway corridor that would affectively be continuous with that of the

currently Proposed Action. The impacts associated with this project would be similar to that of the Proposed Action. Temporary minor impacts would occur to air quality during construction. There may be an impact to wetlands and waters of the U.S., and if so, this would require a permit and FONPA. Safety would be enhanced by realigning the roadway away from the runway and recreational opportunities would increase by the extension of the jogging track.

4.1.2 Analysis of Cumulative Impacts

In summary, none of the potential impacts of the Proposed Action are individually significant. The incremental contribution of impacts of the Proposed Action, when considered in combination with other past, present and reasonably foreseeable actions would not be significant, provided appropriate permits are obtained and mitigative provisions are followed (e.g., Section 404 permit for impacts to wetlands and Waters of the U.S.). Instead, overall there are likely to be beneficial impacts from the Proposed Action that would complement other regional actions. As noted above, the new Main Gate to Moody AFB will direct incoming traffic onto Stone Road, which will likely increase vehicle use of the section of Stone Road affected by the Proposed Action. Stone Road, in its present narrow configuration, is already unsafe for both vehicles and pedestrians. Although this was not a major concern because of its limited use, the new traffic pattern that develops after the opening of the new Main Gate would benefit significantly from the effects of the Proposed Action. By providing a separate pedestrian walkway/jogging trail, the Proposed Action would enhance recreational opportunities at Moody AFB that complement existing resources. When completed, the trail would link on both ends to other walkways, thus enabling a continuous circuit of the Mission Lake area via Stone Road and Burma Road. Although the socioeconomic benefits from the Proposed Action would be small and temporary, projects such of this sort would continue to support road building and construction employment within the region. Finally, the widening of Stone Road would stabilize Mission Lake dam, which has been subject to erosion and therefore could become unsafe in the future.

4.2 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

NEPA CEQ regulations require environmental analyses to identify any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented (40 CFR Section 1502.16). Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Non-renewable resources that would be consumed by the proposed action include road-building materials such as gravel and asphalt, and gasoline used to operate construction equipment.

The Proposed Action would not have irreversible impacts because future options for using the areas affected by the project would remain possible. Although the road widening would alter areas that currently include maintained open land, forest edge, and a portion of Mission Lake, these areas could always be redeveloped for alternative uses in the future. Therefore, no loss of future options would occur as a result of the Proposed Action. The principal irretrievable

impacts of the Proposed Action would involve the use of energy, labor, materials, and funds to complete the project, and the conversion of some undeveloped lands and a portion of Mission Lake to roadway corridor. However, the direct losses of biological productivity and the use of natural resources from these impacts would be negligible, considering the limited extent of the project and the ubiquitous natural resources present at Moody AFB.

5 PROCEDURAL REQUIREMENTS AND SPECIAL MITIGATIONS

Impact assessments presented in this EA have determined that no significant environmental effects would be expected to occur as a result of the implementation of the Proposed Action at Moody AFB. This determination is based upon a thorough review and analysis of existing information on environmental and human resources, and coordination with knowledgeable personnel from Moody AFB, and local, state, and federal agencies. However, this determination is also contingent on Moody AFB working through the appropriate federal, state, and local agencies to complete the following procedures so that no special mitigations would be required.

- If the Proposed Action affects not more than 1 acre of Mission Lake and associated wetlands as Waters of the U.S., the project may qualify for a Regional Permit (RP) from the USACE, Savannah District for minor discharges for the construction of roads and bridges. Use of a RP would require pre-construction notification (PCN) as well as satisfying a number of other conditions. Compensatory mitigation is required for some adverse impacts affecting wetlands and streams, however, the USACE has discretion to determine if work would result in an impact to or a loss of Waters of the U.S. If the Proposed Action affects more than 1 acre of Waters of the U.S., then an Individual Permit would be required from the USACE, Savannah District.
- The Proposed Action would require coverage under State of Georgia General Permit No. GAR100002, *Authorization to Discharge Under the National Pollutant Discharge Elimination System Storm Water Discharges Associated with Construction Activity for Infrastructure Construction Projects*. The provisions of the permit would need to be followed including submitting a Notice of Intent to the Southwest District Office of the GA DNR Environmental Protection Division and the Lowndes County Engineering Department, conducting water monitoring and maintenance, implementing an Erosion, Sedimentation, and Pollution Control Plan, and issuing a Notice of Termination upon completion of the project.
- As standard practice for Moody AFB, the Proposed Action would be implemented in accordance with the Georgia Erosion and Sedimentation Control Act, which is applicable to projects with more than one acre of land disturbance. A Disturbance Permit would be obtained from Lowndes County and an Erosion, Sedimentation, and Pollution Control Plan would be submitted at the same time.
- If the Proposed Action was to proceed under the Preferred Alternative, a Finding of No Practicable Alternative (FONPA) would not be required under Executive Order 11990, *Protection of Wetlands*; however if Alternative 1 was followed, a FONPA would be required with approval by Air Combat Command (ACC), prior to any disturbances of wetlands.
- The Proposed Action is not expected to result in adverse impacts to cultural resources; a determination that has already been endorsed by the SHPO. However, in

