Final Environmental Assessment and Finding of No Significant Impact for the Stationing of Gray Eagle Unmanned Aerial System Units and Associated Facilities Construction, Operation, and Maintenance at Wright Army Airfield, Fort Stewart, Georgia

Environmental Division,

U.S. Army Garrison, Fort Stewart, Georgia

November 2012

FINAL ENVIRONMENTAL ASSESSMENT AND

FINDING OF NO SIGNIFICANT IMPACT

STATIONING OF GRAY EAGLE UNMANNED AERIAL SYSTEM UNITS

AND ASSOCIATED FACILITIES CONSTRUCTION, OPERATION, AND MAINTENANCE

AT WRIGHT ARMY AIRFIELD, FORT STEWART, GEORGIA

Environmental Review:

Thomas C. Fry

Date: 10/23/2012

THOMAS C. FRY

Chief, Environmental Division

Directorate of Public Works

Reviewed by:

Robert R. Baumgardt

Date: 24 October 2012

ROBERT R. BAUMGARDT

Director, Public Works

Approval:

Date: 2 Nov 12

KEVIN F. GREGORY

Colonel, US Army

Commanding

FINDING OF NO SIGNIFICANT IMPACT (FNSI)

AND FINDING OF NO PRACTICABLE ALTERNATIVE (FNPA) FOR THE

STATIONING OF GRAY EAGLE UNMANNED AERIAL SYSTEM UNITS

AND ASSOCIATED FACILITIES CONSTRUCTION, OPERATION, AND MAINTENANCE

AT WRIGHT ARMY AIRFIELD, FORT STEWART, GEORGIA

1.0 BACKGROUND

In 2010, the Army completed an Environmental Impact Statement (EIS) that programmatically analyzed impacts from the construction and operation of 12 range facilities and two garrison support facilities, including a site just north of Wright Army Airfield (WAAF) in which the Gray Eagle Unmanned Aerial Surveillance (UAS) units could permanently operate on Fort Stewart. The EIS was programmatic in nature; therefore, as the UAS site began to undergo the site-specific design process, supplemental NEPA analysis was required, as well.

An Environmental Assessment (EA), completed in early 2012, tiered off the analysis in the EIS and addressed the first phase of UAS construction, which is currently in progress. This included the construction of an aircraft hangar and an access road, relocation of an existing tank trail, and the construction of potable water and sanitary sewerage systems, which connect to existing utility infrastructure. A second phase of UAS-related construction is scheduled for Fiscal Year (FY) 2013, and includes the construction of a company operations facility, a tactical equipment maintenance facility, an access road, and fence. Because the final design and alignment of all facilities was not known at the time of the first of construction, this tiered EA will analyze the potential environmental impacts associated with the final layout of UAS facilities and infrastructure included in the FY13 second phase of construction.

The decision to permanently station up to three Gray Eagle UAS Units at Fort Stewart was decided in May 2011 by the Vice Chief of Staff of the U.S. Army. Before this decision was made, environmental analysis was conducted programmatically by the Army to determine the Installations that could best support the Gray Eagle UAS mission. Fort Stewart met the Army's screening criteria for Gray Eagle mission assignment (U.S. Army, 2011). In addition to the construction, operation, and maintenance of the FY13 facilities and infrastructure, this tiered EA will also address Fort Stewart-specific impacts associated with receiving up to three new Gray Eagle Units. Two Gray Eagle Units are officially programmed to be stationed at Fort Stewart, one in FY13 and one in FY14, with the potential for an additional Unit in FY17 or FY18.

2.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the proposed action is to provide adequate and contiguous facilities for the imminent Gray Eagle UAS stationing action at Fort Stewart, Georgia. The proposed action is needed to ensure safe and reliable equipment and to ensure the military readiness of Gray Eagle Units to meet the nation's present and future war-fighting requirements.

3.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Proposed Action Alternative: The Army proposes to construct, operate, and maintain the final layout of the second facilities phase for the Gray Eagle UAS to occur in FY13 at WAAF. The Army also proposes to station two Gray Eagle UAS Units, one in FY13 and one in FY14, with the potential for a third Unit in FY17 or FY18 (up to 384 additional Soldiers and 36 additional contract support staff). In order to fully implement the proposed action, timber harvest, grubbing and grading, and construction of approximately 20 acres at the COF and TEMF locations will be required. Approximately 45 acres, within the airfield boundary, will be used for tactical operations staging and equipment placement, but will not experience ground disturbance. Construction of a controlled access road will involve an additional 65 acres of ground disturbance.

No Action Alternative: The no action alternative restricts construction to the more limited footprint analyzed in the 2010 EIS. It would not incorporate the necessary site specific design features developed after the site was selected and would not fulfill the intent or desire of the Army to provide adequate facilities from which to retain, operate, and maintain the Gray Eagle UAS platform, but provides a baseline for analysis of the proposed action.

4.0 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS

Analysis of this proposed action resulted in a finding of potential impact to Wetlands, Water Quality, Wildlife, Species of Concern, Cultural Resources, Airspace, Hazardous and Toxic Materials, and Solid Waste Management. Table 1 presents a summarized representation of these potential impacts, with a detailed analysis presented in Chapter 3.0, Environmental Consequences, of the Draft EA, incorporated herein by reference. The remaining environmental resources on Fort Stewart, to which no potential effects were predicted, are briefly discussed in Appendix A of the Draft EA.

Table 1: Level of Anticipated Environmental Impacts.

Type and Intensity of Impact		
Type of Impact	**Alternative I (No Action)**	**Alternative II (Preferred)**
Wetlands		
Direct / Indirect	Negligible	Negligible
Cumulative	No	No
Water Quality		
Direct/Indirect	Minor Impact	Minor Impact
Cumulative	No	No
Wildlife		
Direct / Indirect	No Impact	No Impact
Cumulative	No	No

Species of Concern		
Direct / Indirect	Negligible	Negligible
Cumulative	No	No
Cultural Resources		
Direct / Indirect	No Impact	No Impact
Cumulative	No	No
Airspace		
Direct / Indirect	No Impact	No Impact
Cumulative	No	No
Hazardous and Toxic Materials & Solid Waste Management.		
Direct / Indirect	No Impact	No Impact
Cumulative	No	No

5.0 FINDING OF NO PRACTICABLE ALTERNATIVE

Pursuant to Executive Order 11988 (*Floodplain Management*), in order for the Army to construct in a floodplain, it must find that there are no practicable alternatives to doing so and that all practicable measures have been taken to minimize harm to the floodplain. The practicability of a given alternative or measure is evaluated by considering such pertinent factors as operational impact and environmental impact in light of the overall project purpose.

The Draft EA discusses the proposed action and no action alternatives, and specifically analyzes their impacts to floodplains. Construction for both phases of the Gray Eagle UAS project at WAAF impacts floodplains, which is not ideal land on which to construct. However, there is an insufficient amount of non-floodplain land surrounding the WAAF runways on which to locate these facilities. To avoid the floodplains, they would have to be located much further away from the airfield than is practicable, because the UAS units need direct access to a runway. As discussed in the March 2012 EA for the FY11 phase of the Gray Eagle construction, WAAF is the optimal place for the Gray Eagle UAS' because it has at least 5,000 linear feet of runway on which the UAS can take off and land, and a clear zone of 500 feet.

Construction of the UAS facilities may therefore proceed, but only in accordance with the standards and criteria of the National Flood Insurance Program, including the application of accepted flood-proofing/flood protection measures, such as elevate structures were practicable. In addition, State of Georgia requirements must be met, such as elevating the structures at a minimum of one-three foot above the base flood elevation of the 100-year floodplain level, adequately anchoring the facility to prevent flotation, and collapse.

Floodway encroachment, including structures, fill placement, etc., is prohibited unless certification with supporting technical data is provided by a registered professional engineer demonstrating the encroachment will not result in any increase in flood elevations upstream or downstream. Therefore, a professional design engineer registered in the State of Georgia will be required to document this

hydrological analysis when preparing the erosion and sedimentation pollution control plan and incorporate appropriate post construction stormwater BMPs, ensuring the State and Federal requirements are met for floodplain encroachments and flood controls, inclusive of the runoff reduction and water quality requirements.

6.0 PUBLIC INVOLVEMENT

The Draft EA and FNSI/FNPA were available for a 30-day public review period (August 17-September 15, 2012) at the local public libraries in Hinesville and Savannah and at the Post Library on Fort Stewart. Fort Stewart also published the Notice of Availability of the Draft EA and FNSI/FNPA in the *Savannah Morning News*, *Coastal Courier*, and *The Frontline* and mailed electronic copies of the document to the regulatory community and joint land use partners with whom it consults.

Comments indicating concurrence with the implementation of the Army's proposed action and/or Preferred Alternative were received from the U.S. Environmental Protection Agency-Region 4, the Georgia Department of Natural Resources (GA DNR)-Coastal Resources Division, and the GA DNR-Historic Preservation Division, copies of which are included in the Final EA at Appendix D, Consultation and Coordination Documentation. No other comments were received.

7.0 CONCLUSION

The EA analyzed the potential impacts of the construction, operation, and maintenance the final layout of the second facilities phase for the FY13 Gray Eagle UAS at WAAF, Fort Stewart, Georgia, as well as the stationing of up to three Grey Eagle Units at this location. It is tiered off the 2010 *Fort Stewart Environmental Impact Statement for Training Range and Garrison Support Facilities Construction and Operation*. Following an analysis and comparison of impacts of the preferred and no action alternative, it was determined that neither will result in significant impacts, and the preparation of a Finding of No Significant Impact and Finding of No Practicable Alternative were deemed appropriate.

Date: 2 Nov 12

KEVIN F. GREGORY

Colonel, US Army

Commanding

ACRONYMS

AR	Army Regulation
BMPs	Best Management Practices
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DA	Department of the Army
DPTMS	Directorate of Plans, Training, Mobilization, and Security
EA	Environmental Assessment
EISA	Energy Independence Security Act
EOD	Explosive Ordnance Disposal
ESCA	Erosion and Sedimentation Control Act
ESPCP	Erosion Sedimentation Pollution Control Plan

FNPA	Finding of No Practicable Alternative
FNSI	Finding of No Significant Impact
GA DNR	Georgia Department of Natural Resources
GA EPD	Georgia Environmental Protection Division
GIS	Geographic Information System
ICRMP	Integrated Cultural Resources Management Plan
INRMP	Integrated Natural Resources Management Plan
ITAM	Integrated Training Area Management
LID	Low Impact Development
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OSHA	Occupational Safety and Health Administration Act

H&S	Health and Safety
PPRFFA	Past, Present, and Reasonably Foreseeable Future Actions
ROI	Region of Influence
SPCC	Spill Prevention Control and Countermeasure
SWP3	Stormwater Pollution Prevention Plan
TLS	Threshold Level of Significance
UAS	Unmanned Aerial Surveillance (Unit)
USDA	United States Department of Agriculture
UXO	Unexploded Ordnance
WAAF	Wright Army Airfield
WQA	Water Quality Act

TABLE OF CONTENTS

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION 12

1.1 Introduction 12

1.2 Purpose and Need 13

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES 14

2.1 Introduction 14

2.2 Proposed Action Alternative 14

2.3 No Action Alternative 20

3.0 AFFECTED ENVIRONMENT & ENVIRONMENTAL CONSEQUENCES 21

3.1 Introduction 21

3.2 Wetlands 22

3.3 Water Quality 23

3.4 Wildlife 25

3.5 Species of Concern 26

3.6 Cultural Resources 26

3.7 Airspace 27

3.8 Hazardous and Toxic Materials and Solid Wastes 28

4.0 CONCLUSIONS 31

5.0 REFERENCES 32

List of Figures

Figure 1 Complete Layout of the Proposed Action 17

Figure 2 Gray Eagle Unmanned Aerial Surveillance (UAS) Exemplar 18

Figure 3 Construction Footprint Analyzed in 2010 EIS and Current UAS Footprint 19

Figure 4 Special Use Airspace on Fort Stewart 28

APPENDIX A: Resources Eliminated from Further Analysis 34

APPENDIX B: Dry Detention and Stormwater Control Policies 38

APPENDIX C: Standard Operating Procedures – Cultural Resources Discoveries 49

APPENDIX D: Consultation and Coordination Documentation 52

1.0 PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

In 2010, the Army completed a broad Environmental Impact Statement (EIS) that programmatically analyzed impacts from the construction and operation of twelve range facilities and two garrison support facilities. A subsequent Record of Decision (ROD) documented the Army's decision to implement the preferred alternative of the proposed action, with specific environmental mitigation measures as part of that decision. Considering the programmatic nature of this EIS, it is appropriate that as these facilities become designed, site-specific analysis is needed to ascertain the adequacy of the previous study.

