

**DEPARTMENT OF THE AIR FORCE**  
**Eglin Air Force Base, Florida**

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**FINAL**  
**ENVIRONMENTAL ASSESSMENT**  
**TO**  
**RELOCATE AIR FORCE**  
**EXPLOSIVE ORDNANCE**  
**DISPOSAL ADMINISTRATIVE**  
**COMPLEX AT EGLIN**  
**AIR FORCE BASE**



**RCS 03-247 & 05-217**

**October 2006**

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**FINAL FINDING OF NO SIGNIFICANT IMPACT  
FOR  
RELOCATE AIR FORCE EXPLOSIVE ORDNANCE DISPOSAL  
ADMINISTRATIVE COMPLEX  
EGLIN AIR FORCE BASE, FLORIDA**

**RCS 03-247 & 05-217**

**Introduction**

This finding and the analysis upon which it is based were prepared pursuant to the President's Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act as put into effect by 40 Code of Federal Regulations [CFR] 1500-1508 and the U.S. Air Force *Environmental Impact Analysis Process* as effected by 32 CFR Part 989. The Department of the Air Force has conducted an Environmental Assessment (EA) of the probable environmental consequences for the construction of a new Explosive Ordnance Disposal (EOD) complex and the demolition of the previous facility on Eglin Air Force Base, Florida.

**Purpose and Need**

The purpose of the Proposed Action is to provide EOD personnel with a safe work environment and to provide an updated facility with increased storage capacities and display areas.

The Proposed Action is needed to support the Air Armament Center's mission of munitions testing and development. In addition there are special requirements for display areas to store examples of all munitions (inert) that may be found on the test ranges. Additional space is needed to support training and familiarization of personnel with ordnances that may be encountered during various mission activities.

**Description of Proposed Action and Alternatives**

**Proposed Action.** The proposed action, which is also the preferred alternative, is to relocate and construct the new Explosive Ordnance Disposal complex on a wooded vacant lot adjacent to the military dog training facility and kennels. The proposed complex would be a maximum of 17,505 square feet. The structure would consist of a one-story, split-faced, concrete block construction with a sloped metal roof. The complex would also include utilities, parking and landscaping. The complex will consist of areas for inert munitions display and storage, classrooms, work areas, storage areas for munitions maintenance, and operational equipment. The complex would also contain an adjacent parking area and outdoor activity areas. The proposed action also would include demolition of the existing EOD facility (Building 914) and the large asphalt-covered earth berm near it. This existing EOD facility is not centrally located on the base; it is located near the munitions storage area at the north end of the base.

**Alternative Action.** This alternative would construct a new EOD facility in the same general vicinity of the Proposed Action on a vacant parcel on the north side of Nomad Road. All other aspects of this alternative are identical to the Proposed Action.

**The No Action Alternative.** This alternative would continue the current management practice and operation of the EOD facility at its present location. EOD personnel would continue to operate on a daily basis in violation of Air Force safety requirements, as the current inhabited EOD facility is too close to munitions storage facilities.

### **Alternatives Considered But Not Carried Forward**

Several alternatives were considered for the relocated EOD complex. The original proposed location for the relocated EOD complex was near the 96th Civil Engineering main building. This proposed location was finally determined to be too far from the flight line for adequate response times from EOD flight. After elimination of the original proposed location from consideration, a second location was selected. This location, near the apex of runways at Eglin Field, was determined to be too expensive due to lack of proper utilities nearby. In addition, there were siting issues in relation to a nearby antenna array. As a result of these factors, this alternative was also eliminated from consideration.

### **Affected Environment**

The Proposed Action would potentially affect Water Resources, Safety and Occupational Health, Biological Resources, Geology and Soils, Hazardous Materials/Waste and Air Quality.

### **Summary of Anticipated Impacts**

Section 4 of the EA discusses in detail potential environmental consequences to the following resources.

*Water Resources.* There would be no significant water resources impacts from the facility construction. Water use and consumption will not be affected. Construction best management practices will prevent soils and sediments from entering storm water drainage areas.

*Safety and Occupational Health.* There are no significant safety impacts from the facility construction. Since no live ordnance would be stored or utilized at this EOD facility, no Explosive Safety Quantity Distance Zones would be generated. The current EOD facility is in violation of inhabited building safety distance regulations (U.S.C. 10 Section 172 and AFMAN 91-201). The demolition of this structure would eliminate this safety violation. Construction would follow existing Air Force procedures and Occupational Safety and Health Administration regulations. No adverse impacts are anticipated.

*Biological Resources.* There would be no significant impacts to biological resources. The project will require removal of some trees and other vegetation. No threatened and endangered species will be affected.

*Geology and Soils.* There would be no significant soil impacts from the facility construction. Soil disturbance would be short term and confined to the project area. Soil transport offsite will be controlled using construction best management practices including silt fences and hay bales.

*Hazardous Materials/Waste.* Hazardous materials and wastes associated with the demolition of Building 914 and removal of the asphalt-covered berm would be conducted in accordance with existing Air Force procedures. No adverse impacts are anticipated.

*Air Quality.* There would be no significant impacts to air quality. Construction equipment will generate combustive emissions and site preparation will produce fugitive dust. The emissions and dust would be temporary and decrease rapidly with distance from the source.

### **Permits**

*The following permits are required:* 1. Coastal Zone Management Act (CZMA) Negative Determination, 2. Storm Water Facility Design and Construction Permit, 3. Generic Permit for Storm Water Discharge

from Construction Activities that Disturb One or More Acres of Land National Pollutant Discharge Elimination System (NPDES permit), 4. Wastewater Permit: The Air Force and its contractor would be required to obtain a Constructing a Domestic Wastewater Collection/Transmission System (62-604 FAC).

**FINDING OF NO SIGNIFICANT IMPACT**

Based on my review of the facts and the environmental analysis contained in the attached EA and as summarized above, I find the proposed decision of the Air Force to demolish the current EOD facility and to construct a new, relocated EOD facility would not have a significant impact on the human or natural environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of the National Environmental Policy Act, the President's Council on Environmental Quality and 32 CFR Part 989.

Signature



DENNIS D. YATES, Colonel, USAF  
Commander, 96th Civil Engineer Group

13 NOV 06

Date



**FINAL ENVIRONMENTAL  
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TO  
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EXPLOSIVE ORDNANCE  
DISPOSAL ADMINISTRATIVE  
COMPLEX AT EGLIN  
AIR FORCE BASE**

**(RCS 03-247 & 05-217)**

**Submitted to:**

**DEPARTMENT OF THE AIR FORCE  
Eglin Air Force Base, Florida 32542**

**October 2006**



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## ACRONYMS, ABBREVIATIONS, AND SYMBOLS

<b>96 AAC/SEU</b>	Air Armament Center, Range Safety
<b>96 AMDS/SGPB</b>	96 Aerospace Medicine Squadron, Bioenvironmental Engineering Flight
<b>96 CEG/CECP</b>	96 Civil Engineer Group, Bioenvironmental Engineering Flight
<b>96 CEG/CEOC</b>	EOD Flight
<b>96 CEG/CESD</b>	Engineering Flight
<b>96 CEG/CEV-PA</b>	96 Civil Engineer Group, Public Affairs
<b>96 CEG/CEVC</b>	96 Civil Engineer Group, Environmental Compliance Branch
<b>96 CEG/CEVCE</b>	96 Civil Engineer Group, Environmental Engineering Section
<b>96 CEG/CEVCP</b>	Pollution Prevention Section
<b>96 CEG/CEVR</b>	96 Civil Engineer Group, Environmental Restoration Division
<b>96 CEG/CEVH</b>	96 Civil Engineer Group, Cultural Resources Branch
<b>96 CEG/CEVSN</b>	96 Civil Engineer Group, Natural Resources Section
<b>96 CEG/CEVSP</b>	96 Civil Engineer Group, Environmental Analysis Section
<b>AAC</b>	Air Armament Center
<b>AAC/JAV</b>	Legal
<b>AAC/SEOW</b>	Air Armament Center, Weapons Safety
<b>AF</b>	Air Force
<b>AFB</b>	Air Force Base
<b>AFI</b>	Air Force Instruction
<b>AFMAN</b>	Air Force Manual
<b>AICUZ</b>	Air Installation Compatible Use Zone
<b>APZ</b>	Accident Potential Zones
<b>BASH</b>	Bird Aircraft Strike Hazard
<b>BMP</b>	Best Management Practice
<b>CAA</b>	Clean Air Act
<b>CCCL</b>	Coastal Construction Control Line
<b>CEQ</b>	Council on Environmental Quality
<b>CE</b>	Civil Engineering
<b>CFR</b>	Code of Federal Regulations
<b>CO</b>	Carbon Monoxide
<b>CWA</b>	Clean Water Act
<b>CZ</b>	Clear Zone
<b>CZMA</b>	Coastal Zone Management Act
<b>DoD</b>	Department of Defense
<b>DOPAA</b>	Description of Proposed Action and Alternatives
<b>EA</b>	Environmental Assessment
<b>EIAP</b>	Environmental Impact Analysis Process
<b>EO</b>	Executive Order
<b>EOD</b>	Explosive Ordnance Disposal
<b>ESQD</b>	Explosive Safety Quantity Distance
<b>ETS/CEM</b>	Emissions Tracking System/Continuous Emissions Monitoring

## ACRONYMS, ABBREVIATIONS, AND SYMBOLS CONT'D

<b>FAC</b>	Florida Administrative Code
<b>FDEP</b>	Florida Department of Environmental Protection
<b>FHWA</b>	Federal Highway Administration
<b>FONSI</b>	Finding of No Significant Impact
<b>ft<sup>2</sup></b>	Square Feet
<b>FWC</b>	Florida Fish and Wildlife Conservation Commission
<b>HAP</b>	Hazardous Air Pollutant
<b>IRP/AOC</b>	Installation Restoration Program/Area of Concern
<b>ITC</b>	Integrated Training Center
<b>IWR</b>	Impaired Waters Rule
<b>JSF</b>	Joint Strike Fighter
<b>m<sup>2</sup></b>	Square Meters
<b>µg/m<sup>3</sup></b>	Micrograms per Cubic Meter
<b>MS4</b>	Municipal Separate Storm Sewer Systems
<b>NAAQS</b>	National Ambient Air Quality Standards
<b>NEI</b>	National Emissions Inventory
<b>NEPA</b>	National Environmental Policy Act
<b>NHPA</b>	National Historic Preservation Act
<b>NO<sub>x</sub></b>	Nitrogen Oxide
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>OSHA</b>	Occupational Safety and Health Administration
<b>PM</b>	Particulate Matter
<b>PM<sub>10</sub></b>	Particulate Matter Less Than or Equal to 10 Microns in Diameter
<b>PMEL</b>	Precision Measurement Equipment Laboratory
<b>POL</b>	Petroleum, Oil and Lubricants
<b>ppm</b>	Parts per Million
<b>RCW</b>	Red-cockaded Woodpecker
<b>ROI</b>	Region of Influence
<b>SO<sub>2</sub></b>	Sulfur Dioxide
<b>SWPPP</b>	Stormwater Pollution Prevention Plan
<b>USAF</b>	United States Air Force
<b>U.S.C. Sec.</b>	United States Code, Section
<b>UXO</b>	Unexploded Ordnance
<b>VOC</b>	Volatile Organic Compound

# 1. PURPOSE AND NEED FOR PROPOSED ACTION

This Description of Proposed Action and Alternatives (DOPAA) presents the action to be analyzed by the United States Air Force (USAF) in the Environmental Assessment (EA). This document will also present alternatives to the Proposed Action and the criteria used to select the preferred alternative. The major issues to be examined under this action are included in this DOPAA.

## 1.1 PROPOSED ACTION

The U.S. Air Force proposes the construction of a new Explosive Ordnance Disposal (EOD) complex on the southwest side of Nomad Way adjacent to the current military dog training facility and kennels, at Eglin Air Force Base (AFB), Florida (Figure 1-1). The proposed complex would be approximately 17,505 square feet (ft<sup>2</sup>) (1,626 square meters (m<sup>2</sup>)) and would consist of a one-story, split-faced, concrete block building with sloped metal roof and would include utilities, parking and landscaping. The complex would consist of areas for inert munitions display and storage, conference rooms, classrooms, work areas, storage areas for munitions maintenance and operational equipment. The current EOD facility, which would be demolished (Building 914), includes two structures totaling 12,734 ft<sup>2</sup> (1,183 m<sup>2</sup>). The 96 CEG/CEOC Civil Engineer Flight would facilitate demolition and construction activities of the Proposed Action.

## 1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of this action is to construct an EOD complex. This new complex would support the activities of the 96 EOD flight, and would comply with DoD minimum force protection construction standards.

The 96 CEG/CESD EOD flight is made up of non-munitions maintenance Civil Engineering personnel. The Proposed Action is needed for two reasons. The current location at Building 914 is situated within the Explosive Safety Quantity Distance (ESQD) arcs of other ordnance related facilities. According to Public Law (10 United States Code (U.S.C.) Section (Sec.) 172) and Air Force Manual (AFMAN) 91-201 non-munitions facilities may not be located within the ESQD arcs of facilities with munitions. Additionally the existing facility does not have sufficient space to meet the needs of the 96 CEG/CED EOD flight (Table 1-1).

**Table 1-1. Existing Facility/Deficiency Details**

<b>Total Requirement</b>	<b>Square Meters</b>	<b>Square Feet</b>
New Facility	1,301	14,004
<b><u>Existing Inadequate Facilities</u></b>		
Building 914	1,183	12,734
<b><u>Space Deficiency</u></b>		
New Facility area minus Building 914 area	118	1,270
<b><u>Proposed Facility</u></b>		
New Facility at 110% costs	1,431	15,404
New Facility at 125% costs	1,626	17,505

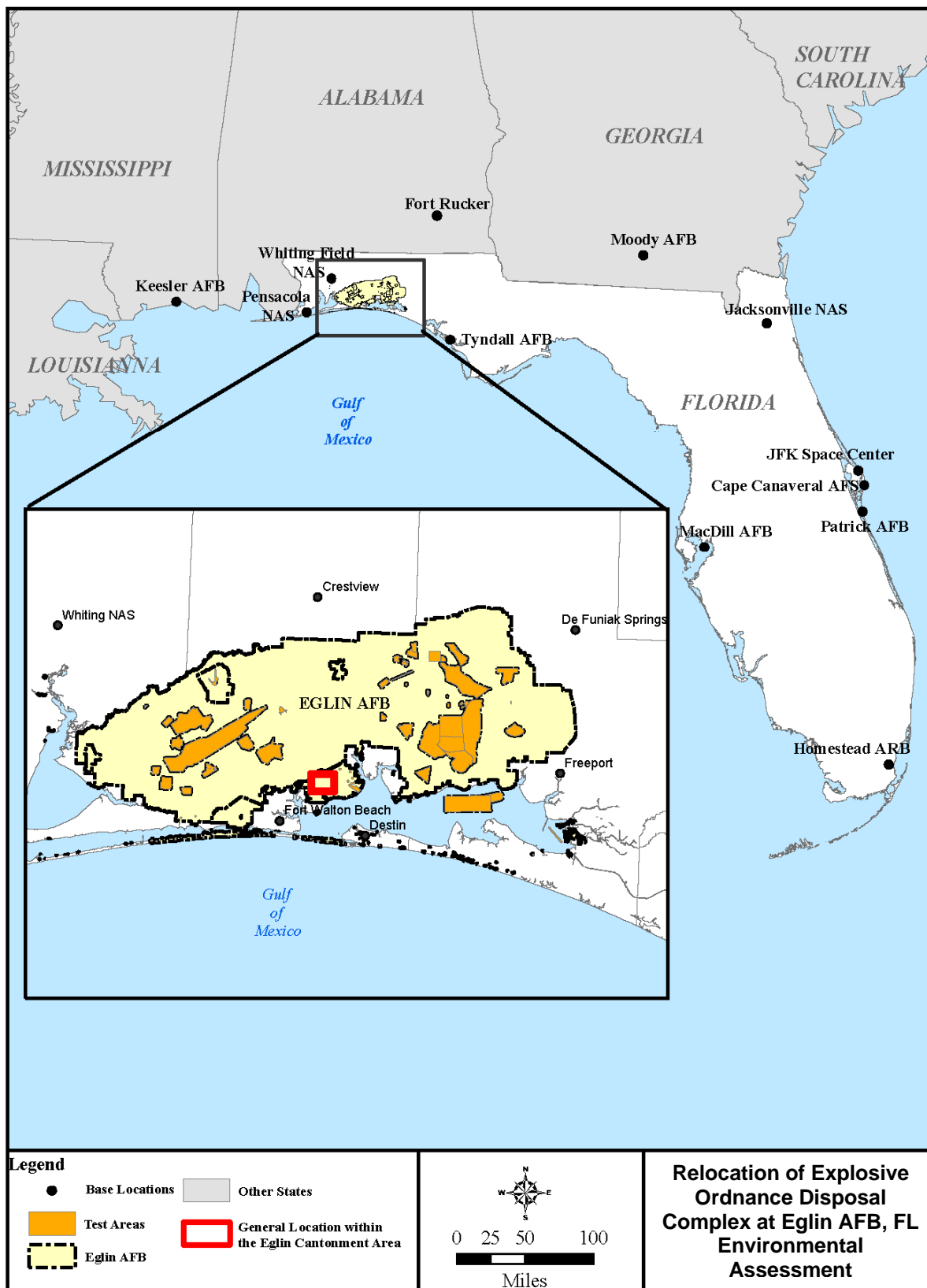


Figure 1-1. General Location of Project Area

### 1.3 RELATED ENVIRONMENTAL ASSESSMENTS

Table 1-2 lists the only previous National Environmental Policy Act (NEPA) document related to this action. This NEPA document was an environmental assessment related to an earlier effort to relocate the EOD facility. The Proposed Action and proposed location are different in this older document than in the current Proposed Action and proposed location. This action was never carried out due to problems with funding and original relocation siting (Rogers, 2006).

**Table 1-2. Related Environmental Assessments**

<b>Title</b>	<b>Control Number</b>	<b>Date</b>	<b>Decision</b>
EOD Complex Construction Project. Eglin Air Force Base, Florida, Final Environmental Assessment	AF Form 813 RCS: RCS 99-232	February 2000	Finding of No Significant Impact (FONSI)

### 1.4 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The United States Air Force proposes to construct a new EOD complex to replace an undersized building which is located in an area that violates current safety regulations. The decision to be made involves selecting a facility location that best supports the EOD flight needs and safety footprint requirements of Eglin AFB.