the event that construction/excavation activities uncover unexpected archaeological materials in these areas, construction would cease until the materials could be properly evaluated, and the resources could be managed in compliance with federal law and DoD regulations.

- The Proposed Action has the potential to affect an ERP site that was formerly used as a landfill area. As a precaution in this area, soil testing would be conducted prior to construction or excavation activities associated with road widening; soil testing would also incur additional costs to the construction project. In addition, if any of the groundwater monitoring wells at the site are to be disturbed, monitoring should be conducted prior to road construction. Monitoring would be performed by the ERP for any impacted wells that need to be abandoned and replaced, which would also incur additional project construction costs. Well abandonment and installation procedures must meet State of Georgia standards and be performed by a water-well contractor that is licensed by the state. Otherwise, if contaminated media (e.g., soil, groundwater) are encountered during the course of site preparation or development for the widening project, it would be segregated for offsite disposal. Contractors would be notified during the scoping process for the project about the nature and extent of known contamination so that they can inform their employees in advance of onsite activities and take appropriate precautions to protect their health and safety and to prevent the spread of contamination. Finally, approval of an ERP construction waiver may need to be obtained prior to any land disturbance on or near the ERP site.

6 PERSONS AND AGENCIES CONTACTED

Rebecca M. Lopez
Environmental Planner
Moody AFB

Robert L. Jefferson
Chief, Asset Optimization
Moody AFB

William Bryan
Chief Engineer
Moody AFB

Lori M. Burnam
Restoration Program Manager
Moody AFB

Harry Hughes
Project Engineer
Moody AFB

Gregory W. Lee
Chief, Environmental Management Element
Moody AFB

Diondra Nichols
Community Planner
Moody AFB

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7 LIST OF PREPARERS

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B.S. Biology

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NEPA Program Manager
Ph.D. Biology (Ecology)

Douglas Kennedy
Senior Engineer
PE, B.S. Civil Engineering

Kristine Sillett
Senior Biologist
M.S. Biology

Steven Harriott
Professional Wetland Scientist
M.S. Environmental Studies (Botany)

Carol DeLisle
Technical Writer and Editor
B.S. Biology

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8 REFERENCE CITATIONS

- Lowndes County. 2010. Lowndes County Unified Land Development Code (ULDC). <http://www.lowndescounty.com/content/government/c224/misc/uldc-adopteddraft-nov-09-10.pdf>
- Moody Air Force Base (AFB). 2001. Survey for Bats on Moody Air Force Base, Lowndes and Lanier Counties, Georgia. Prepared by BHE Environmental, Inc., 7041 Maynardville Hwy, Knoxville, TN 37918; February 7, 2001.
- Moody Air Force Base (AFB). 2002. Eastern Indigo Snake Survey, Moody Air Force Base, Lowndes and Lanier Counties, Georgia. Prepared by BHE Environmental, Inc., 11733 Chesterdale Road, Cincinnati, OH 45246; September 16, 2002.
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- Moody Air Force Base (AFB). 2005c. Flatwoods Salamander and Striped Newt Survey of Moody Air Force Base, Georgia: 2002-2005. Prepared by John G. Palis, P.O. Box 387, Jonesboro, Illinois 62952. April 2005.
- Moody Air Force Base (AFB). 2006. Integrated Cultural Resources Management Plan, Moody Air Force Base, Lanier and Lowndes County, Georgia. Prepared by New South Associates, 6150 East Ponce de Leon Avenue, Stone Mountain, Georgia. December 2006.
- Moody Air Force Base (Moody AFB). 2007a. Base Realignment and Closure Commission (BRAC) Environmental Assessment, Moody Air Force Base, Georgia. September 2007.
- Moody Air Force Base (AFB). 2007b. Wetland Delineation Report, Moody Air Force Base, Lowndes and Lanier Counties, Georgia. Prepared for Moody Air Force Base United States Air Force - Air Combat Command. August 2007.
- Moody Air Force Base (AFB). 2008. Integrated Natural Resources Management Plan, Moody Air Force Base, Georgia, 1 October 2007 through 30 September 2012.