A site for a new small cantonment area for the Gray Eagle UAS to permanently operate on Fort Stewart in FY13 was one of the two Garrison support projects analyzed in the EIS. The site selected to support the Gray Eagle mission was an undeveloped site immediately north of Wright Army Airfield (WAAF) which provided access to existing runways and airfield infrastructure. An Environmental Assessment (EA) completed in 2012, which tiered off the analysis already completed in the EIS, addressed the first phase of construction. This EA received a Finding of No Significant Impact, and included the construction of the aircraft hangar, the construction of an access road from FS Road 47, the relocation of the existing tank trail, and the construction of potable water and sanitary sewerage systems that connect to nearby utility infrastructure.

A second phase of construction to complete the build out is scheduled for FY2013. This second phase will include the construction of a company operations facility (COF), the construction of a tactical equipment maintenance facility (TEMF), an access road and fence that will connect from the existing WAAF access control point. Because the final design and alignment of these facilities were not known at the time of the first phase, this tiered EA will analyze the potential environmental impacts associated with the final layout of facilities and infrastructure included in the FY13 second phase of construction.

The decision to permanently station up to three Gray Eagle UAS Units at Fort Stewart was decided in May 2011 by the Vice Chief of Staff of the U.S. Army. Before this decision was made, environmental analysis was conducted programmatically by the Army to determine the Installations that could best support the Gray Eagle UAS mission. Fort Stewart met the Army's screening criteria for Gray Eagle mission assignment (U.S. Army, 2011). In addition to the construction, operation, and maintenance of the FY13 facilities and infrastructure, this tiered EA will also address Fort Stewart-specific impacts associated with receiving up to three new Gray Eagle Units. Two Gray Eagle Units are officially programmed to be stationed at Fort Stewart, one in FY13 and one in FY14. There is the potential for an additional Unit to be received in FY17 or FY18.

The mission of the Gray Eagle UAS is to provide real-time response capability to conduct long-dwell, persistent stare, extended range reconnaissance, surveillance, target acquisition, communications relay, and attack missions. Fort Stewart was selected to receive the Gray Eagle UAS Units because it fulfilled the stationing action screening criteria, which included an existing Combat Aviation Brigade, heavy troop concentrations to facilitate maneuver training, an operating paved runway with a length of at least 5,000 feet and slope less than or equal to 1.5 degrees, access to restricted airspace, and space available for facilities.

In accordance with the National Environmental Policy Act and 32 CFR 651.5(g)(1)(i), this EA documents the Army's sufficiency examination of the environmental analyses presented in the 2010 EIS in light of changes associated with the proposed action.

1.2 PURPOSE AND NEED

The purpose of the proposed action is to provide adequate and contiguous facilities for the imminent Gray Eagle UAS stationing at Fort Stewart, Georgia. The proposed action is needed to ensure safe and reliable equipment, and to ensure the military readiness of Gray Eagle Units to meet the nation's present and future war-fighting requirements.

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

2.1 INTRODUCTION

The environmental impacts of the proposed action alternative and the no action alternative are analyzed in the EA. Chapter 2 provides a description of each of the alternatives. Figure 3 shows the difference between each alternative.

2.2 PROPOSED ACTION ALTERNATIVE

The Army proposes to construct, operate, and maintain the final layout of the second facilities phase for the Gray Eagle UAS to occur in FY13 at WAAF. The Army also proposes to station two Gray Eagle UAS Units, one in FY13 and one in FY14. A third Unit may be stationed at Fort Stewart in FY17 or FY18. This EA will evaluate the stationing impacts of three Gray Eagle UAS Units (up to 384 additional Soldiers and 36 additional contract support staff).

In order to fully implement the proposed action, timber harvest, grubbing and grading, and construction will be necessary of approximately 20 acres at the COF and TEMF locations. Approximately 45 acres, within the airfield, will be used for tactical operations staging and equipment placement. A controlled access road will involve 65 acres of disturbance (route includes a 100' buffer for environmental evaluation). Each of these proposed action components are discussed in more detail below. Refer to Figure 1 for the proposed action layout.

Site Layout. The design team was tasked to design the site in a manner to avoid and minimize impact to these wetlands. The proposed site is located in an area surrounded by wetlands on all sides except for the north side, where the access road is being constructed from the first facilities phase. This access road will provide access to the entire UAS Complex (including the FY13, second facilities phase). The COF will be positioned to the south of this new access road. The TEMF will be located further south from the COF. The distance between the COF covered hardstand and the TEMF facility will be 80'. This distance will combine a 65' access lane required by the TEMF and the 80' required for the COF service yard. This configuration will provide for a shared hardstand and will minimize its size.

The proposed TEMF's hardstand will accommodate all of the organizational vehicles identified for one Gray Eagle UAS Unit. The following is a list of the organizational vehicles and quantity per Unit:

- 10 High Mobility Multipurpose Wheeled Vehicles (HMMWV)
- 20 Light / Medium Tactical Vehicles (LMTV/MTV)
- 1 Van Expand MTV
- 4 Truck Tractor MTV
- 2 Cargo Heavy Expanded Mobility Tactical Truck (HEMTT)
- 2 Tanker HEMTT
- 1 HEMTT Wrecker
- 110K Forklift

Two 30' heavy duty access drives will be provided to service both the COF service yard and the TEMF. Access to privately owned vehicle (POV) parking lots will be from these drives to minimize the number

of adjacent drives. This configuration will provide for better vehicular circulation and enhance safety. The organizational storage facility will be positioned to the west of the TEMF, whereas the POL storage building and the hazardous waste storage shed will be placed to the east of the TEMF. An enclosed area to accommodate two dumpsters will also be located to the west of the TEMF to service the Complex. As a part of this project, an addition to the FY11 aircraft hangar will be constructed. This addition will be positioned at the southwest corner of the hangar.

Vehicular and Pedestrian Circulation. Two 30' wide access drives will provide access to the COF service yard and the TEMF. The POV lots, located on either side of the TEMF and COF will have vehicular access via these drives. This configuration will minimize the number of access drives and increase vehicular circulation efficiency and safety. Sidewalks and pedestrian crossings will provide for safe and efficient pedestrian circulation throughout the Complex.

Antiterrorism / Force Protection. The Gray Eagle UAS facilities build-out area is located outside of a cantonment area. As such, to ensure antiterrorism / force protection (ATFP) of the Complex, a perimeter security fence will be constructed to ensure the site is within a controlled perimeter of Fort Stewart. Both the COF and TEMF facilities are considered Primary Gathering Buildings within a controlled perimeter. The organizational storage facility is considered an inhabited building. The COF and TEMF ATFP setback distance is 75'. All drives and POV parking is kept outside of the ATFP setback distance. The COF service yard and the TEMF hardstand areas will be enclosed with perimeter security chain link fence. Manually operated chain link sliding gates will control vehicular access to the hardstand area.

Two pedestrian gates will also control pedestrian access to the hardstand area. The dumpster and enclosure is located outside of the ATFP setback distance. An access road from the existing gate on the other side of WAAF will be provided in this FY13 facilities phase. The access road will be designed and constructed to avoid and minimize wetland impacts to the greatest extent practicable. The access road layout presented in Figure 1 may be adjusted to accommodate this requirement.

Site Grading and Drainage. The existing site drains from a northwest/northeast direction to a southwest/southeast direction. Ditches along the north side of the proposed access drives will intercept discharges from further north and direct it eastward to a proposed culvert. Appropriate erosion and sedimentation control measures will be implemented at the post construction stormwater BMPs outlets. The site will be graded and the drainage from the new UAS Complex will be directed to post-construction stormwater BMPs, and not directly into the surrounding wetlands.

These post construction stormwater BMPs will meet the requirements for minimizing runoff reduction volumes and water quality requirements prior to release, in order to minimize impacts to the existing wetlands. Discharges will then be directed to the downstream wetlands. Stormwater runoff will be treated utilizing acceptable post construction stormwater BMPs as defined in the Georgia Stormwater Management Manual/Coastal Stormwater Supplement, the USEPA Technical Guidance for implementation of EISA Section 438 and DPW Policies #10 and #11 (Appendix B).

Site Utilities. With the exception of power, site utilities are not privatized. Water, natural gas and sanitary service will be provided. Sanitary, water and natural gas will connect to the lines constructed as part of

the first phase of construction. Fire suppression and domestic water lines will enter each facility separately. Water lines will be looped.

Sustainability Management. The Gray Eagle UAS FY13 phase construction will utilize Leadership in Energy and Environmental Design for New Construction (LEED-NC) as its rating system, and will obtain LEED Silver certification. Energy conservation goals (to meet 30% reduction in energy usage) and meeting the Army's Sustainable Design and Development Policy is also a part of the FY13 phase. Implementation of Executive Orders 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, and 13514, *Leadership in Environmental, Energy, and Economic Performance* is also associated with the FY13 phase.

Unit Configuration. The construction, operation, and maintenance of these facilities will support two Gray Eagle UAS Units, each comprised of 128 Soldiers, 12 contractor support personnel, and associated vehicles and equipment detailed below. The equipment will require additional space outside of the 20-acre plot that will be disturbed for COF and TEMF construction. The vehicles are designed so that the UAS operation can function with complete mobility. Figure 1 shows the complete layout of the proposed action. Both phases of construction (FY11 hangar and FY13 COF and TEMF) will not support a third Gray Eagle Unit and their associated support personnel and equipment. Future facilities may be required if a third Unit is stationed at Fort Stewart.

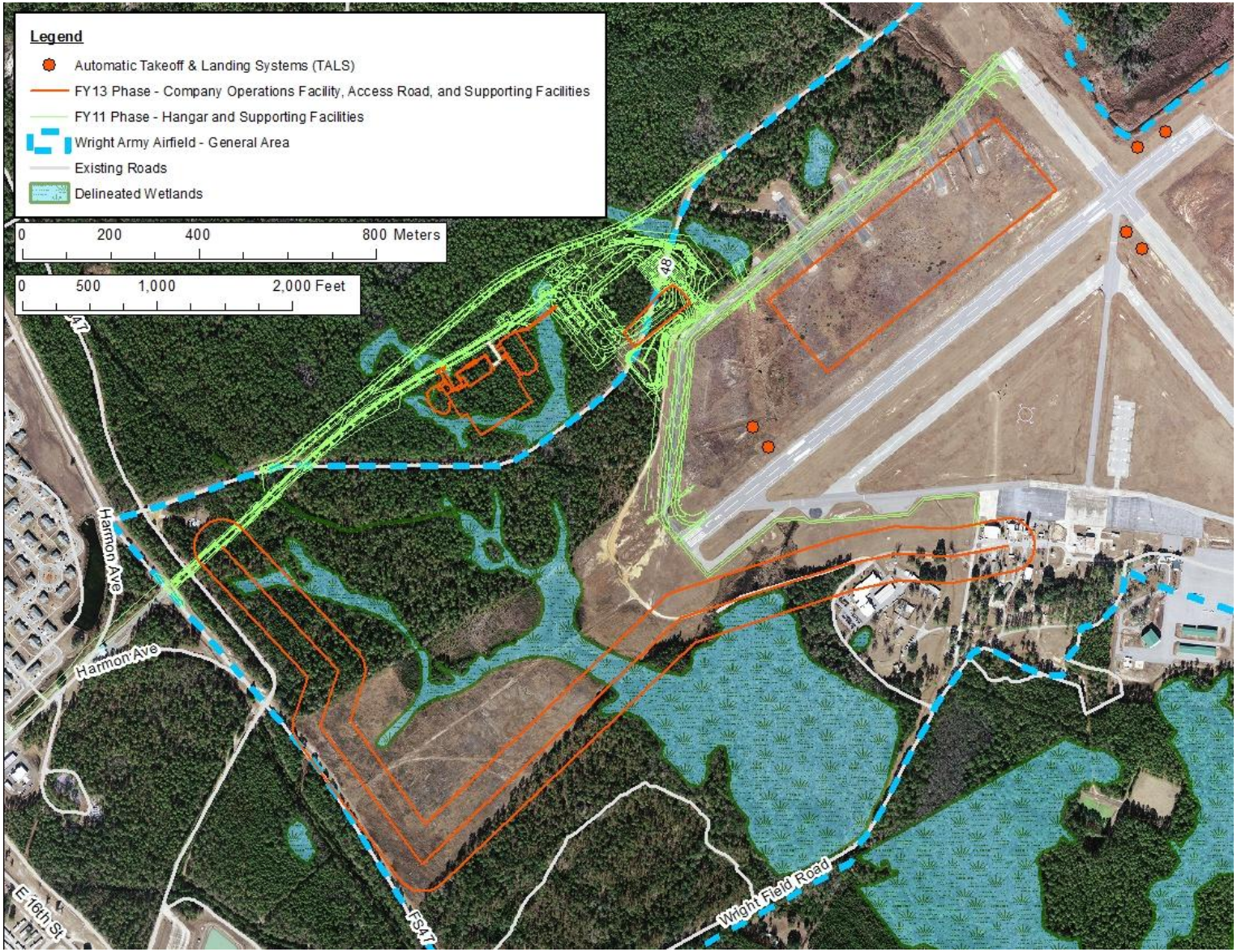

Figure 1. Complete Layout of the Proposed UAS Action, indicating FY11 and FY13 Phases.