The National Environmental Policy Act (NEPA), the Council on Environmental Quality (CEQ) regulations of 1978, Title 32 Code of Federal Regulations Part 989 (32 Code of Federal Regulations (CFR) 989), and Air Force Instruction (AFI) 32-7061 require completion of an environmental impact analysis before a decision is made to proceed with the Proposed Action. To initiate the environmental analysis, the proponent submits an Air Force (AF) Form 813, "Request for Environmental Impact Analysis," to the Environmental Management Division, Stewardship Branch, and Environmental Analysis Section (96 CEG/CEVSP). The Proposed Action is then reviewed by the Environmental Impact Analysis Process Working Group, which consists of representatives of the Environmental Analysis Section (96 CEG/CEVSP), the Environmental Compliance Branch (96 CEG/CEVC), the Natural Resources Section (96 CEG/CEVSN), the Cultural Resources Branch (96 CEG/CEVH), Bioenvironmental Engineering Flight (96 AMDS/SGPB), Legal (AAC/JAV), Public Affairs (96 CEG/CEV-PA), and Safety (AAC/SE) functions at Eglin AFB.

#### 1.4.1 Issues Eliminated from Detailed Analysis

The Air Force does not anticipate that the Proposed Action would adversely impact the following parameters. Therefore these issues were not carried forward for further analysis.

#### Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that federal agencies analyze the impacts of federally directed or funded undertakings on historic properties (NHPA, 1966). There are no known cultural resources located in the vicinity of the Proposed or Alternative EOD project areas. However, should any inadvertent discoveries of archaeological

material be made during the course of construction or demolition, all actions in the immediate vicinity will cease and efforts will be taken to protect the find from further impact. The Eglin Cultural Resource Branch, 96 CEG/CEVH should be contacted immediately should an unintended discovery occur.

### **Socioeconomic Issues**

An analysis of socioeconomic issues addresses the potential for impacts on the local economy or social fabric as a result of NEPA analyzed actions. The local economy would experience a temporary positive impact during the design and the construction phase of the project, because it would provide jobs in that industry. No negative impacts on employment, housing, or base or county services are anticipated as there would be no change in net base personnel or mission. In accordance with EO 13101, the Air Force will use affirmative procurement (buying products containing recycled materials) if economical and practical.

### **Land Use/Air Installation Compatible Use Zone**

Land use at the proposed site would not be affected. The new complex would be erected in the vicinity of existing buildings and structures. According to the Eglin AFB community planner, the Proposed Action is compatible with plans for future development at Eglin AFB (Ruckstrum and Santee, 2006). No changes to surrounding land use or to current Air Installation Compatible Use Zones (AICUZ) would occur. Clear Zones (CZs) and Accident Potential Zones (APZs) are buffer zones established around aircraft landing areas where aircraft mishaps are most likely to occur. To ensure the safety of personnel and civilians, development of structures that involve regular occupancy is not permitted within CZs or APZs. The proposed construction would take place outside the CZs and APZs associated with the airfield.

### **Utilities and Infrastructure**

Electric utilities, drinking water, and wastewater lines for the proposed complex would tie into existing utility lines. In addition, roads already exist to service the facility and parking would be created for the project as part of the design plan. There would be no change in personnel or mission, merely a shift in location. As a result, no increase in the usage of existing utilities is expected. Coordination with all utility providers would be required prior to any ground disturbance activities in an effort to minimize potential conflicts between utility providers. The Proposed Action would not adversely impact existing electric, drinking water, or sanitary sewer service and these are therefore eliminated as potential issues.

### **BASH (Bird Aircraft Strike Hazard)**

The Federal Aviation Administration recommends a separation distance of 5,000 feet between hazardous wildlife attractants and airports which serve piston powered aircraft and a distance of 10,000 feet between airports which serve turbine powered aircraft and hazardous wildlife attractants (FAA, 2004). However, for this project, BASH is not a concern even though the project site is near one of Eglin's runways. There are no retention ponds nor are any proposed, thereby eliminating any BASH concerns due to the attraction of wildlife to water.



### 1.4.2 Issues Studied in Detail

Preliminary analysis based on the scope of the Proposed Action and alternatives identified the following potential environmental issues warranting detailed analysis.

#### Water Resources

This EA addresses the potential for impacts to water resources. The clearing of land and increase in impervious surfaces under the Proposed Action and alternative creates the potential for an increase in the rate and volume of stormwater runoff. The large drainage ditch to the northeast of Nomad Way would be the primary vector for carrying away any runoff. Management requirements, including permitting and stormwater control methods, as well as best management practices (BMPs) are addressed.

#### Safety and Occupational Health

The relocated EOD complex must comply with Public Law (10 U.S.C. Sec. 172) *Strategic Environmental Research and Development Program*, AFMAN 91-201, *Explosive Safety Standards*, and ESQD requirements. DoD STD 6055.9 is not applicable to this Proposed Action because there is no explosive proficiency range or explosive storage associated with this complex. The planned proficiency range is anticipated to be considered at a later date and handled under a separate environmental review.

All proposed activities and workers at the construction site would comply with Occupational Safety and Health Administration (OSHA) standards and requirements. Workers must use standard safety measures during construction to ensure safety of personnel at or near the construction site. Industry and regulatory standards would govern all materials and equipment use. All construction areas would be fenced to preclude public access. Given these measures, risks to personnel and the public would be minimized. Construction contractors are required to develop a project-specific traffic and safety plan.

#### Biological Resources

The Proposed Action is not anticipated to impact Critical Habitat or Threatened and Endangered Species. Current data does not indicate any Threatened and Endangered species in the area and as such a Section 7 consultation with the USFWS would not be required. An analysis of regional species and habitats of concern, as well as environmental regulations governing these Proposed Actions, are presented in this document.

#### Geology and Soils

Areas likely to be impacted by erosion are identified based on factors such as soil type, slope, activity planned, and nature of vegetative cover in the project area. Analysis will identify situations in which erosion is likely to occur; assist in the determination of soils at a proposed work site, and determine the likelihood of soil loss given any of these factors. As any construction has the potential to disturb soils, construction best management practices recommended in this document would need to be incorporated into the construction process.

## **Hazardous Materials/Hazardous Waste/Solid Waste**

Construction and demolition activities would potentially generate large amounts of solid waste such as building debris, asphalt, land-clearing debris, and soil. These waste streams would be segregated at generation for recycling or disposal at a secure, permitted facility in accordance with Air Armament Center (AAC) Plan 32-7, Solid Waste Management. In addition, there would be no change in personnel or mission, merely a shift in unit location.

Building 914 contains asbestos, lead-based paint and Freon in Air Conditioning units. Management requirements, including asbestos and lead paint removal and disposal methods, as well as BMPs for construction and demolition are addressed.

## **Air Quality**

The project would produce construction-related emissions and dust. Analysis addresses the expected levels of emissions and compares these levels with what is currently permitted from all Eglin sources and county emissions.

## **1.5 PERMITTING REQUIREMENTS AND AGENCY COORDINATION**

The Proposed Action would require approved ESQD arcs, Coastal Zone Management Act (CZMA) consistency and National Pollutant Discharge Elimination System (NPDES) permits in accordance with Florida Administrative Code (FAC).

A NPDES Permit is required for construction activities covering more than one acre of land area. Accordingly, a NPDES permit would be required for implementing the Proposed Action.

This construction project requires consistency with Florida's CZMA. The Florida Department of Environmental Protection (FDEP) will review the negative determination submitted by the U.S. Air Force via Eglin's Natural Resources Section (96 CEG/CEVSN). The Air Force CZMA Consistency Determination is provided in Appendix A.

The Air Force will publish a Notice of Availability for the Public Draft. The notice will solicit public review and comment.

Analysis presented in this EA has determined that there are no threatened and endangered species or critical habitat in the project area. In addition, there are no cultural/historical resources in the project area identified as eligible to the National Register of Historic Places (NRHP). As a result, no consultations with respective regulatory agencies are required for this action.

## **1.6 DOCUMENT ORGANIZATION**

This environmental assessment follows the organization established by the Council on Environmental Quality (CEQ) regulations (40 CFR, Parts 1500-1508). This document consists of the following chapters.

- Chapter 1 - Purpose and Need for Proposed Action
- Chapter 2 - Description of Proposed Action and Alternatives
- Chapter 3 - Affected Environment
- Chapter 4 - Environmental Consequences
- Chapter 5 - Plans, Permits, and Management Actions
- Chapter 6 - List of Preparers
- Chapter 7 - List of Contacts
- Chapter 8 - References
- Appendix A - Federal Agency Coastal Zone Management Act (CZMA) Negative Determination and State Clearinghouse Documents
- Appendix B - Photographs
- Appendix C - Air Quality Regulations

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## **2. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES**

As required by federal regulation, this Environmental Assessment (EA) addresses the possible environmental impacts of the Proposed Action and Alternative Action, as well as a no-action alternative. Table 2-1 provides a summary of the issues and potential consequences related to the Proposed Action, Alternative Action, and no-action alternatives.

### **2.1 PROPOSED ACTION (PREFERRED ALTERNATIVE)**

The Proposed Action, which is also the preferred alternative, is to relocate and construct the new Explosive Ordnance Disposal complex on a wooded vacant lot adjacent to the dog training facility and kennels (Figure 2-1, Photographs 3, 4, and 5 in Appendix B). The proposed complex would be a maximum of 17,505 ft<sup>2</sup> (1,626 m<sup>2</sup>) in area. The structure would consist of a one story, split-faced, concrete block construction with a sloped metal roof. The complex would also include utilities, parking and landscaping. The complex will consist of areas for inert munitions display and storage, classrooms, work areas, storage areas for munitions maintenance and operational equipment. The complex would also contain an adjacent parking area and outdoor activity areas. The current facility (building 914), totaling 12,734 ft<sup>2</sup> (1,183 m<sup>2</sup>) is to be demolished (Figure 2-1, Photographs 1 and 2 in Appendix B).

### **2.2 ALTERNATIVE ACTION**

The Alternative Action is to relocate and construct the new Explosive Ordnance Disposal complex directly across Nomad Way from the proposed location presented in this document (Figure 2-1). The building specifications would be the same as in the Proposed Action. Buildings 914 would also be demolished as part of this Alternative Action.

### **2.3 NO ACTION ALTERNATIVE**

The No-Action Alternative would maintain the status quo. This alternative would not result in the construction of a new EOD Complex. The existing facility would not be relocated and the EOD personnel would continue to operate within the explosive safety quantity/distance arc in violation of explosive safety standards set forth in AFMAN 91-201. In the event of an adjacent explosion, injury or death of EOD personnel may occur and the EOD flight may be unable to provide emergency response and base recovery capabilities in the explosive storage area.

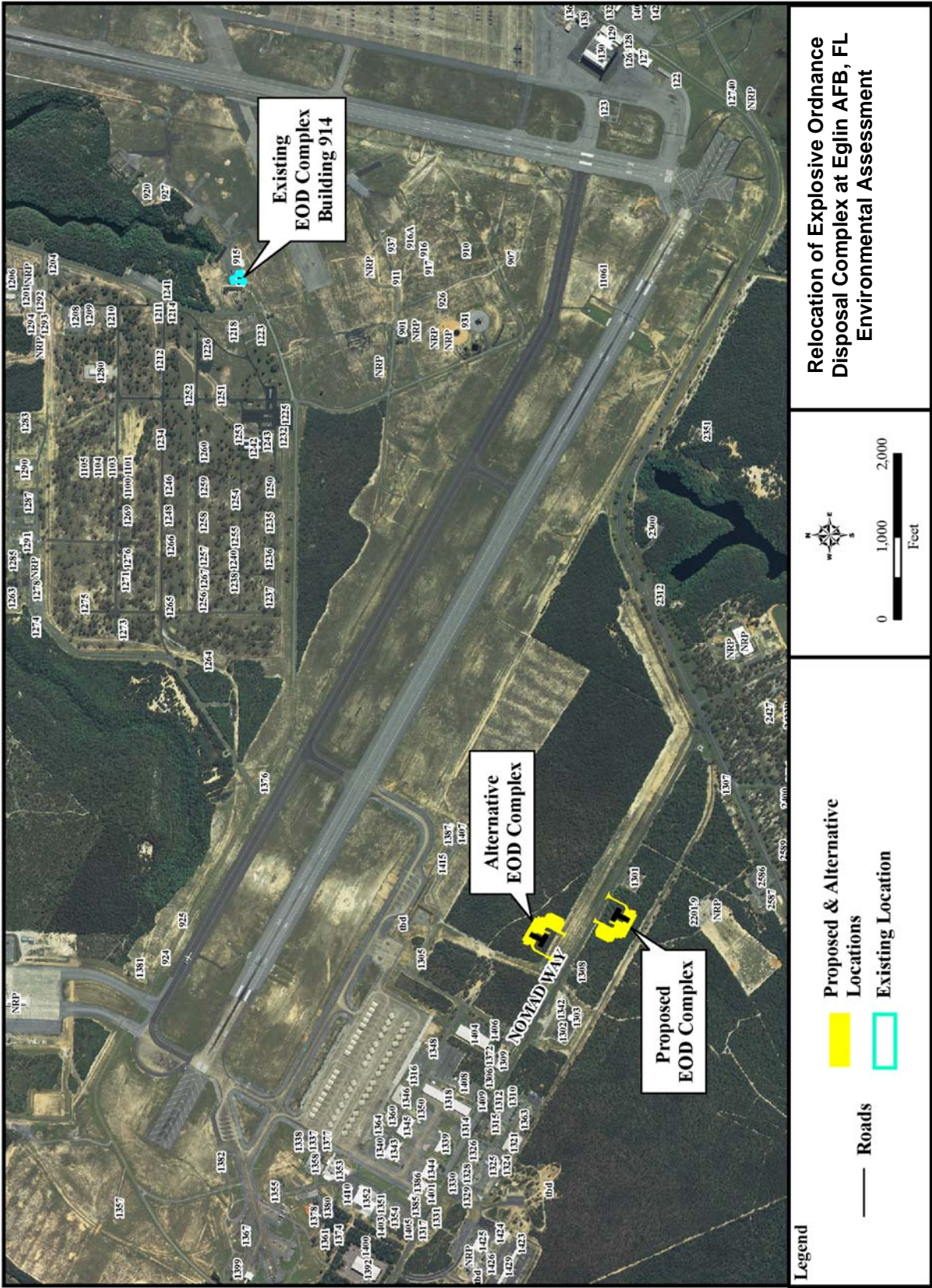


Figure 2-1. Current, Proposed and Alternative Locations for EOD Complex on Eglin AFB

## 2.4 COMPARISON OF ALTERNATIVES

A comparison of potential impacts resulting from the Proposed Action, Alternative and the No Action Alternative is in Table 2-1.

**Table 2-1. Summary Matrix of Issues, Proposed Action and Alternatives, and Potential Impacts**

<b>Affected Environment</b>	<b>Proposed Action</b>	<b>Alternative Action</b>	<b>No Action</b>
Water Resources	There would be no significant impacts. Coordination with FDEP regarding stormwater runoff required.	There would be no significant impacts. Coordination with FDEP regarding stormwater runoff required.	There would be no significant impacts. This alternative would not result in the construction of a new EOD Complex.
Safety and Occupational Health	There would be no significant impacts. Relocation of the EOD facility would bring the Air Force into compliance with AFMAN 91-201 safety standards. No construction safety or ESQD arcs issues are anticipated.	There would be no significant impacts. Relocation of the EOD facility would bring the Air Force into compliance with AFMAN 91-201 safety standards. No construction safety or ESQD arcs issues are anticipated.	There would be no significant impacts. This alternative would not result in the construction of a new EOD Complex. EOD personnel would remain in violation of explosive safety standards set forth in AFMAN 91-201.
Biological Resources	There would be no significant impacts. No critical habitat or threatened and endangered species are present at the site.	There would be no significant impacts. No critical habitat or threatened and endangered species are present at the site.	There would be no significant impacts. This alternative would not result in the construction of a new EOD Complex.
Geology and Soils	There would be no significant impacts. Best management practices to prevent soil destabilization and erosion would be required.	There would be no significant impacts. Best management practices to prevent soil destabilization and erosion would be required.	There would be no significant impacts. This alternative would not result in the construction of a new EOD Complex.
Hazardous Materials/Waste	There would be no significant impacts. Disposal of asbestos, lead-based paint, Freon, and asphalt according to Eglin AFB procedure.	There would be no significant impacts. Disposal of asbestos, lead-based paint, Freon, and asphalt according to Eglin AFB procedure.	There would be no significant impacts. This alternative would not result in the construction of a new EOD Complex.
Air Quality	There would be no significant impacts. Impacts to air quality would be minimal. Localized and temporary decreases in air quality would occur due to construction. Emissions would not exceed thresholds and permit modifications would not be necessary.	There would be no significant impacts. Impacts to air quality would be minimal. Localized and temporary decreases in air quality would occur due to construction. Emissions would not exceed thresholds and permit modifications would not be necessary.	There would be no significant impacts. This alternative would not result in the construction of a new EOD Complex.



## **2.5 ALTERNATIVES DISCUSSED BUT NOT CARRIED FORWARD FOR ANALYSIS**

Several alternatives were considered for the relocated EOD complex. The selection committee reviewed potential construction sites and selected the most viable sites based on siting requirements and other considerations (e.g., infrastructure, safety, environment, feasibility, etc.). Although several sites were considered, many alternative sites were not carried forward because they either did not meet the need or had other constraint issues associated with them.

*Original Siting* – The original proposed location for the relocated EOD complex was near the 96 Civil Engineering main building. This proposed location was finally determined to be too far from the flight-line for adequate response times from EOD flight. As a result, this alternative was eliminated from further consideration.

*Revised Siting* – Once the committee dismissed the original proposed location from consideration, a second location was selected. This location, near the apex of the runways at Eglin Field, proved to be too expensive due to lack of proper utilities nearby. In addition there were siting issues involving a nearby antenna array. Because of these factors, this alternative was also eliminated from consideration.



### 3. AFFECTED ENVIRONMENT

#### 3.1 WATER RESOURCES

This section describes the qualitative and quantitative characteristics of water resources in or adjacent to the Proposed Action work site at Eglin AFB. These resources include water quality and stormwater runoff.

##### 3.1.1 Water Quality

No surface waters lie adjacent to the Proposed Action site or alternative site. The closest surface water resource is an unnamed creek located approximately 4,200 feet southwest of the sites. The state of Florida has developed and retains primacy for surface water quality standards for all waters of the state in accordance with the provisions of the Clean Water Act. Water quality within the project area is generally good, and no waters that are listed as impaired on the 1998 303(d) list fall within the project area (FDEP, 2004).