Moody Air Force Base (AFB). 2009. Air Emissions Inventory Report, Moody Air Force Base. Submitted by TEC Inc., 2496 Old Ivy Road, Suite 300, Charlottesville, VA 22903. September, 2009.

Moody Air Force Base (AFB). 2010. Base-wide Construction Storm Water Management Action Plan, Moody Air Force Base, Georgia.

U.S. Geologic Survey (USGS). 2009. Ground-Water Conditions and Studies in Georgia, 2006 – 2007. Scientific Investigations Report 2009–5070. Accessible at <http://pubs.usgs.gov/sir/2009/5070/pdf/sir2009-5070.pdf>

APPENDIX A

**AGENCY CORRESPONDENCE THROUGH
INTERAGENCY AND INTERGOVERNMENTAL COORDINATION
FOR ENVIRONMENTAL PLANNING (IICEP)**

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Summary of comments received through IICEP process		
Agency	Date of Response	Comments
Georgia Department of Natural Resources, Historic Preservation Division (HPD)	February 3, 2011	HPD determined that cultural resources would not be affected by the Proposed Action during early project scoping.
U.S. Department of the Interior, Fish and Wildlife Service (FWS)	February 2, 2011	During early project coordination, FWS provided input on addressing potential risk to Threatened and Endangered (T&E) species and indicated they would review and comment on the Draft EA.
Georgia Department of Natural Resources (DNR), Wildlife Resources Division	February 3, 2011	During early project coordination, DNR provided a list of (T&E) species known to occur within three miles of the project and recommendations for conservation.
Georgia Department of Natural Resources, Environmental Protection Division (EPD)*	August 5, 2011	EPD indicated the project is considered to be consistent with state and local policies and regulations.
U.S. Department of the Interior, Fish and Wildlife Service (FWS)	August 1, 2011	Received email response indicating FWS concerns have been addressed in the EA and the Proposed Action appears to minimize potential impacts to resources.
Lowndes County Board of Commissioners	NA	No comments received.
City of Valdosta	NA	No comments received.
* Agency responded through the Georgia State Clearinghouse review process NA – not applicable		



HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

MEMORANDUM

TO: Frederick Kelley
Environmental Scientist
Versar
9200 Rumsey Road, Suite 100
Columbia, Maryland 21045

FROM: Elizabeth Shirk *ES*
Environmental Review Coordinator
Historic Preservation Division

RE: Finding of "No Historic Properties Affected"

PROJECT: **Moody Air Force Base: Widening of Stone Road up to Forty Feet**
Federal Agency: Air Force
HP-110118-001

COUNTY: Lowndes

DATE: February 3, 2011

The Historic Preservation Division (HPD) has reviewed the information received concerning the above-referenced project. Our comments are offered to assist federal agencies and their project applicants in complying with the provisions of Section 106 of the National Historic Preservation Act, as amended.

Based on the information submitted, HPD has determined that no historic properties or archaeological resources that are listed in or eligible for listing in the National Register of Historic Places will be affected by this undertaking. Please note that historic and/or archaeological resources may be located within the project's area of potential effect (APE), however, at this time it has been determined that they will not be impacted by the above-referenced project. Furthermore, any changes to this project as proposed will require further review by our office for compliance with Section 106.

If we may be of further assistance, please do not hesitate to contact Elizabeth Shirk, Environmental Review Coordinator, at (404) 651-6624. Please refer to the project number assigned above in any future correspondence regarding this project.