Training and Equipment. Vehicles will traverse the Fort Stewart training area, utilizing existing tank trails. Major equipment utilized by the UAS units consists of the following (see Figure 1 for site locations):

- 12 Multipurpose Aircraft
- 6 Ground Control Stations
- 2 Portable Ground Control Stations
- 6 Tactical Common Data Link (TCDL) Ground Data Terminals
- 2 TCDL Portable Ground Data Terminals
- 6 Automatic Takeoff and Landing Systems (TALS)

Wing Span: 56’
Length: 28’

Figure 2. Gray Eagle UAS Exemplar.

The Gray Eagle UAS is a human-controlled, extended range / multipurpose UAS and is an advancement of the Predator UAS. It is designed to be controlled by Army field commanders and provides wide-area intelligence surveillance, reconnaissance, convoy protection, improvised explosive device detection and defeat, close air support, communications relay, and weapons delivery missions. The Gray Eagle UAS can fly at a maximum altitude of 29,000 feet. It can also carry and fire four Hellfire missiles (General Atomics, 2012). Hellfire missiles are a typical ammunition type fired into Fort Stewart’s Artillery Impact Area. The firing of Hellfire missile rounds from the Gray Eagle UAS will have a negligible change to current training area operations.

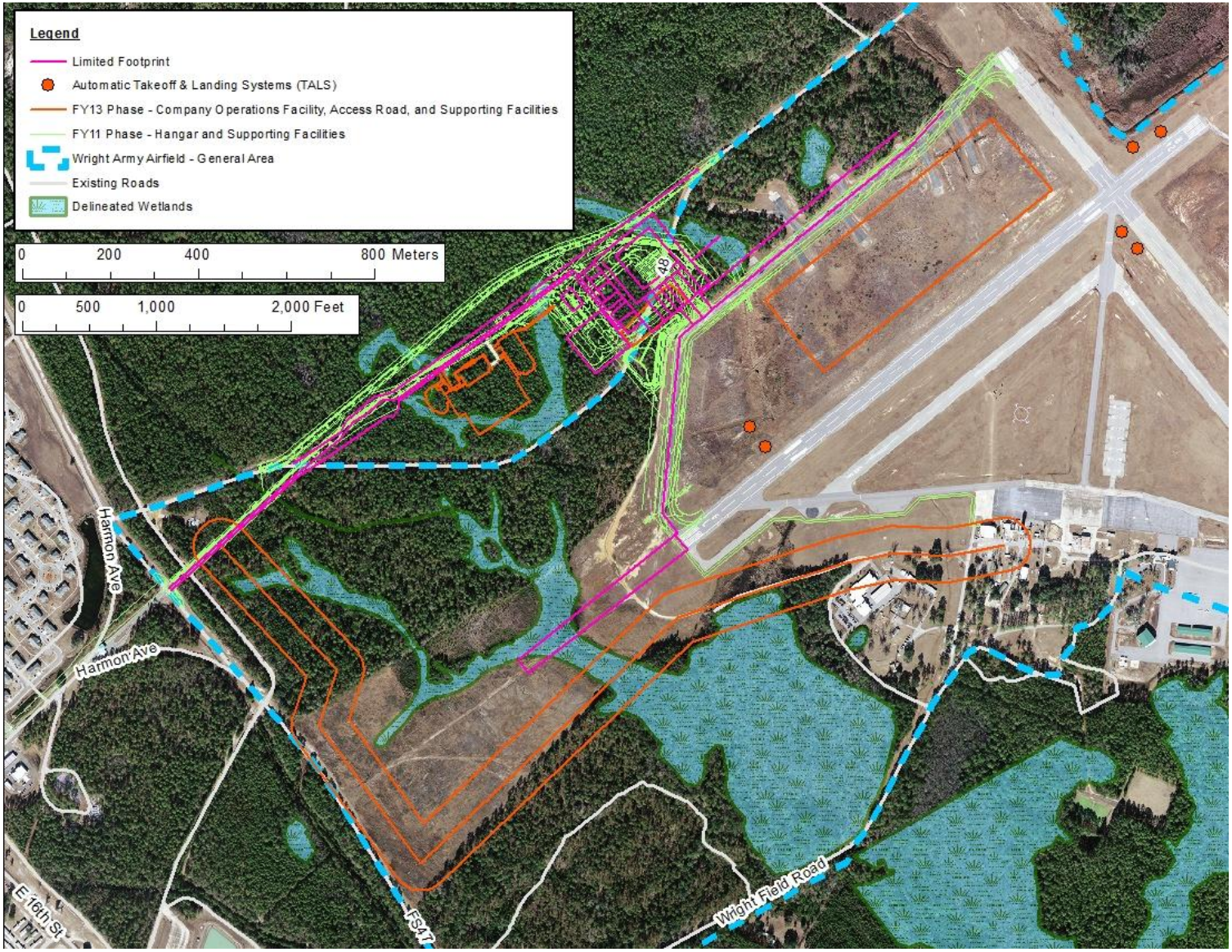

Figure 3. Construction Footprint Analyzed in the 2010 EIS and Current FY13 Footprint.

2.3 NO ACTION ALTERNATIVE

The no action alternative restricts construction to the more limited footprint analyzed in the EIS. It would not incorporate the necessary site specific design features developed after the site was selected. This would not fulfill the intent or desire of the Army to provide adequate facilities from which to retain, operate, and maintaining the Gray Eagle UAS platform, but provides a baseline for analysis of the proposed action. Figure 3 shows the layout of the limited footprint analyzed in the EIS, in relation to both the first and second phases of construction.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 INTRODUCTION

The Army is tiering their EIS to focus on the actual issues associated with the WAAF Gray Eagle UAS project that are ripe for decision. A March 2012 EA, also tiering from the Fort Stewart EIS, evaluated footprint changes associated with the FY11 first phase of construction. The March 2012 EA resulted in a Finding of No Significant Impact for the FY11 first phase of construction, provided the following is implemented: wetland mitigation and monitoring in accordance with the Clean Water Act; design and construct to ensure runoff from rain events will not adversely impact existing streams, upstream systems, and downstream systems; and obtain construction permitting in the National Pollutant Discharge Elimination System.

The FY13 second phase of construction was not fully known at the time of the evaluation documented in the March 2012 EA. This subsequent FY13 second phase EA only summarizes the issues discussed in the EIS and March 2012 EA and concentrates on the issues specific to the footprint changes of the FY13 portion of the selected siting alternative for Gray Eagle UAS facilities at WAAF. The EIS and March 2012 EA are available at the following web address: http://www.stewart.army.mil/dpw/EN_Downloads.asp.

Chapter 3 of this EA documents the Army's analysis of potential environmental impacts from the proposed action and no action alternatives. The EA specifically analyzed impacts on the following resources[1]; wetlands, water quality, wildlife, species of concern, cultural resources, and airspace. Impacts from hazardous and toxic materials, and solid waste management were also evaluated.

The cumulative impact analysis provided in each of the resource sections, includes the past, present, and future actions within the vicinity of Wright Army Airfield (WAAF). Past actions include substantial construction and operational aspects that occurred since the development of the airfield in 1942. Features that were in operation during the early years of the airfield included a fuel area, underground fuel storage tanks, two vehicle washracks, oxidation pond, grease rack, oil house, paint locker, flammable storage area, sewer and spray irrigation fields, hangars, gas storage, aviation fuel storage, and aircraft fueling system.

Present actions include continuous and ongoing maintenance activities and operations within the airfield. With the exception of Hunter Army Airfield (HAAF), located in Savannah, Georgia, WAAF is the only Army airfield serving Fort Stewart capable of accommodating fixed wing aircraft.

In 2003, the Army implemented a Joint Use Development Project with the City of Hinesville and the Liberty County Development Authority, for the purpose of extending Runway 6L and rehabilitating and enhancing WAAF, to include construction of civilian airport facilities on a portion of WAAF. From this 2003 decision, the civilian airport facilities are the only project that has been implemented. Future projects include extending Runway 6L, removing trees, bushes, and other vegetative growth for line of sight for the existing air traffic control tower, and runway refurbishment of deteriorating pavement.

[1] See Appendix A for discussion of resources dismissed from further analysis.

3.2 WETLANDS

3.2.1 INTRODUCTION

The EA's analysis of wetlands incorporates the US Army Corps of Engineers definition of wetlands which is, "areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." (40 CFR 230.3)

3.2.2 AFFECTED ENVIRONMENT

Wetlands benefit the environment by providing wildlife habitat, improving water quality, decreasing flooding, and reducing the power of storms. Based on the United States Fish and Wildlife Service's (USFWS) National Wetland Inventory Maps, Fort Stewart contains approximately 90,000 acres of wetlands. All of these wetlands are designated as freshwater and include vegetative species such as pond cypress (*Taxodium ascendens*), bald cypress (*T. distichum*), black tupelo (*Nyssa sylvatica*), swamp tupelo (*N. aquatic*), sweetgum (*Liquidambar styraciflua*), pond pine (*Pinus serotina*), water oak (*Quercus nigra*), redbay (*Persea borbonia*), and fetterbush lyonia (*Lyonia lucida*).

At the time the EIS was published, wetland delineation results indicated that 1.66 acres of wetlands would be impacted by the original UAS facility layout, which included both the FY11 and FY13 phases of the project. As a result of the required FY11 first phase footprint changes, the modified configuration of the FY11 portion impacted 1.83 acres of wetlands. In accordance with Section 404 of the Clean Water Act, the US Army Corps of Engineers (ACOE) issued a Permit authorizing Fort Stewart to conduct certain activities in jurisdictional wetlands for the FY11 portion of the Gray Eagle UAS facilities construction. These activities include filling wetlands where unavoidable, installing culverts where required to maintain hydrology, and implementation of wetlands-specific BMPs to prevent erosion and sedimentation during and after construction. Regular monitoring of authorized wetland impacts is on-going for the FY11 phase and results indicate permit conditions are currently being met.

3.2.3 ENVIRONMENTAL CONSEQUENCES

Impacts to wetlands as a result of either alternative are not be considered significant or potentially significant because neither alternative will result in a substantial decrease in the environmental benefit of WAAF wetland systems. A map of the wetland areas within the no action and proposed action alternatives are included in Figure 3. As stated previously, the no action alternative will impact 1.83 acres of wetlands; as of the current design, impacts to approximately three acres of wetlands will occur as a result of the proposed action. Impacts under both alternatives are therefore negligible, and the outcome of a process of aggressive coordination with the site designers to reduce wetlands impacts as much as possible while still meeting the operational needs of the facility. All efforts will be documented in detail in the Section 404 Clean Water Act permit application.

Under the Proposed Action Alternative, Fort Stewart will submit a new Section 404 Clean Water Act application for additional wetland impacts. The new application will detail the project requirements, efforts made to avoid wetland impacts and any constraints on doing so, wetland impacts requested for authorization after this process, and other environmental impacts. The application will be subject to the

full regulatory review process, including a public notice period if required. Additional mitigation will also be projected, appropriate to the resulting wetland impacts. The sites of the new facilities will be documented before construction, monitored the construction process, and assessed after construction to ensure compliance with the permit and its conditions.

Although wetlands were or will be impacted by most of these projects, no significant or potentially significant cumulative impacts to wetlands will occur as a result of the proposed action, no action, and other actions outlined in Section 3.1. Wetlands were or will be impacted from most of these projects. The Fort Stewart Environmental Office works with site designers to avoid wetlands for every project; however, it is not always possible to avoid wetlands and meet the operational needs of the airfield. In this case, design was restricted by the project's need to remain as close as possible to both the existing runway at WAAF and the FY11 UAS construction components. However, a substantial decrease in the environmental benefit of WAAF wetland systems is not anticipated from these projects because monitoring will be conducted during and after construction to ensure compliance with Section 404 permits and because mitigation for this project will be provided by a large high-quality mitigation bank on the Installation, which was restored in 2000.

3.3 WATER QUALITY

3.3.1 INTRODUCTION

The EA's analysis of water quality focuses on the physical, chemical, and biological characteristics of surface waters. Physical characteristics include turbidity, pH, temperature, and total suspended and dissolved solids. Chemical characteristics include dissolved oxygen, nitrate, orthophosphates, and pesticides while aquatic life forms are used to measure biological characteristics. In addition, this analysis includes impacts to floodplains. The Federal Emergency Management Agency (FEMA) defines floodplains as areas subject to a one percent or greater chance of flooding in any given year.