A large drainage ditch is located within the vicinity of the Proposed Action project area (Figure 3-1). This ditch runs parallel to Nomad Road and is located on the northeast side of Nomad Road. The ditch discharges stormwater into Memorial Lake, which is under the authority of the FDEP pursuant to Section 403.031 (13) Florida Statutes.

Section 303 of the Clean Water Act (CWA) requires states to establish water quality standards for waterways, identify those that fail to meet the standards, and take action to clean up these waterways. Florida recently adopted the Impaired Waters Rule (IWR, Chapter 62-303, FAC), with amendments, as the new methodology for assessing the state's waters for 303(d) listing. Waters that are determined to be impaired using the methodology in the IWR and adopted by Secretarial Order, are submitted to the U.S. Environmental Protection Agency (USEPA) for approval in Florida's 303(d) list.

FDEP submits updates to Florida's 303(d) List of Impaired Surface Waters to USEPA every two years. The *2004 Integrated Water Quality Assessment for Florida: 2004 305(b) Report and 303(d) List Update* (FDEP, 2004) satisfied Florida's listing and reporting requirements of Sections 303(d) and 305(b) of the CWA. River basins across Florida have been divided into groups, which are being addressed according to a rotation schedule established by FDEP. The eastern portion of Eglin AFB drains to the Choctawhatchee-St. Andrews Bay Basin (Group 3) (FDEP, 2004a) but no drainage into the bay exists within the current Proposed Action area.

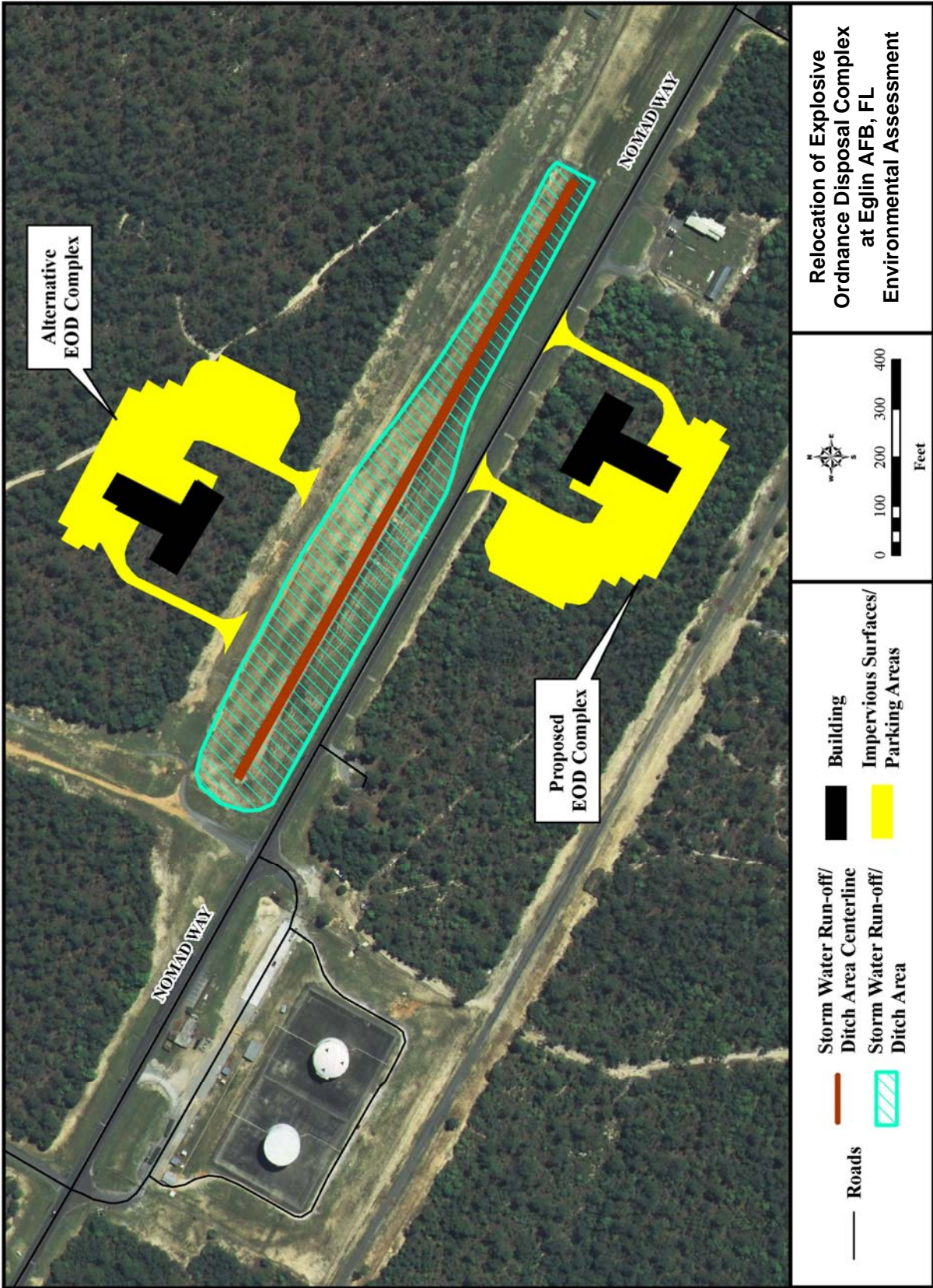


Figure 3-1. Location of Stormwater Drainage Ditch Near Proposed and Alternative Project Areas

### 3.1.2 Stormwater

Any addition of impermeable surfaces (i.e., concrete, asphalt) would result in an increase in stormwater runoff. The effects vary based on the amount of new, impervious surface areas, topography, rainfall, soil characteristics, and other site conditions (FDEP, 2002). The land clearing and construction, including the addition of any new impervious surface during this project, increases the potential for impacts from the increased rate and volume in stormwater runoff to hydrology and soil (erosion). The discharge of untreated stormwater may reasonably be expected to be a source of pollution of water of the state and would therefore be subject to FDEP regulations. A more detailed description of stormwater rules may be found in Florida Statute Chapter 62-25. Florida Statute Chapter 62-621 provides the general requirements for NPDES stormwater permitting at construction sites.

A National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharge, a Stormwater Pollution Prevention Plan (SWPPP), and adherence to Phase II Municipal Separate Storm Sewer Systems (MS4) permitting are requirements for large-scale construction projects (over one acre) in the state of Florida. Proper implementation and maintenance of BMPs are widely used to reduce the peak flow and maximum runoff of stormwater to permit-mandated levels, in order to retain the first one inch of runoff.

The state of Florida has developed and retains jurisdiction for surface water quality standards for all waters of the state in accordance with the provisions of the Clean Water Act. The state uses a classification system that classifies each water body based on its suitability for various purposes, ranging from potable water (Class I) to navigation, utility, and industrial waters (Class V). Florida recently adopted the Impaired Waters Rule (IWR, Chapter 62-303, FAC), with amendments, as the new methodology for assessing the state's waters for 303(d) listing. Waters that are determined to be impaired using the methodology in the IWR and adopted by secretarial order, are submitted to the USEPA for approval as Florida's 303(d) list. FDEP submits updates to Florida's 303(d) List of Impaired Surface Waters to erosion.

## 3.2 SAFETY AND OCCUPATIONAL HEALTH

Project construction as well as the proposed use of non-fragmenting explosives may have inherent safety concerns. Construction hazards are a concern due to not only the actual construction itself, but also the location along side of Nomad Road. The OSHA Act for Construction Work (29 CFR 1910.12 and 29 CFR 1926, 2003) requires that employees be afforded reasonable protection by employers in the execution of their duties. During construction, reasonable precautions should be taken to ensure the safety of the work crew.

Another concern often encountered on Eglin AFB property is the presence of unexploded ordnance (UXO). This project is not situated in an area with a high probability of UXO hazard and as such, UXO is not expected to represent a safety problem in the project area.

Explosive training within the EOD facility would be limited to the use of small explosive shots. The size of these shots is less than .50 caliber. There will not be any fragmentation produced as

a result of the detonation of these small explosive shots (Frith, 2006). Additionally, the relocated EOD complex will not store any explosives.

Construction hazards are a concern while improvements are being made to the road. The Occupational Safety and Health Administration (OSHA) Act for Construction Work (29 CFR 1910.12 and 29 CFR 1926, 2003) requires that employees be afforded reasonable protection by employers in the execution of their duties.

### **3.3 BIOLOGICAL RESOURCES**

This section provides background information on biological resources that may be affected by the Proposed Action. Eglin biological resources include major ecological associations, wildlife, and threatened and endangered species. Emphasis is placed on threatened and endangered species that occur adjacent to the proposed and Alternative Action sites and may be affected indirectly by the proposed project.

#### **3.3.1 Ecological Associations**

Eglin applies a classification system of ecological associations to all its lands, based on floral, faunal, and geophysical characteristics. Eglin's *Integrated Natural Resources Management Plan, 2002-2006* (U.S. Air Force, 2002) and the *Environmental Baseline Study Resource Appendices* (U.S. Air Force, 2003) describe these ecological associations. Seven ecological associations occur throughout the Eglin Land Test and Training Range: the Sandhills ecological association, the Flatwoods ecological association, the Wetland/Riparian ecological association, the Open Grassland/Shrubland ecological association, the Barrier Island ecological association, Landscaped and Urban Areas, and Invasive Exotic/Non-native Plants.

#### **Existing Conditions**

Of Eglin's seven major ecological associations, only the Sandhills ecological association occurs within the proposed site and only Landscaped and Urban Areas occurs within the alternative site. Figure 3-2 shows the ecological associations within and surrounding the proposed sites.

#### ***Sandhills***

The Sandhills is the largest ecological association on Eglin AFB, covering 78 percent of the reservation. The Sandhills vegetative community represents the majority of this association, and includes the Sand Pine ecosystem, which covers 3 percent of the reservation, and the Pine/Mixed Hardwood ecosystem, which covers approximately 10,000 acres of the reservation. The Sandhills association contains the oldest natural sand pine on the Eglin reservation. The Sand Pine ecosystem is the result of the encroachment of sand pine into other forest ecosystems.

The Sandhills association varies from predominantly natural to substantially modified. The association is characterized by rolling sandhill ridges dissected by streams. Slopes break sharply next to streams but are gradual next to wet, depressional areas. Numerous steepheads are found

throughout the association. The underlying geology is variable. Most of the association is between 20 and 295 feet above sea level.

The Sandhills Ecological Association provides habitat for a wide variety of bird species. Raptors found in the Sandhills Ecological Association include the screech owl, red-shouldered hawk, and great horned owl, which nest and hunt rodents in these woodlands. Game birds include wild turkey, wood ducks, mourning dove, ground dove, and northern bobwhite. Other indigenous bird species include red-cockaded woodpecker (a federally listed endangered species), red-bellied woodpecker, rufous-sided towhee, loggerhead shrike, and yellow-rumped warbler, and vireos, among others.

High-quality Sandhills plant communities can provide important habitat for neotropical migrants, which are birds that winter in South and Central America and come to temperate regions, such as the continental United States, to breed in the summer. Neotropical migrants occurring on Eglin include the ruby-throated hummingbird, summer tanager, common yellowthroat, blue grosbeak, and great crested flycatcher.

A variety of mammals are found in the Sandhills Ecological Association including the white-tailed deer, fox squirrel, gray squirrel, flying squirrel, armadillo, feral pig, and raccoon. Characteristic predators in this association include the gray fox and bobcat. Occasionally the Florida black bear, a state-listed threatened species, is found here.

Reptile species of this association include the eastern fence lizard, broadhead skink, gopher tortoise, box turtle, eastern diamondback rattlesnake, cottonmouth (near sandhill upland lakes and marshes), gray rat snake, coral snake, six-lined racerunner, and eastern coachwhip. The barking treefrog and central newt are representative amphibians found in this association.

### **3.3.2 Threatened and Endangered Species**

An endangered species is one that is in danger of extinction throughout all or a significant portion of its range. A threatened species is any species that is likely to become endangered within the future throughout all or a significant portion of its range due to factors such as loss of habitat and anthropogenic effects. A candidate species is one for which the U.S. Fish and Wildlife Service (USFWS) has on file sufficient information on biological vulnerability to warrant a listing, but the listing is precluded at the present time. Once legally protected, it is a federal offense to “take” (import, export, kill, harm, harass, possess, or remove) protected animals from the wild without a permit. Federal candidate species should be given consideration during planning of projects, but have no protection under the Endangered Species Act. Similar regulations are in place for state-listed species (endangered, threatened, or species of special concern). While these state regulations do not apply on federal lands, Eglin will protect state species in accordance with management requirements addressed in Eglin’s Integrated Natural Resources Management Plan.

Under the Endangered Species Act of 1973, federal agencies must ensure that their actions (including permitting) do not jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify the habitat of such species without a permit and must set



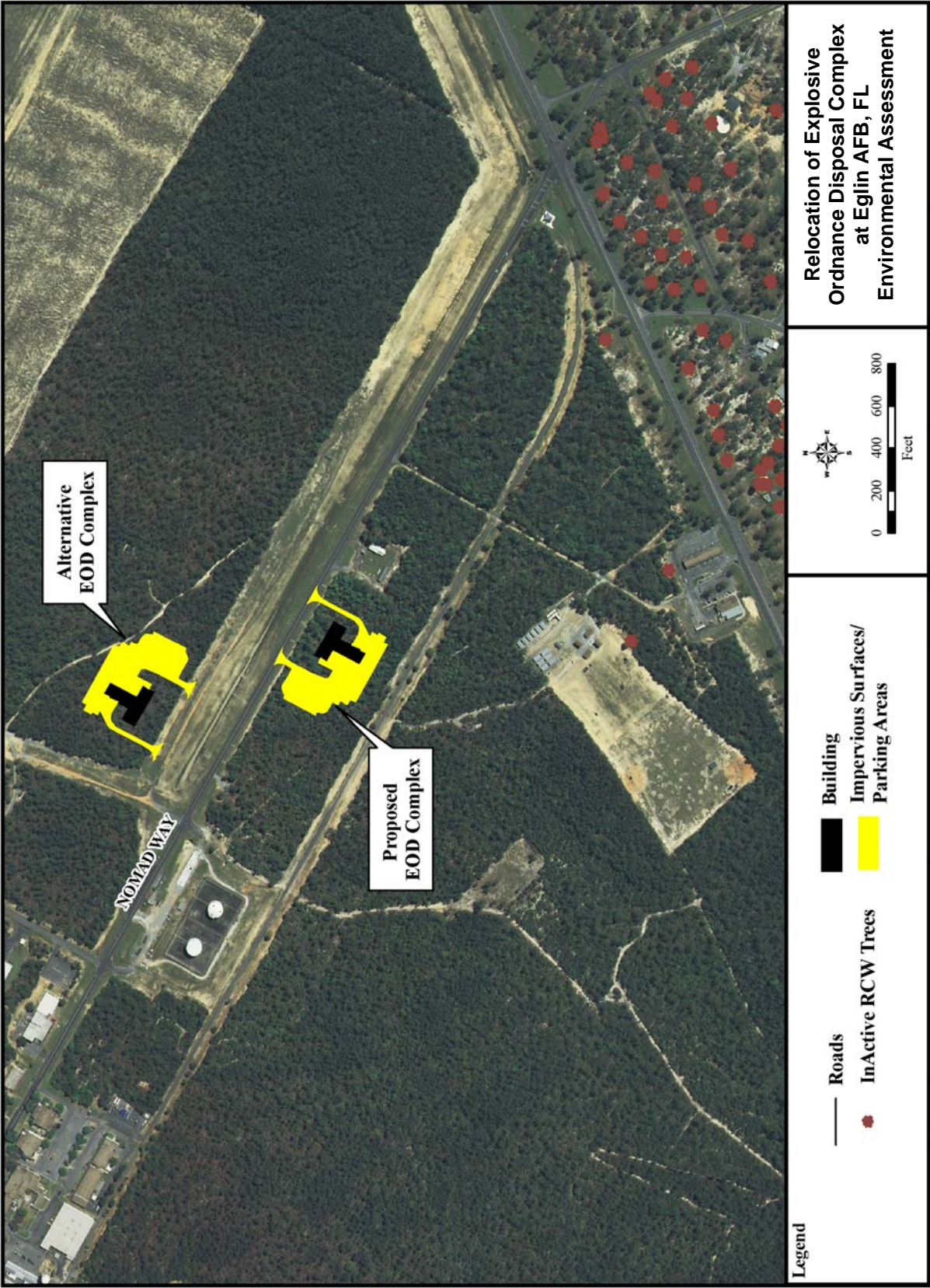


Figure 3-2. Ecological Associations Near Proposed and Alternative Project Areas

up a conservation program. A Section 7 consultation with USFWS would be required if there is a potential to affect any federally listed species. If the Proposed Action were likely to adversely affect a federally protected species, USFWS would determine whether jeopardy or no jeopardy to the species population exists. As a result, Air Force projects that may affect, either directly or indirectly, federally protected species, species proposed for federal listing or critical habitat for protected species are subject to Sections 7 and 10 of the Endangered Species Act prior to the irreversible or irretrievable commitment of resources (U.S. Air Force, 2003). Eglin has developed an overall goal within the INRMP to continue to protect and maintain populations of native threatened and endangered plant and animal species within the guidelines of ecosystem management (U.S. Air Force, 2002).

### Existing Conditions

The Florida Fish and Wildlife Conservation Commission (FWC) has noted evidence of a state-listed, threatened species within the project area. Two documented telemetry locations recorded in 1996 document the presence of Florida black bears (*Ursus americanus floridanus*) to the south of the proposed and alternative project areas. The telemetry collared bears on Eglin are no longer active; therefore, Eglin's NRS will continue to monitor the black bear population on Eglin AFB utilizing incidental sighting information. No other sensitive species or habitats have been identified at the proposed or alternative sites. There are no active red-cockaded woodpecker (RCW) sites in the vicinity of these sites, as indicated by a survey of mapped and recorded active sites. However, there are inactive RCW trees located approximately 1,750 and 2,100 feet southeast of the proposed and alternative sites, respectively (Figure 3-2). The inactive trees are not anticipated to be valuable habitat since the habitat has been deemed unsuitable for the RCW due to insufficient forage habitat. Inactive RCW habitat may also contain other species of concern such as the eastern indigo snake, gopher frog, and the gopher tortoise. However, there is no federal documentation of these or other threatened and endangered species occurring at these sites. 96 Civil Engineer Group, Environmental Management Division, Stewardship Branch, Natural Resources Section (96 CEG/CEVSN) biologists would be responsible for conducting a field survey prior to the initiation of construction activities to determine the presence any protected species. Various methods for surveying the area would be employed by trained Air Force biologists, knowledgeable about the local wildlife and habitat requirements. These specialists would spend time on site, and evaluate the habitat and its potential to support any federally listed threatened or endangered species to determine what level of consultation would be necessary with the USFWS.