ES:mcv

cc: Michael Jacobs, Southern Georgia Regional Commission



United States Department of the Interior

Fish and Wildlife Service

105 West Park Drive, Suite D
Athens, Georgia 30606
Phone: (706) 613-9493
Fax: (706) 613-6059

West Georgia Sub-Office
Post Office Box 52560
Fort Benning, Georgia 31995-2560
Phone: (706) 544-6428
Fax: (706) 544-6419

Coastal Sub-Office
4980 Wildlife Drive
Townsend, Georgia 31331
Phone: (912) 832-8739
Fax: (912) 832-8744

February 2, 2011

Mr. Frederick Kelley
Versar
9200 Rumsey Road, Suite 100
Columbia, Maryland 21045

Re: USFWS File Number 2011-0037

Dear Mr. Kelley:

Thank you for your letter requesting early coordination for the proposed Stone Road widening project on Moody Air Force Base in Lowndes County, Georgia. These comments are provided in accordance with provisions of the Endangered Species Act of 1973, as amended; (16 U.S.C. 1531 *et seq.*) and the Fish and Wildlife Coordination Act (16 U.S.C. 661 *et seq.*) to further the conservation of fish and wildlife resources and their habitat, including federally listed threatened and endangered species.

Because of the Federal trust resources potentially at risk, the environmental review should consider the impact of the project on all uplands and wetlands in the construction corridor. Please conduct pedestrian surveys of suitable habitat during the appropriate season, when the target organism is most apparent or has the highest likelihood of being observed and identified correctly. Surveys for all listed species, and/or sensitive habitats should be conducted by an experienced professional. Survey dates, the names of investigators, and a brief description of techniques should be included in any reports provided under the ESA.

There is a record of a gopher tortoise burrow near Archery Range close to the project area. Many other state and federally protected species are known to occur on or near Moody Air Force Base. Our on-line list for Lowndes County can be found at our website at http://www.fws.gov/athens/endangered/counties/lowndes_county.html. Additionally, we ask that investigators cross-reference our on-line lists with Georgia Department of

Natural Resource's county-wide and quarter quad data, also available on-line at (http://georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/text/html/co_eos/lowndes_print.html).

The impact analysis for the project should include a description of where habitat types to be altered coincide with the habitat requirements of a listed or proposed species. An on-site inspection of the area must be conducted to determine if listed or proposed species are present or occur seasonally.

We appreciate the opportunity to comment during the planning stages of your project, and would like to review the draft Environmental Assessment when it is completed. If you have any additional questions, please write or call our Coastal Georgia Sub Office staff biologist, Christopher Coppola, at 912-832-8739 extension 6.

Sincerely,

A handwritten signature in blue ink that reads "Stuart Colwell".

Sandra S. Tucker
Field Supervisor

A handwritten word "for" in blue ink, positioned to the right of the typed name and title.

cc: USFWS, Athens, Georgia



MARK WILLIAMS
COMMISSIONER

DAN FORSTER
DIRECTOR

February 3, 2011

Frederick Kelley
Environmental Scientist
Versar ESM Operations
9200 Rumsey Road
Suite 100
Columbia, MD 21045

Subject: Known occurrences of natural communities, plants and animals of highest priority conservation status on or near Stone Road Widening, Moody Air Force Base, Lowndes County, Georgia

Dear Mr. Kelley:

This is in response to your request of January 10, 2011. According to our records, within a three-mile radius of the project corridor there are the following Natural Heritage Database occurrences:

Project begin - West End (-83.21595, 30.96301; NAD27):

- US *Ambystoma cingulatum* (Frosted Flatwoods Salamander) [HISTORIC] approx. 2.0 mi. W of site
- GA *Gopherus polyphemus* (Gopher Tortoise) 0.4 mi. SE of site
- Grus canadensis pratensis* (Florida Sandhill Crane) approx. 1.0 mi. N of site
- Lanius ludovicianus migrans* (Migrant Loggerhead Shrike) approx. 2.0 mi. NE of site

Project End - East End (-83.20147, 30.95687; NAD27):