3.3.2 AFFECTED ENVIRONMENT

WAAF drainage discharges into Peacock Creek, which then drains off-Post. Peacock Creek is a State 303(d) listed impaired water body for dissolved oxygen and fecal coliform. At the time the EIS was published, the WAAF UAS facilities footprint was not expected to impact floodplains. However, this 2008 FEMA data was based on data accumulated during 2003 and 2004 and did not take future development into account. Fort Stewart performed a stormwater modeling study in 2011 to confirm the 2008 floodplains data. The final report of the Municipal Separate Storm Sewer Systems BMP Compliance & Floodplain Modeling Study was completed and submitted to Fort Stewart in November 2011. This modeling shows that there are areas which would be inundated during the 25-year and 100-year rain events due to a stacking effect from development.

3.3.3 ENVIRONMENTAL CONSEQUENCES

Erosion and Stormwater Control. To eliminate adverse impacts from the FY13 facilities construction to Peacock Creek, the proposed action requires compliance with the following: Clean Water Act (CWA), Water Quality Act, Erosion and Sedimentation Control Act, Energy Independence and Security Act (EISA), National Pollutant Discharge Elimination System (NPDES) permit requirements, site-specific

Erosion and Sedimentation Pollution Control (ESPC) Plan BMPs, Fort Stewart Stormwater Management Plan, an activity specific stormwater pollution prevention plan (SWP3), and Executive Order 11988. A Stormwater Permitting Construction Notice of Intent (NOI) and $80 per acre fee for the State must be submitted to the Fort Stewart Environmental Office.

The Installation also has a resident Natural Resource Conservation Service advisor who will provide technical expertise during preparation of the ESPC plan prior to Fort Stewart approving the final design of land disturbing activities. Any erosion and sedimentation related to construction must be addressed as required under the GA EPD NPDES Permitting and Installation DPW Policies #10 and 11 (See Appendix B). Any fuel storage tanks will be appropriate above ground storage tanks with secondary containment and housekeeping pads meeting the Installation SPCC Plan. Upon completion of the projects these facilities will be considered Industrial Activities and will be incorporated into the Fort Stewart Master Stormwater Pollution Prevention Plans accordingly.

Floodplains. As mentioned above, the footprint for the Gray Eagle UAS project at WAAF will impact floodplains. Figures 3-4 through Figure 3-6 of the March 2012 FY11 UAS Facilities EA illustrate the anticipated inundations of floodwaters, which includes the FY13 second phase of construction. The floodplain for a 25-year storm will grow by 2015, which indicates an increase in the chance for flooding at WAAF. The proposed action must be designed to minimize harm to or within the floodplain.

As indicated in the March 2012 EA, WAAF is the optimal place for the Gray Eagle UAS because it has at least 5,000 linear ft of runway for the UAS to take off and land, and a clear zone of 500 feet. However, there is not enough available non-floodplain land surrounding the WAAF runways to locate the UAS at WAAF. To avoid the floodplains, the facilities would have to be located much further away from the airfield and this is not practicable because the UAS need direct access to a runway.

Floodway encroachment, including structures, fill placement, etc., is prohibited unless certification with supporting technical data is provided by a registered professional engineer demonstrating the encroachment will not result in any increase in flood elevations upstream or downstream. The professional design engineer registered in the State of Georgia will be required to document hydrological analysis when preparing the erosion and sedimentation pollution control plan and incorporate appropriate post construction stormwater BMPs, ensuring the State and Federal requirements are met for floodplain encroachments and flood controls, inclusive of the runoff reduction and water quality requirements.

Construction must be in accordance with the standards and criteria of the National Flood Insurance Program, including the application of accepted flood-proofing/flood protection measures, such as elevate structures were practicable. In addition, State of Georgia requirements must be met, such as elevating the structures at a minimum of one-three foot above the base flood elevation of the 100-year floodplain level, adequately anchoring the facility to prevent flotation, and collapse. Overall, impacts to water quality under either alternative would be minor, at most, due to adherence to these requirements.

No significant or potentially significant cumulative impacts to water quality will occur from the proposed action, no action, and other actions outlined in Section 3.1. Some of these projects will be built in floodplains and surface water bodies will be impacted. Floodplains will be avoided where possible; however, if there is no practicable alternative, then the projects will be designed to minimize harm to or within the floodplains by complying with floodplain BMPs, Fort Stewart/HAAF Stormwater

Management Policy for New Development and Redevelopment, standards and criteria of the National Flood Insurance Program, State of Georgia requirements, and USEPA Technical Guidance for Implementation of EISA-Section 438.

3.4 WILDLIFE

3.4.1 INTRODUCTION

The EA's analysis of wildlife includes common wildlife that would be expected to occur in the proposed action area. Management of wildlife and its habitat is conducted in accordance with the provisions of the Fort Stewart Integrated Resource Management Plan (INRMP), which is incorporated herein by reference. Unless otherwise indicated, the information in this section is from that document.

3.4.2 AFFECTED ENVIRONMENT

Wildlife management activities have been in progress on Fort Stewart since the early 1950s. There are 46 species of mammals, 57 species of reptiles, 241 species of birds, 38 species of amphibians, and 64 species of fish that have been reported on Fort Stewart. In addition to a diverse assemblage of forest songbirds, game birds such as wild turkey (*Meleagris gallopavo*) and northern bobwhite (*Colinus virginianus*) occur on the Installation. Also, approximately 170 species of birds protected under the Migratory Bird Treaty Act (MBTA) could occur on Fort Stewart, either seasonally or year round.

Wildlife in the affected environment may include white-tailed deer (*Odocoileus virginianus*), wild boar (*Sus scrofa*), fox (*Vulpes* and *Urocyon* spp.), bobcat (*Lynx rufus*), rabbit (*Sylvilagus* spp.), squirrel (*Sciurus* spp.), and smaller mammals. Many of the 170 species of birds protected under the MBTA are expected to occur at least temporarily in the areas potentially affected by the proposed action alternative.

3.4.3 ENVIRONMENTAL CONSEQUENCES

Construction would temporarily displace some wildlife in the immediate vicinity of the modified footprint of the FY13 portion of the project. In addition, displacement will occur in areas with soil disturbance, removal of trees, bushes, and other vegetative growth, and incidental human activity. Standard timber harvest and construction BMPs would minimize erosion and sedimentation, limiting the potential for off-site effects and degradation of surrounding habitat.

Wildlife may also flush from the area while it is in operation, but would likely return once operations cease. No impacts are predicted from routine maintenance activities. Noise and activity during construction, operation, and maintenance would result in disturbance to wildlife primarily within the area of potential effect, but habitat fragmentation and edge effects would extend into adjacent habitat. Increased activity within already disturbed areas would not significantly affect wildlife given the ongoing activity to which they are already exposed, resulting in no impacts overall.

No significant or potentially significant cumulative impacts to wildlife will occur from the proposed action, no action, and the actions outlined in Section 3.1. All of these projects, except the runway refurbishment, impacted or will impact wildlife due to displacement, habitat removal and noise. Wildlife will relocate to appropriate surrounding habitat when their habitat is removed. Although the noise

increase will impact wildlife, it will not be significant given the noise they are already exposed to near the airfield.

3.5 SPECIES OF CONCERN

3.5.1 INTRODUCTION

During preparation of the EIS (in 2010), Fort Stewart consulted with the U.S. Fish and Wildlife Service (USFWS) and received a non-jeopardy biological opinion that included the Gray Eagle UAS facilities site at WAAF. The FY11 first phase of construction required modification of the biological analysis used to consult with the USFWS in 2010. This analysis included an area of potential effect associated with the FY13 second phase of construction, which involves red-cockaded woodpecker (RCW) habitat.

3.5.2 AFFECTED ENVIRONMENT

The RCW is an Endangered Species Act, Federally-listed species. RCW habitat will be impacted by the proposed action. The eastern indigo snake, frosted flatwoods salamander, wood stork, and shortnose sturgeon are also Federally-listed species but will not be adversely impacted from the proposed action.

3.5.3 ENVIRONMENTAL CONSEQUENCES

The biological analysis that modified the 2010 Biological Assessment submitted to the USFWS, addressed both phases of the Gray Eagle UAS project (2011 and 2013). Specifically, the area of potential effect associated with the FY13 second phase was identified as 26.8 acres of RCW habitat. The remaining areas of construction, operation, and maintenance are not managed for endangered species. Neither alternative will hinder Fort Stewart's ability to achieve 350 RCW potential breeding groups in 2013. As such, the proposed action and no action alternatives will have a negligible impact to species of concern.

No significant or potentially significant cumulative impacts to species of concern will occur from the proposed action, no action, and the actions outlined in Section 3.1. Consultation with the USFWS has already been conducted for the runway extension, line of sight work, and FY11 UAS projects and no significant impact is expected; therefore, there will not be a significant or potentially significant cumulative impact from all of these actions because the activity-specific ESPC plan and SWP3, Endangered Species Act, and INRMP will be complied with and personnel will continue to survey and monitor habitat for sensitive species.

3.6 CULTURAL RESOURCES

3.6.1 INTRODUCTION

Fort Stewart consulted with the Georgia State Historic Preservation Office (SHPO) and the Native American Tribes with whom Fort Stewart consults on this overall action in the EIS. Fort Stewart also consulted with the SHPO in January 2012 to disclose the design alterations proposed for the FY11 phase. Analysis indicated that no additional archeological resources would be affected by the change in design, and the SHPO concurred with Fort Stewart's findings for the design changes associated with the FY11

portion of the UAS project. This section discusses cultural resources analysis that was conducted for the FY13 Gray Eagle UAS second phase.

3.6.2 AFFECTED ENVIRONMENT

Cultural resources consist of prehistoric and historic districts, sites, structures, artifacts, or any other physical evidence of human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. The affected environment includes any cultural resources eligible or potentially eligible for inclusion in the National Register of Historic Places (NRHP) identified within the proposed footprint.

3.6.3 ENVIRONMENTAL CONSEQUENCES

The area of potential effect for the original footprint and the FY13 footprint alterations were surveyed for cultural resources (Morehead et al. 2008). Seven sites were identified within the original proposed footprint, all of which were determined by survey to be ineligible for inclusion in the NRHP. Surveys recently identified 11 additional archeological sites will be affected by the footprint of the proposed FY13 facilities, all of which were also determined ineligible for inclusion in the NRHP, resulting in no impacts to cultural resources. Five buildings (7706, 7707, 7708, 7709, and 7733) all constructed in 1967, are currently being assessed for NRHP eligibility. Although it is not anticipated the buildings would be NRHP-eligible, final determination of eligibility is not anticipated. Consultation regarding this action and its findings is in progress with the Georgia SHPO, copies of which are available in Appendix D).

No significant or potentially significant cumulative impacts to cultural resources will occur from the proposed action, no action, and the actions outlined in Section 3.1. If artifacts are uncovered, the appropriate authorities will be contacted, and the Standard Operating Procedure regarding Accidental Discovery of Archeological Deposits and / or Human Remains followed (Appendix C). In addition, no sites within the footprints of these projects are eligible or potentially eligible for the NRHP; therefore, there is no cumulative impact to cultural resources.

3.7 AIRSPACE

3.7.1 INTRODUCTION

This EA's analysis of airspace focuses on impacts to Fort Stewart's Special Use Airspace (SUA). SUA is designated by the Federal Aviation Administration (FAA) as airspace that is legally set aside to conduct hazardous activities safely segregated from non-participating personnel and aircraft.

3.7.2 AFFECTED ENVIRONMENT

Fort Stewart has 386 square miles of FAA-SUA, from the ground surface to 29,000 feet above mean sea level (AMSL). The Installation may activate the restricted airspace from 0600 to 2400 local daily for area R3005 A, B, D, E; and 0600 to 0300 local daily for area R3005 C, with other times available by Notice to Airmen 24 hours in advance. See Figure 4 for SUA areas referred to in this paragraph.

3.7.3 ENVIRONMENTAL CONSEQUENCES

The number of aircraft utilizing the SUA will not change significantly from the existing condition and additional airspace will not be required to support the additional UASs; however, implementation of the proposed action will result in an increase in scheduling, activation, and utilization of the existing SUA. The increased operation could cause some minor impacts to air traffic flow within the national airspace around Fort Stewart. Cumulatively, this could also result in periodic limitation for civilian use of WAAF, a joint-use airfield with the City of Hinesville and Liberty County. Adhering to the existing airspace management and scheduling operations should minimize potential conflicts and result in no impacts, despite additional time / use demands for the SUA.