## 3.4 GEOLOGY AND SOILS

This section discusses potential geological and soil erosion that could arise from the proposed demolition and construction activities. The issues of concern associated with demolition and construction projects are the potential for the transport of soils caused by stormwater runoff from increased impervious surface areas (i.e., roads, buildings, and compacted soil) and soil erosion.

### 3.4.1 Geology

The geological formations of Eglin AFB are in a general order of sequence, from the youngest top layers to the oldest lower layers. There are two primary formations: the Pleistocene/Holocene Terrace and Stream sediments and the Pleistocene Citronelle Formation. These are not only the top formations; they are also the youngest. It is not expected that the Proposed Action would directly affect the Miocene-Pliocene Coarse Clastics, the Miocene Alum Bluff Group and the Pensacola Clay formation, which are older formations underlying these.

The Pleistocene/Holocene Terrace and Stream deposits underlie soils and sediments in the vicinity of the proposed EOD Construction Project. Characteristic of these deposits are undifferentiated alluvial, fluvial, floodplain and coastal sediments. Quartz (siliclastics), shells (aragonite) and freshwater carbonates are abundant. Some areas of shell deposits are interspersed with clay lenses that streams and rivers in the area deposited. This formation is the result of deltaic action resulting in deposits of unconsolidated to poorly consolidated clayey sands and gravel. Kaolinite is present as massive lenses. Organic matter, such as plant and fossil remains are abundant but lack a marine origin. Hardpan, a dark, rusty-brown cemented limestone, is present in the Citronelle Formation.

### 3.4.2. Soils and Erosion

Depending on their properties and the topography in which they occur, soils have varying degrees of susceptibility to erosion. Soil disturbance associated with construction and demolition may potentially result in erosion and the transport of eroded soils into nearby drainages. Portions of the affected environment that have been built up, such as areas of existing housing, are characterized by impervious surfaces (i.e., areas that water cannot seep into, such as roads, driveways, and structures). During rainfall events, water moves across impervious surfaces into stormwater drains and holding ponds, and is ultimately transported into local water bodies. The Clean Water Act prohibits the deposition of sediments into surface waters. Sediments affect water clarity, decrease oxygen levels in water, and transport pollutants. As soil quality declines (erosion), adverse impacts to on-site and off-site environments increase. Therefore, the maintenance of soil quality is important for efficient and productive land management and utilization. Areas most prone to erosion are identified based on slope, soil type, and vegetative cover.

The Proposed Action site is located on an undeveloped area of Eglin AFB Main Base, where the predominant soil type is classified as Lakeland Series. The Lakeland series consists of very deep, excessively drained, rapidly permeable, strongly acidic soils that formed in thick beds of eolian, fluvial, or marine sands on broad, nearly level to very steep uplands in the Lower Coastal Plain. Depth to seasonal water table is more than 80 inches. Sand or fine sand comprises the majority of the entire series; at 10 to 40 inches below the ground, silt and clay make up 5 to 10 percent of the soil. Permeability is moderate to very rapid (6.0 to 20 inches per hour) for Lakeland soils (USDA, 1995). Slopes are primarily 0 to 12 percent. The Lakeland soils are easily eroded because they lack cohesiveness and have limited water-holding capacity. The establishment and maintenance of vegetation is difficult because the soils are too sandy or are on steep slopes.



### 3.5 HAZARDOUS MATERIALS/WASTE

Because Building 914 contains asbestos and lead-based paint, Eglin 96 CEG/CEVCP must notify the state of Florida as to the scheduled demolition of the old facility. The handling of asbestos and lead-based paint debris would include a contractor preparing and implementing an asbestos abatement plan in accordance with the *Eglin AFB Asbestos Management Plan* (U.S. Air Force, 1998) and the *Hazardous Waste Management Plan* (U.S. Air Force, 1997a). Lead paint is no longer classified as a hazardous waste, but the safe removal of lead based paint is still governed by the *Lead Based Paint Management Plan* (U.S. Air Force, 1997) and coordinated through 96 CEG/CEVCP. Freon may be present in air conditioning units at Building 914. The refrigerants would be collected and disposed of in accordance with the *Hazardous Waste Management Plan* (U.S. Air Force, 1997a) and Section 608 of the Clean Air Act, *Refrigerant Recycling Rule* (USEPA, 1999).

A berm containing asphalt is located adjacent to Building 914. The asphalt may be recycled. If disposed of, the asphalt would have to be handled in accordance with petroleum, oil, and lubricants (POL) disposal requirements.

Building 914 currently does not contain a hazardous materials locker. The new EOD Facility would have a locker that would contain housekeeping chemicals usually found in residential buildings.

### 3.6 AIR QUALITY

Identifying the affected area for an air quality assessment requires knowledge of sources of air emissions, pollutant types, emission rates and release parameters, proximity to other emissions sources and local conditions. Refer to Appendix C, Air Quality, for review of air quality and associated methodologies used for emissions calculations.

#### 3.6.1 Definition of the Resource

Air quality is determined by the type and amount of pollutants emitted into the atmosphere, the size and topography of the air basin and the prevailing meteorological conditions. The levels of pollutants are generally expressed on a concentration basis in units of part per million (ppm) or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). For this air quality analysis, the Region of Influence (ROI) centers on Okaloosa County for both the Proposed Action and alternative sites.

The baseline standards for pollutant concentrations are the National Ambient Air Quality Standards (NAAQS) and state air quality standards. These standards represent the maximum allowable atmospheric concentration that may occur and still protect public health and welfare. Further discussion of the NAAQS and state air quality standards are included in Appendix C. Table 3-1 presents the existing air quality condition for project area (Okaloosa County) in terms of the amount of NAAQS pollutant emissions.

**Table 3-1. Baseline Emissions Inventory for Okaloosa County, FL**

Source Type	Emissions (tons/yr)				
	CO	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>2</sub>	VOC
Area	1,867	281	8,392	462	4,527
Non-Road Mobile	16,150	1,099	162	109	1,897
On-Road Mobile	45,228	5,703	153	256	3,829
Point Source	28	49	15	12	79
<b>Grand Total</b>	<b>63,274</b>	<b>7,132</b>	<b>8,723</b>	<b>839</b>	<b>10,333</b>

CO=Carbon Monoxide; NO<sub>x</sub>=Nitrogen Oxide; PM<sub>10</sub>=Particulate Matter; SO<sub>2</sub>=Sulfur Dioxide; VOC=Volatile Organic Compound

Source: USEPA, 2002

## **4. ENVIRONMENTAL CONSEQUENCES**

### **4.1 WATER RESOURCES**

#### **4.1.1 Proposed Action**

The Proposed Action would not significantly affect water resources. To comply with state mandates, the Air Force would construct a stormwater treatment area to provide on-site treatment of stormwater. Onsite storage of stormwater would prevent direct discharge of stormwater runoff to any surface waters, therefore reducing potentially adverse impacts to water quality. A Notice of Intent to use the Generic Permit for stormwater discharge as authorized by the Clean Water Act, under the National Pollutant Discharge Elimination System (NPDES) would be submitted prior to project initiation according to FAC 62-25. The NPDES permit program controls water pollution by regulating sources of pollution discharge into water systems. The Proposed Action also requires coverage under the Generic Permit for Stormwater Discharge from Construction Activities that Disturb One or More Acres of Land (FAC 62-621). A comprehensive Stormwater, Erosion, and Sedimentation Control Plan and a Stormwater Pollution Prevention Plan would be incorporated into the final design plan. All appropriate permits would be obtained prior to the commencement of any ground-disturbing activities. No impacts to water quality are expected from the Proposed Action given the acquisition of the aforementioned permits and the implementation of Best Management Practices (BMPs). These BMPs are preferred actions implemented to prevent potential impacts to resources.

The project areas may experience erosion due to a combination of high-energy rain events, and characteristically erosive soils. Because of this erosion potential, exposed soils are extremely vulnerable to run-off during demolition, land clearing, and construction activities; thus making it necessary to take measures to minimize soil erosion. BMPs for minimizing erosion and sediment runoff affecting water quality, have been identified as temporary sediment traps/basins, entrenched silt fencing, staked hay bales, and seeding. Perimeter controls such as entrenched silt fencing and staked hay bales are especially important near low areas and adjacent to the drainage ditch. The Air Force would ensure the effectiveness of the BMPs by verifying proper installation and maintenance. Permits and site plan designs will include site-specific management requirements for erosion and sediment control.

With the proper implementation and maintenance of erosion and sediment control BMPs, impacts to surface water resources from soil runoff from demolition and construction activities are anticipated to be minimal.

#### **4.1.2 Alternative 1**

Implementing Alternative 1 would not have a significant impact on water resources. Under this alternative, a new EOD facility would be constructed on the opposite side of Nomad Way. By locating the proposed complex near the same drainage ditch and within the same soil type (Lakeland), potential impacts to drainage features and surface waters are expected, as stated under the Proposed Action. Thus, under Alternative 1, some adverse impacts to water quality are expected but can be minimized by the implementation of BMPs.

### **4.1.3 No Action Alternative**

Under the No Action Alternative, the Air Force would not construct the proposed EOD Complex. As a result, the proposed site would remain undeveloped and there would be no change in water quality.

## **4.2 SAFETY AND OCCUPATIONAL HEALTH**

### **4.2.1 Proposed Action**

The Proposed Action would not have a significant impact on safety and health. The action would be accomplished in order to comply with Public Law (10 U.S.C. Sec. 172) *Strategic Environmental Research and Development Program*, AFMAN 91-201, Explosive Safety Standards, ESQD requirements. DOD STD 6055.9 is not applicable to this Proposed Action due to the lack of an explosive proficiency range or explosive storage with this complex.

The EOD complex construction and usage of small (less than .50 caliber) shots will fall under construction and munitions ordinances. Thus, safety of the construction workers and Air Force personnel will be insured.

### **4.2.2 Alternative 1**

Under the Alternative Action, the Explosive Ordnance Disposal complex would be located across Nomad Road from the Proposed Action. Since all construction and munitions regulations will apply, no impact is expected at the Alternative site.

### **4.2.3 No Action Alternative**

The No Action Alternative would not result in a new EOD complex. This would pose a safety hazard since the existing facility is now in violation of standards set forth in Public Law (10 U.S.C. Sec. 172) and AFMAN 91-201. Therefore, it is recommended that either the Proposed Action or the Alternative Action be set forth.

## **4.3 BIOLOGICAL RESOURCES**

### **4.3.1 Proposed Action**

Implementing the Proposed Action would not significantly affect biological resources. There would be minimal effects to wildlife and vegetation as the construction of the EOD Complex and associated facilities would require the clearing of approximately one acre of vegetation and, consequently, the removal of habitat. The predominant habitat type in the area of the project site is the Sandhills ecological association. One state-listed threatened species; the Florida black bear, was documented in 1996 to the south of the proposed and alternative project areas. The FWC recommends continued monitoring of bear movement within this area and efforts be made to prevent potential bear/human interaction. The telemetry-collared bears on Eglin are no longer active; therefore, Eglin's NRS will continue to monitor the black bear population on Eglin AFB

utilizing incidental sighting information. No other threatened or endangered species are known to occur at the proposed site; however, 96 CEG/CEVSN would conduct a field survey prior to the initiation of construction activities to determine the presence of any protected species. If gopher tortoises are identified they will be relocated along with any commensal species in accordance with state and federal permits. As a result, Eglin AFB does not anticipate any significant impacts from the implementation of the Proposed Action.

#### **4.3.2 Alternative 1**

Implementing Alternative 1 would not significantly affect biological resources. There would be minimal effects to wildlife and vegetation as the construction of the EOD Complex and associated facilities would occur primarily on an open field with maintained grass. The site is located within the Landscaped and Urban Areas ecological association. One state-listed, threatened species; the Florida black bear, was documented in 1996 to the south of the alternative project area. The FWC recommends continued monitoring of bear movement within this area and efforts be made to prevent potential bear/human interaction. The telemetry-collared bears on Eglin are no longer active; therefore, Eglin's NRS will continue to monitor the black bear population on Eglin AFB utilizing incidental sighting information. No other threatened or endangered species are known to occur at the alternative site; however, 96 CEG/CEVSN biologists would be responsible for conducting a field survey prior to the initiation of construction activities to determine the presence any protected species. Various methods for surveying the area would be employed by trained Air Force biologists, knowledgeable about the local wildlife and habitat requirements. These specialists would spend time on site, and evaluate the habitat and its potential to support any federally listed, threatened or endangered species to determine what level of consultation would be necessary with the USFWS. As a result, Eglin AFB does not anticipate any significant impacts from the implementation of Alternative 1.

#### **4.3.3 No Action Alternative**

Under the No Action Alternative, the Air Force would not construct the proposed EOD Complex. As a result, there would be no impacts to biological resources, including sensitive species or habitats.

### **4.4 GEOLOGY AND SOILS**

#### **4.4.1 Proposed Action**

Under certain conditions, the interaction between stormwater runoff and the soil surface, in association with land disturbances, can create conditions prone to erosion, which may result in adverse environmental effects to land and water resources. In the absence of intervention, the loss of soil through accelerated (human-induced) erosion can be equated to a possible permanent loss of site soil productivity and ecological viability.

Soil erosion can significantly affect ecosystem health and function. Erosion can reduce land productivity, pollute waters, and degrade habitats. Human-induced soil disturbances, whether

minor, transitory, or drastic, generally determine the nature of environmental effects. Soil environments impacted by erosion may take decades or centuries to recover.

Past development in various locations of Eglin AFB has likely contributed to erosion and soil loss. However, the extent to which this has occurred is difficult to determine. Implementation of the Proposed Action or Alternative Action would involve the utilization of erosion control measures to minimize the potential for soil erosion, as well as to avoid adversely impacting water quality. No adverse impacts for either the Proposed Action or Alternative Action are likely to impact the underlying geology of the area.

The predominant soil at the proposed site is Lakeland sand, which is classified in the Lakeland series. Land clearing and construction would modify the terrain such that best management practices (BMPs) would be required to minimize potential adverse impacts from loss of soil.

A Stormwater, Erosion and Sedimentation Control Plan, a SWPPP, and construction BMPs (identified in Chapter 5) would be incorporated into the construction process as required by regulations implemented by the FDEP. No adverse impacts associated with soil erosion are anticipated based on the soil characteristics at the site coupled with the implementation of the BMPs identified in Chapter 5. Thus, under the Proposed Action, the construction of the EOD facility and its use for training is not expected to exacerbate erosion.

#### **4.4.2 Alternative 1**

The predominant soil at the Alternative 1 site is the same as under the Proposed Action, Lakeland sand. Therefore, potential impacts to soils and erosion under Alternative 1 would be the same as those described under the Proposed Action.

#### **4.4.3 No Action Alternative**

Under the No Action Alternative, the Air Force would not construct the proposed Security Forces Complex. As a result, there would be no changes to soils and no increase in soil erosion compared with current trends.

### **4.5 HAZARDOUS MATERIALS/WASTE**

#### **4.5.1 Proposed Action**

The Proposed Action would have no significant hazardous materials/solid waste impacts. During the demolition of Building 914, the potentially hazardous materials (i.e., asbestos, lead-based paint, Freon, and asphalt) would be handled and disposed of in accordance with Eglin AFB and USEPA procedures. No adverse impacts are anticipated. No hazardous materials would be stored at the new facility with the exception of chemicals used for cleaning purposes. These chemicals would be stored in hazardous materials lockers to lessen the possibility of a release to the environment. No additional hazardous substances would be stored or used on site.

#### 4.5.2 Alternative 1

The Alternative location and action is similar to the Proposed Action. No adverse impacts are anticipated.

#### 4.5.3 No Action Alternative

Under this alternative the EOD complex would remain at building 914 and no new complex would be constructed. As such no impacts are anticipated under this alternative.

### 4.6 AIR QUALITY

This section discusses the potential impacts to air quality because of the Proposed Action, Alternative Action and No Action Alternative. For the analysis of the various Proposed Actions, a threshold on an individual pollutant-by-pollutant basis was established. The Proposed Action and alternatives will occur at Eglin AFB, FL located in Okaloosa County which will be considered the ROI.

The emissions sources analyzed for the Proposed Action include heavy construction machinery, semi-tractor trailer rigs, dust (particulate matter) from unpaved roads, and emissions vehicle exhaust from contracted employees personal vehicles.

For analysis purposes, the emissions from the Proposed Action will be compared to the Okaloosa County emissions obtained from the U.S. Environmental Protection Agency's 2002 National Emissions Inventory (NEI), which are presented in Table 3-1. The county data includes emissions data from point sources, area sources, and mobile sources. *Point sources* are stationary sources that can be identified by name and location. *Area sources* are point sources whose emissions are too small to track individually, such as a home or small office building or a diffuse stationary source, such as wildfires or agricultural tilling. *Mobile sources* are any kind of vehicle or equipment with gasoline or diesel engine, an airplane, or a ship. Two types of mobile sources are considered: on-road and non-road. On-road consists of vehicles such as cars, light trucks, heavy trucks, buses, engines, and motorcycles. Non-road sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles (USEPA, 2005).

For the analysis of the Proposed Action a threshold on an individual pollutant-by-pollutant basis has been established. The individual pollutant emissions from the project would not exceed 10 percent of the total Okaloosa County emissions for each corresponding pollutant as represented in the USEPA 2002 NEI (U.S. Air Force, No Date).

In order to evaluate the air emissions and their impact to the overall ROI, the emissions associated with the project activities were compared to the total emissions on a pollutant-by-pollutant basis for the ROI's 2002 NEI data. Potential impacts to air quality are identified as the total emissions of any pollutant that equals 10 percent or more of the ROI's emissions for that specific pollutant. The 10 percent criteria approach is used in the General Conformity Rule as an indicator for impact analysis for non-attainment and maintenance areas.

Although Okaloosa County is attainment, the General Conformity Rule's impact analysis was utilized to provide a consistent approach to evaluating the impact of construction and aircraft emissions. To provide a more conservative evaluation, the impacts screening in this analysis, used a geographically more restrictive criterion than required in the General Conformity Rule. Rather than comparing emissions from construction activities to regional inventories (as required in the General Conformity Rule), emissions were compared to the individual county (Okaloosa) potentially impacted, which covers a smaller area.