- Botaurus lentiginosus* (American Bittern) approx. 0.5 mi. S of site
- Botaurus lentiginosus* (American Bittern) approx. 1.5 mi. S of site
- US *Drymarchon couperi* (Eastern Indigo Snake) approx. 1.5 mi. E of site
- US *Drymarchon couperi* (Eastern Indigo Snake) approx. 2.5 mi. E of site
- GA *Epidendrum magnoliae* (Greenfly Orchid) approx. 2.5 mi. E of site
- GA *Gopherus polyphemus* (Gopher Tortoise) approx. 1.5 mi. NE of site
- Grus canadensis pratensis* (Florida Sandhill Crane) approx. 1.5 mi. SW of site
- Lanius ludovicianus migrans* (Migrant Loggerhead Shrike) approx. 0.5 mi. N of site
- Nyctanassa violacea* (Yellow-crowned Night-heron) approx. 0.5 mi. S of site
- Nyctanassa violacea* (Yellow-crowned Night-heron) approx. 1.5 mi. S of site
- Nyctanassa violacea* (Yellow-crowned Night-heron) approx. 2.5 mi. NE of site
- Oxypolis ternata* (Savanna Cowbane) [HISTORIC?] approx. 1.5 mi. SE of site

NONGAME CONSERVATION SECTION
2065 U.S. HIGHWAY 278 S.E. | SOCIAL CIRCLE, GEORGIA 30025-4743
770.918.6411 | FAX 706.557.3033 | WWW.GEORGIAWILDLIFE.COM

Plegadis falcinellus (Glossy Ibis) approx. 1.5 mi. S of site
Plegadis falcinellus (Glossy Ibis) approx. 1.5 mi. S of site
Pseudobranchius striatus striatus (Broad-striped Dwarf Siren) approx. 2.0 mi. E of site
Quercus austrina (Bluff White Oak) approx. 2.5 mi. E of site
Regina alleni (Striped Crayfish Snake) approx. 0.5 mi. SE of site
Regina alleni (Striped Crayfish Snake) approx. 1.5 mi. SE of site
GA *Sarracenia flava* (Yellow Flytrap) approx. 1.5 mi. NE of site
GA *Sarracenia minor var. minor* (Hooded Pitcherplant) approx. 1.5 mi. SE of site
Triphora trianthophora (Three-birds Orchid) approx. 2.5 mi. E of site
Umbra pygmaea (Eastern Mudminnow) approx. 2.0 mi. E of site
Wading Bird Colony (Wading Bird Colony) approx. 1.0 mi. E of site
Grand Bay WMA [Department of Natural Resources] approx. 0.5 mi. S of site

* Entries above preceded by “US” indicates species with federal status (Protected, Candidate or Partial Status). Species that are federally protected in Georgia are also state protected; “GA” indicates Georgia protected species.

Recommendations:

We have no records of high priority species or habitats within the project area. However, we have records of *Gopherus polyphemus* (Gopher Tortoise) very near the project corridor. We also have records of two federally listed species, *Ambystoma cingulatum* (Frosted Flatwoods Salamander) [HISTORIC] and *Drymarchon couperi* (Eastern Indigo Snake) within three miles of the proposed project. Please complete surveys to identify tortoises, burrows and other species or habitats of concern before this project begins. Section 9 of the Endangered Species Act states that taking or harming of a listed species is prohibited. We recommend all requestors with projects located near federally protected species consult with the United States Fish and Wildlife Service. For southeast Georgia, please contact Strant Colwell (912-265-9336, ext.30 or Strant_Colwell@fws.gov). In southwest Georgia, please contact John Doresky (706-544-6999 or John_Doresky@fws.gov). In north Georgia, please contact Robin Goodloe (706-613-9493, ext.221 or Robin_Goodloe@fws.gov).

We are also concerned about streams, wetlands and other habitats that could be impacted by the proposed road improvement project. We recommend that stringent erosion control practices be used during construction activities and that vegetation is re-established on disturbed areas as quickly as possible. Silt fences and other erosion control devices should be inspected and maintained until soil is stabilized by vegetation. Please use natural vegetation and grading techniques (e.g. vegetated swales, turn-offs, vegetated buffer strips) that will ensure that the road or ROW does not serve as a conduit for storm water or pollutants into the water during or after construction. These measures will help protect water quality in the vicinity of the project as well as in downstream areas.