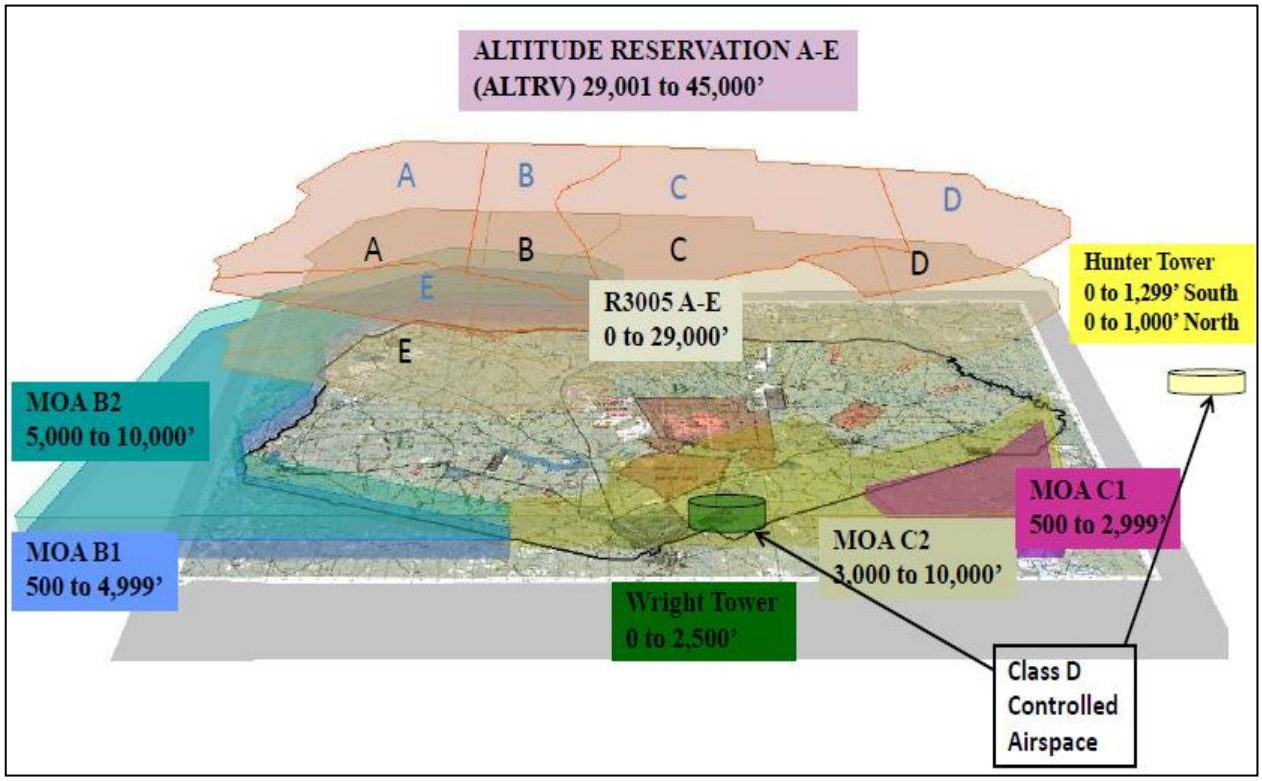

Figure 4. SUA Areas of Fort Stewart (*not to scale*).

3.8 HAZARDOUS AND TOXIC MATERIALS, AND SOLID WASTE

3.8.1 INTRODUCTION

A detailed description of the Installation's waste management and disposal methods; in accordance with the Resource Conservation Recovery Act (RCRA), Official Code of Georgia (OCGA) 12-8-60, 12-8-90, and 12-8-200, DA Regulations, RCRA Part B Permit No. HW-045(S), and Army policy to mandate recycling maximization is presented in the Fort Stewart EIS (EIS Sections 3.9.4, 3.11, 4.8.2.2, and 4.10). This section of the EA will discuss analysis conducted and the waste requirements specifically for the FY13 Gray Eagle actions, along with a consideration of cumulative impacts.

3.8.2 AFFECTED ENVIRONMENT

The Installation's use, storage, and disposal of construction, operation, and maintenance materials and waste is controlled by existing comprehensive Army policies, regulations, and guidelines that have, in the past, proven to be adequate to protect human health and the environment. Ensuring proper waste management and waste disposal from construction, operation, and maintenance of the proposed action is required, and is a typical management practice at Fort Stewart. The proposed action location also includes a nearby former Fire Training Area [Solid Waste Management Unit (SWMU 13)]. Investigations at SWMU 13 have indicated that soils and groundwater are contaminated with volatile organic compounds (VOCs) and semi-VOCs.

Materials and process used for the Gray Eagle UAS were selected on the basis of meeting environmental regulations and hazardous waste minimization requirements during production, maintenance and repair (U.S. Army, 2004). The Heavy Fuel Engine (HFE) will meet and / or exceed, at a minimum, the extended range / multipurpose UAS performance requirements. The HFE will be capable of achieving acceptable operation performance using JP-8 to meet the operation temperature and altitude extremes that are likely to be encountered by the UAS, and within acceptable limits (U.S. Army, 2004).

3.8.3 ENVIRONMENTAL CONSEQUENCES

All facility operations activities, including those that support Fort Stewart's training mission, require the provision of storage and disposal facilities for both hazardous wastes and non-hazardous solid wastes. Management of hazardous and / or toxic materials and wastes must be in accordance with existing Installation policies and protocols, as stated in Section 3.8.1.

Solid Waste Management and Disposal. All contractors involved in construction, operation, and maintenance at Fort Stewart must dispose of all waste generated from the proposed action in an off-Post permitted disposal facility in accordance with all Federal, state, and local rules and regulations. The contractor must provide a copy of landfill scale tickets to their Contracting Officer's Representative for all waste disposed off the Installation, who will ensure that copies of the landfill scale tickets are provided to the Fort Stewart Environmental Office. Achievement of 50% diversion, by weight, of all non-hazardous construction and demolition waste debris is required. ***The contractor performing the construction / demolition is required to salvage or recycle as much of the materials as possible.***

Fort Stewart has a mandatory recycling program. Its policy on recycling is governed by the "US Army Installation, Fort Stewart/Hunter Army Airfield Policy Memorandum #8, Command Recycling Policy," dated February 12, 2007. The Installation also requires contractors to recycle construction and demolition debris (recycling clause, 52.000-4061: RECYCLING, SALVAGE, AND DISPOSAL OF MATERIALS, FORT STEWART AND HUNTER ARMY AIRFIELD). All recyclables generated through construction projects must be separated from other wastes and delivered to the Installation's Processing Station / Recycling Center. Roll-off containers for recycling materials can be provided to the contractor upon request, if available, to the Installation's Environmental Office.

Hazardous and Toxic Materials Management and Disposal. During planning stages of this phase and the FY11 phase of the Gray Eagle UAS actions, coordination was conducted to avoid SWMU 13 and its associated monitoring wells. As part of the proposed action, Fort Stewart will avoid construction and

any equipment or material staging over the delineated boundary of SWMU 13 or any area where a monitoring well exists. The contractor will be required to follow the U.S. Army Corps of Engineers Safety and Health Manual 385-1-1 (USACE, September 2008). This manual outlines the requirements to comply with the Occupational Safety and Health Act standards during any construction or demolition process, and includes provisions should contaminated soils and / or groundwater are encountered during construction activities.

Certain components of the UAS will contain batteries and other hazardous substances including flammables and fluids such as hydraulic fluids, gasoline, diesel, oils, lubricants, and antifreeze. When encountered, hazardous materials and wastes will be handled in accordance with the Installation's Hazardous Materials Management Plan, Installation permits, spill contingency plans, and other applicable Federal regulations and guidance as well as state and local regulations. Secondary containment for aboveground materials storage and tankers must also be provided to ensure hazardous materials are appropriately contained in the event of a spill.

No significant or potentially significant cumulative waste management or disposal impacts will occur from the proposed action, no action, and other actions outlined in Section 3.1. There will be no change in Fort Stewart's management of solid waste, recycling, hazardous materials, toxic substances, hazardous waste, or contaminated sites. The Installation will continue to manage existing sources of hazardous waste in accordance with the Installation's Hazardous Waste Management Plan. Fort Stewart also utilizes an aggressive RCRA compliance inspection program. The potential for spills is mitigated by ensuring all planned tanks are aboveground, are double-walled, or are set in secondary containment; and the implementation of best management practices (drip pans, absorbent pads, etc) that are conformant to Fort Stewart's Spill Prevention Control and Countermeasure Plan.

4.0 CONCLUSIONS

This EA analyzed the potential impacts of proposed footprint alterations of the FY13 WAAF Gray Eagle UAS area at Fort Stewart, Georgia and is tiered off the 2010 *Fort Stewart Environmental Impact Statement for Training Range and Garrison Support Facilities Construction and Operation*, which analyzed the original footprint for this project. Following an analysis and comparison of impacts of the proposed action and no action alternatives, it was determined that neither will result in significant impacts, and the preparation of a Finding of No Significant Impact and Finding of No Practicable Alternative are appropriate.

5.0 REFERENCES

32 Code of Federal Regulations Part 651. (2002). Environmental Analysis of Army Actions.

40 Code of Federal Regulations Part 1500-1508. (1997). Council on Environmental Quality Regulations for Implementing the National Environmental Policy Act.

Council on Environmental Quality. (1997). *Considering cumulative effects under the national environmental policy act.* Washington, DC: Author.

Department of Army. (2012). *Final environmental assessment and finding of no significant impact for footprint alterations at the Wright Army Airfield Gray Eagle unmanned aerial system project site, Fort Stewart, Georgia.* Fort Stewart / Hunter Army Airfield, GA: Directorate of Public Works.

Department of Army. (2010). *Final environmental impact statement for training range and garrison support facilities construction and operation.* Fort Stewart / Hunter Army Airfield, GA: Directorate of Public Works.

Department of Army. (2004). *Final life cycle environmental assessment for the extended range / multipurpose unmanned aerial vehicle system.* Redstone Arsenal, AL: Aviation and Missile Life Cycle Management Command.

Department of Army. (2008). *Integrated cultural resource management plan.* Fort Stewart / Hunter Army Airfield, GA: Directorate of Public Works.

Department of Army. (2001). *Integrated natural resource management plan.* Fort Stewart / Hunter Army Airfield, GA: Directorate of Public Works.

Department of Army. (2001). *Multi-species endangered species management plan.* Fort Stewart / Hunter Army Airfield, GA: Directorate of Public Works

Department of Army. (2011). *Record of environmental consideration for the stationing of the MQ-1C Gray Eagle unmanned aircraft system stationing.* Fort Sam Houston, TX: Army Environmental Command.

Georgia Soil and Water Conservation Commission. (2002). Field Manual for Erosion and

Sediment Control in Georgia. Athens, Georgia. Fourth Edition.

Gray Eagle UAS. (2012). Retrieved May 10, 2012, from http://www.ga-asi.com/products/aircraft/gray_eagle.php

Official Code of Georgia (O.C.G.A.) § 12-7-1. 2009. The Erosion and Sedimentation Act of 1975. The State of Georgia.

APPENDIX A

Resources Dismissed from Further Analysis

Environmental and socioeconomic resources were analyzed for potential impacts from the proposed action (i.e., construction, operations, maintenance, and stationing of up to 384 additional Soldiers and 36 additional contract support staff). Due to its limited scope and footprint, the proposed action would potentially affect only a small portion of Fort Stewart and its resources. Analysis by Fort Stewart environmental resource managers determined that some of the Installation's resources have the potential to be affected by this action and required detailed analysis as outline in the EA. These resources are wetlands, water quality, wildlife, species of concern, cultural resources, and airspace. Impacts from hazardous and toxic materials, and solid waste management were also evaluated. Resources not impacted are discussed below.

Air Quality. Under the provisions of the Clean Air Act (CAA) and its amendments, the mechanisms for establishing the Prevention of Significant Deterioration (PSD) program were enacted, whereby Congress established land classification schemes (zones) for those areas of the country (like Fort Stewart) having air quality better than the National Ambient Air Quality Standards. Fort Stewart is in an air quality district that is in attainment for criteria pollutant emissions and PSD, with the proposed action creating only minor, temporary adverse effects. Although Fort Stewart is a major source of air emissions (per Title V of the CAA and its amendments) the proposed action will result in no amendments to the Installation's Title V permit and only minor and temporary amounts of dust generation during timber harvesting, construction, and operation. Standard installation of dust-minimizing and other air quality protection measures will further minimize this potential. In addition, no regulatory thresholds would be exceeded under air quality; therefore, this resource is not carried forward for further analysis.

In terms of global warming, scientists have concluded that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet's climate. There is uncertainty as to how much it will change, and at what rate it will change. This project removes trees, which would otherwise absorb carbon dioxide. This is a negligible cumulative impact when taken in context of the global situation and the Army's efforts. Although timber harvest will occur, landscaping will be conducted where possible after construction is complete, further minimizing impacts to global warming.