The U.S. Air Force used a Department of Defense-developed model, the Air Conformity Applicability Model (ACAM), for conformity evaluations. They chose it because it provides a level of consistency with respect to emissions factors and calculations. Air emissions estimated using ACAM were compared to the established 10 percent criterion for Okaloosa County as represented in the USEPA 2002 National Emissions Inventory (NEI) (USEPA, 2002). Emissions associated with increased aircraft operations and construction activities are the main issues generated by the Proposed Action and were the focus of the air analysis. Air quality issues associated with operational activities at Eglin AFB after the completion of construction are not included in this evaluation.

Fugitive dust, nitrogen oxides ( $\text{NO}_x$ ), and carbon monoxide ( $\text{CO}$ ) constitute the majority of the emissions from construction activities and the project overall. A construction operation incorporates grading operations, construction worker trips, stationary equipment (e.g., generators and saws), mobile equipment, non-residential architectural coatings, and acres paved. Approximately 72 percent of the total particulate matter ( $\text{PM}_{10}$ ) emissions for the project are associated with grading activities during the early stages of the construction phase.  $\text{PM}_{10}$ ,  $\text{CO}$ , and  $\text{NO}_x$  are the primary pollutants of concern, constituting 93 percent of overall project emissions. A majority of the  $\text{CO}$  emissions are associated with stationary equipment (e.g., saws and generators), while the  $\text{NO}_x$  emissions are primarily associated with mobile sources.

#### **4.6.1 Proposed Action**

The Proposed Action consists of the demolition of building 914 and the construction of a new EOD facility. Both of these actions were considered when calculating the affects on the regional air quality. The estimated construction emissions expected for the life of the project are summarized in Table 4-1.

As indicated in Table 4-2, the individual pollutant emissions from the project will not exceed 10 percent of the total Okaloosa County emissions for each corresponding pollutant. The highest pollutant percentages are for  $\text{NO}_x$  and sulfur dioxide ( $\text{SO}_2$ ) and comprise approximately 0.04 percent of Okaloosa County's total emissions based on the USEPA 2002 NEI. This slight increase in local air emissions will be temporary. In calculating these emissions levels, certain assumptions were made regarding the variables associated with construction activities. Specific details regarding the assumptions and calculations associated with the emissions estimates are located in Air Quality Appendix. There are no air quality issues anticipated with the Proposed Action.



**Table 4-1. Proposed Action Estimated Construction Air Emissions by Activity**

Source Category		Emissions (tons/yr)				
		CO	NO <sub>x</sub>	SO <sub>2</sub>	VOC	PM <sub>10</sub>
<b>Life of Project 2006-2007</b>	Demolition	0.000	0.000	0.000	0.000	0.695
	Grading Equipment	0.002	0.006	0.001	0.001	0.001
	Grading Operations	0.000	0.000	0.000	0.000	0.182
	Acres Paved	0.000	0.000	0.000	0.000	0.000
	Mobile Equipment	1.229	2.930	0.362	0.268	0.236
	Residential Architectural Coatings	0.000	0.000	0.000	0.000	0.000
	Stationary Equipment	8.334	0.216	0.011	0.312	0.006
	Workers Trips	0.132	0.008	0.000	0.008	0.001
<b>Totals</b>		<b>9.70</b>	<b>3.16</b>	<b>0.37</b>	<b>0.59</b>	<b>1.12</b>

CO=Carbon Monoxide; NO<sub>x</sub>=Nitrogen Oxides; SO<sub>2</sub>=Sulfur Dioxide; VOC=Volatile Organic Compound; PM<sub>10</sub>=Particulate Matter less than or equal to 10 microns in diameter

**Table 4-2. Percentage of Proposed Alternative Emissions Compared to Okaloosa County**

Emission Activities	Emissions (tons/year)				
	CO	NO <sub>x</sub>	PM <sub>10</sub>	SO <sub>2</sub>	VOC
Construction	9.70	3.16	1.12	0.37	0.59
Total	9.70	3.16	1.12	0.37	0.59
Okaloosa County Emissions	63,274	7,132	8,723	839	10,333
<i>Percentage of County Emissions</i>	<i>0.02%</i>	<i>0.04%</i>	<i>0.01%</i>	<i>0.04%</i>	<i>0.01%</i>

CO=Carbon Monoxide; NO<sub>x</sub>=Nitrogen Oxides; PM<sub>10</sub>=Particulate Matter less than or equal to 10 microns in diameter; SO<sub>2</sub>=Sulfur Dioxide; VOC=Volatile Organic Compound

#### 4.6.2 Alternative 1

Alternative 2 is the same as the Proposed Action in an alternate location. The emissions expected from the construction and demolition is summarized for the Proposed Action and those results also apply to this alternative. Air quality issues are not expected with this Alternative.

#### 4.6.3 No Action Alternative

Under the No Action Alternative, the inadequate EOD facility (Building 914) would not be demolished and the new facility would not be constructed. Current air quality would not change.

### 4.7 CUMULATIVE IMPACTS AND IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

According to the CEQ regulations, cumulative impact analysis in an environmental assessment should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7).

40 CFR 1508.7 defines impacts or effects as:

(a) Direct effects, which are caused by the action and occur at the same time and place.

(b) Indirect effects, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

#### **4.7.1 Past and Present Actions Relevant to the Proposed Action**

No other past or present actions have been identified that are relevant to the current Proposed Action.

#### **4.7.2 Reasonably Foreseeable Future Actions**

The construction of a future EOD proficiency range has been suggested as a potential future action. The proposed site will be used for training of handling demolition materials only. Because the quantity of explosives required to maintain EOD proficiency is small, criteria for an EOD training range are not as stringent as required for actual disposal operations. As no such disposals are expected to be performed at the proposed proficiency range, a five hundred foot safety buffer is all that would be required to conduct training. A 6 foot high safety buffer would also be erected to control ejection of debris (Frith, 2006). According to AFMAN 91-201; section 3.28.4.1 through 3.28.4.8 only select explosives are approved for use at such a facility. The project would likely involve some minor tree removal and some soil disturbances through construction and grading of proper safety layout.

The Air Force has also presented an alternative to build a new 28,330-square-foot Precision Measurement Equipment Laboratory (PMEL) Facility on the south side of Nomad Way. The facility would be 28,330 ft<sup>2</sup> and be accompanied by a parking lot, associated infrastructure, and stormwater discharge system. The project would likely involve some minor tree removal and some soil disturbances through construction and grading of proper safety layout. This structure would replace an already existing facility on base. As there would be no change in mission or manpower associated with this action cumulative impacts are not expected as a result of this action

The 2005 Base Realignment and Closure (BRAC) decision included establishing the Joint Strike Fighter (JSF) Integrated Training Center (ITC) at Eglin AFB which would establish an initial joint training site for joint Air Force, Navy, and Marine Corps Joint Strike Fighter training organizations to teach aviators and maintenance technicians how to properly operate and maintain this new weapon system. It would relocate 200 instructors to Eglin AFB. Potential impacts from this program due to changing mission and additional personnel may include; noise, air quality, munition storage concerns, transportation, and utilities concerns, among others. A full analysis of these activities has not taken place so only a generalized analysis of cumulative impacts can occur.

Depending on how many of these actions are finally implemented, increasing traffic congestion may eventually become a concern in this area. Nomad Way is the main arterial road from Eglin Main base to the area south of the flight line which is proposed as the future location of several already existing missions on base (EOD Facility, PMEL) and proposed new missions on base such as the JSF. Along with these additions, the 33<sup>rd</sup> Fighter Wing is expected to transfer out of Eglin and depart their currently occupied space in buildings along Nomad Way. This departure would mitigate some, if not most of the expected traffic increase in the area. No cumulative impacts are expected as a result of these actions but any future analysis involving other planned activities in the area should focus on potential changes in explosive transport routes, travel times, and emergency response capabilities.

#### **4.7.3 Analysis of Cumulative Impacts**

##### *Water Resources*

Cumulative impacts to water resources are not anticipated. Both the Proposed Action and the alternative are not located near any surface water. There is a drainage ditch nearby however the implementation of SWPP and BMPs required to implement the construction plan are expected to be sufficient to control erosion. The EOD or PMEL complex does not represent a change in amount of personnel or mission, however the beddown of the JSF will bring additional personnel to Eglin. As a result of this beddown there may be additional demands on existing water supplies.

##### *Soils*

Past development in various locations of Eglin AFB likely contributed to soil erosion and loss. However, the extent to which this has occurred is difficult to quantify. Current BMPs utilized during construction episodes are designed to prevent destabilization of soils as a result of any future project activity. Implementation of the current Proposed Action would also involve the utilization of erosion control BMPs to minimize the potential for soil erosion. No significant impacts to soils or geology are anticipated as a result of implementing the Proposed Action or alternative or JSF beddown; therefore, no significant cumulative impacts are expected to occur.

##### *Safety*

Reasonably foreseeable activities associated with the relocated EOD complex would be the construction of the proficiency range, the PMEL facility and JSF beddown. Both the complex, PMEL and proficiency range are relocations of already existing actions occurring on Eglin. There would be no change of personnel or mission as a result of relocation. As construction and explosive shot usage associated with both projects will fall under existing Federal and Air Force regulations, these activities would have a minimal impact to safety. It is not known how much of the surrounding area would be used for JSF related facilities; however, due to its proximity to the flight line, use of some of this area for that purpose would be expected. It is not anticipated that cumulatively these actions would adversely affect safety. Therefore, no cumulative impacts are expected to occur to safety with implementation of the Proposed Action.

### *Biological Resources*

Localized loss of habitat or direct impacts to species can have a cumulative impact when viewed on a regional scale if that loss or impact is compounded by other events with the same end result. Foreseeable future projects could have the potential to cumulatively impact biological resources. However, direct impacts to threatened or endangered species would be expected to be minimal provided applicable management actions and regulatory requirements are implemented. No significant impacts to biological resources are anticipated as a result of implementing the Proposed Action or alternative; therefore, no significant cumulative impacts are expected to occur.

### *Air Quality*

Emissions associated with the reasonably foreseeable activities would have a minimal impact to air quality. It is not anticipated that cumulatively these actions would adversely affect air quality based on the established threshold criterion. Construction activities would be short-term and temporary. The impacts of the JSF beddown to air quality have not been fully analyzed as of this report, so effects of this action are an unknown factor. No cumulative impacts are expected to occur with implementation of the Proposed Action.

### *Hazardous Materials*

All hazardous materials generated or collected through the demolition of Building 914 and the construction of the new facility will be disposed of per current Air Force and EPA procedures and regulations (U.S. Air Force, 1997, 1997a, 1998a, USEPA, 1999). As the Proposed Action involves a change in location with no associated change in personnel or mission, no additional hazardous waste generation is anticipated. No significant impacts as a result of Hazardous Materials are anticipated as a result of implementing the Proposed Action or alternative, PMEL facility or JSF beddown; therefore, no significant cumulative impacts are expected to occur.

#### **4.7.4 Irreversible and Irretrievable Commitment of Resources**

NEPA requires that environmental analysis include identification of any irreversible and irretrievable commitment of resources that would be involved in the implementation of the Proposed Action or the Alternative Action.

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that 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. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., extinction of a threatened or endangered species or the disturbance of a cultural site).

Development of the proposed site may result in an irreversible and/or irretrievable commitment of natural resources as the undeveloped nature of some of the proposed construction sites would be altered. However, these areas could be returned to their existing state if the proposed facilities

were removed and the areas were allowed to revert back to its present state. No sensitive species or significant resources have been identified at this site; therefore, no irreversible and/or irretrievable commitment of these resources is associated with the implementation of the Proposed Action or Alternative 1.

Any environmental consequences as a result of this project are considered short-term and temporary (e.g., air emissions from construction). Construction activities would require consumption of limited amounts of materials typically associated with interior and exterior construction (e.g., concrete, wiring, piping, insulation, and windows). The amount of these materials used is not expected to significantly decrease the availability of the resources. Small amounts of nonrenewable resources would be used; however, these amounts are not considered to be appreciable and are not expected to affect the availability of these resources.

### **Alternative 1**

No irretrievable or irreversible commitment of resources would occur under Alternative 1.

### **No Action Alternative**

Under the No Action Alternative, the EOD Complex relocation and construction would not be implemented. Existing safety violations inherent in the current facility (building 914) would continue. No irretrievable or irreversible commitment of resources would occur under the No Action Alternative.

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## 5. PLANS, PERMITS, AND MANAGEMENT ACTIONS

The following is a list of regulations, plans, permits, and management actions associated with the Proposed Action. The environmental impact analysis process for this Environmental Assessment identified the need for these requirements, and the proponent and interested parties involved in the Proposed Action cooperated to develop them. These requirements are, therefore, to be considered as part of the Proposed Action and would be implemented through the Proposed Action's initiation. The proponent is responsible for adherence to and coordination with the listed entities to complete the plans, permits, and management actions.

### 5.1 REGULATIONS, PLANS, AND PERMITS

- CZMA Negative Determination
- Stormwater Facility Design and Construction Permit.
- Generic Permit for Stormwater Discharge from Construction Activities that Disturb One or More Acres of Land (NPDES permit).
- Wastewater Permit: The Air Force and its contractor would be required to obtain a Constructing a Domestic Wastewater Collection/Transmission System (62-604 FAC).

For the construction and operation of the new EOD facility, the following safety plans and permits must be adhered to.

- Federal requirements that govern construction activities include, but are not limited to:
  - OSHA: U.S. Department of Labor, Occupational Safety and Health Administration regulations including, but not limited to:
    - ◆ Construction Title 29, Part 1910, Section 12 of the Code of Federal Regulations

#### *Asbestos*

The following regulations/publications pertain to work practices when performing the demolition and disposal of a building that contains asbestos-containing materials.

- Code of Federal Regulations
  - 29 CFRL 1926.1101 -- Asbestos Standard for the Construction Industry
  - 29 CFR 1910-134 -- Industry Standard for Respiratory Protection
  - 29 CFR 1910.145 -- Specifications for Accident Signs/Tags
  - 29 CFR 1910.1200 -- Hazard Communication
  - 29 CFR 1910.2 -- Access to Employee Exposure and Medical Records
  - 29 CFR 1926-58 -- Asbestos, Tremolite, Anthophyllite, and Actinolite (Construction Industry)

- 40 CFR 61, Subpart M National Emissions Standards for Hazardous Air Pollutants (NESHAP) American National Standard Institute (ANSI) Publications
  - ◆ Z87.1 Occupational and Educational Eye and Face Protection
  - ◆ Z88.2-80 Practices for Respirator Protection
  - ◆ USEPA Guidance for Controlling Asbestos-Containing Materials in Buildings
  - ◆ National Institute for Occupational Safety and Health (NIOSH) Respiratory Protection
- U.S. Air Force
  - AFI 32-1052, Facility Asbestos Management
  - Air Force Occupational and Environmental Safety, Fire Prevention, and Health (AFOSH) Standard 161-4, Exposure to Asbestos

Federal requirements that govern asbestos abatement work or hauling and disposal of asbestos waste materials include, but are not limited to, the following.

- OSHA: U.S. Department of Labor, Occupational Safety and Health Administration regulations including, but not limited to:
  - Occupational Exposure to Asbestos, Tremolite, Anthophyllite, and Actinolite; Final Rules Title 29, Part 1910, Section 1001 and Part 1926, Section 1101 of the Code of Federal Regulations.
  - Respiratory Protection Title 29, Part 1910, Section 134 of the Code of Federal Regulations.
  - Access to Employee Exposure and Medical Records Title 29, Part 1910, Section 2 of the Code of Federal Regulations.
  - Hazard Communication Title 29, Part 1910, Section 1200 of the Code of Federal Regulations.
  - Specifications for Accident Prevention Signs and Tags Title 29, Part 1910, Section 145 of the Code of Federal Regulations.
- DOT: U.S. Department of Transportation regulations including, but not limited to:
  - Hazardous Substances Title 29, Part 171 and 172 of the Code of Federal Regulations.
- U.S. Environmental Protection Agency
  - NESHAP 40 CFR, Subpart M. Part 61 NESHAP requires 10 working days written notification of removal of quantities of asbestos-containing materials greater than 260 linear feet or 160 ft<sup>2</sup>.

Standards that govern asbestos abatement work or hauling and disposal of asbestos waste materials include, but are not limited to, the following.



- American National Standards Institute, 1430 Broadway, New York, New York 10018, (212) 354-3300.
  - Fundamentals Governing the Design and Operation of Local Exhaust Systems, Publication Z9.2-79.
  - Practices for Respiratory Protection Publication Z88.2-80. 01092-1.
- USEPA Guidance Documents (information number: (800) 334-8571; order publications (800) 424-9065).
  - Guidance for Controlling Asbestos-Containing Materials in Buildings (Purple Book). EPA 560/5-85-024.
  - Asbestos in Buildings: National Survey of Asbestos-Containing Friable Materials EPA 560/5-84-006.
  - Asbestos in Buildings: Guidance for Service and Maintenance Personnel EPA 560/5-85-018.
  - Asbestos Waste Management Guidance EPA 530-SW-85-007.
  - Asbestos Fact Book, USEPA Office of Public Affairs.
  - Asbestos in Buildings: Simplified Sampling Scheme for Friable Surfacing Materials.
  - A Guide to Respiratory Protection for the Asbestos Abatement Industry USEPA-560-OPTS-86-001.

### ***Lead-Based Paint***

The following regulations/publications pertain to work practices when performing the demolition and disposal of a building with materials containing lead-based paint.

- OSHA Standards, Title 29 CFR 1910.1025.
- RCRA, 40 CFR 260-282.
- 29 CFR 1926.62 Construction Standard.
- USEPA, 40 CFR 141 and 142, National Primary Drinking Water Regulations for Lead and Copper.
- 40 CFR 61, Subpart M, National Emission Standard for Hazardous Air Pollutants (NESHAP).
- Standard Operating Procedures for Measurement of Lead in Paint Using the Niton XL D-Ray Fluorescence Spectrometer Laboratory, Research Triangle Park, North Carolina.
- Department of Housing and Urban Development (HUD), Lead-Based Paint: Interim Guidelines for Hazard Identification and Abatement in Public and Indian Housing.
- OSHA Publication 3126, Working With Lead in the Construction Industry.
- USEPA Residential Lead-Based Paint Hazard Reduction Act of 1992.

In October 2000, USEPA authorized FDEP to implement the NPDES stormwater permitting program in the state of Florida. FDEP's authority to administer the NPDES program is set forth in Section 403.0885, Florida Statutes. The NPDES stormwater program regulates point source discharges of stormwater into surface waters of the state of Florida from certain municipal, industrial, and construction activities. As the NPDES stormwater permitting authority, FDEP is responsible for promulgating rules and issuing permits, managing and reviewing permit applications, and performing compliance and enforcement activities (FDEP, 2005).