Data Available on the Nongame Conservation Section Website

By visiting the Nongame Conservation Section Website you can view the highest priority species and natural community information by Quarter Quad, County and HUC8 Watershed. To access

this information, please visit our GA Rare Species and Natural Community Information page at: <http://www.georgiawildlife.com/conservation/species-of-concern?cat=conservation>

An ESRI shape file of our highest priority species and natural community data by quarter quad and county is also available. It can be downloaded from:

<http://georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/zip/gnhpds.zip>

Disclaimer:

Please keep in mind the limitations of our database. The data collected by the Nongame Conservation Section comes from a variety of sources, including museum and herbarium records, literature, and reports from individuals and organizations, as well as field surveys by our staff biologists. In most cases the information is not the result of a recent on-site survey by our staff. Many areas of Georgia have never been surveyed thoroughly. Therefore, the Nongame Conservation Section can only occasionally provide definitive information on the presence or absence of rare species on a given site. Our files are updated constantly as new information is received. **Thus, information provided by our program represents the existing data in our files at the time of the request and should not be considered a final statement on the species or area under consideration.**

If you know of populations of highest priority species that are not in our database, please fill out the appropriate data collection form and send it to our office. Forms can be obtained through our web site (<http://www.georgiawildlife.com/node/1376>) or by contacting our office. If I can be of further assistance, please let me know.

Sincerely,



Katrina Morris
Environmental Review Coordinator

GEORGIA STATE CLEARINGHOUSE MEMORANDUM
EXECUTIVE ORDER 12372 REVIEW PROCESS

TO: Barbara Jackson
Georgia State Clearinghouse
270 Washington Street, SW, Eighth Floor
Atlanta, Georgia 30334

FROM: MR. F. ALLEN BARNES *F. Allen Barnes*
GA DNR-EPD DIRECTOR'S OFFICE

APPLICANT: Dept. of the Air Force - Moody Air Force Base, GA

PROJECT: Final Draft EA/FONSI: Stone Road Widening at Mission Lake (Moody Air Force Base, GA)

STATE ID: GA110715003

FEDERAL ID:

DATE:

This project is considered to be consistent with those state or regional goals, policies, plans, fiscal resources, criteria for developments of regional impact, environmental impacts, federal executive orders, acts and/or rules and regulations with which this organization is concerned.

This project is not consistent with:

- The goals, plans, policies, or fiscal resources with which this organization is concerned. (Line through inappropriate word or words and prepare a statement that explains the rationale for the inconsistency. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).
- The criteria for developments of regional impact, federal executive orders, acts and/or rules and regulations administered by your agency. Negative environmental impacts or provision for protection of the environment should be pointed out. (Additional pages may be used for outlining the inconsistencies. Be sure to put the GA State ID number on all pages).

This project does not impact upon the activities of the organization.

NOTE: Should you decide to FAX this form (and any attached pages), it is not necessary to mail the originals to us. [770-344-3568]

RECEIVED

AUG 05 2011

GEORGIA
STATE CLEARINGHOUSE

Form SC-3
Aug. 2010

From: Lopez, Rebecca M Civ USAF ACC 23 CES/CEA
[Rebecca.Lopez@moody.af.mil]
Sent: Tuesday, August 02, 2011 7:51 AM
To: Fred S. Kelley
Subject: FW: Final Draft EA for Widening of Stone Rd at Moody AFB

-----Original Message-----

From: Christopher_Coppola@fws.gov [mailto:Christopher_Coppola@fws.gov]
Sent: Monday, August 01, 2011 5:30 PM
To: Lopez, Rebecca M Civ USAF ACC 23 CES/CEA
Subject: Final Draft EA for Widening of Stone Rd at Moody AFB

Rebecca,

I've reviewed the Final Draft Environmental Assessment for the proposed widening of Stone Road. The Service's concerns and comments from the early coordination phase of the project development have been addressed. The Preferred Alternate appears to minimize impacts to protected resources to the greatest extent possible and are unavoidable.

Thank you for the opportunity to provided comments.

Chris

Christopher Coppola
Fish and Wildlife Biologist
Georgia Ecological Services

4980 Wildlife Drive, NE
Townsend, GA 31331
912-832-8739 ext 6