It is also important to place these carbon emissions in the context of the federal government's overall plan to reduce carbon emissions. Executive Order 13423 sets as a goal for all federal agencies the improvement of energy efficiency and the "reduc[tion] of greenhouse gas emissions of the agency, through reduction of energy intensity by (i) 3 percent annually through the end of fiscal year 2015, or (ii) 30 percent by the end of fiscal year 2015, relative to the baseline to the agency's energy use in fiscal year 2003." The U.S. Army Energy Strategy for Installations (U.S. Army Energy Strategy for Installations, 8 July 2005, available at http://army-energy.hqda.pentagon.mil/docs/strategy.pdf) also contains strategies to reduce energy waste and improve efficiency. Taking these policies into account, this action does not represent a net incrementally addition to the global climate change problem.

Socioeconomics. Socioeconomics focuses on the general features of the local economy that could be affected by the proposed action alternative and include: current and projected population and relevant demographic characteristics; local government revenues, expenditures, and revenue-sharing

arrangements; current and projected housing capacity; current and planned public service capacity (water, sewer, transportation, police, fire, health, education, and welfare); economic structure and labor force characteristics; local government characteristics; local organizations and interest groups; social structure and life styles and local support or opposition to the proposed project. No perceptible impacts to housing, public and social services, public schools, public safety, or recreational activities is expected. To accommodate Army growth initiatives, Fort Stewart is constructing on additional DoD elementary school, two child development centers, and on youth activity center. All high school-aged students currently attend schools off-Post and will continue to do so in the future. As such, there will be no change or minor impacts anticipated from the proposed action.

Local construction expenditures have the potential for minor beneficial impact to the local communities. This construction project could be accommodated by the existing workforce, and few new jobs would be created. In addition, it is probable that the majority of the construction materials will be purchased outside the local region and transported on-site. Because few jobs would be created or affected through implementation of this proposed action and any impact would be slightly beneficial, this resource has been eliminated from further discussion.

Environmental Justice. Environmental justice compliance is prescribed by Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority and Low-Income Populations,* issued in 1994. This policy directive to federal agencies outlines appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Since the proposal would not disproportionately impact low-income or minority populations, environmental justice is not analyzed further.

Provision for the Handicapped. American Disabilities Act requires access be provided for the handicapped in all facilities constructed.

Protection of Children. Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* requires each federal agency to identify and assess environmental health and safety risks that may disproportionately affect children and pose a disproportionate environmental health or safety risk to children. Environmental health and safety risks are those, which are attributable to products or substances a child is likely to come into contact with or to ingest. This Executive Order focuses primarily on the noise environment around schools, which is not an issue with regards to implementation of either alternative.

Health and Safety. During the timber harvest, prescribed industrial safety standards would be followed. The construction site will also be enclosed with a temporary fence, allowing entry for authorized hard-hat personnel only. ATFP measures are included as part of the proposed action.

The UAS's are required to be safely operated and maintained as they are prescribed to function. Range procedures will be reviewed and closely followed by system operators. Established safety procedures will be followed in the manufacturing and operation of the system. All equipment will be designed in such a manner as to allow the user to emplace, operate, and displace it safely, without damage to the user

or the equipment. The UAS has been designed to allow the operators to maintain safe separation from other aircraft and safe altitude in civilian airspace per FAA rules. As such, there are no specific aspects of the proposed action would create any unique or extraordinary safety issues; therefore, health and safety was not discussed in this EA.

Land Use and Recreations. All construction, operation and maintenance of the FY13 second phase facilities will occur within an existing training area. Gray Eagle UAS Unit training will also occur in restricted airspace and Unit vehicle travel will also occur in the existing training area. No recreation assets are present in these areas; therefore, implementation of the proposed action would not affect land use or recreation.

Transportation. Implementation of the proposed action is not expected to adversely affect transportation resources on Fort Stewart. The Installation contains well-established highways, roads, and parking networks and would not increase or decrease traffic in the area of the either alternative.

Utilities. Utilities at Fort Stewart include electrical power, communications, natural gas, potable (drinking) water supply systems, and sanitary sewer systems. Sanitary sewer, potable water, and natural gas utility lines will connect to the utilities provided in the FY11 first phase of construction, which supplied ample capacity for future UAS facilities at WAAF. Fort Stewart also has sufficient energy and communications capacity to accommodate the needs of the Gray Eagle UAS Units and their facilities.

Noise. The Noise Control Act establishes a policy to promote regulation of noise to achieve an environment free from harmful effects to the health and welfare of individuals and society as a whole. Noise can be defined as unwanted sound, occurring when a receptor has an appreciation for the sound received. Sensitive noise receptors can include both human beings as well as biological resources.

Noise impacts from the Gray Eagle UAS is expected to be minimal. Training activities will occur in training areas that are cleared for missile firing and UAS flying. Personnel involved with these activities are to adhere to hearing protection requirements defined in health and safety plans and guidelines.

APPENDIX B

Dry Detention and Stormwater Control Policies

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
HEADQUARTERS, US ARMY GARRISON, FORT STEWART / HUNTER ARMY AIRFIELD
DIRECTORATE OF PUBLIC WORKS
1587 FRANK COCHRAN DRIVE
FORT STEWART, GEORGIA 31314

REPLY TO
ATTENTION OF

IMSH-PW

MEMORANDUM FOR CONTRACTORS

SUBJECT: DPW Policy Letter #10 – Dry Detention Basins (Revised 14 March 2012)

1. REFERENCES.

   a. Federal Clean Water Act (CWA), as amended (33 U.S.C.1251 et seq.), and Clean Water Act stormwater regulations 40 CFR 122.26.

   b. Executive Orders #13423 Energy Independence and Security Act-2007, and #13514 Federal Leadership in Environmental, Energy, and Economic Performance-2009; Section 438-Stormwater.

   c. Policy Memo 19 JAN 10, Office of the Under Secretary of Defense, DoD Implementation of Stormwater Requirements under Section 438 of the Energy Independence and Security Act.

   d. Georgia Water Quality Control Act, as amended, O.C.G.A. §12-5-20, *et seq.*, and the Rules for Water Quality Control, Chapter 391-3-6, promulgated pursuant thereto, as amended

   e. Erosion & Sedimentation Control Act, as amended, O.C.G.A §12-7-1, *et seq.*, and the Rules for Erosion & Sedimentation, Chapter 391-3-7, promulgated pursuant thereto, as amended

2. PURPOSE. This memorandum replaces the former Policy Letter #10 and re-establishes the Directorate of Public Works policy concerning erosion and sedimentation controls, standards, and specifications for dry detention basins and stormwater controls for flooding.

3. APPLICABILITY. This policy applies to all contractors and government employees at Fort Stewart and Hunter Army Airfield.

4. RESPONSIBILITIES. The following are the minimum standards for contractors to use to ensure uniformity of the use of dry detention basins throughout the Installation.

   a. Fort Stewart/Hunter Army Airfield (FS/HAAF) must comply with the State of Georgia National Pollutant Discharge Elimination Systems Permitting reference; the DPW Stormwater Policy #11, FS/HAAF Construction Site Runoff Control and FS/HAAF Post-Construction New-Redevelopment requirements which can be found with other Stormwater Management documents at the following web link: http://www.stewart.army.mil/dpw/EN_Downloads.asp .

   Therefore, overall stormwater designs must focus on maintaining or restoring the hydrologic performance of the watershed in its pre-development condition. Traditional, centralized stormwater management connects impervious surfaces to efficiently route stormwater to regional or site specific detention facilities to mitigate peak flow. Although these facilities may be successful in reducing the peak flow rate to the pre-development level immediately downstream of these facilities they serve, this approach may become ineffective in addressing the water quality of surface runoff and reducing downstream flooding since a greater volume of stormwater still runs off from these developed areas below the peak flow rate.

As noted above, centralized stormwater practices must now be replaced with *Low Impact Development* (LID) and *Green Infrastructure* (LID/GI) stormwater control practices. The LID/GI approach focuses on disconnecting the impervious surfaces and intercepts and treats surface runoff at the source. LID/GI stormwater control practices utilize *Best Management Practices* (BMPs), such as bio-retention, rain gardens, vegetative enhanced swales, and other infiltration practices, which increase groundwater recharge, and improves surface water quality along with detention and extended detention basins, which protect stream channels, and reduces downstream flooding. The objective of the LID/GI method is to reduce the volume of stormwater required to be detained and effectively improve water quality via the treatment train LID/GI BMPs.

Dry Detention Basins-Description:
A dry detention basin is a surface storage basin or facility designed to provide water quantity control through detention of stormwater runoff.

Extended Detention Basins (EDBs)-Description
An extended detention basin (EDB) is a basin designed to detain stormwater for many hours after storm runoff ends. This BMP is similar to a detention basin used for flood control, however; the EDB uses a much smaller outlet that extends the emptying time of the more frequently occurring runoff events to facilitate pollutant removal. The EDBs drain time for the water quality volume (WQv) is recommended to remove a significant portion of total suspended solids (TSS).

b. As referenced within the *Georgia Stormwater Management Manual and Coastal Stormwater Supplement* (GASWMM/CSS), water *quantity* management practices can only be used to *manage* the post-construction stormwater runoff rates and volumes generated by larger, less frequent rainfall events (e.g., 1-year, 24-hour event, 25-year, 24-hour event). They provide little, if any, stormwater runoff reduction or stormwater quality protection (Storm Water Management [SWM]

Criteria #1 & #2, respectively). Consequently, it is recommended they be used in conjunction with LID/GI practices and general application stormwater management practices to completely satisfy the aquatic resource protection (SWM Criteria #3), overbank flood protection (SWM Criteria #4) and extreme flood protection (SWM Criteria #5) criteria presented in the GASWMM/CSS. Two (2) of the water quantity management practices that may be used in coastal Georgia with LID/GI treatment trains include:

- Dry Detention Basins
- Extended Detention Basins

c. General Description

Dry detention basins or Extended Detention basins (EDBs) are surface facilities intended to provide for the temporary storage of stormwater runoff to reduce downstream water quantity impacts. These facilities temporarily detain stormwater runoff, releasing the flow over a period of time. They are designed to completely drain following a storm event and are normally dry between rain events.

Dry detention basins are intended to provide overbank flood protection (peak flow reduction of the 25-year storm) and can be designed to control the extreme flood (100-year) storm event.

Dry EDBs provide downstream channel protection through extended detention of the channel protection volume, and can also provide 25-year and 100-year control.

Both dry detention and EDBs provide limited pollutant removal benefits and are not intended for water quality treatment. Detention-only facilities must be utilized with a treatment train approach with other LID/GI structural control BMPs which provide treatment of the water quality volume requirements. Compatible multi-objective use of dry detention facilities is strongly encouraged.

d. Design Criteria and Specifications

Dry Detention and EDBs should be incorporated into the overall stormwater design for development and redevelopment projects as follows:

e. Location

Dry detention and EDBs are to be located downstream of other LID/GI general application structural controls (*bioretention, sand filters, infiltration trench and enhanced swale*) which are typically used in combination with detention controls for treatment of the water quality volume (WQv). The detention facilities are located downstream from the water quality controls either on-site or combined into a regional or neighborhood facility. See Section 3.1 GASWMM/CSS and the United States Environmental Protection Agency Technical Guidance for Implementation of Section 438 for more information on the use of multiple structural controls such as LID/GI in a treatment train.

- The maximum contributing drainage area to be served by a single dry detention or EDB is 75 acres.

- EDBs are well suited for watersheds with at least five impervious acres up to approximately one square mile of watershed. Smaller watersheds can result in an orifice size prone to clogging. Larger

watersheds and watersheds with base flows can complicate the design and reduce the level of treatment provided. EDBs are also well suited where flood detention is incorporated into the same basin. The depth of the seasonable high groundwater table should be investigated. Groundwater depth should be one (1) or more feet below the bottom of the basin in order to keep this area dry and maintainable.

- Always maximize the distance between the inlet and the outlet. It is best to have a basin length (measured along the flow path from inlet to outlet) to width ratio of at least 2:1. A longer flow path from inlet to outlet will minimize short circuiting and improve reduction of TSS. To achieve this ratio, it may be necessary to modify the inlet and outlet points through the use of pipes or swales.

f. General Design

- Dry detention basins are sized to temporarily store the volume of runoff required for a minimum of 24 hours and to provide overbank flood protection (i.e., reduce the post-development peak flow of the 25-year storm event to the pre-development rate), and control the 100-year storm.

EDBs are sized to provide extended detention of the channel protection volume for a minimum of 72 hours and can also provide additional storage volume for normal detention (peak flow reduction) of the 25-year and 100-year storms.