Under the Storm Sewer Permitting plan, the Air Force and its contractor would be required to adhere to Phase II Municipal Separate Storm Sewer Systems (MS4) to permitting requirements. Additionally, the following plans and permits should be included.

- Site Design Plan.
- Stormwater Pollution Prevention Plan.
- Stormwater, Erosion, and Sedimentation Control Plan.
- Permits and authorization through the FDOT and/or Okaloosa County prior to construction.

## **5.2 MANAGEMENT ACTIONS**

The proponent is responsible for the implementation of the following management actions.

### **5.2.1 Soils/Water Resources**

- The proponent will ensure that the construction contractor coordinates with 96 CEG/CEVCE (Compliance Engineering, 882-7660) for final stormwater design and permitting, and septic tank system and leach field design and location.
- The site plan includes more than 1 acre of disturbance to undeveloped land. A stormwater permit would be required and swales would be used to control stormwater runoff.

The proponent will ensure that the construction contractor implements the following stormwater and Soils BMPs.

- Site preparation and construction would disturb the soil. Heavy machinery would compact soil and alter terrain. It is suggested that BMPs such as silt fences and hay bales, be implemented during construction to avoid soil run-off into the nearby drainage ditch.
- Inspect silt fencing on a weekly basis and after rain events. Replace fencing as needed.
- In permits and site plan designs, include site-specific management requirements for erosion and sediment control.
- Store chemicals, cements, solvents, paints, or other potential water pollutants in locations where they cannot cause runoff pollution.

- For construction equipment (e.g., cement mixers), designate “staging areas” designed to contain any chemicals, solvents, or toxins and prevent them from entering surface waters.
- Stabilize construction site entrance using FDOT-approved stone and geotextile (filter fabric).
- Inspect and maintain the aforementioned BMPs to ensure effectiveness.

### **5.2.2 Hazardous Materials/Waste**

- State notification must be made prior to demolition and a copy of this notice must be sent to 96 CEG/CEVCP at least 10 days prior to demolition. Also, remove any PCB items prior to demolition (such as light ballasts). If you have any questions contact Dale Whittington with 96 CEG/CEVCP at 882-7672.
- Coordinate disposal of hazardous materials with the Eglin Pollution Prevention Section (96 CEG/CEVCP). A Toxicity Characteristic Leaching Procedure (TCLP) test is required for materials associated with demolished buildings.
- Contact 96 CEG/CEVCP Hazardous Materials office about all hazardous materials used in construction projects. All paints, solvents, and adhesives must be approved, documented, and tracked in the Installation Hazardous Materials Management Program.
- Adhere to management requirements outlined within associated regulations and Eglin AFB’s Hazardous Waste Management Plan. Contractors are required to adhere to State and Federal regulations for hazardous waste management.
- Adhere to requirements in FAC 62-257, Asbestos Program.
- Contact Eglin’s Environmental Restoration Branch (96 CEG/CEVR) if unusual soil coloration and/or odors are detected and if small arms debris is found in these construction locations.
- All vacant facilities must be surveyed for asbestos; therefore, notify the 796 Civil Engineer Squadron (796 CES/CEOOM) once the facilities are abandoned to coordinate activities.
- When buildings to be demolished are located on or near active ERP sites, contact 96 CEG/CEVR before knocking over the structure.
- Fluorescent bulbs in the buildings that are demolished must be packaged securely and labeled with “Universal Waste, Mercury Lamps” for recycling as determined in FAC 62-737.300.
- Asbestos fibers are a cancer and lung disease hazard. Current licenses are required by applicable state or local jurisdictions for the removal, transporting, and disposal of asbestos-containing materials.
- Contact CE-EOD immediately upon discovery of any Unexploded Ordnance (UXO) or suspected UXO items while digging.

### **5.2.3 Air Quality**

- Comply with Eglin's Title V permit and all applicable requirements.
- Reasonable precautions would be taken to minimize fugitive particulate emissions during ground-disturbing/construction activities in accordance with FAC 62-296.
- The 96 CEG/CEVCE Air Quality Program Manager must be notified concerning all emissions sources associated with the proposed facility such as, but not limited to, boilers (size, fuel type, etc.) and generators (horsepower, fuel type, etc.).

### **5.2.4 Other**

- Energy efficient lighting and affirmative procurement should be used.
- Any hazardous materials used in the construction project must be tracked through the HAZMAT management and reporting program.

## 6. LIST OF PREPARERS

Name/Qualifications	Contribution	Experience
<b>Alysia Baumann</b> NEPA Planner/Specialist B.S. Chemical Engineering E.I.T., 2002	Author	2 years environmental science
<b>Amy Sands</b> Environmental Scientist B.S. Environmental Science, 2002	Author	2 years environmental science
<b>Catherine Brandenburg</b> Document Production	Document Production	5 years document management
<b>Hilary Brich</b> Technical Editor	Technical Editor	10 years experience editing technical writing
<b>Jamie McKee</b> Environmental Scientist B.S. Marine Biology	Quality Assurance/ Document Review	20 years environmental science
<b>Jason Koralewski</b> Archaeologist/NEPA Specialist B.A., Anthropology, 1996 M.L.S., Archaeology, 2000 M.A., Anthropology, 2002	Project Manager DOPAA	11 years environmental science
<b>Kevin Brent McBroom</b> GIS Specialist	GIS	7 years GIS experience
<b>Sherri Littman</b> Geoscientist/Archaeologist B.A., Anthropology, 1991 M.S., Geology, 1999	Author	7 years Geology & Environmental Science 17 years Archaeology

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## **7. LIST OF CONTACTS**

Captain Shane Firth  
96 CES/CESD, Eglin AFB  
Purpose of Contact: EOD Flight Issues

Dr. Paul Bolduc  
96 CEG/CEVSP, Eglin AFB  
Purpose of Contact: Project Coordination, Environmental

Theresa Jordan  
96 CEV/CEVCE, Eglin AFB  
Purpose of Contact: Water, Permitting

Mindy Rogers  
796 CES/CEOP, Eglin AFB  
Purpose of Contact: General Project Issues

Bob Penrose  
96 CEG/CEVSN, Eglin AFB  
Purpose of Contact: CZMA, Water and Natural Resources

Kelli von Eberstein  
USACE, Eglin AFB  
Purpose of Contact: US ARMY COE representative

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## 8. REFERENCES

- Federal Aviation Administration (FAA), 2004. Advisory circular on hazardous wildlife attractants on or near airports. Updated July 27, 2004. AC number 150/5200-33A.
- Florida Department of Environmental Protection (FDEP), 2004. 2000 Florida Water Quality Assessment 305(b) Main Report and Technical Appendix, Bureau of Surface Water Management.
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- Rogers, M. 2006. Personal Communication (e-mail) between Jason Koralewski, Dr. Paul Bolduc, and Ms. Melinda Rogers regarding Project History Issues of the Relocated EOD Complex. June 2006.
- Ruckstum, Jeff and John Santee. 2006. Personal Communication (phone) between Jason Koralewski, Jeff Ruckstum and John Santee (Eglin AFB Community Planner) regarding Land Use and Siting of the Relocated EOD Complex. July 2006.
- U.S. Air Force, no date. Clean Air Act Compliance Guidance. Air Force Center for Environmental Excellence. <http://www.afcee.brooks.af.mil/eq/air/caatoolbox/html/federal/compdet/genconform.html>. Accessed on 18 March 2005.
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## **APPENDIX A**

# **FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA) NEGATIVE DETERMINATION AND STATE CLEARINGHOUSE DOCUMENTS**



## **FEDERAL AGENCY COASTAL ZONE MANAGEMENT ACT (CZMA)**

### **NEGATIVE DETERMINATION**

#### **INTRODUCTION**

This document provides the State of Florida with the U.S. Air Force's Negative Determination under Section 307 of the Coastal Zone Management Act, 16 U.S.C. § 1456, and 15 C.F.R. Part 930.35. The information in this Negative Determination is provided pursuant to 15 C.F.R. Section 930.35.

This negative determination addresses the Proposed Action in the Environmental Assessment to Relocate the Air Force Explosive Ordnance Disposal Complex on Eglin Air Force Base (AFB), Florida.

#### **Proposed Federal Agency Action**

The Proposed Action is for the construction of a new explosive ordnance disposal complex on Eglin AFB, Florida (Figure A-1). The Civil Engineering Group, Explosive Ordnance Disposal (EOD) Flight, is made up of non-munitions maintenance personnel. The existing facility is situated within the ESQD safety arcs of six other ordnance related facilities. According to Public Law and Air Force Code, non-munitions facilities may not be located within the ESQD safety arcs of facilities with munitions. Since the designation of the existing facility has changed and is no longer considered an explosive munitions facility it must be relocated outside the ESQD safety arc. Additionally, the current facility does not have sufficient space to meet the needs of the Civil Engineering Group, EOD Flight. The current facility, totaling 12,734 ft<sup>2</sup> (1,183 m<sup>2</sup>), will be demolished.

The Proposed Action is to relocate and construct the new EOD complex on a wooded vacant lot on the southwest side of Nomad Way on Eglin AFB (Figure A-2). The approximately 2.5-acre complex will consist of a training/maintenance facility, parking area, and outdoor activity area. The facility will be a one-story, split-faced, concrete block structure with a sloped metal roof. It will contain areas for inert munitions display and storage, classrooms, work areas, as well as storage areas for munitions maintenance and operational equipment. The building footprint will be approximately 17,505 ft<sup>2</sup> (1,626 m<sup>2</sup>). The EOD complex will also include a parking area and outdoor activity areas adjacent to the facility. Future additions to the complex may include a 6-foot perimeter fence or barrier and an explosives proficiency range for small explosives training.

#### **Federal Review**

After review of the Florida Coastal Management Program and its enforceable policies, the U.S. Air Force has made a determination that this activity is one that will not have an effect on the state of Florida coastal zone or its resources.

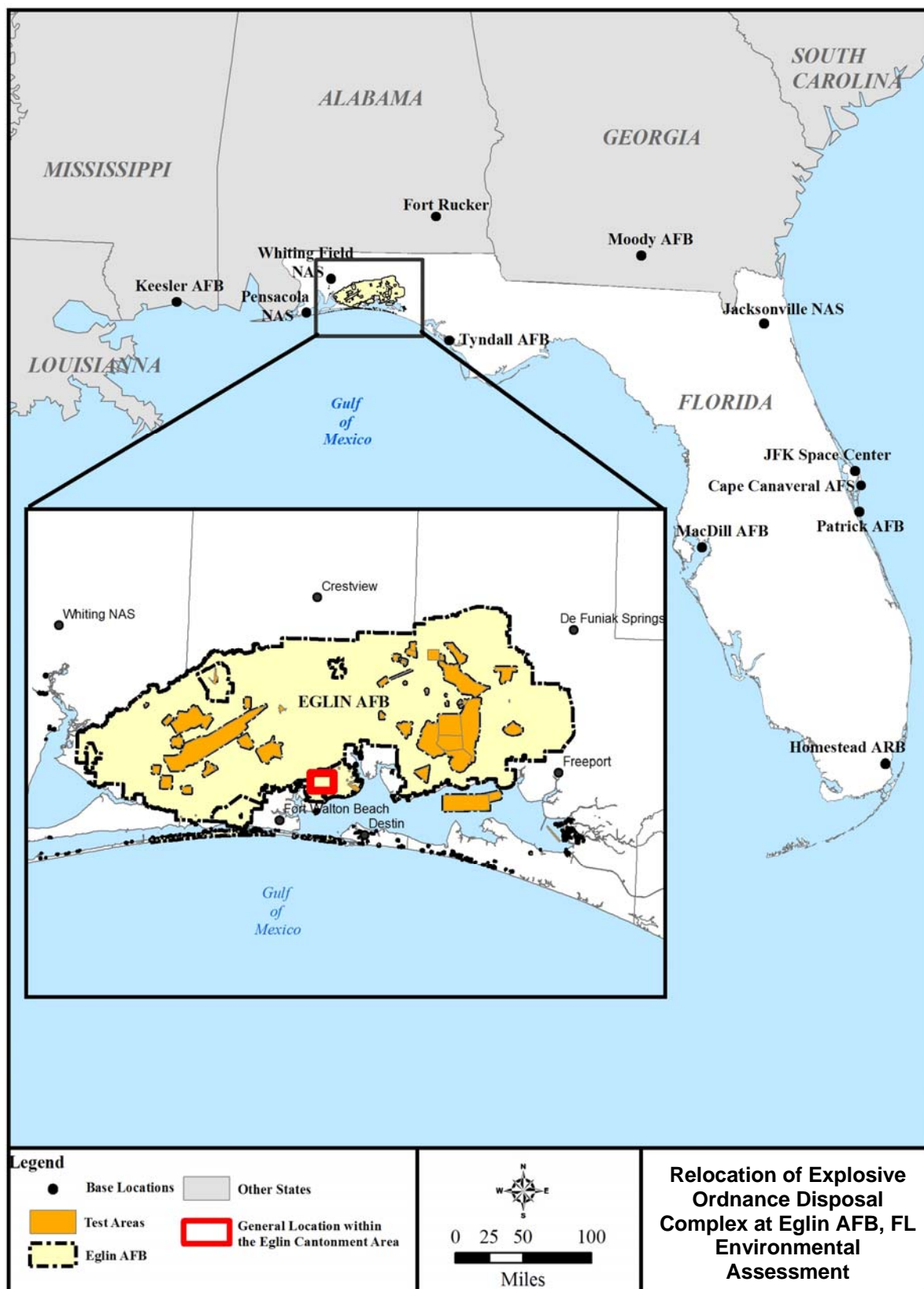


Figure A-1. Location of Proposed Action on Eglin AFB



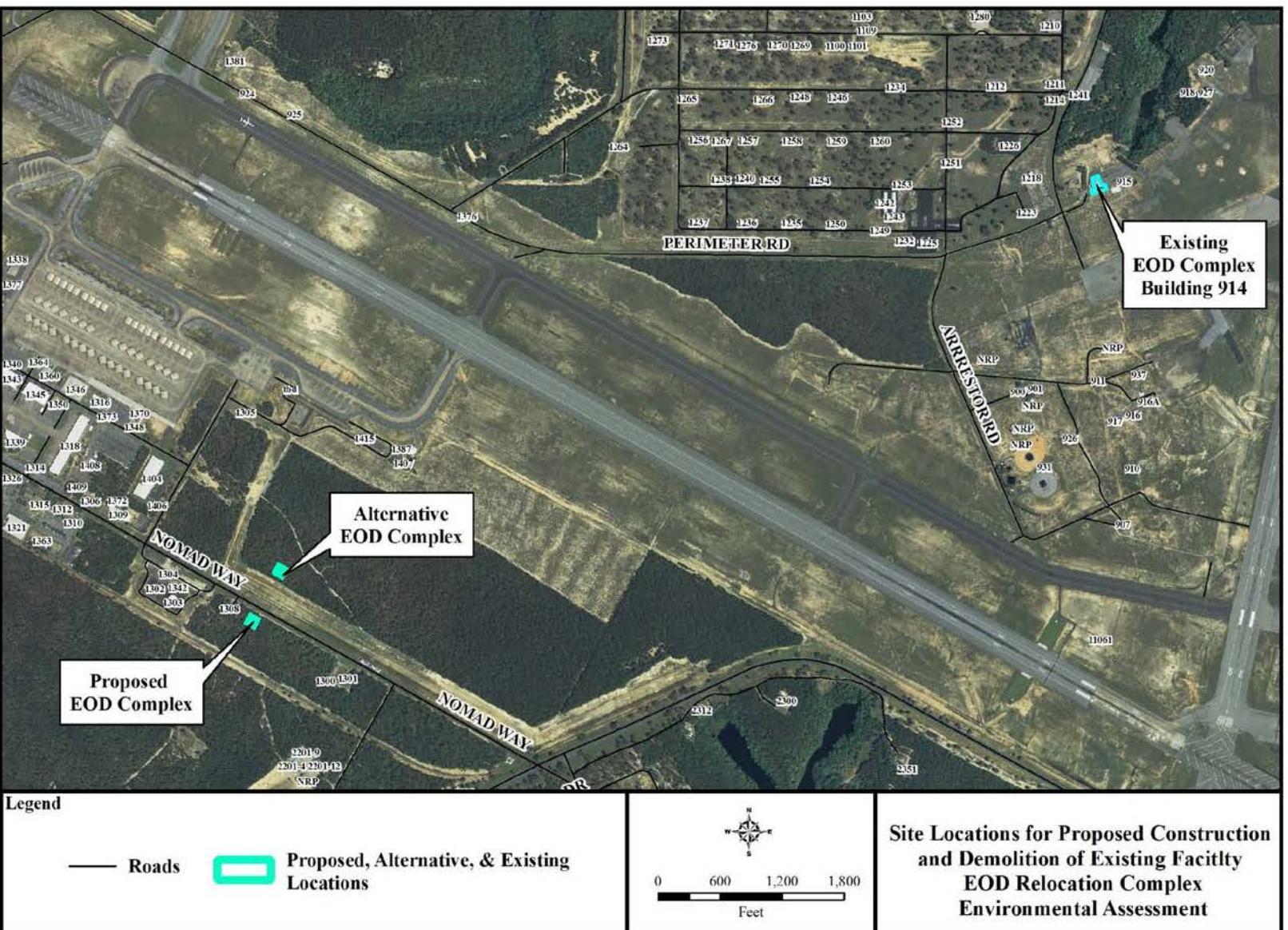


Figure A-2. Proposed Location of the EOD Complex on Eglin, AFB

10/27/06

Relocate Air Force Explosive Ordnance Disposal Administrative Complex  
Eglin Air Force Base, Florida

Page A-3

### Florida Coastal Management Program Consistency Review

Statute	Consistency	Scope
Chapter 161 <i>Beach and Shore Preservation</i>	<p>The proposed project would not adversely affect beach and shore management, specifically as it pertains to:</p> <ul style="list-style-type: none"> <li>• The Coastal Construction Permit Program.</li> <li>• The Coastal Construction Control Line (CCCL) Permit Program.</li> <li>• The Coastal Zone Protection Program.</li> </ul> <p>All land activities would occur on federal property.</p>	Authorizes the Bureau of Beaches and Coastal Systems within DEP to regulate construction on or seaward of the state's beaches.
Chapter 163, Part II <i>Growth Policy; County and Municipal Planning; Land Development Regulation</i>	The proposed action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 <i>State and Regional Planning</i>	The proposed action would not have a negative affect on state plans for water use, land development or transportation.	Details state-level planning requirements. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 <i>Emergency Management</i>	The proposed action would not increase the state's vulnerability to natural disasters. Emergency response and evacuation procedures would not be impacted by the proposed action.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.
Chapter 253 <i>State Lands</i>	All activities would occur on federal property, therefore there would be no impact to state or public lands.	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.
Chapter 258 <i>State Parks and Preserves</i>	State parks, recreational areas and aquatic preserves would not be affected by the proposed action.	Addresses administration and management of state parks and preserves (Chapter 258).
Chapter 259 <i>Land Acquisition for Conservation or Recreation</i>	Tourism and outdoor recreation would not be affected.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands (Chapter 259).
Chapter 260 <i>Recreational Trails</i>	Opportunities for recreation on state lands would not be affected.	Authorizes acquisition of land to create a recreational trails system



### Florida Coastal Management Program Consistency Review, Cont'd

<i>System</i>		and to facilitate management of the system (Chapter 260).
Chapter 375 <i>Multipurpose Outdoor Recreation; Land Acquisition, Management, and Conservation</i>	Opportunities for recreation on state lands would not be affected.	Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to meet the identified needs (Chapter 375).
Chapter 267 <i>Historical Resources</i>	The proposed action would not have an impact on historic and/or cultural resources.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 <i>Commercial Development and Capital Improvements</i>	The proposed action would occur on federal property. The proposed action would not have an effect on future business opportunities on state lands, or the promotion of tourism in the region.	Provides the framework for promoting and developing the general business, trade, and tourism components of the state economy.
Chapter 334 <i>Transportation Administration</i>	The proposed project would not have an impact on transportation.	Addresses the state's policy concerning transportation administration (Chapter 334).
Chapter 339 <i>Transportation Finance and Planning</i>	The proposed project would have no effect on the finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system (Chapter 339).
Chapter 370 <i>Saltwater Fisheries</i>	The proposed action would not have an effect on saltwater fisheries.	Addresses management and protection of the state's saltwater fisheries.
Chapter 372 <i>Wildlife</i>	Eglin Natural Resources will conduct a gopher tortoise survey prior to construction. If necessary, gopher tortoise and/or commensals will be relocated in accordance with Eglin's Gopher Tortoise Relocation Permit. The proposed action would not have a negative impact on wildlife resources.	Addresses the management of the wildlife resources of the state.
Chapter 373 <i>Water Resources</i>	In order to reduce the potential impact to water resources, best management practices will be used to control erosion and stormwater runoff. Applicable permitting requirements will be satisfied in accordance with 62-25 Florida Administrative Code (FAC) and National Pollutant Discharge Elimination System (NPDES). An application for a NPDES	Addresses the state's policy concerning water resources.