Routing calculations must be used to demonstrate that the storage volume is adequate. Hydraulic considerations are needed to ensure the basin is sized to store the entire (or remaining volume after installation of LID/GI BMPs) water quality design volume (removal of Total Suspended Solids [TSS] by 80%) and the outlet structure must be sized as to provide desired hydraulic detention time of 24 hours as a minimum for the 1-year, 24-hour storm.

- Storage volumes greater than 100 acre-feet are subject to the requirements of the Georgia Safe Dams Act (see Appendix H of the GASWMM) unless the facility is excavated to this depth.

- Vegetated embankments shall have side slopes no steeper than 3:1 or 4:1 (horizontal to vertical). The basin side slopes should be stable and gentle to facilitate maintenance and access. Slopes that are flatter should be utilized to allow for conventional maintenance equipment, and for improved safety and aesthetics. Riprap-protected embankments shall be no steeper than 3:1.

- The maximum depth of the basin should not exceed 4 feet. The final grade of the basin floor shall be no deeper than one (1) foot above seasonal high water table.

- Areas above the normal high water elevations of the detention facility should be sloped toward the basin to allow drainage. Careful finish grading is required to avoid creation of upland surface depressions that may retain runoff. A low flow or pilot channel across the facility bottom from the inlet to the outlet (often constructed with geotextile underlayment and riprap) is recommended to convey low flows and prevent standing water conditions.

- Forebay Designs for EDBs: The forebay provides an opportunity for larger particles to settle out in an area that can be easily maintained. The length of the flow path through the forebay should be maximized, and the slope minimized to encourage settling.

a) The appropriate size of the forebay may be as much a function of the level of development in the tributary area as it is a percentage of the WQv.

b) When portions of the watershed may remain disturbed for an extended period of time, the forebay size will need to be increased due to the potentially high sediment load. The forebay outlet should be sized to release 2% of the un-detained peak 100-year discharge.

c) A soil riprap berm with 3:1 side slopes (or flatter) and a pipe outlet or a concrete wall with a notch outlet should be constructed between the forebay and the main EDB.

d) Micropool EDBs: Micropool extended detention basins are a variation of the standard wet extended detention pond that have only a small permanent pool (i.e., micropool). The "micropool" provides enough storage for approximately 10% of the stormwater runoff volume generated by the target runoff reduction rainfall event (e.g., 85th percentile rainfall event). The remainder of the stormwater runoff volume generated by the target runoff reduction rainfall event is managed in an extended detention zone provided immediately above the "micropool" and released over an extended 24-hour period.

- The following areas will be sodded: (1) Bottom of the detention basin, (2) Inside side slopes of the detention basin, and (3) Outward, ten feet from the edge of the detention basin. All other disturbed areas will be seeded with temporary and permanent grasses; contact the Natural Resources Conservation Service for appropriate seasonal seed mixes. Utilization of erosion control blankets, permanent and/or temporary, as required, for prevention of erosion rills is required.

- Adequate maintenance access must be provided for all detention basins.

- All detention basins within one-thousand (1000) feet of any housing and/or school facility shall be secured with a four (4) foot chain link style fence.

- During construction of any project on FS/HAAF the following erosion and sedimentation best management practices are not permitted:

1) Man made "haybales"

2) The use of slotted board dams as a retrofit on less than 30 acres is not allowed. Instead, a perforated half-round pipe with a stone filter ring must be utilized.

g. Inlet and Outlet Structures

There are a wide variety of outlet structure types, the most common of which are, orifices, perforated risers, pipes/culverts, sharp-crested weirs, broad-crested weirs, V-notch weirs, proportional weirs, and combination outlets. Reference Section 2.3 of the GASWMM/CSS for more information on the design criteria for *Outlet Structures*.

Each of the above outlet types has a different design purpose and application:

1) Water quality and channel protection flows are normally handled with smaller, more protected outlet structures such as reverse slope pipes, hooded orifices, orifices located within screened pipes or risers, perforated plates or risers, and V-notch weirs.

2) Larger flows, such as overbank protection and extreme flood flows, are typically handled through a riser with different sized openings, through an overflow at the top of a riser (drop inlet structure), or a flow over a broad crested weir or spillway through the embankment. Overflow weirs can also be of different heights and configurations to handle control of multiple design flows.

- Inflow channels are to be stabilized with flared riprap aprons, or the equivalent. A sediment forebay sized to 0.10 inches per impervious acre of contributing drainage should be provided for dry detention and EDBs that are in a treatment train with off-line [1] water quality treatment structural controls.

[1] *Structural stormwater controls are designed to be either "on-line" or "off-line." On-line structural controls must be able to handle the entire range of storm flows. Off-line facilities* such *as bioretention areas, and infiltration trenches on the other hand are designed to receive only a specified flow rate through the use of a flow regulator (i.e. diversion structure, flow splitter, etc). Flow regulators are typically used to divert the WQv to an off-line structural control sized and designed to treat and control the WQv. After the design runoff flow has been treated and/or controlled meeting this WQv, it is returned to the conveyance system or "on-line" structure.*

A key decision whether to locate a BMP on-line or off-line. On-line refers to locating a BMP such that all of the runoff from the upstream watershed is intercepted and treated by the BMP. A single on-line BMP should be designed to treat both onsite runoff and upstream (offsite) runoff. Locating BMPs off-line requires that all onsite catchment areas flow though the BMP(s) prior to combining with flows from the upstream (offsite) watershed.

Designers should also be aware that WQv BMPs, especially those that promote infiltration, could result in volume reductions for flood storage. These volume reductions are most pronounced for frequently occurring events, but even in the major event, some reduction in detention storage volume can be achieved if WQv-reduction BMPs are widely used on a site.

- For a dry detention basin, the outlet structure must be sized as to provide desired hydraulic detention time of 24 hours as a minimum for the 1-year, 24-hour storm (based upon hydrologic routing calculations) and can consist of a weir, orifice, outlet pipe, combination outlet, or other acceptable control structure. Small outlets that will be subject to clogging or are difficult to maintain are not acceptable.

The Inlet and Outlet structures must be separated as much as possible to avoid short-circuiting and the positioning of these structures and/or orifices should be above the dry detention basin bottom to provide space for captured sediments and to minimize resuspension of any TSS captured in the basin. The inlet must be designed to safely bypass flows which would exceed the design volume and dissipate flow energy at concentrated points of inflow. This also will limit erosion and promote particle sedimentation.

- For EDBs, a low flow orifice capable of releasing the channel protection volume over 24 hours must be provided. The channel protection orifice should have a minimum diameter of 3 inches and should be adequately protected from clogging by an acceptable external trash rack. The orifice diameter may be reduced to 1 inch if internal orifice protection is used (e.g., an over perforated vertical stand pipe with 0.5-inch orifices or slots that are protected by wirecloth and a stone filtering jacket). Adjustable gate valves can also be used to achieve this equivalent diameter. Reference Section 2.3.1 (*Outlet Structures*) of the GASWMM/CSS for more information on the design of outlet works.

- Seepage control or anti-seep collars should be provided for all outlet pipes.

- A conveyance shall be installed from all inlets to outlets. The inlet and outlet conveyance final grade is to be a minimum of one (1) foot above the seasonal high water table elevation. The conveyance is required to be lined with geo-textile and with four inches (4") of stone over same (Graded 2"- 4" stone). The conveyance is to be a minimum of 4 feet wide.

- Riprap, plunge pools or pads, or other energy dissipators are to be placed at the end of the outlet to prevent scouring and erosion (See Section 4.5 of the GASWMM, *Energy Dissipation Design*, for more guidance).

- An emergency spillway is to be included in the stormwater basins design to safely pass the extreme flood flow. The spillway prevents pond water levels from overtopping the embankment and causing structural damage. The emergency spillway must be designed to State of Georgia guidelines for dam safety (see Appendix H of the GASWMM) and must be located so that downstream structures will not be impacted by spillway discharges.

- A minimum of 1 foot of freeboard must be provided, measured from the top of the water surface elevation for the extreme flood, to the lowest point of the embankment not counting the emergency spillway.

5. PROPONENT: The Directorate of Public Works (DPW) is the proponent for this policy. The point of contact is DPW, Environmental Division, at commercial (912) 767-2010 or DSN 870-2010.

Robert R. Baumgardt
Director, Public Works

IMSE-STW-PW

NOV 0 4 2011

MEMORANDUM FROM DPW

MEMORANDUM FOR CONTRACTORS AND TENANTS

SUBJECT: DPW Policy Letter # 11 - Stormwater Management Program

1. REFERENCES.

a. Federal Clean Water Act (CWA) at 33 U.S.C. §1251, *et seq;* and its implementing regulations found at 40 CFR § 122.26, *et seq.*

b. Section 438 of the Energy Independence and Security Act at 42 U.S.C. §17094.

c. Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, 5 October 2009.

d. Georgia Water Quality Control Act, O.C.G.A. §12-5-20, *et seq.*, and its implementing rules found at Ga. Admin. Comp. ch. 391-3-6, *et seq.*

e. Georgia Erosion & Sedimentation Control Act, O.C.G.A §12-7-1, *et seq.*, and its implementing rules found at Ga. Admin. Comp. ch. 391-3-7, *et seq.*

f. Deputy Under Secretary of Defense (Installations and Environment) Memorandum, DoD Implementation of Storm Water Requirements under Section 438 of the Energy Independence and Security Act, 19 January 2010.

g. AR 200-1, Environmental Protection and Enhancement, 13 December 2007.

2. APPLICABILITY. This policy is applicable to Contractors and Tenants on Fort Stewart/Hunter Army Airfield.

3. PURPOSE. To provide guidance on the Stormwater Management Program.

4. POLICY. The Installation's stormwater systems are regulated under National Pollutant Discharge Elimination System (NPDES) Permits, as defined in above references.

a. To protect water quality, the Installation is required to have a stormwater management program that reduces the discharge of pollutants from industrial activities, construction activities, and

IMSE-STW-PW
SUBJECT: DPW Policy Letter # 11 - Stormwater Management Program

the Municipal Separate Storm Sewer System (MS4) to the "maximum extent technically feasible."

b. For any new development and redevelopment that occurs on the Installation, the stormwater management program must include best management practices (BMPs) for construction site stormwater runoff control and post-construction stormwater management.

c. For new development or redevelopment of 5,000 sq ft or greater that occurs on the Installation, the stormwater management program must include, to the "maximum extent technically feasible," additional stormwater low impact development BMPs.

d. All personnel are required to comply with the Installation's Stormwater Management Plan, as detailed in the following documents located on the Team Stewart web site at http://www.stewart.army.mil/dpw/EN_Downloads.asp.

(1) Stormwater Pollution Prevention Plan (SWP3) for Industrial Activities

(2) Municipal Separate Storm Sewer Systems (MS4) Notices of Intent

(3) Illicit Discharge, Detection and Elimination (IDDE) Plan

(4) Stormwater Guidance for Construction Site Stormwater Runoff Control

(5) Post-Construction Stormwater Management Guidance for New Development and Redevelopment

(6) Stormwater Maintenance Standard Operating Procedures

5. PROPONENT. The DPW Environmental Division is the proponent for this policy at commercial (912) 767-2010.

ROBERT R. BAUMGARDT
Director, Public Works

APPENDIX C

Standard Operating Procedure regarding Accidental Discovery of Archeological Deposits and / or Human Remains

SOP for ACCIDENTAL DISCOVERY OF ARCHAEOLOGICAL DEPOSITS AND / OR HUMAN REMAINS

Prior to approval of Individual Job Orders and other land disturbing activities, archaeological surveys are routinely conducted to identify areas of archaeological concern. If archaeological materials are encountered during your authorized work, you may have encountered a previously unrecorded archaeological site. In most cases, these archaeological sites are previously recorded and taken into consideration as part of the review process. However, there is potential for inadvertent damage to previously unrecorded archaeological sites that require further investigation.

Do the right thing when you discover archaeological artifacts or human remains on a job site —inform the authorities and cooperate with the Installation on getting the issue resolved. Cultural Resource personnel are on staff here to support your mission and resolve the discovery in a timely manner. The process consists of three simple steps: STOP, CONTACT, and COORDINATE.

SHOULD YOU DISCOVER ARTIFACTS (arrowheads, pottery, glass, brick, etc…):

1. **STOP** work in the immediate vicinity of the suspected artifacts (at least 30 feet).

2. **CONTACT** Cultural Resource Management (CRM) office immediately, Fort Stewart at 767-0992/1402/3359/2010 and HAAF at 315-6027.

3. **COORDINATE** with CRM prior to resuming work at the location where the artifact was found, although work can be continued in another location at least thirty feet from the initial discovery. If additional artifacts are discovered, return to step 1.

SHOULD YOU DISCOVER WHAT APPEARS TO BE HUMAN REMAINS (bones, headstone fragments, etc…):

1. **STOP** work immediately and protect the potential human burial from additional disturbance.