### Florida Coastal Management Program Consistency Review, Cont'd

	stormwater permit would be filed prior to project initiation.	
Chapter 376 <i>Pollutant Discharge Prevention and Removal</i>	The proposed action will not have an impact to the transfer, storage, or transportation of pollutants.	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 <i>Energy Resources</i>	Energy resource production, including oil and gas, and the transportation of oil and gas, would not be affected by the proposed action.	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 380 <i>Land and Water Management</i>	The proposed action would occur on federally owned lands. Under the proposed action, development of state lands with regional (i.e., more than one county) impacts would not occur. No changes to coastal infrastructure such as capacity increases of existing coastal infrastructure, or use of state funds for infrastructure planning, designing or construction would occur.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 <i>Public Health, General Provisions</i>	The proposed action does not involve the construction of an on-site sewage or treatment system.	Establishes public policy concerning the state's public health system.
Chapter 388 <i>Mosquito Control</i>	The proposed action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.
Chapter 403 <i>Environmental Control</i>	The proposed action would have no impact on water quality, air quality, pollution control, solid waste management, or other environmental control efforts.	Establishes public policy concerning environmental control in the state.



# Florida

## Department of Environmental Protection

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Project Information	
<b>Project:</b>	FL200608222743C
<b>Comments Due:</b>	09/25/2006
<b>Letter Due:</b>	10/17/2006
<b>Description:</b>	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT TO RELOCATE AIR FORCE EXPLOSIVE ORDNANCE DISPOSAL ADMINISTRATIVE COMPLEX AT EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.
<b>Keywords:</b>	USAF - AIR FORCE EXPLOSIVE ORDNANCE DISPOSAL COMPLEX, EGLIN AFB - OKALOOSA
<b>CFDA #:</b>	12.200
Agency Comments:	
<b>WEST FLORIDA RPC - WEST FLORIDA REGIONAL PLANNING COUNCIL</b>	
No Comments - Generally consistent with the West Florida Strategic Regional Policy Plan.	
<b>OKALOOSA - OKALOOSA COUNTY</b>	
No Comment	
<b>COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS</b>	
<b>FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION</b>	
The Florida Fish and Wildlife Conservation Commission (FWC) has reviewed the Draft Environmental Assessment (DEA) and concurs that the relocation of the ordnance complex should have no significant impact on fish and wildlife resources. Please note that there is evidence of female Florida black bears ( <i>Ursus americanus floridanus</i> - Threatened [T]), within the project area and reproducing and general bear presence surrounding the proposed project area. Further, there are two documented telemetry locations (1996) of bears utilizing the area south of the proposed and alternative project sites. We recommend that continued monitoring of bear movements and efforts be made to avoid human/bear interactions.	
<b>STATE - FLORIDA DEPARTMENT OF STATE</b>	
No Comments Received	
<b>ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION</b>	
The DEP Northwest District Office in Pensacola indicates that because the proposed construction creates new stormwater discharge, a stormwater quality permit will be required in accordance with Rule 62-25, Florida Administrative Code (F.A.C.). For assistance with stormwater permitting requirements, please contact Mr. Cliff Street at (850) 595-8300, ext. 1135. The DEP advises that project development activities will also require issuance of a National Pollutant Discharge Elimination System (NPDES) Phase II permit, pursuant to Chapter 62-621, F.A.C. For NPDES permitting information, please contact the NPDES Stormwater Section in Tallahassee at (850) 245-7522.	
<b>NORTHWEST FLORIDA WMD - NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT</b>	
No Comment	

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

# FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION



RODNEY BARRETO  
Miami

SANDRA T. KAUPÉ  
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Enterprise

DAVID K. MEEHAN  
St. Petersburg

KATHY BARCO  
Jacksonville

RICHARD A. CORBETT  
Tampa

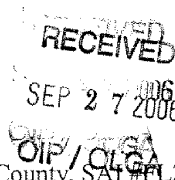
BRIAN S. YABLONSKI  
Tallahassee

KENNETH D. HADDAD, Executive Director  
VICTOR J. HELLER, Assistant Executive Director

MARY ANN POOLE, DIRECTOR  
OFFICE OF POLICY AND STAKEHOLDER COORDINATION  
(850) 488-6961 TDD (850) 488-9542  
FAX (850) 922-5679

September 25, 2006

Ms. Lauren Milligan, Clearinghouse Coordinator  
Florida State Clearinghouse  
Florida Department of Environmental Protection  
3900 Commonwealth Boulevard, Mail Station 47  
Tallahassee, FL 32399-3000



Re: Okaloosa County, SAI #FL200608222743C,  
Department of the Air Force - Draft  
Environmental Assessment to Relocate Air  
Force Explosive Ordnance Disposal  
Administrative Complex, Eglin Air Force  
Base

Dear Ms. Milligan:

The Division of Habitat and Species Conservation, Habitat Conservation Scientific Services Section, of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated agency review of the Department of the Air Force - Draft Environmental Assessment to Relocate Air Force Explosive Ordnance Disposal Administrative Complex at Eglin Air Force Base (AFB) and offers the following comments in accordance with the Coastal Zone Management Act/Florida Coastal Management Program and the National Environmental Policy Act.

The proposed action, which is also the preferred alternative, is to relocate and construct the new Explosive Ordnance Disposal complex on a wooded vacant lot adjacent to the military dog training facility and kennels. The proposed complex would be a maximum of 17,505 square feet. The structure would consist of a one-story, split-faced, concrete block construction with a sloped metal roof. The complex would also include utilities, parking, and landscaping. The complex would consist of areas for inert munitions display and storage, classrooms, work areas, storage areas for munitions maintenance, and operational equipment. The complex would also contain an adjacent parking area and outdoor activity areas. The proposed action so would include demolition of the existing Explosive Ordnance Disposal facility (Building 914) and the large asphalt-covered earth berm near it. This existing Explosive Ordnance Disposal facility is not centrally located on the base; it is located near the munitions storage area at the north end of the base.

620 South Meridian Street • Tallahassee • FL • 32399-1600  
Visit MyFWC.com

Ms. Lauren Milligan  
September 25, 2006  
Page 2

There is evidence of female Florida black bears (*Ursus americanus floridanus* – Threatened [T]), within the project area and reproducing and general bear presence surrounding the proposed project area. Further, there are two documented telemetry locations (1996) of bears utilizing the area south of the proposed and alternative project sites. We recommend that continued monitoring of bear movements and efforts be made to avoid human/bear interactions.

We concur that the relocation of the ordinance complex should have no significant impact on fish and wildlife resources. The Draft Environmental Assessment and Finding of No Significant Impact to Relocate Air Force Explosive Ordinance Disposal Administrative Complex at Eglin AFB is consistent with our authorities under Chapter 372.072-372.075, Florida Statutes, as provided for in the Florida Coastal Management Program. If you or your staff would like to coordinate further on the recommendations contained in this report, please contact me at 850-488-6661 or email me at [maryann.poole@MyFWC.com](mailto:maryann.poole@MyFWC.com), and I will be glad to help make the necessary arrangements. If your staff has any specific questions regarding our comments, I encourage them to contact Theodore Hoehn (850-488-3831); email [ted.hoehn@myFWC.com](mailto:ted.hoehn@myFWC.com).

Sincerely,



Mary Ann Poole, Director  
Office of Policy and Stakeholder Coord.

map/tsh/km

ENV 1-3-2

Ordinance Disposal\_468

cc: Gail Carmody, USFWS-Panama City  
Jason Koralewski, SAIC

COUNTY: OKALOOSA

DATE: 8/18/2006

COMMENTS DUE DATE: 9/25/2006

CLEARANCE DUE DATE: 10/17/2006

SAI#: FL200608222743C

## MESSAGE:

<b>STATE AGENCIES</b>	<b>WATER MNGMNT. DISTRICTS</b>	<b>OPB POLICY UNIT</b>	<b>RPCS &amp; LOC GOVS</b>
COMMUNITY AFFAIRS			
ENVIRONMENTAL PROTECTION	X NORTHWEST FLORIDA WMD		
FISH and WILDLIFE COMMISSION			
STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- ☐ Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X ☒ Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- ☐ Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- ☐ Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

## Project Description:

DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT TO RELOCATE AIR FORCE EXPLOSIVE ORDNANCE DISPOSAL ADMINISTRATIVE COMPLEX AT EGLIN AIR FORCE BASE - OKALOOSA COUNTY, FLORIDA.

## To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

## EO. 12372/NEPA Federal Consistency

- ☒ No Comment  
☐ Comment Attached  
☐ Not Applicable
- ☐ No Comment/Consistent  
☐ Consistent/Comments Attached  
☐ Inconsistent/Comments Attached  
☐ Not Applicable

NO COMMENTS

## From:

Division/Bureau: NFWFMD  
Resource Management Div.  
Duncan J. Cairns

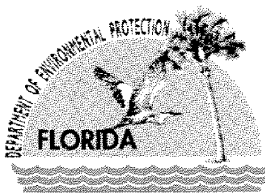
Reviewer: Date 18 SEPT 2006

Date:

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OIP / OLGA



Jeb Bush  
Governor

## Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Colleen M. Castille  
Secretary

October 17, 2006

Mr. Jason M. Koralewski, Project Manager  
Science Applications International Corporation  
1140 North Eglin Parkway  
Shalimar, FL 32579

RE: Department of the Air Force – Draft Environmental Assessment to Relocate Air Force Explosive Ordnance Disposal Administrative Complex at Eglin Air Force Base – Okaloosa County, Florida.  
SAI # FL200608222743C

Dear Mr. Koralewski:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the referenced Draft Environmental Assessment (DEA).

The Florida Department of Environmental Protection (DEP), Northwest District Office in Pensacola indicates that because the proposed construction creates new stormwater discharge, a stormwater quality permit will be required in accordance with Rule 62-25, *Florida Administrative Code (F.A.C.)*. For assistance with stormwater permitting requirements, please contact Mr. Cliff Street at (850) 595-8300, ext. 1135. The DEP advises that project development activities will also require issuance of a National Pollutant Discharge Elimination System (NPDES) Phase II permit, pursuant to Chapter 62-621, *F.A.C.* For NPDES permitting information, please contact the NPDES Stormwater Section in Tallahassee at (850) 245-7522.

The Florida Fish and Wildlife Conservation Commission (FWC) indicates that the relocation of the ordinance complex should have no significant impact on fish and wildlife resources. Please note that there is evidence of female Florida black bears (*Ursus americanus floridanus* – Threatened [T]), within the project area and reproducing and general bear presence surrounding the proposed project area. Further, the FWC advises that there are two documented telemetry locations (1996) of bears utilizing the area south of the proposed and alternative project sites. FWC staff recommends continued monitoring of bear movements and that efforts be made to avoid human/bear interactions. Please refer to the enclosed FWC letter for additional details.

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*Printed on recycled paper.*

Mr. Jason M. Koralewski  
October 17, 2006  
Page 2 of 2

Based on the information contained in the DEA and the enclosed state agency comments, the state has determined that, at this stage, the proposed federal activities are consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the issues identified by our reviewing agencies prior to project implementation. The state's continued concurrence with the project will be based, in part, on the adequate resolution of issues identified during this and subsequent reviews. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Lauren Matzke at (850) 245-2168.

Sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/lkm  
Enclosures

cc: Darryl Boudreau, DEP, Northwest District  
Mary Ann Poole, FWC



## **APPENDIX B**

### **PHOTOGRAPHS OF EXISTING EOD FACILITY AND PROPOSED AND ALTERNATIVE PROJECT AREAS**





Photograph 1: Building 914, the Existing EOD Complex, Looking E



Photograph 2: Asphalt Berm in Front of Building 914





Photograph 3: Proposed Site for the New EOD Facility, Looking SE into Project



Photograph 4: Proposed Site (Ground Conditions and Vegetation) for the New EOD Facility, Looking E



Photograph 5: Alternate Site Location for the New EOD Facility, Looking NE from Proposed Site  
(note drainage ditch in foreground)

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**APPENDIX C**  
**AIR QUALITY**





This appendix presents an overview of the Clean Air Act (CAA) and the State of Florida air quality program. The appendix also discusses emission factor development and calculations including assumptions employed in the air quality analyses.

## **Air Quality Program Overview**

### *National Ambient Air Quality Standards*

In order to protect public health and welfare, the USEPA has developed numerical concentration-based standards or National Ambient Air Quality Standards (NAAQS) for six “criteria” pollutants (based on health related criteria) under the provisions of the Clean Air Act Amendments of 1970. There are two kinds of NAAQS: primary and secondary standards. Primary standards prescribe the maximum permissible concentration in the ambient air to protect public health including the health of “sensitive” populations such as asthmatics, children, and the elderly. Secondary standards prescribe the maximum concentration or level of air quality required to protect public welfare including protection against decreased visibility, damage to animals, crops, vegetation, and buildings (40 CFR Part 51).

The CAA gives states the authority to establish air quality rules and regulations. These rules and regulations must be equivalent to, or more stringent than, the Federal program. The Division of Air Resource Management within the Florida Department of Environmental Protection (FDEP) administers the state’s air pollution control program under authority of the Florida Air and Water Pollution Control Act and the Environmental Protection Act.

Florida has adopted the NAAQS except for sulfur dioxide (SO<sub>2</sub>). EPA has set the annual and 24-hour standards for SO<sub>2</sub> at 0.03 ppm (80 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]) and 0.14 ppm (365  $\mu\text{g}/\text{m}^3$ ) respectively. Florida has adopted the more stringent annual and 24-hour standards of 0.02 ppm (60  $\mu\text{g}/\text{m}^3$ ) and 0.1 ppm (260  $\mu\text{g}/\text{m}^3$ ) respectively. In addition, Florida has adopted the national secondary standard of 0.50 ppm (1300  $\mu\text{g}/\text{m}^3$ ). Federal and State of Florida ambient air quality standards are presented in Table C-1.

Based on measured ambient air pollutant concentrations, the USEPA designates areas of the U.S. as having air quality better than (attainment) or worse than (nonattainment) the NAAQS, and unclassifiable. Those that cannot be classified on the basis of available information as meeting or not meeting the NAAQS for a particular pollutant are “unclassifiable” and are treated as attainment until proven otherwise. Attainment areas can be further classified as “maintenance” areas. Maintenance areas are those areas previously classified as nonattainment and has successfully reduced air pollutant concentrations below the standard. Maintenance areas are under special maintenance plans and must operate under some of the nonattainment area plans to ensure compliance with the NAAQS. All areas of Florida are in compliance with the NAAQS.

Each state is required to develop a state implementation plan (SIP) that sets forth how CAA provisions will be imposed within the state. The SIP is the primary means for the implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other

provisions required to attain and maintain the ambient air quality standards. The purpose of the SIP is twofold. First, it must provide a control strategy that will result in the attainment and maintenance of the NAAQS. Second, it must demonstrate that progress is being made in attaining the standards in each nonattainment area.

In attainment areas, major new or modified stationary sources of air emissions on and in the area are subject to Prevention of Significant Deterioration (PSD) review to ensure that these sources are constructed without causing significant adverse deterioration of the clean air in the area. A major new source is defined as one that has the potential to emit any pollutant regulated under the CAA in amounts equal to or exceeding specific major source thresholds: 100 or 250 tons/year based on the source's industrial category. A major modification is a physical change or change in the method of operation at an existing major source that causes a significant "net emissions increase" at that source of any regulated pollutant. Table C-2 provides a tabular listing of the PSD significant emissions rate (SER) thresholds for selected criteria pollutants (USEPA Draft New Source Review Workshop Manual: Prevention of Significant Deterioration and Nonattainment Permitting). (PSD SER and increment thresholds have been established for PM<sub>10</sub>, but not for PM<sub>2.5</sub>.) It should be noted that mobile source emissions as well as those associated with construction activities are excluded from the PSD applicability process.