2. **CONTACT** Installation Police immediately, Fort Stewart at 767-2965/4895 and HAAF at 315-6133/6134, then CONTACT the Cultural Resource Management office, Fort Stewart at 767-0992/1402/3359/2010 and HAAF at 315-6027. Wait for on-scene investigators to arrive to make an initial assessment.

3. **COORDINATE** with on-scene investigators (CRM and Installation Police) prior to resuming work at that particular location where the incident occurred.

REMEMBER…STOP!…CONTACT!…COORDINATE!

And most importantly…failure to report damage to archeological sites or human burials may result in violations of the Archaeological Resources Protection Act (ARPA). Violations of ARPA may result in civil and/or criminal penalties up to $100,000 and up to one year in jail for the 1st offense. Furthermore, unauthorized collection of artifacts from federal land is also an ARPA violation.

APPENDIX D

Consultation and Coordination Documentation

From: Larry Gissentanna [mailto:Gissentanna.Larry@epamail.epa.gov]

Sent: Thursday, September 13, 2012 3:32 PM

To: Epps, Katrina S (Katie) CTR USARMY (US)

Cc: Heinz Mueller; Traci Buskey

Subject: US EPA Comments on Draft EA for Gray Eagle, Ft Stewart, Georgia

Ms Katie S. Epps,

I am in receipt of the Draft Environmental Assessment (EA) and Draft Finding of No Significant Impact (FNSI) and Finding of No Practicable Alternative (FNPA) for the Stationing of Gray Eagle Unmanned Aerial System (UAS) Units and Associated Facility Construction, Operation and Maintenance the Wright Army Airfield, Fort Stewart, Georgia, dated August 2012. Under this Proposed Action, EPA understands that this EA addresses the second phase of UAS-related construction which is scheduled for Fiscal Year (FY) 2013, and includes the construction of a company operations facility, a tactical equipment maintenance facility, an access road, and fence. In order to fully implement this proposed action, Fort Stewart will harvest timber, grub and grade, approximately 20 acres at the company operations facility (COF) and tactical equipment maintenance facility (TEMF). EPA further understands that, approximately 45 acres, within the airfield boundary, will be used for tactical operations staging and equipment placement, but will not experience ground disturbance. The construction of a controlled access road will involve an additional 65 acres of ground disturbance. This tiered EA analyzes the potential environmental impacts associated with the final layout of UAS facilities and infrastructure included in the FY13 second phase construction.

Based upon our review, it appears that most of the major issues, e.g., noise, wetlands, and water/air quality, energy and environmental justice have been addressed in this EA, an earlier EA completed this FY 2012, and the previous EIS dated July 2010. As Fort Stewart moves forward in the approval process remain mindful of any potential impacts to streams and waterways. Best Management Practices (BMPs) should include implementable measures to prevent erosion and sediment runoff from the various project sites both during and after construction. There are no additional comments at this time, please refer to previous email correspondence for EPA comments made reference this proposed project.

Keep the local community informed and involved throughout the project process; by having community meetings and updating the community through local media (radio, local paper and TV).

EPA concurs with the US Army's Preferred Proposed Alternative.

Again, Thank you for the opportunity to provide comments, if you have any questions, feel free to contact me via the information provided below.

Larry O. Gissentanna

DoD and Federal Agency, Project Manager

NEPA Program Office

U.S. Environmental Protection Agency/ Region 4

61 Forsyth Street, SW

Atlanta, GA 30303-8960

Office: 404-562-8248

gissentanna.larry@epa.gov

Classification: UNCLASSIFIED

Caveats: NONE

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
COASTAL RESOURCES DIVISION

MARK WILLIAMS
COMMISSIONER

A.G. 'SPUD' WOODWARD
DIRECTOR

September 26, 2012

Ms. Melissa B. Kendrick
Fort Stewart Directorate of Public Works
Environmental Division
1587 Veterans Parkway
Fort Stewart, Georgia 31314

RE: Consistency Determination of DEA/DFONSI for Stationing Gray Eagle UAS Units and Associated Facilities Construction, Operation, and Maintenance, Fort Stewart, Liberty County, Georgia

Dear Ms. Kendrick:

Staff of the Coastal Management Program has reviewed your undated letter received August 28, 2012 and attached draft environmental assessment (DEA) and draft findings of no significant impacts (DFONSI) for stationing Gray Eagle unmanned aerial system(UAS) units as well as constructing, operating and maintaining associated facilities. This proposed action was included in the 2010 PEIS (programmatic environmental assessment) which included twelve range facilities and two garrison support facilities. The current proposed action includes supplemental, site-specific environmental analysis.

The Program concurs with your consistency determination. This determination ensures that the proposed project has been designed to comply to the maximum extent practicable with the applicable enforceable policies of the Georgia Coastal Management Program. Please feel free to contact Kelie Moore or me if we can be of further assistance.

Sincerely,

A.G. "Spud" Woodward
Director

SW/km

Cc: Ms. Katrina Epps, Fort Stewart

ONE CONSERVATION WAY | BRUNSWICK, GEORGIA 31520-8686
912.264.7218 | FAX 912.262.3143 | WWW.COASTALGADNR.ORG

GEORGIA
DEPARTMENT OF NATURAL RESOURCES
HISTORIC PRESERVATION DIVISION

MARK WILLIAMS
COMMISSIONER

DR. DAVID CRASS
DIVISION DIRECTOR

October 15, 2012

Robert R. Baumgardt
Director, Public Works
Department of the Army
Fort Stewart/Hunter Army Airfield
1587 Frank Cochran Drive
Fort Stewart, Georgia 31314
Attn: Brian Greer, brian.greer@us.army.mil

RE: Ft. Stewart: Range & Garrison Development, 15 Projects, 2011-2014
Liberty County, Georgia
HP-091222-001

Dear Mr. Baumgardt:

The Historic Preservation Division (HPD) has reviewed the additional information provided regarding the above referenced project. Our comments are offered to assist the U.S. Department of the Army (Army) and Fort Stewart/Hunter Army Airfield in complying with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the additional information provided, HPD understands a second phase of Gray Eagle Unmanned Aerial System-related construction is proposed for FY13 that includes the construction of a company operations facility, an access road and fence. Furthermore, HPD agrees that this project will have no effect to archaeological or architectural properties that are listed on or eligible for listing on the National Register of Historic Places.

Please refer to project number HP-091222-001 in any future correspondence regarding this undertaking. If we may be of further assistance, please do not hesitate to contact me at (404) 651-6624 or via email at Elizabeth.shirk@dnr.state.ga.us.

Sincerely,

Elizabeth Shirk

Elizabeth (Betsy) Shirk
Environmental Review Coordinator

254 WASHINGTON STREET, SW | GROUND LEVEL | ATLANTA, GEORGIA 30334
404.656.2840 | FAX 404.657.1368 | WWW.GEORGIASHPO.ORG

AFFIDAVIT OF PUBLICATION

STATE OF GEORGIA

COUNTIES OF LIBERTY AND LONG

Personally appeared before me, the undersigned Notary Public, *S. Marshall Griffin*, who after being duly sworn stated under oath that he is the Publisher of the COASTAL COURIER, the official Legal Organ of Liberty and Long Counties, a newspaper published in the city of Hinesville, and who further states under oath that the advertisement attached hereto and made a part of this affidavit appeared in the COASTAL COURIER on the following date(s):

Aug. 15, 2012

S. Marshall Griffin
PUBLISHER

Sworn to and subscribed before me,

This 20 **day of** Aug. 2012

ELLY MATTINGLY NOTARY PUBLIC Comm. Exp. LIBERTY COUNTY, GA.

Notary Public

December 01, 2015
Commission expires

gpn14

NOTICE OF AVAILABILITY DRAFT ENVIRONMENTAL ASSESSMENT (EA) AND DRAFT FINDING OF NO SIGNIFICANT IMPACT (FNSI)

Stationing of Gray Eagle Unmanned Aerial System (UAS) Units and Associated Facilities Construction, Operation, and Maintenance, Fort Stewart, Georgia.

In 2010, the Army completed an Environmental Impact Statement (EIS) that programmatically analyzed impacts from the construction and operation of 12 range facilities and two garrison support facilities, one of which was the construction of facilities to support Gray Eagle UAS Units in Fiscal Year (FY) 2013. Due to the programmatic nature of the EIS, supplemental, site-specific environmental analysis has been required for these facilities as the design process has progressed.

The U.S. Army proposes to construct, operate, and maintain facilities for up to three Gray Eagle UAS units at a small cantonment area specifically developed for their use at Wright Army Airfield, Fort Stewart, Georgia. The Draft EA analyzes the potential environmental impacts of the proposed action and its alternatives, including their stationing action, scheduled to arrive during FYs 2013-2018. The analysis indicates that the proposed action and its alternatives will not result in significant environmental impacts. The Draft FNSI is also available for review and comment.

The Draft EA addresses the potential impacts to environmental and socioeconomic resources. The Draft EA indicates that no significant adverse impacts would result from

Errors – The liability of the publisher on account of errors in or omissions from any advertisement wil charge for the space occupied by the item in error, and then only for the first incorrect insertion.

AFFIDAVIT OF PUBLICATION
SAVANNAH MORNING NEWS

STATE OF GEORGIA
COUNTY OF CHATHAM

Personally appeared before me, Alaina Fincher, to me known, who being sworn, deposes and says:

That she is the Obituary/Legal Clerk for Southeastern Newspaper Corporation, a Georgia corporation, doing business in Chatham County, GA, under the trade name of Savannah Morning News, a daily newspaper published in said county;

That he is authorized to make affidavits of publication on behalf of said published corporation;

That said newspaper is of general circulation in said county and in the area adjacent thereto;

That he has reviewed the regular editions of the Savannah Morning News, published on:

Aug. 14, 2012_____, 2012,

_____, 2012, _____, 2012,

and finds that the following advertisement, to-wit:

Appeared in each of said editions.
Sworn to and subscribed before me

This 15 day of Aug, 2012

Al Fincher
(Deponent)

Eugene J. Cronk
Notary Public, Chatham County, Ga.

EUGENE J. CRONK
Notary Public, Chatham County, GA
My Commission Expire January 25, 2014

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT (EA) AND DRAFT FINDING OF NO SIGNIFICANT IMPACT (FNSI)

Stationing of Gray Eagle Unmanned Aerial System (UAS) Units and Associated Facilities Construction, Operation and Maintenance, Fort Stewart, Georgia.

In 2010, the Army completed an Environmental Impact Statement (EIS) that programmatically analyzed impacts from the construction and operation of 12 range facilities and two garrison support facilities, one of which was the construction of facilities to support Gray Eagle UAS Units in Fiscal Year (FY) 2013. Due to the programmatic nature of the EIS, supplemental, site-specific environmental analysis has been required for these facilities as the design process has progressed.

The U.S. Army proposes to construct, operate, and maintain facilities for up to three Gray Eagle UAS units at a small cantonment area specifically developed for their use at Wright Army Airfield, Fort Stewart, Georgia. The Draft EA analyzes the potential environmental impacts of the proposed action and its alternatives, including their stationing action, scheduled to arrive during FYs 2013-2018. The analysis indicates that the proposed action and its alternatives will not result in significant environmental impacts. The Draft FNSI is also available for review and comment.

The Draft EA addresses the potential impacts to environmental and socioeconomic resources. The Draft EA indicates that no significant adverse impacts would result from the proposed action. A copy of the Draft EA and Draft FNSI will be available for public review overround August 17, 2012 at the public libraries and Post library listed below. All public review comments must be received no later than September 15, 2012.

1LT George P. Hays Library, Building 413, 316 Lindquist Rd., Fort Stewart, GA
Mon. - Thurs.
10:30 A.M. to 9:00 P.M.
Fri. closed
Sat.-Sun. 11:30 A.M. to 6:00 P.M.

Liberty County Public Library, 236 Memorial Drive, Hinesville, GA
Mon. - Thurs.,
9:00 A.M. to 9:00 P.M.
Fri. - Sat., 9:00 A.M. to 6:00 P.M.
Sun. 2:00 P.M. to 6:00 P.M.

Mall Branch Library, 7 Mall Annex, Savannah, GA
Mon. and Wed.,
9:00 A.M. to 8:00 P.M.
Tues., Thurs. and Sat.
9:00 A.M. to 6:00 P.M.
Fri. and Sun. closed

Southwest Chatham Branch Library, 14897 Abercorn Street, Savannah, GA
Mon. closed
Tues. and Thurs.
9:00 A.M. to 8:00 P.M.
Wed., Fri.-Sun.
9:00 A.M. to 6:00 P.M.

Request all comments be mailed to the following address:

Chief, Environmental Division
(Mr. Thomas C. Fry)
Directorate of Public Works
1550 Veterans Parkway, Bldg. 1137
Fort Stewart, GA. 31314-4927