The goal of the PSD program is to: 1) ensure economic growth while preserving existing air quality, 2) protect public health and welfare from adverse effects which might occur even at pollutant levels better than the NAAQS, and 3) preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas. Sources subject to PSD review are required by the CAA to obtain a permit before commencing construction. The permit process requires an extensive review of all other major sources within a 50-mile radius and all Class I areas within a 62-mile radius of the facility. Emissions from any new or modified source must be controlled using Best Available Control Technology. The air quality, in combination with other PSD sources in the area, must not exceed the maximum allowable incremental increase identified in Table C-3. National parks and wilderness areas are designated as Class I areas, where any appreciable deterioration in air quality is considered significant. Class II areas are those where moderate, well-controlled industrial growth could be permitted. Class III areas allow for greater industrial development.

**Table C-1. National and State Ambient Air Quality Standards**

<b>Criteria Pollutant</b>	<b>Averaging Time</b>	<b>Federal Primary NAAQS<sup>1,2,3</sup></b>	<b>Federal Secondary NAAQS<sup>1,2,4</sup></b>	<b>Florida Standards</b>
Carbon Monoxide (CO)	8-hour 1-hour	9 ppm <sup>5</sup> (10 mg/m <sup>3</sup> ) <sup>6</sup> 35 ppm (40 mg/m <sup>3</sup> )	No standard No standard	9 ppm (10 µg/m <sup>3</sup> ) <sup>7</sup> 35 ppm (40 µg/m <sup>3</sup> )
Lead (Pb)	Quarterly	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
Nitrogen Dioxide (NO <sub>2</sub> )	Annual	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
Ozone (O <sub>3</sub> )	1-hour <sup>8</sup> 8-hour <sup>9</sup>	0.12 ppm (235 µg/m <sup>3</sup> ) 0.08 ppm (157 µg/m <sup>3</sup> )	0.12 ppm (235 µg/m <sup>3</sup> ) 0.08 ppm (157 µg/m <sup>3</sup> )	0.12 ppm (235 µg/m <sup>3</sup> ) 0.08 ppm (157 µg/m <sup>3</sup> )
Particulate Matter ≤10 Micrometers (PM <sub>10</sub> )	Annual 24-hour <sup>10</sup>	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>
Particulate Matter ≤2.5 Micrometers (PM <sub>2.5</sub> )	Annual 24-hour <sup>11</sup>	15 µg/m <sup>3</sup> 65 µg/m <sup>3</sup>	15 µg/m <sup>3</sup> 65 µg/m <sup>3</sup>	15 µg/m <sup>3</sup> 65 µg/m <sup>3</sup>
Sulfur Dioxide (SO <sub>2</sub> )	Annual 24-hour 3-hour	0.03 ppm (80 µg/m <sup>3</sup> ) 0.14 ppm (365 µg/m <sup>3</sup> ) No standard	No standard No standard 0.50 ppm (1300 µg/m <sup>3</sup> )	0.02 ppm (60 µg/m <sup>3</sup> ) 0.10 ppm (260 µg/m <sup>3</sup> ) 0.50 ppm (1300 µg/m <sup>3</sup> )

Source: FDEP, 1996.

1. National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year.
2. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury; ppm refers to parts per million by volume.
3. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
4. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
5. ppm = parts per million
6. mg/m<sup>3</sup> = milligrams per cubic meter
7. µg/m<sup>3</sup> = micrograms per cubic meter
8. The ozone one-hour standard still applies to areas that were designated nonattainment when the ozone eight-hour standard was adopted in July 1997. The one-hour ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one averaged over a three-year period.
9. The 8-hour ozone standard is attained when the three-year average of the annual fourth-highest daily maximum eight-hour average is not greater than 0.08 ppm.
10. The PM<sub>10</sub> 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
11. The PM<sub>2.5</sub> 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

**Table C-2. Criteria Pollutant Significant Emissions Rate Increases Under PSD Regulations**

Pollutant	Significant Emissions Rate (tons/year)
PM <sub>10</sub>	15
Total Suspended Particulate (TSP)	25
SO <sub>2</sub>	40
NO <sub>x</sub>	40
Ozone (VOC)	40
CO	100

Source: 40 CFR 51.

**Table C-3. Federal Allowable Pollutant Concentration Increases Under PSD Regulations**

Pollutant	Averaging Time	Maximum Allowable Concentration (µg/m <sup>3</sup> )		
		Class I	Class II	Class III
PM <sub>10</sub>	Annual	4	17	34
	24-hour	8	30	60
SO <sub>2</sub>	Annual	2	20	40
	24-hour	5	91	182
	3-hour	25	512	700
NO <sub>2</sub>	Annual	2.5	25	50

Source: 40 CFR 51.

µg/m<sup>3</sup> = Micrograms per cubic meter

Florida has a statewide air quality-monitoring network that is operated by both state and local environmental programs (FDEP, 2003). The air quality is monitored for carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter and sulfur dioxide. The monitors tend to be concentrated in areas with the largest population densities and not all pollutants are monitored in those areas. The air quality monitoring network is used to identify areas where the ambient air quality standards are being violated and plans are needed to reduce pollutant concentration levels to be in attainment with the standards, also included are areas where the ambient standards are being met but plans are necessary to ensure maintenance of acceptable levels of air quality in the face of anticipated population or industrial growth.

The end-result of this attainment/maintenance analysis is the development of local and statewide strategies for controlling emissions of criteria air pollutants from stationary and mobile sources. The first step in this process is the annual compilation of the ambient air monitoring results, and the second step is the analysis of the monitoring data for general air quality exceedances of the NAAQS as well as pollutant trends. Currently, the state of Florida is attainment for all criteria pollutants.

### *Regulatory Comparisons*

In order to evaluate the air emissions and their impact to the overall region of influence (ROI). The emissions associated with the construction activities were compared to the total emissions on a pollutant-by-pollutant basis for the ROI's 1999 NEI data. Potential impacts to air quality are then identified as the total emissions of any pollutant that equals 10 percent or more of the ROI's emissions for that specific pollutant. The 10 percent criteria approach is used in the General Conformity Rule as an indicator for impact analysis for non-attainment and maintenance areas and although the entire state of Florida is attainment, the General Conformity Rule's

impact analysis was utilized to provide a consistent approach to evaluating the impact of construction emissions.

To provide a conservative evaluation, the impacts screening in this analysis, used a more restrictive criteria than required in the General Conformity Rule. Rather than comparing emissions from construction activities to regional inventories (as required in the General Conformity Rule), emissions were compared to the individual counties potentially impacted, which are a smaller area.

### **Project Calculations:**

#### *Construction Emissions*

Construction emissions calculations were completed using the calculation methodologies described in the U.S. Air Force Air Conformity Applicability Model (ACAM). As previously indicated, a conformity determination is not required since Okaloosa County is designated “attainment,” the ACAM was used to provide a level of consistency with respect to emissions factors and calculations.

The ACAM evaluates the individual emissions from different sources associated with the construction phases. These sources include grading activities, asphalt paving, construction worker trips, stationary equipment (e.g., saws and generators), non-residential architectural coatings and mobile equipment emissions (U.S. Air Force, 2003).

As a result of limited information, certain assumptions were made to develop the air quality analysis. It was assumed that one building would be constructed on 0.4 acres of land in Okaloosa County. Twenty-five percent of the 0.4 acres would be paved or a tenth of an acre. The facility to be constructed was assumed to be 17,505 ft<sup>2</sup>. Based on these assumptions, the construction emissions were calculated using the calculation methodology expressed below.

#### *Grading Activities*

Grading activities are divided into grading equipment emissions and grading operation emissions. Grading equipment calculations are combusive emissions from equipment engines and are ascertained in the following manner:

$$\text{VOC} = .22 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000$$

$$\text{NO}_x = 2.07 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000$$

$$\text{PM}_{10} = .17 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000$$

$$\text{CO} = .55 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000$$

$$\text{SO}_2 = .21 \text{ (lbs/acre/day)} * \text{Acres} * \text{DPY}_1 / 2000$$

Where Acres = number of gross acres to be graded during Phase I construction.

$DPY_1$  = number of days per year during Phase I construction which are used for grading

2000 = conversion factor from pounds to tons

All emissions are represented as tons per year.

Grading operations are calculated using a similar equation from the Sacramento Air Quality Management District and the South Coast Air Quality Management Districts (Sacramento Metropolitan Air Quality Management District (SMAQMD), 1994). These calculations include grading and truck hauling emissions.

$$PM_{10} \text{ (tons/yr)} = 60.7 \text{ (lbs/acre/day)} * \text{Acres} * DPY_1 / 2000$$

Where Acres = number of gross acres to be graded during Phase I construction.

$DPY_1$  = number of days per year during Phase I construction which are used for grading

2000 = conversion factor from pounds to tons

Calculations used in the EA assumed that there were no controls used to reduce fugitive emissions. Also, it was assumed that construction activities would occur within 365 days and grading activities would represent 16 percent of that total. Therefore, 60 days was the duration established for grading operations. Also, it was assumed that for each building constructed three acres of grading would be required for each construction activity. Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (SMAQMD, 1994).

### *Architectural Coatings*

Non-residential architectural coating emissions are released through the evaporation of solvents that are contained in paints, varnishes, primers and other surface coatings.

$$VOC_{SF} \text{ (lbs/yr)} = (SQR\_GRSQF * 1.63) / 2000$$

Where:  $SQR\_GRSQF$  = square root of gross square feet of non-residential building space to be constructed in the given year of construction.

1.63 = Emissions factor

2000 = conversion factor from pounds to tons

It was assumed that construction activities would occur within 365 days. After subtracting the grading activities from the estimated overall construction time, the actual construction period was reduced to 335 days. Additionally, it was assumed that thirty-five buildings were

constructed over the ten year life of the project and each building was assumed to be 35,000 ft<sup>2</sup>. Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (SMAQMD, 1994), *Asphalt Paving*.

VOC emissions are released during asphalt paving and are calculated using the following methodology:

$$\text{VOC}_{\text{PT}} (\text{tons/yr}) = (2.62 \text{ lbs/acre}) * \text{Acres Paved} / 2000$$

Acres Paved = total number of acres to be paved at the site.

2000 = conversion factor from pounds to tons

It was assumed that a minimum of 25 percent of the overall area (52.4 acres) to be developed for the aviation commerce park would be paved with asphalt; therefore, thirteen acres would be paved over the life of the project. The specific emissions factors used in the calculations were available through Sacramento Air Quality Management and the South Coast Air Quality Management Districts (SMAQMD, 1994), *Construction Worker Trips*.

Construction worker trips during the construction phases of the project are calculated and represent a function of the square feet of commercial construction.

$$\text{Trips} (\text{trips/day}) = .42 (\text{trip/unit/day}) * \text{Area of training facilities}$$

Total daily trips are the applied to the following factors depending on the corresponding years.

Year 2005 through 2009:

$$\text{VOC}_{\text{xE}} = .016 * \text{Trips}$$

$$\text{NO}_{\text{E}} = .015 * \text{Trips}$$

$$\text{PM}_{10\text{E}} = .0022 * \text{Trips}$$

$$\text{CO}_{\text{E}} = .262 * \text{Trips}$$

Year 2010 and beyond:

$$\text{VOC}_{\text{E}} = .012 * \text{Trips}$$

$$\text{NO}_{\text{xE}} = .013 * \text{Trips}$$

$$\text{PM}_{10\text{E}} = .0022 * \text{Trips}$$

$$\text{CO}_{\text{E}} = .262 * \text{Trips}$$

To convert from pounds per day to tons per year:

$$\text{VOC (tons/yr)} = \text{VOC}_E * \text{DPY}_{\text{II}}/2000$$

$$\text{NO}_x \text{ (tons/yr)} = \text{NO}_{xE} * \text{DPY}_{\text{II}}/2000$$

$$\text{PM}_{10}(\text{tons/yr}) = \text{PM}_{10E} * \text{DPY}_{\text{II}}/2000$$

$$\text{CO (tons/yr)} = \text{CO}_E * \text{DPY}_{\text{II}}/2000$$

Where: Commercial construction = total square footage of commercial aviation park to be constructed in the given year of construction.

2000 = conversion factor from pounds to tons

$\text{DPY}_{\text{II}}$  = number of days per year during Phase II construction activities.

It was assumed that the total square footage of construction was estimated to be 1,225,000 ft<sup>2</sup> which is based on thirty-five building at 35,000 ft<sup>2</sup> each. Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (SMAQMD, 1994).

### *Stationary Equipment*

Emissions from stationary equipment occur when gasoline powered equipment (e.g., saws, generators, etc.) is used at the construction site.

$$\text{VOC} = .198 * (\text{GRSQFT}) * \text{DPY}_{\text{II}}/ 2000$$

$$\text{NO}_x = .137 * (\text{GRSQFT}) * \text{DPY}_{\text{II}}/ 2000$$

$$\text{PM}_{10} = .004 * (\text{GRSQFT}) * \text{DPY}_{\text{II}}/ 2000$$

$$\text{CO} = 5.29 * (\text{GRSQFT}) * \text{DPY}_{\text{II}}/ 2000$$

$$\text{SO}_2 = .007 * (\text{GRSQFT}) * \text{DPY}_{\text{II}}/ 2000$$

Where GRSQF = Gross square feet of commercial buildings to be constructed during Phase II

$\text{DPY}_{\text{II}}$  = number of days per year during Phase II construction

2000 = conversion factor from pounds to tons

It was assumed that the total square footage of construction was estimated to be 1,225,000 ft<sup>2</sup>, which is based on thirty-five buildings at 35,000 ft<sup>2</sup> each. Emissions factors were derived from



the Sacramento Air Quality Management District and the South Coast Air Quality Management District (SMAQMD, 1994).

### *Mobile Equipment*

Mobile equipment emissions include pollutant releases associated with forklifts, dump trucks, etc. used during Phase II construction.

$$\text{VOC} = .17 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000$$

$$\text{NO}_x = 1.86 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000$$

$$\text{PM}_{10} = .15 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000$$

$$\text{CO} = .78 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000$$

$$\text{SO}_2 = .23 * (\text{GRSQFT}) * \text{DPY}_{\text{II}} / 2000$$

Where: GRSQF = Gross square feet of training area to be constructed during Phase II

DPY<sub>II</sub> = number of days per year during Phase II construction

2000 = conversion factor from pounds to tons

It was assumed that the total square footage of construction was estimated to be 1,225,000 ft<sup>2</sup>, which is based on thirty-five buildings at 35,000 ft<sup>2</sup> each. Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (SMAQMD, 1994).

### *Demolition Emissions*

Demolition emissions were calculated using the U.S. Air Force Air Conformity Applicability Model (ACAM) methodologies. Although conformity determination is not required since Okaloosa County is designated “attainment,” the ACAM was used to provide a level of consistency with respect to emissions factors and calculations.

As a result of limited information, certain assumptions were made to develop the air quality analysis. It was assumed that one building would be demolished totally (12,734 ft<sup>2</sup>). It was assumed that the demolition process would require 14 days to complete. Based on these assumptions, the construction emissions were calculated using the calculation methodology expressed below.

The ACAM evaluates particulate matter (PM<sub>10</sub>) emissions from building demolition (U.S. Air Force, 2003).

$$E \text{ (tons/yr.)} = 0.00042 \times J \times Q / 2000$$

Where:

$$J = (N \times O \times P)/Q$$

J = Building volume handled per day

N = Width of building in feet

O = Length of building in feet

P = Height of building in feet

Q = Number of days (in the calendar year) required to demolish a building

0.00042 = Emission factor in pounds of PM<sub>10</sub> Per Cubic Feet/Day

2000 = Conversion factor for converting from pounds to tons.

Emissions factors were derived from the Sacramento Air Quality Management District and the South Coast Air Quality Management District (SMAQMD, 1994).

### **National Emissions Inventory**

The National Emissions Inventory (NEI) is operated under EPA's Emission Factor and Inventory Group, which prepares the national database of air emissions information with input from numerous State and local air agencies, from tribes, as well as from industry. The database contains information on stationary and mobile sources that emit criteria air pollutants and hazardous air pollutants (HAPs). The database includes estimates of annual emissions, by source, of air pollutants in each area of the country, on an annual basis. The NEI includes emission estimates for all 50 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. Emission estimates for individual point or major sources (facilities), as well as county level estimates for area, mobile and other sources, are available currently for years 1996 and 1999 for criteria pollutants and HAPs.

Criteria air pollutants are those for which the USEPA has set health-based standards. Four of the six criteria pollutants are included in the NEI database:

Carbon Monoxide (CO)

Nitrogen Oxides (NO<sub>x</sub>)

Sulfur Dioxide (SO<sub>2</sub>)

Particulate Matter (PM<sub>10</sub> and PM<sub>2.5</sub>)

The NEI also includes emissions of Volatile Organic Compounds (VOCs), which are ozone precursors, emitted from motor vehicle fuel distribution and chemical manufacturing, as well as other solvent uses. VOCs react with nitrogen oxides in the atmosphere to form ozone. The NEI database defines three classes of criteria air pollutant sources:

- Point sources -- stationary sources of emissions, such as an electric power plant, that can be identified by name and location. A “major” source emits a threshold amount (or more) of at least one criteria pollutant, and must be inventoried and reported. Many states also inventory and report stationary sources that emit amounts below the thresholds for each pollutant.
- Area sources -- small point sources such as a home or office building, or a diffuse stationary source, such as wildfires or agricultural tilling. These sources do not individually produce sufficient emissions to qualify as point sources. Dry cleaners are one example, i.e., a single dry cleaner within an inventory area typically will not qualify as a point source, but collectively the emissions from all of the dry cleaning facilities in the inventory area may be significant and therefore must be included in the inventory.
- Mobile sources -- any kind of vehicle or equipment with a gasoline or diesel engine, airplane, or ship.

The main sources of criteria pollutant emissions data for the NEI are:

- For electric generating units - EPA’s Emission Tracking System/Continuous Emissions Monitoring Data (ETS/CEM) and Department of Energy fuel use data.
- For other large stationary sources - state data and older inventories where state data was not submitted.
- For on-road mobile sources - the Federal Highway Administration’s (FHWA’s) estimate of vehicle miles traveled and emission factors from EPA’s MOBILE Model.
- For non-road mobile sources – EPA’s NONROAD Model.
- For stationary area sources - state data, EPA-developed estimates for some sources, and older inventories where state or EPA data was not submitted.
- State and local environmental agencies supply most of the point source data. EPA’s Clean Air Market program supplies emissions data for electric power plants.

## References:

40 CFR 51, Code of Federal Regulations, Title 40, Part 51, [www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1](http://www.access.gpo.gov/nara/cfr/cfr-retrieve.html#page1).

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